Technical consultation to review the ACTwatch Lite survey methodology

Meeting report, Geneva, Switzerland,
30 June–1 July 2025

ACTwatchlite

psi

World Health Organization

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Contents

Abbreviations

ACT	artemisinin-based combination therapy
AMFm	Affordable Medicines Facility–malaria
MFT	multiple first-line therapies
NMP	national malaria programme
PPS	probability proportional to size
PSI	Population Services International
RDT	rapid diagnostic test
WHO	World Health Organization

Executive summary

The World Health Organization (WHO) Global Malaria Programme convened a technical consultation on 30 June–1 July 2025 in Geneva, Switzerland, to review and provide feedback on the ACTwatch Lite toolkit and methodology developed by Population Services International (PSI). The meeting brought together a WHO-selected panel of technical experts, as well as representatives of the WHO Secretariat from the Global Malaria Programme and the Regional Office for Africa, PSI, the Gates Foundation, the Global Fund to Fight AIDS, Tuberculosis and Malaria, national malaria programmes, regulatory bodies, and implementing partners from Benin, Cameroon, the Democratic Republic of the Congo, and Nigeria.

ACTwatch Lite, funded by the Gates Foundation, is a streamlined private sector malaria market study designed to generate timely and actionable data on the availability, price and sales volumes of antimalarial medicines and rapid diagnostic tests in the private sector at the retail and wholesale levels. Building on the original ACTwatch methodology (implemented between 2008 and 2017), ACTwatch Lite provides a rapid, standardized and replicable approach to surveillance of antimalarial medicines and diagnostics in the private sector. The current iteration of ACTwatch is termed "Lite" because it leverages technological solutions to reduce both the time and resources required for study implementation. The methodology was piloted in Benin, Cameroon and Nigeria between 2023 and 2024, resulting in the development of a toolkit to guide future country-led implementation.

Participants emphasized the critical need for routine, reliable data on malaria case management in the private sector and expressed strong support for the ACTwatch Lite approach. Feedback on the toolkit was positive, with reviewers highlighting the clarity, practicality and relevance of the tools for informing policy- and decision-making by national malaria programmes. Key suggestions focused on clarifying and expanding the toolkit's use cases and expected outputs; enhancing the internal consistency of terminology across tools; clarifying team roles and responsibilities; improving accessibility for a wide range of users, including policy-makers and front-line implementers; providing more detailed implementation guidance with concrete examples; and exploring more sustainable and open-source options for analysis and reporting.

PSI will integrate reviewer suggestions into an updated version of the toolkit. Once it has been finalized and reviewed by WHO, the ACTwatch Lite toolkit will be made available to national malaria programmes, donors and implementing partners to support private sector engagement and improved malaria case management.

1. Background

As malaria-endemic countries strive to strengthen malaria control and accelerate progress towards elimination in the face of increasing financial challenges, there is growing recognition of the need for timely, high-quality data on the role of the private sector in malaria case management, especially in the provision of testing and treatment commodities. The ACTwatch Lite toolkit addresses this need by providing a streamlined, modular set of tools to support national malaria programmes (NMPs) and partners to generate evidence on the availability, price and market share of antimalarial medicines and malaria diagnostics, alongside contextual information on market dynamics in the private sector.

ACTwatch Lite builds on ACTwatch, which was implemented by Population Services International (PSI) in 13 countries in sub-Saharan Africa and the Greater Mekong subregion between 2008 and 2017. ACTwatch Lite fills critical data gaps by providing nationally or subnationally representative estimates of the availability, price and market share of antimalarial medicines and diagnostics in the private sector. It is a streamlined approach, leveraging technological innovations to reduce both the time and resources necessary for implementation. Data collection and analysis are faster with digital data collection tools, antimalarial medicine and rapid diagnostic test (RDT) product databases, iteratively designed and streamlined analysis syntax, and automated results outputs. The updated methodology also combines outlet and supply chain studies, and employs a modular, transferable design that can be tailored to each country's context.

Between 2023 and 2025, PSI and partners, with support from the Gates Foundation, developed and piloted the ACTwatch Lite methodology in Benin, Cameroon and Nigeria. The final product, the ACTwatch Lite toolkit, was completed in 2025, incorporating early testing and feedback on select tools from SANRU (Soins de santé primaires en milieu rural) in the Democratic Republic of the Congo.

2. Meeting objectives and overview

The World Health Organization (WHO), in collaboration with PSI, convened a technical consultation in Geneva, Switzerland, on 30 June–1 July 2025 with the following objectives:

- Review in detail the contents of the full first version of the ACTwatch Lite toolkit, including: i) manual and implementation guide; ii) indicator table; iii) protocol template with sampling tool; iv) stakeholder mapping; v) interview guides and tools for quantitative and qualitative surveys; vi) training materials; vii) product databases ("master lists"); and viii) analysis methods and results outputs.
- Through review by independent experts, provide precise feedback to the PSI ACTwatch Lite project team to facilitate finalization of the full first version of the ACTwatch Lite toolkit, with all its specific components.
- Specify the timeframes for completion of the toolkit, including publication of both English and French versions, in line with the collaborative agreement between WHO and PSI on this project.

The meeting brought together representatives of NMPs, external technical experts, WHO Regional Office for Africa and Global Malaria Programme staff, the Global Fund to Fight AIDS, Tuberculosis and Malaria, the Gates Foundation, implementing partners and PSI. The agenda and list of participants are included as Annexes 1 and 2, respectively.

Participants reviewed each component of the ACTwatch Lite toolkit and shared feedback based on their expertise. They also discussed in plenary opportunities for future applications of the tools. The consultation also served as a platform to share lessons learned from Benin, Cameroon, the Democratic Republic of the Congo and Nigeria – the countries where the ACTwatch Lite methodology has been implemented to date. The meeting structure included presentations by the WHO-appointed reviewers followed by plenary discussion, an NMP-led panel, and a final group discussion to capture feedback and inform concrete revisions to the toolkit and packaging for future use. The main outcomes of the discussions are presented below.

3. Technical consultation

3.1 ACTwatch Lite project overview

The presentation providing an overview of the ACTwatch Lite project highlighted the study's potential to investigate the availability, price and market share of antimalarial medicines and diagnostics in the private formal and informal sectors. This is especially relevant in the current funding-constrained context in which increased risk of service delivery gaps in the public sector may drive more patients to seek care in the private sector. Building on initial pilots in Benin, Cameroon and Nigeria, ACTwatch Lite was designed for rapid, cost-efficient implementation and includes innovations such as digital data collection, semi-automated analysis syntax, and strong engagement with all relevant national stakeholders throughout the project cycle. Case examples from pilot countries illustrated the toolkit's immediate programmatic utility: The process highlighted the need for regulatory action against oral artemisinin monotherapy in Cameroon, and the need to monitor whether treatment policy was being effectively implemented in Benin. The toolkit's adaptability and modular design were emphasized as strengths for broader uptake across diverse settings and programme goals.

WHO and Global Fund representatives highlighted the toolkit's potential alignment with strategic planning cycles and Grant Cycle 8. Several participants emphasized the importance of trust-building with informal providers, while others raised questions about data ownership and noted opportunities to integrate the toolkit into broader surveillance and commodity tracking efforts. There was a broad consensus on the value of ACTwatch Lite in answering specific questions on the availability and price of antimalarial medicines and diagnostics in the private sector. Additional information on the ACTwatch Lite toolkit is provided in Annex 3. ACTwatch Lite toolkit explainer.

3.2 ACTwatch Lite toolkit review and feedback

The technical consultation included a systematic and comprehensive review of each tool within the ACTwatch Lite toolkit. In small groups, experts presented a review of and feedback for each tool assigned to them, after which all participants engaged in plenary discussion. Participants reviewed the relevance, clarity and usability of each tool, drawing on experiences from previous ACTwatch implementations and expertise in survey methodology, epidemiology, policy and statistics. They also explored opportunities to strengthen alignment with country priorities and user needs, and

offered suggestions for improvement. For instance, there was general agreement that the toolkit should include more real-world examples from country implementations to illustrate how the manual has been, or could be, used. Feedback on the toolkit was highly positive overall, with many reviewers commending its clarity, practicality and relevance to country needs.

This feedback is summarized below. The document tracking the feedback provided and changes to be made to the toolkit can be found in Annex 4.

Manual and implementation guide

- Manual and implementation guide
- The manual was considered to be well structured and comprehensive, offering clear guidance across phases.
- Participants recommended adding high-level visual summaries at the start of each phase to help users orient quickly to the stage in the process.
- Clarification of team roles was recommended, with suggestions to better link the roles to the terms of reference and workplan to show how responsibilities connect across tools.
- Participants also recommended strengthening the internal consistency across the manual and other planning tools (e.g., budgets, terms of reference, workplans) to support smoother implementation.

Quantitative indicators and qualitative themes

- Participants appreciated the inclusion of both quantitative and qualitative indicators but noted a need to clearly distinguish between core and optional indicators.
- Feedback emphasized the importance of highlighting which indicators can be tracked over time to support longitudinal analysis.
- Reviewers suggested adding an indicator map or matrix table to show which research questions correspond to which indicators, and which tools produce which indicators, or otherwise improving the link between the indicator table, tools and data use.
- Several participants requested examples of how qualitative indicators and findings have been used for programmatic or policy decision-making.

Desk review and stakeholder mapping

- Participants noted that the desk review would benefit from clearer guidance on expected outputs, how they might be used, and the timing of the desk review and iterations within the larger study timeline.
- Similarly, participants requested more detailed guidance on when and how often to update stakeholder mapping, including suggestions to revisit or revise the map as new actors emerge or programme phases shift.
- Participants also suggested adding a clear definition of what constitutes a stakeholder in this context and how to categorize them.

Protocol template

- The template was considered to be useful and well structured, particularly in terms of outlining the core components of the study design.
- Reviewers requested that objectives be added to the protocol and a new section on study limitations/boundaries be included.
- Reviewers requested extended guidance on sampling, especially for optional longitudinal analysis and accounting for non-response (see below).
- Participants emphasized the need for language that aligns with country-level ethical review board expectations, such as data ownership, sharing and storage.

Budgeting and work-planning

- Participants found both tools to be practical and useful but emphasized the importance of ensuring alignment and consistency across the budgeting and work-planning tools, particularly around staff titles/roles, timelines and deliverables.
- Reviewers recommended adding more detailed guidance on how to tailor budgets and workplans to different study scopes or scales. Cost-saving guidance was also requested, such as by presenting virtual or hybrid training options or specifying where level of effort could be reduced.

Sampling tool

- Reviewers appreciated the tool's automation of the probability proportional to size (PPS) sampling process but requested practical examples of how the tool works in real-world settings.
- Additional guidance was discussed for handling special scenarios, such as optional longitudinal sampling and non-response rates or refusals.
- Participants asked for more clarity on how to stratify by criteria other than urban/rural categories, such as by endemicity, and what customizations are feasible with the current tool.

Product master lists

- Participants discussed transitioning from brand names to externally standardized product codes and noting regulatory/quality control information.
- Several reviewers asked for clearer guidance on how to maintain these lists over time (i.e., making them "living documents").

Terms of reference templates

- Participants noted inconsistencies across the terms of reference, budgets and workplans (e.g., job titles, level of effort, team structures), which could create confusion during planning and implementation. They suggested harmonizing the language and formatting to improve coherence and usability.
- Participants also recommend adding notes or flags indicating where roles may vary depending on the local context to support easier localization of the templates.

Training materials (quantitative and qualitative)

- Participants found the training materials to be useful but dense. They suggested improving clarity for training leads/facilitators around where to start, what to tailor and how to adapt materials to different contexts.
- A checklist for facilitators was recommended to help guide training preparation and implementation.
- Options for virtual/hybrid training formats were discussed as cost-saving or scalable alternatives.
- Reviewers noted that qualitative training materials could use more content or guidance on best practices to support effective training facilitation and ensure interview quality.
- Reviewers recommended pre- and post-test training evaluations and the development of a method for training participants to provide feedback on training materials.

Qualitative interview guide

- Reviewers recommended simplifying the formal language and adding more example probes to improve conversational flow and comprehension.
- Participants also requested that the objectives of each section be clearly articulated.

