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Malaria case management in the private sector

A review of access barriers, past interventions, and opportunities

Foreword

High quality case management provides the foundations of the fight against malaria. Ensuring that every person with suspected malaria has timely access to diagnosis and effective treatment. Strengthening access to quality care across all service points must therefore be a priority.

The private sector plays a critical role in this response. Across malaria-endemic settings, a substantial proportion of patients first seek care from private clinics, pharmacies, drug shops, and other community-based providers. These providers are often the only alternative available to populations that face barriers accessing public sector services. To deliver timely malaria diagnosis and treatment, especially for vulnerable and underserved populations, the private sector must be recognized as a key component of the broader health system and be supported as an essential partner in delivering person-centered care.

At the same time, ensuring quality malaria case management amongst private providers remains a challenge. The nature of the private sector creates complexity for regulation, supervision, training, reporting, and commodity assurance. Challenges vary - not only between countries, but also within countries and communities themselves - so cannot be addressed with on-size-fits-all interventions. Regardless, these access gaps must be addressed, not just for reducing illness and death but also for protecting the effectiveness of the current tools and facilitating the introduction of new ones.

Achieving quality malaria case management at scale requires coordination across the entire health ecosystem. As countries continue efforts to strengthen health systems and pursue universal access to malaria services, continued efforts to expand access to public sector malaria services will be vital. However, if we are to address persistent access barriers and respond effectively to inevitable changes in the global health architecture and care-seeking behavior, we must ensure that private sector stakeholders are meaningfully included in planning, coordination, financing, surveillance, and service delivery strategies.

National malaria programs, regulators, health care providers, professional associations, logisticians, manufacturers, purchasers, and communities themselves all have a role to play in ensuring equitable access to quality malaria services. Strengthening stewardship, improving integration, and building trust and accountability across sectors will be critical for sustained progress.

The National Malaria Elimination Programme of Nigeria welcomes this important and timely report from Unitaid. In a context where malaria progress has stalled globally and countries face increasing pressures; this report provides valuable insights into the challenges and opportunities to engage the private sector. We encourage the reader to draw on the findings presented here to engage in discussion across the malaria partnership on feasible, country-led action, including opportunities to strengthen collaboration across sectors, with the aim of developing a more resilient and equitable malaria response.

Dr. Nnenna Ogbulafor
Director and National Coordinator
National Malaria Elimination
Programme (NMEP)

Executive summary

Introduction

Universal Health Coverage (UHC) principles hold that all people should have access to the full range of quality health services they need, when and where they need them, without facing financial hardship. In alignment with these UHC access goals for malaria, the RBM Partnership's Big Push to End Malaria seeks to accelerate global progress and get back on track to meet Global Technical Strategy for Malaria (GTS) targets and support the reduction of malaria cases and deaths by 90% by 2030. Bold, transformative, and strategic approaches are needed to respond to stalled malaria progress. Reinforced Ministry of Health (MOH) and national malaria programme (NMP) leadership is critical to achieving these goals, especially in the context of the current dramatic reductions in global health funding.

The private sector, which reaches approximately 35% of patients with suspected malaria,[1] is an essential component of the malaria response. Private sector case management holds significant potential to reduce malaria-related illness and save lives, yet also carries a number of well documented access challenges that hinder delivery of quality care. Understanding and building on past catalytic successes with high-quality patient-centred private sector case management will therefore be critical.

Context

Malaria case management – defined as prompt diagnosis and effective treatment – remains a cornerstone of global malaria control and elimination efforts. Despite progress since 2000, global malaria cases and deaths have increased since 2015. In 2024, an estimated 282 million malaria cases (3% increase from 2023) and approximately 610,000 deaths (2% increase from 2023) were reported worldwide. As documented during previous periods of increasing malaria rate increases, these trends are driven by a convergence of biological threats (including diagnostic, insecticide and drug resistance), climate variability, health system constraints, population growth, conflict, and persistent gaps in access to quality malaria case management. Critical funding gaps, exacerbated by sharp reductions in donor funding since 2025, further undermine access to quality malaria diagnostics, medicines, and surveillance.

Within this context, private sector actors play an increasingly prominent role in mitigating the factors contributing to stalled malaria progress. Therefore, it will be critical to reinforce the quality of care in, regulatory oversight of, MOH stewardship over, and effective collaboration with private sector care providers.

This landscape report provides a comprehensive analysis of the private sector's role in malaria case management, assesses past and current engagement approaches, and identifies enabling factors and opportunities to improve access to quality, sustainable malaria care at scale. The landscape uses a mixed-methods approach, integrating evidence from desk-based literature reviews, key informant interviews (KIIs), and expert validation through an independent advisory group.