Quantitative data collection tool

- Reviewers and country representatives expressed concern over the reliability of specific questions, such as self-reported sales volumes and price stability, and suggested revisiting their inclusion or framing.
- As with the qualitative interview guide, participants flagged the need to simplify question wording for use in informal settings.
- Discussion highlighted the importance of maintaining a logical flow, even in a modular questionnaire, to avoid respondent confusion and ensure interview coherence.

Analysis syntax

- Reviewers appreciated the semi-automated structure and found the syntax to be a valuable time-saving tool.
- Several participants noted that the instructions could be more user-friendly, particularly in terms of distinguishing which steps require user input from those that are pre-set. Reviewers suggested a quick-start guide to help new users navigate the workflow more easily.
- Discussion primarily focused on the limitations of using proprietary software (Stata). Participants encouraged consideration of open-source alternatives such as R to enhance accessibility and sustainability.

Results workbooks

- Reviewers appreciated the pre-programmed workbooks and noted their usefulness in generating rapid, standardized outputs from the syntax; however, concerns were raised about the overall complexity of the system, particularly the number of separate files and dependencies.
- Participants suggested including interpretation notes and example outputs to support users, particularly those who may be less familiar with ACTwatch-style data analysis. As with the syntax, there was interest in developing an R-based solution, such as an R Shiny app, to consolidate and automate outputs in a more user-friendly format.

Report template and references

- Participants found the template to be comprehensive but noted that its current length and detail may limit its accessibility for high-level audiences. Therefore, they suggested offering a shorter, policy-maker-friendly version or an executive summary format to facilitate advocacy and quick dissemination.
- Reviewers also suggested additional guidance on how to frame results to support strategic decision-making and align with national priorities and eventually with funding proposal development.

3.3 NMP and national regulatory authority panel: ACTwatch Lite national experiences

Country representatives from, Benin, Cameroon the Democratic Republic of the Congo, and Nigeria shared their experiences piloting the ACTwatch Lite toolkit. Rather than focusing solely on the survey results, the panel emphasized the operational feasibility, adaptability and strategic utility of the toolkit across diverse country contexts. Their insights highlighted how the toolkit was tailored to national systems, the value of early engagement with regulators, and lessons learned from ethical review, translation and data collection processes.

In Benin, results showed the sharp decline in the informal sector from the previous ACTwatch survey done in 2016. This decline was due to strong enforcement of laws to close unauthorized drug outlets in 2020–2021. The study results have also informed a pilot intervention study to introduce RDTs in pharmacies. Representatives from the NMP and national regulatory authority noted challenges around terminology and engagement with wholesalers. The team suggested adding a module on product quality, i.e., active ingredient testing. The study protocol was approved by the national ethical review body with protection of the identities of drug vendors participating in the study. This protection was a source of tension between the drug regulatory authority, whose priorities included the identification of non-compliant outlets, and the research team performing the survey.

In Cameroon, the study was conducted in the Centre and Littoral regions (including Yaoundé and Douala) and benefited from collaboration with the national pharmacy regulatory agency and other stakeholders. The study encountered initial skepticism from some pharmacies, while engagement with informal outlets was largely successful. The toolkit contributed to raising national awareness on issues such as the persistent availability of oral artemisinin monotherapy and helped to catalyse discussions on multiple first-line therapies (MFT) and private sector surveillance. These conversations underscored the toolkit's value beyond data collection, serving as an entry point for regulatory action and strategic planning.

In the Democratic Republic of the Congo, implementation of the ACTwatch Lite survey is ongoing, implemented by the national non-governmental organization SANRU, following training on the use the ACTwatch Lite toolkit by the PSI team. In collaboration with national authorities, SANRU adapted the toolkit to reflect recent institutional changes affecting regulatory oversight and research governance. The team selected a preferred data collection platform, which required only minor modifications to the original quantitative ODK survey; PSI provided support for these adjustments. Tools and training materials were shared in both French (initial versions) and English, with SANRU ultimately translating the finalized English versions for implementation. Training is complete, and fieldwork in Kinshasa and Congo Central has progressed steadily. SANRU also highlighted opportunities to tailor the toolkit, for example, by integrating questions on locally relevant products such as tuberculosis medicines and by adding modules to employ complementary methods, such as mystery client surveys, to improve data triangulation and provide a more detailed picture of malaria quality of care.In Nigeria, the National Malaria Elimination Programme implemented ACTwatch Lite with PSI in Kano, Lagos and Abia states – locations selected to reflect the country's geographical and epidemiological variability. The study reaffirmed the critical role of patent and proprietary medicine vendors in malaria commodity distribution and highlighted the utility of the toolkit in identifying testing gaps and regulatory challenges. Results of the survey in the three states showed that approximately two thirds of drug outlets had antimalarials that were not prequalified by WHO or approved by the national regulatory authority. The National Malaria Elimination Programme expressed appreciation for the ACTwatch Lite study, including its strong engagement with regulatory bodies such as the National Agency for Food and Drug Administration and Control and the Pharmacists Council of Nigeria throughout implementation, and its utility in guiding targeted private sector interventions. They found the toolkit to be highly useful for engaging these stakeholders and informing private sector strategies. Initial survey findings have already been referenced in strategic discussions, and the National Malaria Elimination Programme is exploring the expansion of ACTwatch Lite to other zones.

Overall, panellists agreed on the toolkit's adaptability, operational feasibility and strategic relevance for private sector engagement. Early examples suggest that the toolkit is being used to shape planning, initiate regulatory conversations and explore future monitoring strategies. Country representatives highlighted the importance of national ownership for sustainability, particularly in contexts of shifting donor priorities. Key feedback themes included the need to include informal outlets in initiatives aimed at improving malaria case management in the private sector; better guidance to promote respondent trust, taking into consideration regulatory sensitivities; and opportunities to enhance the toolkit with modules on drug quality control/testing, surveillance and data use. Countries also stressed the importance of national ownership support for sustainability, especially in contexts of shifting donor priorities.

3.4 Use case discussion

In response to strong interest from reviewers and participants, WHO and PSI convened an additional discussion session to delve into current and potential use cases for the ACTwatch Lite toolkit. PSI presented core applications of the toolkit, such as measuring alignment with global and national policies (such as the Affordable Medicines Facility–malaria/Private Sector Co-Payment Mechanism, and case management guidelines); identifying implementation gaps in the private sector (e.g., unregulated antimalarial medicines in Nigeria and oral artemisinin monotherapy in Cameroon); and capturing supply chain dynamics, reporting to relevant monitoring systems, and respondent knowledge. Essentially, the toolkit quantifies availability, market share, price and respondent knowledge, offering a flexible evidence base to inform regulatory responses, advocacy and strategic planning.

Looking forward, participants discussed additional use cases, such as monitoring MFT readiness, assessing the market penetration of diagnostics and new antimalarials, and adapting the survey to other essential health products, e.g., antibiotics for antimicrobial resistance monitoring activities. Participants also noted the potential for a streamlined "ACTwatch Ultralite" version, excluding modules such as provider interviews, to facilitate subnational or rapid assessments. Participants emphasized the toolkit's value as both a baseline and a repeatable measure over time, which could support the monitoring of market-shaping interventions affecting malaria case management in the private sector.

The group also explored opportunities to enhance the toolkit through automation and digitization, including medicine barcode scanning, artificial intelligence-supported product recognition or data cleaning, and migration of analysis workflows from Stata to R Markdown.

During the discussion, national stakeholders reaffirmed that the core utility of ACTwatch Lite lies in its survey of outlet-level availability and pricing of antimalarial medicines and diagnostics, which provides actionable insights for both programmatic and policy decisions. Several participants advocated for expanding the toolkit to include public sector health facilities or adding modules to support regulatory enforcement. Others raised the potential for domestic financing, pharmaceutical contributions, alignment with existing national post-marketing surveillance activities, and annual reporting for inclusion in the WHO World Malaria Report to support sustainability and uptake. Across the board, the importance of regular implementation, subnational flexibility and country ownership was emphasized, particularly in the context of dwindling external/donor resources.

4. Summary and recommendations

The consultation confirmed the relevance and added value of the ACTwatch Lite toolkit in generating high-quality, actionable data on antimalarial medicines and diagnostics in the private sector markets of malaria-endemic countries. Participants appreciated its modular structure and adaptability, noting that it can be tailored to a range of implementation settings, including through subnational or "Ultralite" applications. There was also interest in expanding the approach to cover additional disease areas and product types, such as antibiotics and other essential health commodities.

Across sessions, participants emphasized the need to more clearly outline the use cases for implementing the toolkit and applying its findings. They also underscored the need to distinguish between core and optional components of the toolkit, which would help countries to align implementation with available resources and strategic priorities. A key recommendation was to strengthen internal consistency by harmonizing terminology, team structures and timelines across the manual, terms of reference, budgets, workplans and other planning tools. Enhancing the integration among indicators, tools and data use was also highlighted. Participants called for clearer mapping from research questions to indicators and outputs.

User-friendliness and user support were recurring themes. Experts suggested adding process maps, flow diagrams and facilitator checklists, along with real-world examples from country pilots to show how the toolkit has been implemented in practice. Participants encouraged PSI and WHO to develop additional guidance for common adaptations and known challenges, including strategies for engaging the informal private sector in contexts with evolving regulatory environments or low

trust. There were also calls for more detailed guidance on data interpretation and use, including how indicators connect to strategic decision-making. Participants also highlighted the need for tools to be available in other languages, particularly French.

Finally, there was strong interest in digital innovations to enhance the toolkit's efficiency and accessibility. Participants supported a shift from proprietary software such as Stata to open-source tools such as R Markdown or R Shiny. The consultation concluded with a shared recognition that long-term sustainability will depend on country ownership, routine use and integration of ACTwatch Lite into broader market surveillance systems, national strategic plans and funding cycles.

5. Next steps

Based on the detailed feedback received, PSI and WHO will finalize updates to the ACTwatch Lite toolkit, incorporating specific revisions captured in the feedback tracker (Annex 4). These updates will include improvements to tool clarity and usability, increased guidance on tailoring to various scenarios and use cases, and more pilot examples.

WHO will circulate the revised toolkit package for final review by meeting participants and key stakeholders. A digital version is expected to be hosted on the WHO website; PSI and WHO will promote the dissemination of the toolkit to NMPs, donors and implementing partners via their websites, newsletters and other communication avenues.

The group acknowledged the importance of maintaining momentum and exploring options for expanded application. In parallel, PSI and other stakeholders will continue to work with interested countries to identify opportunities to apply ACTwatch Lite, such as in upcoming funding requests to the Global Fund (e.g., Grant Cycle 8), other donor initiatives or through domestic financing mechanisms. Technical assistance and costing templates will be made available to support integration into malaria strategic plans, private sector engagement strategies and subnational implementation models. Continued collaboration among WHO, PSI, country partners and donors will be essential to ensure that ACTwatch Lite becomes a sustainable and strategic tool for malaria programme decision-making.

Following the technical consultation, a new version of the ACTwatch Lite toolkit was produced incorporating all feedback and comments from the external experts, as outlined in Annex 3. The latest version, accessed on 2 October 2025, is available on GitHub.

Annex 1. Agenda

Day 1 – Monday, 30 June 2025		
08:30 – 08:45	Welcome and introduction of participants	Erin Eckert
08:45 – 09:00	Opening remarks, agenda overview and meeting objectives	Daniel Ngamije Madandi
Session 1. ACTwatch Lite Toolkit overview		
09:00 – 09:35	Project overview, implementation and outcomes	Paul Bouanchaud
09:35 – 10:00	Plenary discussion	
10:30 – 11:00	NMP and national regulatory authority panel: ACTwatch Lite national experiences	Panel discussion
11:00 – 11:45	1 – Manual and implementation guide	Megan Littrell Theodoor Visser Yazoume Ye
11:45 – 12:30	Plenary discussion	
14:00 – 14:30	2 – Quantitative and qualitative indicators	Theodoor Visser Megan Littrell Sarah Burnett
14:30 – 15:00	Plenary discussion	
Session 2. Detailed review of ACTwatch Lite Toolkit		
Phase 1	**Project initiation**	
15:00 – 15:20	3 – Desk review and stakeholder mapping	Hellen Gatakaa Emmanuel Shekarau
15:20 – 15:30	Plenary discussion	
16:00 – 16:20	5 – Budget and work-planning	Hellen Gatakaa Emmanuel Shekarau
16:20 – 16:30	Plenary discussion	
16:30 – 16:40	8 – Terms of reference templates	Hellen Gatakaa Emmanuel Shekarau
16:40 – 16:50	Plenary discussion	
16:50 – 17:00	Wrap-up and closing of day 1	Erin Eckert

Day 2 – Tuesday, 1 July 2025		
Phase 2	**Protocol and tool development**	
08:30 – 08:50	4 – Protocol template	Lia Florey Yazoume Ye Victor Alegana
08:50 – 09:10	Plenary discussion	
09:10 – 09:30	6 – Sampling tool	Julia Dunn Nelly Biondi Victor Alegana
09:30 – 09:50	Plenary discussion	
09:50 – 10:10	7 – Product master lists for medicines and RDTs	Jane Cunningham Jeremiah Laktabai Jackson Sillah
10:10 – 10:30	Plenary discussion	

Phase 3	**Field activities and data collection**	
11:00 – 11:15	9 – Training materials: quantitative survey	Sarah Burnett Lia Florey Hellen Gatakaa
11:15 – 11:30	Plenary discussion	
11:30 – 11:45	9 – Training materials: qualitative survey	Sarah Burnett Lia Florey Yazoume Ye
11:45 – 12:00	Plenary discussion	
12:00 – 12:15	10 – Qualitative interview guide	Sarah Burnett Lia Florey Yazoume Ye
12:15 – 12:30	Plenary discussion	
13:30 – 14:00	11 – Quantitative questionnaire	Sarah Burnett Lia Florey Hellen Gatakaa
14:00 – 14:30	Plenary discussion	
Phase 4	**Analysis and results generation**	
14:30 – 14:50	12 – Analysis syntax	Nelly Biondi Julia Dunn Victor Alegana
14:50 – 15:00	Plenary discussion	
15:30 – 15:50	13 – Results workbooks	Victor Alegana Nelly Biondi Julia Dunn
15:50 – 16:05	Plenary discussion	
Phase 5	**Dissemination and actioning results**	
16:05 – 16:25	14 – Report template and references	Emmanuel Shekarau Theodoor Visser Megan Littrell
16:25 – 16:40	Plenary discussion	
16:40 – 17:10	Discussion on additional elements requiring inputs/improvement	Erin Eckert
17:15 – 17:25	Next steps, finalization and dissemination plans	Paul Bouanchaud Arnaud Le Menach
17:25 – 17:30	Closing remarks	Daniel Ngamije Madandi

Annex 2. List of participants

Temporary advisers

Sarah Burnett
Independent Consultant
Data Analysis, Quality Improvement and Programme Evaluation
United States of America

Julia Dunn
Epidemiologist
Infectious Disease – Global Malaria
United Kingdom of Great Britain and Northern Ireland

Erin Eckert
Infectious Disease Epidemiologist
United States of America

Lia Florey
Independent Consultant
Malaria Epidemiology and Programme Evaluation
United States of America

Hellen Gatakaa
Expert in Biostatistics, Health Information Systems, Civil Registration & Vital Statistics
Kenya

Jeremiah Laktabai
Specialist in Malaria Diagnosis and Treatment and Population Health
Kenya

Megan Litrell
Expert in Malaria Control and Elimination
United States of America

Emmanuel Shekarau
Head, Case Management
National Malaria Elimination Programme
Nigeria

Theodoor Visser
Global Health Expert in Malaria Control and Elimination
United States of America

Yazoume Ye
Expert in Malaria Epidemiology and Global Health
United States of America

Participants

Manfred Accrombessi
Medical Epidemiologist in Malaria Control and Elimination, Public Health Research
Benin

Patrick Bahizi Bizoza
Technical Officer (Malaria)
WHO Country Office
Democratic Republic of the Congo

Crispin Batubenga
Expert in Public Health, Malaria Control and Health Service Delivery
Democratic Republic of the Congo

Paul Bouanchaud
Expert in Malaria Control and Elimination, Family Planning and Reproductive Health
United Kingdom of Great Britain and Northern Ireland

Dandonougbo Codjo
National Coordinator
National Malaria Control Programme
Benin

Natalie Davidson
Expert in Global Public Health
United States of America

Evina Elvira
National Malaria Control Programme
Cameroon

Keith Esch
Expert in Malaria Research and Management
United States of America

Ghyslain Guedegbe (Virtual)
Expert in Data Collection and Analysis for Health Programmes
Benin

Joris Likwela
Expert in Public Health Systems and Infectious Diseases
Democratic Republic of the Congo

Christopher Lourenço
Public Health Leader in Malaria Elimination
United States of America

Hedgar Mboussam
Specialist in Public Health, Research and Strategy
Cameroon

Kanlé Jocelyne Satchivi
Pharmacist and Pharmacovigilance Specialist
Benin

Erica Wang
Specialist in Programme Management, Malaria Control and Elimination
United States of America

Katelyn Woolheater
Research Advisor
United States of America

Mohammed Yusuf
Expert on Survey and Data Collection
Nigeria

Cyprien Zinsou (Virtual)
Public Health Professional
Benin

Observers

Seynude Jean-Fortune Dagnon
Malaria Senior Programme Officer for Francophone Africa
Gates Foundation
Nigeria

Kemi Tesfazghi (Virtual)
Senior Programme Officer for Malaria
Gates Foundation
United Kingdom of Great Britain and Northern Ireland

Htin Kyaw Thu
Senior Malaria Case Management Specialist
Global Fund to Fight AIDS, Tuberculosis and Malaria
Switzerland

WHO Secretariat

Victor Alegana (Virtual)
Expert
Precision Public Health
Regional Office for Africa

Laura Anderson
Technical Officer
Strategic Information for Response
Global Malaria Programme

Nelly Biondi
Statistician
Department of Data and Analytics

Andrea Bosman
Unit Head
Diagnostics, Medicines and Resistance
Global Malaria Programme

Jane Cunningham
Senior Technical Officer
Diagnostics, Medicines and Global Resistance
Global Malaria Programme

Arnaud Le Menach
Unit Head
Strategic Information for Response
Global Malaria Programme

Daniel Ngamije Madandi
Director
Global Malaria Programme

Peter Olumese
Medical Officer
Diagnostics, Medicines and Resistance
Global Malaria Programme

Jackson Sillah
Medical Officer
Tropical and Vector-Borne Diseases
Regional Office for Africa

Annex 3. ACTwatch Lite toolkit explainer

Toolkit overview

Purpose

ACTwatch Lite is a cross-sectional market survey of retail-level private health sector providers and suppliers. The study is designed to capture representative data of malaria commodity markets at the retail and wholesale levels to i) inform national/subnational decision-making, ii) understand drivers of market performance and target areas and channels for intervention, and iii) give national malaria programmes (NMPs) essential (and currently unavailable) market data as they develop private sector strategies and funding requests. Typically, data on malaria commodities in the public sector is more readily available to decision-makers, but while the private sector is an important and growing source of care for febrile illness, it often remains unmonitored, leaving an information gap for decision-makers involved in the control and elimination of this disease.

To fill this data gap, ACTwatch studies were originally implemented from 2008 to 2016 in 13 malaria-endemic countries in sub-Saharan Africa and the Greater Mekong subregion. During this time, ACTwatch studies obtained nationally or subnationally representative data on the availability, price and market share of antimalarial medicines and rapid diagnostic tests (RDTs) in the public and private sectors. These data were used by national and international stakeholders to inform and shape policy on antimalarial and diagnostic regulations and private sector interventions, including the Affordable Medicines Facility–malaria (AMFm)/Private Sector Co-Payment Mechanism – a Global Fund initiative to subsidize quality-assured artemisinin-based combination therapies (ACTs) through the private sector. In 2023, ACTwatch Lite used an updated and streamlined approach, based on the original ACTwatch methodology, to collect essential data on malaria commodity availability, price, sales volumes and market share only in the private sector, while reducing both the time and resources necessary to implement these studies. This "Lite" methodology was made possible through technological solutions (data collection, product databases and automatic inputting of product information, and streamlined data management and cleaning – all discussed later in this guide).

The ACTwatch Lite toolkit has been developed to allow for the rapid adaptation and implementation of this methodology to fit local contexts and enable the generation of data for adaptive, fit-for-purpose private sector malaria case management insights, prioritization and recommendations. It allows for a standardized set of indicators to be collected, enabling comparison between countries and over time. This toolkit can also be easily adapted to domains beyond malaria, including market studies in the private sector.

What is the actwatch lite toolkit?

The ACTwatch Lite toolkit includes comprehensive guidelines for implementation, as well as a standardized but adaptable package of assessment materials tied to an indicator framework, including questionnaires and templates for a protocol, report, budget and so on, as detailed in Table A3.1. ACTwatch Lite toolkit content. These tools can be adapted based on the scope and context of the ACTwatch Lite implementation. Tools may also be integrated with programme activities and routine monitoring of the private sector or as part of a broader health facility assessment or audit. In addition, the tools may be expanded to capture information on other relevant health commodities.

Table A3.1. ACTwatch Lite toolkit content

1	Manual and implementation guide	Provides comprehensive guidance on study design, planning, data collection, analysis and dissemination for implementing an ACTwatch Lite study
2	Indicator table & qualitative themes	Lists all core and optional additional quantitative indicators and qualitative analysis themes to guide study objectives and analysis
3	Desk review & stakeholder mapping	Includes tools for conducting a landscape review of the private sector and mapping key stakeholders to inform study design and engagement
4	Protocol template and references	Provides a customizable study protocol template with example text and references to support ethics submissions and standardize methodology
5	Budget and work-planning tools	Includes re-formatted workbooks for estimating and planning study activities and associated timelines and costs across all phases and resources
6	Sampling tool	Presents a PPS (probability proportional to size) sample size calculator to determine the number of clusters and outlets to include in the study with additional notes for use
7	Product master lists	Provides reference tables of known antimalarial and RDT products (by brand, strength, formulation, etc.) used to support data collection and cleaning
8	Terms of reference templates	Includes editable templates for recruiting research agencies and consultants to support implementation
9	Training materials	Includes slide decks, facilitator notes, quizzes, photo banks and other resources for training fieldworkers and supervisors on study background, tools and field procedures
10	Qualitative interview guide	Provides a semi-structured guide for interviews with importers, distributors and wholesalers to capture upstream market dynamics

11	Quantitative data collection tool	Provides an ODK/XLS form-based data collection tool for outlet- and product-level data on availability, price, volumes and provider behaviour
12	Analysis syntax	Presents pre-written Stata code for cleaning, management and analysis of ACTwatch Lite data to generate all core and additional provider indicators
13	Results output	Includes pre-formatted workbooks where data tables from Stata are output, formatted and used to populate visualizations for reviewing and sharing key results for core indicators
14	Report template and references	Includes a customizable, comprehensive report template with suggested structure, text and citation guidance to facilitate consistent reporting and dissemination

What does ACTwatch lite assess?

The ACTwatch Lite toolkit is designed to assess all levels of the private sector market and supply chain for malaria commodities and case management.

At the retail level, information from each outlet with the potential to stock malaria commodities is collected on the outlet characteristics, provider knowledge and case management practices, business practices, participation in surveillance, regulation and monitoring, and information on the outlet's main malaria commodity suppliers. Moreover, all malaria commodities available on the day of study at these outlets are audited to capture product information (e.g., brand, type of drug/test, manufacturer, active ingredient(s) or antigen test type, etc.) as well as the product price, volume sold in the previous week, and price paid by the outlet for the product from its supplier. These data are used to calculate core indicators including availability, price and market share. The complete list of quantitative indicators that can be assessed using this toolkit are detailed in the ACTwatch Lite indicator table.

For higher levels of the supply chain, a qualitative approach is used to capture information from key players in the import, distribution and wholesale of malaria commodities. Information is thematically structured to gather and assess details on product availability, pricing, sales revenues, distribution networks and practices, competition, and regulations. Qualitative themes assessed using this toolkit are detailed in the ACTwatch qualitative themes table.

Data collection and analysis tools are mapped to these indicators and themes so that standardized outputs can be generated for selected indicators and comparisons can be made over time and between countries. An ACTwatch Lite implementation can be adapted to assess priority indicators alone or expanded to capture other relevant information from surveyed outlets. A rapid assessment, for example, may only include audits of antimalarials at select outlets visited during programmatic monitoring or supervision. Tools can be adapted to suit various scenarios.

What is the ACTwatch lite methodology?

ACTwatch Lite is a market survey of malaria commodities across the supply chain. ACTwatch Lite implementation will vary based on scope, but core indicators – such as availability, price and market share – should remain standardized.