Description of the private sector

Malaria case management in the private sector is complex and heterogeneous within and across countries – and often poorly understood and under-studied. While elements of private antimalarial markets have been mapped and described in depth in a few studies, much is still unknown. Further market assessment will be critical to describing, defining, and understanding key private sector actors and enabling environment stakeholders to be able to effectively strengthen sustainable quality malaria case management at scale.

The private sector encompasses a broad and heterogeneous set of actors involved in diagnosis, treatment, and delivery of care. These include formal for-profit providers (private hospitals, clinics, pharmacies), non-profit and faith-based facilities, private medicine retailers, community-level providers, workplace clinics, informal providers and medicine vendors. These actors operate from fixed sites or as itinerant or ambulatory ad hoc vendors. They operate within an enabling environment of global supply, consumer demand, national rules (e.g., policies, regulations) and supporting functions (e.g., coordination, quality assurance, and human resources).

Private sector providers differ widely in terms of regulatory status, clinical capacity, geographic reach, and business models. In many settings, informal or semi-formal providers or medicine vendors constitute the first point of contact for febrile patients, particularly in rural, peri-urban, and underserved communities. While this diversity offers opportunities to expand access, it also complicates stewardship, regulation, and quality assurance. Understanding the private sector as an integral – rather than peripheral or competing – component of national health systems is essential for effective malaria control.

Public health challenges

Malaria case management operates within a complex and rapidly changing environment. Key contextual challenges include biological threats such as partial artemisinin resistance and *Plasmodium falciparum* histidine-rich protein *(pfhrp2/3)* gene deletions that compromise the effectiveness of widely used diagnostic tests.

Climate variability and extreme weather events are altering transmission patterns, increasing the unpredictability of malaria burden, straining preparedness, damaging health facilities, and disrupting the ability to effectively deliver services which disproportionately affects poor and underserved communities.

Public health systems in many endemic countries remain overburdened, under-resourced, and affected by chronic resource gaps, workforce shortages, and fragmented supply chains. This fragility is compounded by a global malaria funding trajectory that is projected to decrease significantly in the coming years. Recent shifts in major donor global health strategies and focus on country self-reliance indicate the expectation of a transition away from externally funded support. As anticipated declines in development assistance intensify pressure on domestic budgets, engaging private sector actors has become a critical strategic necessity to close the coverage gap and sustain life-saving interventions.

Patient and provider behaviours further complicate effective case management. Presumptive treatment of fever without diagnostic confirmation remains common, driven by cost, location and time constraints, lack of patient knowledge of rapid diagnostic tests (RDTs), patient expectations, gaps in provider diagnostic competency for malaria and other illnesses, and financial incentives. These conditions push patients toward private providers, where convenience and availability are often higher, but quality and oversight may be uneven, and data systems are not sufficient to support national planning, forecasting, and resistance monitoring.

Malaria care-seeking and provider behaviours

Patients and caregivers seek care from private providers for various reasons. Often these providers are based in communities near households, and offer the most convenient option. Furthermore, long wait times and inconsistent availability due to high patient volumes, staff shortages, and limited infrastructure in the public sector creates an incentive to seek care in private sector facilities. Also, there is often a perceived quality of care and well-established relationships with private providers that add to this incentive. Rapid urbanisation and climate-driven ecological change are reshaping the malaria ecosystem and further driving the need for and use of private sector health services for malaria.

Challenges facing private sector case management

The private sector faces a distinct set of challenges in delivering quality malaria case management, such as: inconsistent access to affordable quality-assured (QA) RDTs and artemisinin-based combination therapies (ACTs), limited training and supportive supervision, weak regulatory enforcement, and market incentives that may favour off-label prescribing or substandard products.

Supply chains serving private markets are often fragmented, with multiple intermediaries, variable pricing, and exposure to substandard and falsified medicines. Gaps in availability of QA RDTs and ACTs persist. Following the end of the Affordable Medicines Facility – malaria (AMFm) and in the absence of the subsidy, private-sector markets have shifted away from QA ACTs toward products of unknown quality.

Demand for malaria testing is low, and often not viewed as a paid service.[2] Furthermore, the technical complexities of RDT production pose significant challenges, underscoring the importance of maintaining independent lot testing across public and private sectors.[3] Data visibility remains a critical issue, with many private providers operating outside routine health information systems, which do not consistently facilitate private provider data collection.

Efforts to improve private provider performance have historically struggled to achieve sustainable scale. Short-term subsidies, parallel reporting systems, and project-based training initiatives have yielded mixed results and, in some cases, created market distortions when external funding ended.