To assess malaria commodities at all levels of the supply chain, the study consists of two components:

Component 1: Quantitative market survey

At the retail level, a quantitative questionnaire is administered through a census approach (visiting all outlets with the potential to sell malaria commodities, such as health facilities, hospitals, pharmacies, shops, laboratories, etc.). The main suppliers from each outlet are captured and used to inform a list of wholesalers (either terminal or intermediate) who are also interviewed using the quantitative questionnaire if in the sampled area.

Component 2: Qualitative supply chain interviews

For higher levels of the supply chain, including importers, local manufacturers, distributors and wholesalers, a qualitative interview guide is available to capture a subset of business practice indicators.

The toolkit includes an implementation guide that further details the methodology, tools and steps for an ACTwatch Lite study, organized into the following five phases:

1 Project initiation	including stakeholder engagement and initial development of a workplan and budget
2 Protocol and tool development	including refinement of the protocol template, quantitative questionnaire and qualitative interview guide based on scope and data availability, and submission to an institutional review board for ethical clearance (as required)
3 Data collection	including fieldworker training, pre-tests, set-up, field implementation of the outlet census and qualitative interviews, mop-up, and quality control measures
4 Analysis and results generation	including data management, cleaning and analysis using standardized code and template shell tables and figures
5 Dissemination and data use	including initial presentation of results to stakeholders, and data use/action workshops

What are the expected outcomes of ACTwatch lite?

Results for each indicator in the analysis plan are presented in tables and figures, which can be produced by following standardized statistical software (currently only available for Stata) syntax and using the Microsoft Excel templates provided. A table is produced for each indicator, disaggregated by outlet type and urbanicity, or as otherwise applicable. Indicators are also presented as charts or figures.

Results provide evidence to help decision-makers identify gaps in their private sector case management systems to guide the development of evidence-based policy, regulations and interventions. The implementation guide below details an approach for actioning policy or process changes based on ACTwatch Lite results.

What's next?

In sum, the ACTwatch Lite toolkit is a standardized package of tools that can be used in various contexts to implement a market study or monitor malaria commodities in the private sector. The core aims of an ACTwatch Lite implementation are to assess availability, price and market share of malaria commodities. To get started on your own ACTwatch Lite implementation, continue reading the implementation guide below.

For more information, download the **ACTwatch Lite manual and implementation guide** or contact PSI: ACTWatchLite@psi.org.

Annex 4. Feedback and change tracker

No	Section	Comment	Priority/ Status	Tracked change
0	**General feedback**	Standardize use of terms e.g., data collectors versus enumerators, supervisors, surveyors, team leaders etc. Also ensuring consistency across all tools i.e., budget, TOR, implementation guide etc.	done	Check for standardize terminology (data collectors, enumerators, team leaders, supervisors, etc.) across all tools has been conducted; organigram added
0	**General feedback**	Verify info on the composition of data collection team There is reference to data collectors, supervisors & field coordinator with a supervisor for each team (implementation guide pg. 16) and data collectors, team leaders, & 3 supervisors (budget notes and template)	done	Check for standardized role/ team structure conducted; organigram added
0	**General feedback**	It seems the text in black would not require revision?	done	Additional guidance provided on document contextualization
0	**General feedback**	The manual is currently branded with PSI's logo; however, there should be a placeholder for countries or partners to add their own logos if they make substantial adaptations This recommendation also applies to all associated tools	done	PSI branding removed
0	**General feedback**	Spell out and/or include all abbreviations and ensure consistency across tools	done	Abbreviations checked across all documents
1	**Manual and implementation guide**	Include a glossary of terms beyond acronyms to define key terms/concepts	done	Definitions and key concepts added
1	**Manual and implementation guide**	Include brief summaries or "key steps" boxes at the end of each section would reinforce learning and facilitate implementation	done	Not addressed- these are already provided at the top of each section
1	**Manual and implementation guide**	Verify guidance on timing of the desk review (Table – project initiation) The desk review guidance includes stakeholder mapping, and its content would also inform the study scope Consider listing outputs of the desk review i.e., list of private sector providers, malaria commodities and RDTs etc.	done	Desk review guidance in manual reworked to include information on timing and outputs
1	**Manual and implementation guide**	While the summary tables are helpful, adding visual summaries or flow diagrams at the start of each phase would enhance navigation and improve comprehension	out of scope/ not applicable	Summary tables instead of flow diagrams have been used
1	**Manual and implementation guide**	Provide "quick start guides" or "Things to do before you begin" - One-page before Part A, which could include in a flow diagram format: Clarify Objectives Early, Know the Five Phases, Secure Stakeholder Buy-in, Adapt Key Tools, Get Ethical Approval, Plan Your Timeline Carefully, Train the Right Teams, Monitor Data Quality, Use the Data Strategically, Leverage Support Materials	out of scope/ not applicable	We believe this is covered through the summary tables and the workplan, etc.

No	Section	Comment	Priority/ Status	Tracked change
1	**Manual and implementation guide**	Add a 1-page Toolkit Navigation Guide showing filenames, file types, and where each fits in the project workflow	out of scope/ not applicable	This is covered in table in section A
1	**Manual and implementation guide**	Add a brief, dedicated sub-section "Data Ownership and Access" in Part A as part of "ethical considerations"	out of scope/ not applicable	This is covered in the protocol
1	**Manual and implementation guide**	Consider adding boxes (like you already do in 'Information Box 1') through out in which what is proposed is illustrated So in opening section, an example is given on how ACTwatch lite informed a decision in country When it is discussed how to define scope and objectives, explain how this was established in a certain setting, etc. (could all be illustrative)	done	Additional figures and tables added
1	**Manual and implementation guide**	In the Purpose section, it states the survey is meant to inform malaria decisions, yet the survey can be adapted to use other drugs Consider revising language so reader understands in Purpose at onset and other places that the methodology can be adapted to go beyond malaria	done	Added in use case section
1	**Manual and implementation guide**	General user manual, data quality control – there are automated DQ checks but it's mentioned in the manual that there should be focus on ensuring good data quality Any examples on what this means e.g. who(ich indicators to check, what "good quality" vs "bad quality" can look like?	out of scope/ not applicable	Specifics on DQA are not detailed in the toolkit as these should be adapted from research agencies existing processes and best practices
1	**Manual and implementation guide**	The manual should clearly state what the tool is not intended to measure// Many users of this guide may be unfamiliar with market surveys and the types of questions that they can and cannot answer Suggested section after "What does ACTwatch Lite assess" titled something like "When to use ACTwatch Lite" What can a market survey do and not do A) market survey can provide information about which antimalarial products are available, how much they cost, and which products are most commonly sold to consumers Market survey results can be used to monitor availability, price, and market share over time Market surveys are most relevant when planning for, or monitoring and evaluating, an intervention that is intended to change the availability, price, and market share of certain antimalarial medicines, and/or the availability and price of diagnostic testing Market surveys are not the best tool to provide information about provider or consumer behavior They are not the best tool to inform, monitor, or evaluate interventions designed to change provider behaviors, such as training or incentives to test before treating for malaria Market surveys cannot explain why providers or consumers make certain decisions about malaria testing and treatment Designing an intervention to change behavior may require additional research to understand key behaviors	done	An annex has been added to the manual that includes use cases for ACTwatch, as well as a paragraph on when ACTwatch may not be appropriate/ what it does not measure

No	Section	Comment	Priority/ Status	Tracked change
	Manual and implementation guide	B) Questions that could be answered by an ACTwatch Lite market survey: What types of antimalarial products are available at private outlets, such as pharmacies, drug stores, general retail, or mobile vendors: Quality-assured: definition Non-quality-assured: such as ACT syrups or suspensions Nationally-registered: definition Non-nationally=registered Artemisinin injections intended to be used for severe malaria treatment in facilities, but sometimes sold over the counter for consumer use What proportion of pharmacies and drug shops have first-line ACT in stock? What is the price of a course of a quality-assured first-line ACT relative to a non-quality-assured ACT for consumers seeking care at different private sector outlets? What is the most commonly sold antimalarial medicine in the private sector? Are any antimalarials that are banned or not on the national registration list available in the private sector? Have providers been trained in malaria diagnosis and treatment? Do providers know what the first-line treatment is? What bottlenecks or challenges do wholesalers or importers see in a specific market? C) Questions that could not be answered by an ACTwatch Lite market survey Do providers test before treatment? Do providers recommend certain medicines to consumers? Do consumers request certain medicines? Are/to what extent are consumers willing to pay for testing in the private sector? Do private providers know how to conduct an RDT properly? before treatment, and treat based on test results ACTwatch Lite is not the best method to gather information and insights to design or monitor this program 8There is interest in designing behavior change programs targeted to consumers to ensure that they request confirmatory testing before treatment at private outlets ACTwatch Lite is not the best method to gather information and insights to design or monitor this program 9A program is introduced to train private providers on how to conduct RDT testing and on the importance of confirmatory testing ACTwatch Lite not the best method to measure key indicators around provider behavior 10Strategy and priority interventions to increase access to malaria testing and treatment are focused on CHWs expansion and ensuring continuous stock in public facilities and among CHWs ACTwatch Lite not the best method to measure key indicators for this intervention		

No	Section	Comment	Priority/ Status	Tracked change
	Manual and implementation guide	2 When to include the supply chain survey What can a supply chain study do and not do? Questions that may be answered by the ACTwatch Lite supply chain study Questions that cannot be answered by the ACTwatch Lite supply chain study Illustrative case studies d) Is there ever a time to include the public sector in a market survey? Including public health facilities, not-for-profit facilities are options for understanding the total market for malaria testing and treatment Including the public sector could be considered if stakeholders would like to measure the relative market share for public versus private sector, or to monitor availability and distribution of certain antimalarials in the public sector ACTwatch Lite is not the optimal tool to monitor and evaluate CHW programs e Illustrative Case Studies 1AMFm example – description of the program providing subsidized QA ACT and demand creation linked to a product logo Key indicators were availability, price, and market share – over time and in relation to non-QA ACT and monotherapy 2NMP strengthening regulation to remove OTC injectable artemisinin Key indicator is availability of injectable artemisinins 3Behavior change communication program is promoting quality-assured ACT and discouraging use of non-QA or non-registered products Key indicators for this program are availability, price, and market share over time for QA versus non-QA ACT 4MFT example – description of initiative to diversity ACT prescription (?) Key indicators are availability, price, and market share – over time for each first-line therapy 5Initiative to offer subsidized or free confirmatory testing in the private sector is introduced Key indicators are availability and price of confirmatory testing over time in target outlet types Note: To understand behavior will require additional research such as consumer exit interviews, which may be bundled with ACTwatch Lite 6Policy precludes testing and/or treatment by general retail and/or mobile medicine sellers Initiatives are introduced to discourage consumers from seeking treatment from these sources and enforcement is increased Key indicators: availability, market composition, market share for these banned outlet types 7There is interest in designing behavior change programs targeted to private providers to ensure that they test		

No	Section	Comment	Priority/ Status	Tracked change
1	**Manual and implementation guide**	We understand that this is a standalone survey, which is fine; however, there should be an overall discussion on how the data could potentially be integrated into country data systems, whether routine or non-routine or relevant data repositories	done	ACTwatch Lite Use Cases document created and added as an annex. In addition to current use application, this document explores the myriad potential uses cases, including data system integration and data collection periodicity.
1	**Manual and implementation guide**	Add a dedicated (1–2 page section - Risk and Mitigation) to highlight common implementation risks (e.g., refusals from informal outlets, security challenges, government approval delays) and propose mitigation strategies This section could also include lessons learned from previous pilots in countries such as Benin, Cameroon, and Nigeria	done	Added page 17 to 198
2	**Indicator table**	Section 7: Expired commodities present?	done	Not added; for each commodity the expiration date is checked and data collected on if it is/ is not expired. One can then calculate for each outlet if ANY products were expired.
2	**Indicator table**	Section 8: How long in business	done	Indicator not added as there is a question in the form to capture this information and can be analyzed if useful
2	**Indicator table**	Might want to add a definition for a 'product'	done	Not addressed; already defined in footnotes tab
2	**Indicator table**	XLS tool could benefit from some more formatting, around size, colors, etc., to make it a bit more visually attractive	done	Updated formatting for consistency/readability
2	**Qualitative themes**	clarify how to use the supply chain information	done	Added a 'relevance' column to describe utility of each theme included
2	**Qualitative themes**	Would be useful to include the intended audience for specific questions/themes (Are all questions for everyone or some for wholesalers/retailers?)	done	Added information to README
2	**Indicator table**	The toolkit would benefit from an intermediate step that links specific stakeholder questions and policy decisions to specific indicators This would help support the 'modular' nature of the tool This could take the form of a separate table added to the manual or simply adding a few columns to the indicator table A separate table could include: a) the key stakeholder question, b) when you might want to ask this question/ when not, c) what indicator group or indicators you would use, d) how might results be used The Entomological Surveillance Planning Tool pgs. 7-13 also have good examples, Table 7 or a flowchart like the decision trees may also be useful	done	Added action/ use/ relevance column to indicator table
2	**Indicator table**	It might also be useful to include some data use case study examples - how various questions are linked to indicators, key findings, and support key decisions	done	Added action/ use/ relevance column to indicator table
2	**Qualitative themes**	Referring to qualitative themes: Has there been any analysis of what content has been used vs not for decision-making? This may help to determine how to streamline the tool	out of scope/ not applicable	This has not been conducted to date however the suggestion is welcome. We will evaluate this as part of the project closeout meeting and plan to ask our NMPs to share specifically how qual data has/ has not been useful

No	Section	Comment	Priority/ Status	Tracked change
2	**Indicator table**	clarify how the indicators will be used / be clear on aligning indicators with program purpose/intent e.g., is the focus on QA, or on nationally-registered? What are the key indicators for a given program/initiative?	done	Added action/ use/ relevance column to indicator table
2	**Indicator table**	It might be helpful to have the questionnaire, indicator list, training document, and interviewer guide more clearly aligned in order to justify each question, and how the responses will be used to create indicators and what actions/decisions can be taken as a result of collecting the data...something similar to the DHS training manuals and how they clearly spell out the intent of each question and any common issues/challenges with each or the Malaria Household Survey Indicator Manual which clearly lays out the calculation of indicators (data inputs for numerators and denominators), uses, and strengths/limitations of each	done	Added action/ use/ relevance column to indicator table
3	**Desk review**	Include an overview of country's malaria situation; this would be helpful context for the study e.g., selected study areas	done	Malaria situation section added to Desk Review
3	**Stakeholder mapping**	Who is the user of the tool wart the list 'in collaboration with' and taking into account the initiator of the mapping process (versus ownership by key stakeholders such as MOH), consider rephrasing to - The first phase of the ACTwatch Lite study is to define the purpose, objectives, and methods in collaboration with This should be a consultative process involving the study team, the NMP / MoH and other in-country decision makers, partners, and other key stakeholders	done	Sentence rephrased as suggested in the manual
3	**Stakeholder mapping**	Definition of a stakeholder will also help clarify the area of focus e.g., interest in 'private sector malaria surveillance or malaria case management' // Consider adding definition of a stakeholder i.e., individuals, groups or entities with an interest in or who might be affected by the activities or outcome of the study/project	done	Added paragraph to tool intro that defines "stakeholder" for the content of ACTwatch Lite study
3	**Stakeholder mapping**	Replace 'institutions' with a broader and non-restrictive term such as 'entities'	done	Replaced the word "institutions" with "entities" throughout the tool.
3	**Stakeholder mapping**	Is it role in ACTwatch Lite or role in private sector malaria case management and surveillance? If the latter, then the list may be expanded to include CSOs as suggested	done	Added row for CSOs in Table B
3	**Stakeholder mapping**	Consider adding a column on stakeholder category for purpose of grouping Contact info such as email and telephone number Start with role in private sector malaria case management before defining level of influence (column 3) Then type of influence, level of influence, type of engagement expected in ACTwatch Lite, priority of engagement (required commitment)	done	Added stakeholder category column and re-ordered others per recommendation
3	**Stakeholder mapping**	How is the initial stakeholder mapping conducted? Also, some guidance on continuous updating of the output would be helpful Should one overwrite the files or keep versions with 'date last modified'? Consider inclusion of examples of country customization e.g., Defining the stakeholders by administrative levels (national versus subnational) for devolved health systems	done	language added on iterative process, version control

No	Section	Comment	Priority/ Status	Tracked change
3	**Stakeholder mapping**	Has reference to 'project team' (step 3); include this context in the last sentence prior to intro of the framework e.g., …such as WHO's stakeholder mapping process guide for family planning project In the manual (pg. 12), The WHO's provides a stakeholder mapping guide for family planning project that can be adapted for this exercise Also, consider using 'stakeholder mapping and analysis' in place of 'stakeholder analysis and mapping'	done	1. In Stakeholder Mapping Guidance section of the Stakeholder Mapping tool, we replaced "…WHO's stakeholder mapping process…" with "…WHO's stakeholder mapping guide to family planning…" 2. We added a footnote for the WHO Stakeholder Mapping Guide 3. In the ACTwatch Lite User Manual and Implementation Guide, we changed "The WHO provides a stakeholder mapping guide that can be adapted for this exercise" to "The WHO's stakeholder mapping guide for family planning projects can be adapted for this exercise." 4. Converted "stakeholder analysis and mapping" to "stakeholder mapping and analysis."
4	**Protocol template**	Include a specific section of overall team structure and composition for the study // More clear definitions of the various study teams would be helpful: Core team/ Research team/ ACT Watch Light team	done	Added heading and tagged for team discussion
4	**Protocol template**	The background should aim to provide/use information on the most recent measures of malaria burden, e.g., prevalence or case incidence E.g. It would be helpful to describe treatment-seeking behavior using data from a relevant desk review, and a description of public and private sectors size at the country level It could be useful to provide a background on recent malaria stratification informed by broad malaria metrics e.g. anti-malaria drug resistance - in country context	done	Added additional instructions to the background section to include suggestions and match with Desk Review content/ instructions
4	**Protocol template**	Add a placeholder for an Executive Summary	done	Placeholder and brief instructions added
4	**Protocol template**	Dissemination of findings in protocol could be better defined through engagement - There could be deliberate efforts to engage and share result with local stakeholders within the district/state etc.	done	Language updated to reflect dissemination needs at sub-national level
4	**Protocol template**	Need a clear distinction between IRB, which is institutional unless given national mandate, and National Ethical Review Committee, which has the mandate to clear research protocols	done	Note added distinguishing institutional IRBs vs national ethical review processes
4	**Protocol template**	No section on data ownership – assuming that would be proprietary of PSI, which is not appropriate - Include a section on data ownership – non-prescriptive and dissemination	done	Page 27
4	**Protocol template**	Include procedures for managing ethically sensitive findings (e.g., illegal practices) in a way that maintains participant confidentiality—especially important even if data is not externally reported	done	Page 29 & 30
4	**Protocol template**	Include a section on guidance on what can be adapted without compromising methodological integrity	done	Page 34 to 36

No	Section	Comment	Priority/ Status	Tracked change
4	**Protocol template**	Provide a Protocol Adaptation Checklist as an annex to support country-level customization	done	Page 40
4	**Protocol template**	Include a Theory of Change or Conceptual Framework section, potentially under the study rationale, to visually demonstrate how the study contributes to broader malaria control goals (e.g., improving access to quality-assured ACTs)	done	Page 12
4	**Protocol template**	Consider a section describing the formation of a Steering Committee composed of key stakeholders to provide oversight	done	Page 32 & 33
4	**Protocol template**	It could be beneficial to clarify that the sampling uses existing and updated in-country master sampling frames, with outlets selected from the chosen clusters in the first stage (where 2-stage is adopted) Most recent national frames can be used	done	Page 19
5	**Budget**	(README – row 18) "The budget also assumes that the Ministry of Health officials or other stakeholders may attend fieldwork"; how about their participation during the training?	done	added rows for stakeholder transport in both budgets and updated language in readme
5	**Budget**	What is a statistical visa? (additional fees for ethics review) Good to give clear examples	done	Removed and replaced with "Ethics review: Additional fees (other regulatory authorizations or approvals, as needed)" since visa statuesque seems very particular to Benin
5	**Budget**	Query reference to cell E19 (number of cars rented/used during fieldwork) in 'core supervision' budget line (l47 & 48)	done	I've reworded the description for rentals/field supervisors and pulled in cells E19 and E22
5	**Budget**	Is the 10-12 days training being held at a central location accessible by all data collectors and without per diem requirement? Consider including this info in the budget assumption and recruitment note Also, "all training participants should be compensated for their time during training", but "transport for data collectors" is the only cost item for the trainees during training Data collectors fee (row 52) relates to the duration of data collection How about logistics for the research core team and MOH during training?	done	addressed this by adding a budget assumption in README about centralized location, also added in compensation for trainees and extended transport for research core team/supervisors/field team leaders
5	**Budget**	Noting that there is 'reimbursement' of field transport (all days of data collection) as well as 'travel to data collection areas' Is this, okay? Does the travel arrangement imply rental of vehicles during data collection?	done	removed duplicates on transport
5	**Budget**	It will be helpful to get info on how many outlets a team covers per day Also, add a note if the duration of data collection includes travel days. Are weekends for rest or data collection?	done	addressed in README
5	**Work planning tools**	Might be helpful to give an indication of the expected output for each key/main activity (in bold)	done	added outputs, needs review

No	Section	Comment	Priority/ Status	Tracked change
5	**Work planning tools**	Did ACTwatch Lite work with monthly or week-ending (weekly) work plan units? What do we learn from your experience that would guide teams in, say timeline for deliverables or a need for adjustments?	done	added a note about this in the "Instructions for use" in README
5	**Work planning tools**	Some notes to show the linkage between the work plan period, budget (level of effort for core personnel), and TORs would be helpful	done	I have added notes about this in the instructions for use section, also have added columns for Key personnel and relevant tools/resources - just need some help on renumbering and which tools for phases 3 - 5
5	**Work planning tools**	Where's the steps about cutting / adding sections/questions to have it match the desired scope and objectives?	done	added a row (24) in workplan for this
5	**Budget**	(README) Budget cost for a one-day project kick-off meeting only; is this sufficient for stakeholder engagement? What other platforms or forums have been used to engage stakeholders?	out of scope/ not applicable	All of our kickoff meetings have been a half day for the project and they were sufficient, but with continue engagement through WhatsApp, Zoom, Teams, and smaller 1-on-1 meetings in country
5	**Budget**	Is there an estimate of the cost of data entry? The agency TOR mentions the possibility of data entry and that the cost will be catered for by the ORGANIZATION/PROGRAM	out of scope/ not applicable	I think this should be up to the IO to address whether this is done in-house or externally, but this SOW is accounted for in the core personnel salary
5	**Budget**	Consider changing the quantity of printing of protocol application to 2 (cell I43) to reflect the statement "printing of protocol application for 2 ethical committees"	done	Updated cell I43 to quantity 2
6	**Sampling tool**	More details needed for wholesalers approach For the identification of wholesale outlets from retail survey, consider providing a bit more details on how the user should select a stratified random sample based on the frequency of citation, i.e. clarify the construction of the supplier sampling frame, provide examples of cutoffs for frequency of citation, clarify how many wholesalers to sample for each frequency stratum, what to do in case of non-response Any excel with an example on how to proceed would be useful	done	Clarification on wholesale sampling added
6	**Sampling tool**	"balancing of representativeness with fieldwork capacity" – reasonable and good advice but hard to know what this means for people not experienced Worth giving an example? E.g. your sampling frame gives you #x clusters but you can only afford to go to #y clusters – what do you do Especially in the current context of no/limited funding for surveys	out of scope/ not applicable	This is determined to be a country-specific/ case-by-case decision
6	**Sampling tool**	Similarly, funding for surveys will be heavily restricted in GC7 reprioritization and likely in GC8 Can we provide any examples of how to integrate ACT Watch surveys into other data collection activities to save costs?	out of scope/ not applicable	This is covered in the use case examples in the manual but sampling examples/ reference are not available
6	**Sampling tool**	Perhaps providing a clear guidance on when or where use of two stage sampling may be beneficial at country level The tool at the moment is open to one stage design - it is advantageous to implement this design and representativeness The other advantage is using clusters to estimate at lower units, comparing estimates to other surveys etc.	out of scope/ not applicable	Sampling examples/ reference are not available