Enabling factors and opportunities for improving malaria case management

Despite these challenges, the private sector offers significant opportunities to expand access to quality malaria care. Its proximity to communities, extended opening hours, and responsiveness to demand position private providers as critical partners in reaching underserved populations. Embedding private sector engagement within national malaria strategies and budgets – rather than siloing it – can improve sustainability and coherence.

Market-based approaches such as digital supply chain aggregators, diagnosis-contingent incentives, regional manufacturing hubs, and social enterprise models can reduce prices, improve availability of quality-assured products, and streamline last-mile delivery. Where resources and oversight allow their rational use, digital tools and AI-enabled platforms offer new pathways to capture private sector data, improve surveillance, authenticate products, and support adherence to treatment guidelines.

Innovations including next-generation RDTs and multiple first-line therapy (MFT) strategies, present both risks and opportunities. Proactive engagement with private providers during product rollout, coupled with clear regulation and incentives, can accelerate appropriate adoption and mitigate misuse. Regional regulatory harmonisation and local manufacturing initiatives could further strengthen supply resilience and market sustainability.

Key lessons learned from past initiatives

Over the last two decades, a wide range of interventions have attempted to improve and/or leverage delivery of care in the private sector, with varying degrees of success.

These past private sector malaria initiatives provide important lessons. Large-scale market shaping efforts, such as the Affordable Medicines Facility–malaria (AMFm) from 2010-2012, demonstrated that subsidies can rapidly increase availability and uptake of quality-assured ACTs in private markets. The AMFm focused on decreasing malaria morbidity with a view to reducing selection pressure for resistance exerted by substandard ACTs. This was delivered through price negotiations and buyer subsidies as co-payments to reduce costs and improve access to QAACTs, as well as to "crowd out" oral artemisinin monotherapies and non-artemisinin products from markets.[4,5] This led to price increases and market contraction, underscoring the need for transition planning and domestic stewardship. Applying frameworks like Leadership, Engagement, and Accountability for Improved Delivery of Services (LEAD) and Malaria Budget Advocacy (MBA), the MOH in Namibia demonstrated the importance of strengthening private sector engagement from a decentralised district level.[6] Transformational scaling approaches deliver patient- and caregiver-centred test before treat, quality assured commodities, affordable access, and routine reporting into national surveillance at scale.[7]

Training and accreditation programs have also been implemented to address private case management challenges. These interventions are found to be most effective when combined with supportive supervision, reliable commodity supply, and demand-side interventions that empower patients to request testing.

Overall, initiatives have been more sustainable when aligned with national systems, engaged private actors early in design, and addressed both commercial and public health incentives. Current evidence is based primarily on donor-funded interventions; however, a more durable approach is to embed targeted, time-bound subsidies within domestic financing and market reforms, including social health insurance reimbursement for testing and treatment, pooled procurement, and tax or tariff policies.

The private sector is an indispensable component of malaria case management in endemic countries. As financial, epidemiological, and health system pressures intensify, effective engagement with private providers will be essential to sustaining and accelerating progress toward malaria control and elimination.

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Acronyms

ACT	Artemisinin-based combination therapy
ADDO	Accredited drug dispensing outlets
AI	Artificial intelligence
AMA	African Medicines Agency
AMFm	Affordable Medicines Facility – malaria
AMTR	Artemisinin monotherapy removal
ASPY	Artesunate-pyronaridine
CS4ME	Civil Society for Malaria Elimination
DHA-PPQ	Dihydroartemisinin-piperaquine
DHIS2	District Health Information Software
DTC	Direct to consumer
FLB	First-line buyers
GanLum	Ganaplacide-lumefantrine
GTS	Global technical strategy
HMIS	Health management information system
HMST	Health Management Support Team
HRP2	Histidine-rich protein 2
iCCM	Integrated community case management
IMCI	Integrated management of childhood illness
ITN	Insecticide-treated net
KII	Key informant interview
KPI	Key performance indicator
LMIC	Low- and middle-income countries
M&E	Monitoring and evaluation
MEDS	Medicines & Equipment Delivery Services
MFT	Multiple first-line therapies
MOH	Ministry of Health
NDRA	National drug regulatory agencies
NMP	National Malaria Programme
OOP	Out-of-pocket
OTSS	Outreach Training and Supportive Supervision
PDP	Product Development Partnership
pLDH	parasite lactate dehydrogenase
POC	Point of contact
PMR	Private medicine retailers
PPM	Public-Private Mix
PPMV	Patent and proprietary medicine vendors
PPP	Public–private partnership
PQ	(WHO) Prequalification
QA	Quality assured
R&D	Research and development
RCT	Randomised controlled trial
RDT	(malaria) Rapid diagnostic test
SBC	Social behaviour change
T-ACT	Triple Artemisinin-based Combination Therapies
US	United States of America
USD	United States dollars
WHO	World Health Organization