No	Section	Comment	Priority/ Status	Tracked change
6	**Sampling tool**	Unclear what to do with final sampling results e.g. where to copy them into to have your final sample list	done	Added additional guidance on final steps and example tab for urban north
6	**Sampling tool**	Reliance on accurate population data is a challenge and should be highlighted PPS method is only as reliable as the accuracy of the population estimates used Outdated or inaccurate data could bias cluster selection Consider adding a warning that prompts users to validate population data before use, encouraging cross-checking of different sources to ensure accuracy	done	Add note on population data validation in Inputs tab
6	**Sampling tool**	ReadMe: C23 – stratum is singular Should be strata? Clearly mention that the user needs to generate PPS sample for each strata Consider being consistent in the use of "stratum" across the sheets, i.e. stratums are called Region in A22 of the 3PPS sheet	done	Specific errors addressed
6	**Sampling tool**	Inputs: C16, 21 – change to "type of administrative unit" Stratification still seems a bit unexplained The examples make it look like these are official admin areas instead of chosen stratification groups Is stratification optional? If so, can that be noted here that they don't need to fill it in? 22-24 – "list below" is confusing when it's not below but next to 24 – I'm a bit confused what this means It's total number of each type of outlet across all wards that would fall in this stratum? Or the average number per ward? 24 – are they able to add more columns to the type of outlets or will that break it? 33 – population proportion It's not really described proportion of what? It says "keep at 50% if unsure" but it's never really been defined what it means (i.e. what's the numerator and denominator of this proportion?) 34 – population size of what? 35 - design effect "increase if you are using a cluster sample" is vague Increase to what? How? Based on what? Can also say "consult a statistician" here Seeing as cluster and ward are using interchangeably elsewhere then aren't all the surveys using a cluster sample?	done	Addressed comments on specific cells by clarifying terms/ wording

No	Section	Comment	Priority/ Status	Tracked change
6	**Sampling tool**	PPS: You need to repeat completing this sheet for each strata? How do you change the strata type in E10 C11 – the notation is off? Says complete pop size will be calculated in column G, but there's nothing in column G should be column E? It's meant to be the columns you've renamed in 51 table? That's confusing because they don't correspond to the column letters in the actual spreadsheet Hard to know which one we're supposed to be referring to Repeat the guidance from Inputs sheet that the user should fill in yellow columns C12-14 - reword that you don't do anything but the sheet will do it for you D15 – maybe make even more explicit by saying "Type (don't copy/paste)…" The arrows are confusing linked to the numbers It looks like you go from 52 back to 51? The terminology between "cluster" and "ward" (as the example admin unit name) is a bit confusing and seem to be used interchangeably Basically cluster = ward? Can't we just use "ward" (as an example) to make it clearer? Not clear why the numerical list starting I13 should start with "-" and not 1 directly? Consider adding an extra step that put together the PPS samples for all strata's in the same worksheet	done	Fixed typos and wording suggestions specified in the reviewer comment
6	**Sampling tool**	General user manual: "ideal sampling unit is smallest sampling unit, ideally 10,000-15,000 people" – maybe a bit confusing as the smallest unit for e.g. elimination areas will be villages, which are much smaller than that Does it need to say smallest? Or will "whatever unit is approx. 10-15,000 people" suffice?	done	Rephrased guidance to say 'For the purposes of estimating a sample size, ACTwatch Lite's primary sampling unit is a geographic area with a population between 10,000 and15.000. These will vary between country, but are typically called "wards", "aires de santé", or "commune". '
6	**Sampling tool**	Point out in the manual where suggested software is free or paid – often leads to confusion when people assume they'll use one software (e.g. NVivo) before they find out how much it costs	done	Added free option and rephrased to essentially say any good QDA is fine.
6	**Sampling tool**	"stratification" - General user manual and sampling tool user manual: the other factors (geographical coverage, study population) have been explained but unclear what stratification means in this context The term may mean something quite specific to the NMCPs (e.g. epi stratification) Assuming it is linked to what's already been described (e.g. urban or rural) but a definition and examples would be helpful in the manuals For example - the example given by Nigeria in terms of "political zones"	done	References to "stratification" throughout have been reviewed
6	**Sampling tool**	Accounting for non-response - It does not seem the sampling approach take into account non-response, which can be a significant issue in some places Consider introducing a default non-response rate (based on previous ACTwatch surveys) within the sample size calculation sheet, with the option for the user to modify it In any case, consider ensuring post stratification weights are adjusted for non-response rate within strata (particularly if non-response is not random, for example if unofficial/ unlicensed or remote rural outlets are less likely to participate)	done	non-response added to README and formula

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6	**Sampling tool**	Can this be more flexible i.e. not just urban/rural areas but countries can tap into broad stratification informed by broad metrics including drug resistance?	done	rural-urban is just one type of possible stratification. This has been added to manual
6	**Sampling tool**	"required level of representativeness" – this is helpful to point out, might be worth including some examples of decisions NMPs need to make/have made with previous ACTwatch outputs To exemplify the need to really think about where/what level the sampling should be done and how a national survey may not always be the right call (it seems more thorough but might be too broad or too big and not achievable)	done	added some information to README
6	**Sampling tool**	Perhaps providing a clear guidance on sampling for longitudinal analysis (or adding a separate tab to the tool)	done	added info to README (limitations)
6	**Sampling tool**	Statistical terms are sometimes not fully explained e.g. population proportion, design effect Not a problem if you have a statistician But could be confusing if you don't // Swapping back and forth of terms that mean the same thing – clusters, admin units, wards etc.	done	we have harmonized or added more info where possible
6	**Sampling tool**	The README says in the Assumptions that the user should "consider adjustments for non-response are built in (adjust as needed) Does it mean the user should add such assumptions? Can it be done and then the user can modify or remove?	done	this has been added to the calc
7	**Product Masterlists**	RDT: New iterations may include: AI to read images of packages, expiry dates, storage conditions, waste management details	done	An "additional analysis" section has been added to the README tab of the quantitative tool highlighting that if expiry date, storage conditions and waste management information is useful to researchers, they should be sure to update the quantitative tool and corresponding analysis syntax accordingly.
7	**Product Masterlists**	From Jane's email: it would have been much better to have recorded the product codes for each product – those are unique identifiers and with that info you can find out /verify all the other information e.g. antigen target. Is this info available – could it be incorporated ? / PPX Presentation: Product codes are preferable to brand names – unique and specific. Differences linked to pack size, contents and configuration (hospital vs single use), resolved with analysis. Details of test line order and target antigens can be deduced from IFU, can be collected once based on product code information.	done	Limitation section added to the README which mentions that while this was not initially included, future researchers are encouraged to collect this information for future rounds, if desired.
7	**Product Masterlists**	From Jane's email: WHO approved should be 'WHO prequalified	done	Changed two references of WHO approval to WHO prequalification
7	**Product Masterlists**	From Jane's email: I suggest a category for ERPD approved – this pertains to the RapiGen Bio credit products RDT: Consider basic quality elements. Tool for assuring quality and safety for malaria RDTs but amenable to the POC testing - to be used by public and private sector supervisors. Quality options – expand to include national registration, GF-listed +/- ERPD WHO prequalified	done	Limitation section added to the README which mentions that while this was not initially included, future researchers are encouraged to collect this information for future rounds, if desired.

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7	**Product Masterlists**	From Jane's email: When describing panLDH RDTs such as MERISCREEN MALARIA PLDH AG (line #40) - the antigen is pLDH but its actually – pf-LDH and pan-LDH - that's quite important to understanding the characteristics of the test. From Jane's email: Target antigen pLDH – this should be more specific – pf-pLDH, pv-LDH or Pvom-LDH or panLDH. This is especially relevant for product that have 3 test lines – Hrp2, pf-LDH and Pv-LDH - line # 5.	done	Limitation section added to the README which mentions that while this was not initially included, future researchers are encouraged to collect this information for future rounds, if desired.
7	**Product Masterlists**	If you used product codes you would probably see that line #39 and #42 are the same product. And same for lines #4 and #8	done	Removed duplicate observations
7	**Product Masterlists**	From Jane's email: CAREUSTM – reported on lines 65-67 would have TM as superscript …not as part of the name.	done	Removed the "TM" so they do not appear to be part of the product name
7	**Product Masterlists**	AM: clarify difference between 1900 and 1800 AMs cited in different sections of the tool	done	Replaced 2 references of "over 1900" to "over 1800."
8	**TOR- consultant**	Roles and responsibilities for core research personnel are highlighted in the budget tool but not clearly defined e.g. are they from the ORGANIZATION/PROGRAM? Can their roles and responsibilities be detailed for clarity?	done	added some tracked changes to the "info" section. Moved to user manual and implementation guide
8	**TOR- consultant**	Who manages the qualitative aspects of the study?	done	added a tidbit about it in the info section of this TOR
8	**TOR- data collection agency**	·#5 on qualification documents, request copies of CVs of the key personnel in addition to or in place of the diplomas	done	replaced diploma with CV
8	**TOR- data collection agency**	·#9 on proposal requirements, specific mention of a principal researcher/lead consultant from the agency; their role versus that of the organizations core research personnel including managing expectations such as authorship in publications Is this the same as the main coordinator (appendix 3)	done	including TORs into annexes of manual & implementation guide. Also removed reference to consultant/PI and replaced with field supervisors and "any other specialists"
8	**TOR- data collection agency**	·What has been the experience of ACTwatch on 'oversight' role #2 (the agency will take the following factors into account)? Noting that the agency is tasked with oversight of the data collectors	done	generalized this
8	**TOR- data collection agency**	·Are the team leaders recruited by the ORGANIZATION/PROGRAM? i.e., based on responsibilities of the agency #1 and #2 (pg10) – both oversight and logistics Who is reporting to the ORGANIZATION/PROGRAM? Is it the team leaders or the three supervisors?	done	I've clarified this in footnotes, also emphasized that team leaders are not essential and are recommended for large-scale studies, just field supervisors should be sufficient for smaller scale studies
8	**TOR- data collection agency**	·Also noting that the agency will have a main coordinator, data collection coordinator, and collection follow-up assistant What are the experiences of ACTwatch in relation to oversight/supervision?	done	I have removed these specific roles and just generalized it to "field supervisor"
8	**TOR- data collection agency**	·Consider removing the 'supermarkets' and 'stalls in supermarkets' from the list of sales outlets (pg9 on sampling procedure) Use the general statement 'other relevant points of sale' after the list of formal outlets – this will give potential agencies clarity of scope of the study	done	removed supermarkets and stalls

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8	**TOR- data collection agency**	·Remember to use clear terms i.e., spell out or no abbreviations e.g., POS & ATC, and either avoid or highlight country-specific terms e.g., communes, arrondissements (pg9 on sampling procedure)	done	replaced POS with outlets - ATC was typo so removed
8	**TOR- data collection agency**	·Appendix 1 – listed roles/responsibilities as part of the qualifications e.g., #7 for enumerators	done	generalized to field supervisors, added qual interviewers
8	**TOR- data collection agency**	Verify repetition of the 'research authorization' in appendix 4	done	removed duplicate
9	**Training materials - qual**	What is included in the transcription/translation of audio recording practical sessions? Again, it seems a substantial focus of the training but there's not a lot of guidance material	done	These have been added to the training and additional documents
9	**Training materials - qual**	Are In-Depth interviews ever done remotely? If so, are there specific recommendations that could be helpful (i.e. use video whenever possible, get permission to record the call, etc.)	done	Remote interviews are not a recommended format for Awl data collection
9	**Training materials - qual**	The agenda has a lot of time set aside for going through the interview guide (which makes sense!) but no details as to what that means Is there any guidance on what elements of interview have been challenging either for interviewers or for the interviewees? Is it possible to provide examples of the interview questions and the outputs from previous ACTwatch lite surveys? It seems like some training materials going more in depth about the content of the sessions focused on the interview guide would be useful	done	Added instructions on probing, including interactive elements. Probing will also be modeled and evaluated during the practice IDI session.
9	**Training materials - qual**	I think there needs to be some guidance on the objectives/content of the qualitative interviews	done	Added slides on qualitative methods in general (Qualitative Overview and Best Practices module) as well as specific aims and objectives of IDIs (IDI Overview module)
9	**Training materials - qual**	No consolidated trainer's guide or facilitation script—this could lead to difference across country teams	done	Created facilitator guide with timing, objectives, key messages, and specific instructions on activities and required materials
9	**Training materials - qual**	Develop a "Trainer Notes" version for each session with prompts, discussion examples, and timing guidance	done	Created facilitator guide with timing, objectives, key messages, and specific instructions on activities and required materials
9	**Training materials - qual**	Modules 3 and 4 could be combined into one shorter session Touching on this is useful background but it provides little in terms of practical skills for interviewers	done	These have been combined into a single Qualitative Overview and Best Practices module
9	**Training materials - qual**	Module 6 Data quality management section should include specific guidance on what actions interviewers and supervisor should take to ensure data quality	done	We have made the Transcription and Data Management module more practical and specific

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9	**Training materials - qual**	No pre/post-test or knowledge checks included, therefore difficult to assess learning outcomes - not on the agenda, though mentioned on they read me document Add to the agenda short pre/post-test knowledge check quizzes or group reflections	done	We've added more interactive elements (reflections, Q&A, etc.) to the training slides. We do not traditionally do formal skills assessment during the training slides. Performance will be evaluated during the practice interview sessions (assessed by both peers and facilitators)
9	**Training materials - qual**	Include a training evaluation form and checklist for facilitators	done	We have added a training evaluation form that can be filled out either daily or at the end of the full training
9	**Training materials - qual**	Training agenda could better map which objectives are covered when Map the training agenda to the training objective	done	Overall training has been restructured. Objectives for the various sessions have been updated and included in the facilitator notes.
9	**Training materials - qual**	Slides are very text-heavy in some sections (data management, transcription) Presentations use few visual infographics Use diagrams or flowcharts for processes like transcription/coding or IDI planning	done	We've attempted to reduce the number of text-heavy slides. Additional diagrams/graphics have been added.
9	**Training materials - qual**	Include one-page summary handouts for interview techniques and transcription steps	done	These have been created and will be shared as part of the training
9	**Training materials - qual**	For the sections " Managing difficult participants and situations" and "General discussion: Previous experience sharing" Is there a guide or content for facilitators to use? Are there common experiences from previous work that could be incorporated? Specific examples and approaches on how to manage difficult situations would be very useful	done	Removed this as a separate section in the agenda. These topics will be covered as part of the other modules
9	**Training materials - qual**	For the role play there should be specific guidance for the facilitators and participants to detail how the activity should be conducted, what specific skills/techniques should be practiced	done	We have created slides and a facilitator's guide to inform the IDI practice session, including specific instructions on skills/techniques to practice/evaluate
9	**Training materials - qual**	Training Agenda Add options for accelerated (2-3 days) training for refresher teams Consider integrating morning recaps and end-of-day reflection prompts	done	As we will not know which skills the teams may have or need, we have not created an official shorter version of the training; more experienced teams will have the option to pick and choose which sessions/slides are necessary to present.
9	**Training materials - qual**	Qualitative Training Objectives (PPT) Add a slide on assessment: pre-test/post-test or simulation checklist (i.e. interviewees should rate interviewers on whether they implemented key techniques like active listening etc. during the role play) Suggest tailoring of content depending on trainee baseline capacity	done	We've added a peer evaluation checklist to support the practice interview session
9	**Training materials - qual**	Overview of Qualitative Data Collection Techniques (PPT) Insert brief in-slide case studies or "What would you do?" scenarios Add use of digital tools for data collection Add a checklist for qualitative interviewer readiness	done	Practical examples have been added to the qualitative training slides. An interviewer readiness checklist has been added to the IDI training slides. Training on use of digital tools (recorders) will be covered as part of the interview practice session.

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9	**Training materials - qual**	Concepts Guiding Qualitative Research (PPT) Add practical examples of how these concepts affect daily fieldwork (or integrate the examples in the case studies and what would you scenarios)	done	We've modified the flow to now have additional best practices slides (in the new Qualitative Overview and Best Practices model), including additional interactive elements and relevant examples from the Awl interview guide to support learner engagement. We have also expanded the practical skills development portion (example mock interview and paired partner practicing) as part of the session reviewing and practicing the data collection tool.
9	**Training materials - qual**	In-Depth Interviews – Planning, Listening (PPT) Convert slide 2 into breakout activities (e.g., paired listening role-play) Include a short video or audio clip example of good vs bad interviews	done	We've modified the flow to now have additional best practices slides (in the new Qualitative Overview and Best Practices model), including additional interactive elements and relevant examples from the Awl interview guide to support learner engagement. We have also expanded the practical skills development portion (example mock interview and paired partner practicing) as part of the session reviewing and practicing the data collection tool.
9	**Training materials - qual**	In-Depth Interviews – Data Management (PPT) Add screenshots showing example file organization and folder naming structure Include a handout version for field teams	done	This has been added
9	**Training materials - qual**	In-Depth Interviews – Transcription and Coding (PPT) Include an example transcript and codebook Suggest a simplified transcription/coding protocol	done	Training on qualitative coding/analysis is outside the scope of this training. The slides on this have been removed.
9	**Training materials - quant**	-Needs a facilitator's manual that guides the trainers with more instruction on how to implement the course For example, guidance on setting up the three day pilot	done	The existing training manual was updated with additional guidance on setting up the training. Facilitator notes were added to an annotated sample agenda. Finally, an overall README was added to the folder as a quick start and guide to content.
9	**Training materials - quant**	-It could be made more clear how interviewers are intended to gather data on quantities sold Is this simply provider self-reporting? Should records be reviewed?	done	Added on how to collect the information were added to slide 200, titled "QUANTITY SOLD", in the presentation Module 2 Auditing Antimalarials-FINAL.pptx.
9	**Training materials - quant**	-It is sometimes unclear who the intended audience of the training is and/or team roles are not clear Is this training only intended for supervisors and data collectors or does it also cover activities of the research team? In some places it could be more clear which specific role is meant to take which specific action For example, who will obtain a list of the outlets, who will consult local stakeholders to add to this list before data collection?	done	A section of the updated trainer manual includes guidance on suggested roles; terms have been standardized.

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9	**Training materials - quant**	There is a lot of content… any areas that might be streamlined? To streamline, what are the areas that have historically been more challenging as part of the training? Some of the slides on defining a census could be shortened/cut Simplify to say that all outlets in the areas need to be visited and why Wholesale sampling slides could be shortened by maybe putting on one slide and using a graphic to describe the process of identifying and interviewing wholesalers "Introduce yourself and the study" and "Eligibility and consent" could be combined into one section and then both practiced in one activity	done	To streamline and shorten the census and wholesaler sampling slides, the "Introduce yourself" and "Eligibility" sections were merged into a single section, including the related activity.
9	**Training materials - quant**	Not sure how the real time sampling of wholesalers is intended to work	done	Explanation with visual is added in the training manual
9	**Training materials - quant**	Who is the 'remote team' that will be selecting the wholesaler sample?	done	Clarification of the remote team's role in wholesaler sampling has been added to both the training manual and training materials.
9	**Training materials - quant**	Wondering if it's possible that local IRBs will insist on written consent instead of oral consent	done	A note on oral versus written consent is provided in Module 4, slide 62.
9	**Training materials - quant**	The title 'other drugs used to treat malaria' (module 2 slide 34) is misleading	done	Slide title reformulated
9	**Training materials - quant**	Consider adding 'introduce yourself and the study' between step 3 and 4 (module 4 slide 75) An introduction is important before proceeding with eligibility questions	done	Slides reordering to consider study intro before eligibility
9	**Training materials - quant**	Is there guidance for the research team about when/why booster areas should be added and how to do so and how to address this in analysis and write-up of results?	done	A section on booster sampling was included into the training manual.
9	**Training materials - quant**	Add guidance to training - what do you do if you get part way through the survey, the respondent knows some answers but not others? Should they stop and come back later or continue to get as much done as possible and fill gaps later?	done	Instruction on handling partially completed surveys has been added to Module 5, slide 37.
9	**Training materials - quant**	Curious what kind of refusal rates you have seen in the pilot studies What about for taking GPS coordinates?	out of scope/ not applicable	Refusal rates have been addressed in the sampling tool. Data collectors should be trained to minimize refusals, but don't need to worry about the overall refusal rate. For GPS, these are taken before entering the outlet so do not require consent.
9	**Training materials - qual**	Is there a starter coding guide for the qualitative data based on common study objectives? Should that be included here or in the analysis section of the toolkit?	done	The qualitative themes are provided as a starting point for coding, which should be adapted for country specific research questions
9	**Training materials - qual**	Training Manual (DOCX) Develop a Field Team Pocket Guide or job aid (2–3 pages max) extracted from this manual Add diagrams (e.g., team roles on a typical field day, data flow from collection to analysis)	done	An organigram has been added to the manual to aid in general team structure. More specifics would be based on the country/ research agency preference or best practices

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9	**Training materials - qual**	The "__README training package overview" in the qual folder - is this just for the qual training or both? It includes quizzes and I don't see quizzes in the folder Should there just be one training package overview in the main folder?	done	A README has been added to the folder with the correct overview of content
9	**Training materials - qual**	Is there a guide for the lead team setting up the qualitative portion and all of the components? For example, in the interview guide it mentions a WhatsApp group specified for sending antimalarial lists What other pieces / components should the lead team set up beforehand?	done	A facilitator guide has been added to aid in training. Additional guidance on implementing these interviews is in the annex. Other components like WhatsApp communication is at the discretion of the research agency conducting the study.
9	**Training materials - qual**	Understanding the Burden of Malaria (PPT) Add visuals (e.g., malaria transmission map, global burden figures) Include a country-specific slide template Consider interactive polling or a quiz to engage trainees	done	Additional detail added on malaria as well as country-specific information/ visualizations to add.
9	**Training materials - quant**	-Terminology around roles could be more consistent Terms change from "research team" vs "fieldworkers", "team leads" vs "supervisors", "interviewers" vs "field teams "Develop a "Trainer Notes" version for each session with prompts, discussion examples, and timing guidance Ensure that there are answers included for each question prompt in the slides	done	A section of the updated trainer manual includes guidance on suggested roles; terms have been standardized. Further, facilitator notes have been added to the sample agenda.
9	**Training materials - quant**	Training manual - consider revising tense/language for some of the sections that refer to previous ACTwatch Lite studies e.g., Finally, after the study is complete, the ACTwatch Lite study tools and guidelines will be made publicly available with the aim of easing data collection for national and regional malaria control and case management decision-making across malaria affected countries	done	The trainer manual has been updated with an eye on tense and removed mention of the toolkit/ project history that is not relevant to the audience
9	**Training materials - qual**	Why does the Team Leaders' section only include an outline? Are there any lessons learned/example content that should be incorporated in this section?	out of scope/ not applicable	The team leader sessions are placeholders for additional days that may be required for some teams to work out final logistics. We have included guidance and content suggestions for these days based on experience and lessons learned in the pilots, while also keeping guidance clear that this is time to adapt to the needs of the country and fully optional.
9	**Training materials - qual**	Add a quick-reference guide for supervisors and country leads	out of scope/ not applicable	We have included quick references for IDIs and transcription, but feel that the facilitator guide and other materials are sufficient guidance for supervisors to administer the training and supervise the qualitative data collection process. As with the quantitative data collection, the baseline expectation for teams recruited/ funded/ hired to do these studies should have their own best practices for interviewing, quality control, etc. that can be adapted to the ACTwatch Lite content/ approach.

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9	**Training materials - qual**	README Training Package Overview Add a column for estimated session time and trainer prerequisites Provide a column indicating whether each session is Core, Optional, or Adaptable	out of scope/ not applicable	For the quant training, we have added a "refresher" or condensed option. Given that the qualitative training is already quite streamlined, we have opted to not add guidance on core/ optional content - users should aim to cover all material. There is extensive guidance on what can/ should be adapted for country-specifics.
9	**Training materials - qual**	For the training, it would be nice to see some examples of types of responses from past interviews, how the responses were coded/used and how these answers informed the report/policy It's important that the interviewers really understand the purpose and use of the questions to ensure appropriate probing Or a simple guide that explains for the questions why are we asking this section of questions or specific questions A bonus would be here's what a good complete answer looks like, here's an incomplete answer where you might want to probe more	done	Added examples to training slides
10	**Qualitative interview guide**	No indication of who the target respondents are within the guide Add a short guidance section for interviewers at the top, explaining who to interview – Target respondent – added to Row 1	done	language from the README general guidance moved to separate section Target Respondents
10	**Qualitative interview guide**	Not all main questions have probes, and some complex areas like regulation or competition could benefit from follow-up guidance - Ensure every major question has at least 1–2 probes to deepen exploration	done	Notes added to readme to encouraging users to add probes and train interviewers to probe; however examples were not added to the questionnaire
10	**Qualitative interview guide**	The phrasing of some questions is very formal or "survey-like," which may make in-depth conversations less fluid Moreover, ensure probes are more flexible to allow for conversational tone - encourage field teams to create their own localized probes during training and interview	done	Notes added encouraging users to update guide to local context and conversational style; highlight need for fluidity in training
10	**Qualitative interview guide**	Without strong interviewer training, some questions may yield thin responses, especially from less forthcoming respondents. Guide assumes that respondents are comfortable discussing pricing and competitor practices. Complex topics (market structure, government relations) may be sensitive guidance on building rapport or rephrasing sensitive questions is missing	done	Notes added to readme to encourage rapport building, probes, capturing observational notes
10	**Qualitative interview guide**	How do you screen to determine that the respondent is well placed to answer the questions included? Are there responses to early questions (e.g. Q1, what is your role in this company) that would indicate that this person is not a great candidate and that you should end the interview? Is this screening process covered in the training?	done	Added notes for identifying eligible respondents during metadata collection
10	**Qualitative interview guide**	On question row 14 and the instruction in cell R14F: "If yes, please remember to switch on your recording and inform the interviewee that recording has started"	done	Added note to start recording
10	**Qualitative interview guide**	In addition to "Number of years' experience in this sector," consider adding "Number of years in the company or current position"	done	Added question on line 16
11	**Quantitative questionnaire**	Unclear if self-reporting on microscopy testing availability without auditing required components will provide accurate information on malaria diagnostic capacity	done	Added a hint to specifically check for microscopy capacity (microscopes and components)

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11	**Quantitative questionnaire**	Verify contradiction in the information sheet (pg. 1) that "your name, outlet name, and the outlet location will not be recorded" These will be recorded but not shared outside the research team	done	Updated information sheet and consent forms to clarify that identifiable information is collected but not shared.
11	**Quantitative questionnaire**	Add a short guidance section for interviewers at the top, explaining who to interview – target respondent – added to Row 1	done	This is included in Notes pages throughout the questionnaire and also covered extensively in training.
11	**Quantitative questionnaire**	Have you ever felt a need to know or understand the cadre/qualification of the respondents of the 'knowledge' indicators? (Proportion of respondents who identify ACT/first-line as the most effective drug for uncomplicated malaria)	done	This question is included to understand opportunities for targeting training, certification, regulation, etc. If most outlet are staffed by pharmacists, this cadre could be targeted for training on malaria testing for example. If most outlets are staffed with community health workers, or even retailers with no health qualifications, training targets would need to be adjusted.
11	**Quantitative questionnaire**	Is the default setting flexible e.g., allow flexibility to administer some of the provider module questions at informal outlets? Why were the questions not administered to informal outlets?	done	The relevancy statements, or skip logic, can be easily changed by someone familiar with ODK. During the pilots, most of the provider interview questions were not asked at informal outlets where security was a concern for the providers and interviewers.
11	**Quantitative questionnaire**	Is there a user-guide with definitions for terms in the tool? Or at least a "commonly asked questions" list for common questions/terms that are often noted as unclear? For example what is meant by using digital tools to "manage sales" How does a distributor differ from an importer?	out of scope/ not applicable	We have determined that this is sufficiently addressed in the manual and other guidance documents. There is guidance in column A and B on where country inputs are needed.
11	**Quantitative questionnaire**	Unclear if this question could produce reliable data: "Can you estimate the proportion of antimalarials/RDTs you sell to each customer type in the last year?" Same comment for the question on proportion obtained from each supplier	out of scope/ not applicable	We have determined that this indicator has limitation would should be specified in the presentation of results, but is still useful information where there is otherwise a complete gap. Ideally this information would be captured routinely or through an electronic system
11	**Quantitative questionnaire**	Add a sub-question for digitization uses (dig7_6) on reporting health data to the HMIS (malaria cases, for example)	out of scope/ not applicable	This information is captured in another section of the questionnaire.
11	**Quantitative questionnaire**	It is unclear how some of the new content (questions and indicators) is useful/needed - for example, business hours for the outlet (daytime/evening/24 hrs.) What if the hours vary by day of the week? Why are we asking for this information/how will it be used?	out of scope/ not applicable	These questions were added through learnings from the pilots. Some outlets are only open at night, or weekends, etc. and this can be useful for understanding provider/ consumer behavior. Some simple, straightforward questions are also useful in building reported and flow
11	**Quantitative questionnaire**	Query indicator 143 (proportion of malaria commodities sold to each customer type) & 144 (proportion of malaria commodities purchased from each supplier type)	out of scope/ not applicable	similar to the above, these proportions are useful estimates despite limitations.

No	Section	Comment	Priority/ Status	Tracked change
12	**Analysis syntax**	Not entirely clear how the post-stratification weights have been generated (especially when it comes to adjustment for non-response) The user guide mentions an Excel tool for generating weights This file does not seem to be in the folder	done	missing weights excel added to folder
12	**Analysis syntax**	No section yet on common mistakes or how to fix errors (trouble shooting)// Consider adding a troubleshooting section with common errors and how to fix them	out of scope/ not applicable	Notes are commented throughout syntax inline with the analysis guide
12	**Analysis syntax**	Make it very clear in the analytics manual which steps require manual changing of code/indicator names etc. // Any use in really highlighting the sentences where you're describing things the user needs to change themselves? E.g. put them in red and bold And number them so people know how many steps they need to complete in the code The whole code is contingent on people doing the editing steps correctly but there's a lot of text so it's easy to get lost Hard to keep track of what is just describing what the code does and what is specifying what the user needs to do	done	Highlighted steps that require manual input in the analysis guide
12	**Analysis syntax**	Many inter-linking do files and excels increase the chance of something breaking or getting missed	out of scope/ not applicable	Although there are many, the .do files are split up in to so many pieces so that the user can (1) easily remove indicators not assessed in certain studies as well as more readily add indicators and (2) so that the places that need input and are breaking the code are more obvious
12	**Analysis syntax**	Change code to a free software? Stata vs R? Consider transferring to R as a recommendation Is the aim for Public and NMCPs/Mohs to do their own analysis? Is data made public? Stata – have to pay for licenses (none of the reviewers use/has Stata!) R is free and more widely used R markdown for developing/setting the report? Could develop R packages for transferability, Develop packages for C-RAN for wider use and improvement R-Shiny for dashboard and visualization	out of scope/ not applicable	Out of scope for current project
12	**Analysis syntax**	Web platform for data upload, cleaning, visualization? There is a Stata version for developing dashboard link to PSI website/visualization?	out of scope/ not applicable	Not addressed - out of scope
12	**Analysis syntax**	The syntax could be set better through connecting to workbooks for each section of the 'report' It is probably a style comment better to set code by sections rather than for each table?	out of scope/ not applicable	Not addressed - the report is also organized in to sections by indicators as is the table syntax
12	**Analysis syntax**	Are there any data cleaning steps that aren't completed through the code? For example, spellings of newly entered products Can these be highlighted or included in their own data cleaning step	out of scope/ not applicable	Not addressed -No, all steps are included
12	**Analysis syntax**	There do files for every functionally - but assuming this is set up as a complete Stata Project ? A reorganization of master code to call functions for various analyses rather than current hierarchical It could just be because this code review section and actual code is set as one project	out of scope/ not applicable	Not addressed -Stata does not have functions to call like R

No	Section	Comment	Priority/ Status	Tracked change
12	**Analysis syntax**	How is the urban/rural information included in the data file or analysis?	done	Added language on determining urban/rural in the analysis guide
13	**Results workbooks**	Not sure where data is available to make your own analysis. Is there an output of the cleaned data on its own somewhere so that teams can make their own visualizations if needed?	done	Added language on location of final datasets to the analysis guide
13	**Results workbooks**	If other products are added then do all the tables update to include them?	done	Added language on editing outlet types and product types in the analysis guide
13	**Results workbooks**	Notes are easily missed (e.g. "grey out N under 50") Make more obvious with red font/ highlight Can't be automatic? E.g. adding a "formatting" row that points out columns with N less than 50	out of scope/ not applicable	Although we received feedback that notes for greying out cells with low values were not clear, we have not made a change to these notes. They are suggestions and users may prefer to set their own thresholds and/or do this in their final report so determined the current guidance is sufficient.
13	**Results workbooks**	Lots of excel workbooks that require accurate outputs from the code and results – the greater the number of workbooks and n outputs if needed tabs, the greater the chance of something breaking or getting missed	out of scope/ not applicable	Currently analysis and results are set up to be modular so indicators can be added or removed. Future iterations, perhaps in R, might remove the need for so many files.
13	**Results workbooks**	Web platform for data upload, cleaning, visualization?	out of scope/ not applicable	this is out of scope for development with current project grant
13	**Results workbooks**	There is extensive formatting in tables in excel All the formatting could be set in Stata code to avoid excel errs or if someone deleted formula It seems counterproductive to set tables and generation in Stata (linked to excel) then again format in excel with all formulae!	out of scope/ not applicable	Not within capabilities of Stata/ team. Future iterations, perhaps in R, might remove the need for so many files.
13	**Results workbooks**	Would be helpful to have a results workbook for the "metadata" of the study e.g. overall number sampled, number/% of refusals, number/% of drop-outs etc.	out of scope/ not applicable	This is covered in the data flow diagram workbook
13	**Results workbooks**	The graphs appear to have an "overall" but are all the tables disaggregated by urban and rural? It would be helpful to have "overall" as well Note strata could change beyond the U/R classification if countries wanted to implement a different strata	out of scope/ not applicable	Both tables and figures are automated for 4 different aggregation levels: (1) national i.e. no disaggregation (2) national by urban/rural (3) by strata and (4) by strata urban/rural. The current set up only allows for urban/ rural or another binary disaggregation. Similarly, the workbooks are only set up to automate 3 geographic strata (like state) -- if a country wishes to use different or more strata/ disaggregation's, the workbooks would need to be manually updated
13	**Results workbooks**	Previous discussion on linking results to actions - perhaps an additional results output (likely not automated) is linking key data outputs to actions and decisions E.g. from Table x - is this what you expected? Is this in-line with official guidance? What does this mean for malaria policy in your country?	done	Added action/ use/ relevance column to indicator table

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14	**Report template and references**	Outline page requires 'update' to show correct page numbers	done	renamed headings and updated table of contents
14	**Report template and references**	Great to see 'definitions and key concepts';	done	Added definitions and key concepts table (same as protocol and manual)
14	**Report template and references**	Consider adding dummy graphs and tables from the xls, with linkages to ensure whoever develops reports is aware the graphs are readily available from the xls; perhaps cross reference?	out of scope/ not applicable	We have determined that this is sufficiently addressed through the instructions in the manual and report as well as the reference reports provided from pilot countries
14	**Report template and references**	Template could be adapted to what survey's key indicators are, as per discussion on Day 1 on scope and rationale of the survey As per some remarks on Day 1, it would need to be clarified how the market survey by itself would improve CM For example language on page 14: In addition, the data collected as part of the 2024 market study will serve as a basis for defining the interventions to be implemented in the market to support the strengthening of case management in the private sector in [COUNTRY] and will provide a means of measuring progress It would be good to know upfront and then articulated in the report how the market survey findings are or will be used Add Purpose section (or change Rationale, per below)- which could explain the rationale for doing the survey Current background and Rationale section suggests that bc there is not much visibility in private sector markets, there is a need for these surveys to inform intervention design We would expect there is post survey funding and/or another country specific reason to conduct the survey, which could be added or referred to Define upfront on how results would be used Make the survey part of a larger initiative or intervention; i.e., informing a large incentive scheme to lower ACT and RDT cost to patients Engagement of private sector like manufacturers and distributors in result dissemination and/or in study design- (i.e., Novartis would want to know where Coartem is sold and for how much)	out of scope/ not applicable	In order for the report template not to be overly prescriptive, these comments have mostly been determined to be out of scope because they are (1) covered in other tools such as the protocol and indicator tables, or (2) have been covered by additional instruction to link data visualizations to data use and reference existing reports as example

For further information please contact:

World Health Organization
20 avenue Appia
1211 Geneva 27
Switzerland
Email: GMPinfo@who.int