Glossary of terms

Term	Definition	Reference
Affordable Medicines Facility–malaria (AMFm)	A global market-shaping subsidy (2010–2012) that reduced ACT prices at the manufacturer ("factory-gate") level to increase private-sector access to quality-assured treatment.	RBM Partnership, *Key learnings for malaria programme managers from AMFm Phase 1*. Geneva: RBM Partnership. 2013
Artemisinin-based combination therapy (ACT)	A combination of an artemisinin derivative and a partner drug recommended as first-line treatment for uncomplicated *P. falciparum* malaria to prevent resistance and ensure treatment efficacy.	WHO. *WHO Guidelines for Malaria*. 2023. https://www.who.int/publications/i/item/guidelines-for-malaria
Case management (malaria)	The integrated process of prompt diagnosis (using RDTs or microscopy) and appropriate treatment of confirmed malaria cases according to national guidelines. A cornerstone of global malaria control and elimination strategies.	WHO: Global Malaria Programme – Case Management
Co-payment mechanism	A manufacturer-level subsidy mechanism reducing the cost of quality-assured ACTs supplied to eligible private-sector importers and distributors.	Global Fund. "AMFm Board Decision." https://www.theglobalfund.org/kb/board-decisions/b28/b28-dp06/
Diagnosis-contingent incentives	A financing approach linking subsidies or payments to documented parasitological confirmation, aligning provider incentives with appropriate testing before treatment.	WHO. *WHO Guidelines for Malaria*. 2023. https://www.who.int/publications/i/item/guidelines-for-malaria

Term	Definition	Reference
Digital supply chain aggregator	A digital marketplace or logistics platform that consolidates fragmented demand across buyers to negotiate better pricing and improve supply visibility and distribution efficiency.	World Health Organization. *Digital Transformation Handbook for Health Supply Chain Architecture*. Geneva: WHO, 2024. https://www.who.int/publications/i/item/9789240101197
Factory-gate subsidy	A price reduction applied at the manufacturer level before distribution, designed to lower downstream retail prices and increase affordability.	Yamey G, Schäferhoff M, Montagu D. Piloting the Affordable Medicines Facility-malaria: what will success look like? Bull World Health Organ. 2012 Jun 1;90*(6)*:452-60. doi: 10.2471/BLT.11.091199. Epub 2012 Feb 3. PMID: 22690035; PMCID: PMC3370360. https://pmc.ncbi.nlm.nih.gov/articles/PMC3370360/
First-line buyer (FLB)	A primary importer or wholesaler eligible to purchase subsidised ACTs directly from manufacturers under global financing mechanisms such as AMFm.	RBM Partnership, *Key learnings for malaria programme managers from AMFm Phase 1*. Geneva: RBM Partnership. 2013
Histidine-rich protein 2/3 (pfhrp2/3) gene deletion	A genetic mutation in Plasmodium falciparum whereby the genes encoding the HRP2 and/or HRP3 antigens are deleted. Because most malaria RDTs detect HRP2, parasites with these deletions produce false-negative test results, compromising diagnosis. Reported in over 40 countries.	Response plan to pfhrp2 gene deletions, second edition. Geneva: World Health Organization; 2024. https://www.who.int/publications/i/item/9789240101838
Informal provider	An unlicensed or semi-regulated health service provider operating outside formal regulatory frameworks but often serving as a primary care source in underserved communities.	Bennett, Andrew, et al. "Engaging the Private Sector in Malaria Surveillance." Malaria Journal 16 (2017): 252. https://link.springer.com/article/10.1186/s12936-017-1901-1

Term	Definition	Reference
Integrated Community Case Management (iCCM)	A strategy enabling trained community health workers to diagnose and treat malaria, pneumonia, and diarrhoea at community level to improve equitable access.	WHO and UNICEF. *Integrated Community Case Management (iCCM): An Equity-Focused Strategy*. Geneva: WHO, 2012. https://cdn.who.int/media/docs/default-source/mca-documents/child/who-unicef-joint-statement-child-services-access.pdf
Last-mile delivery	The final step in the supply chain – the distribution of health commodities from a local distribution point to the end provider or patient, particularly in remote or difficult-to-reach areas. A key barrier to consistent availability of RDTs and ACTs in private sector outlets.	World malaria report 2024: addressing inequity in the global malaria response. Geneva: World Health Organization; 2024. https://www.who.int/publications/i/item/9789240104440
Local manufacturing hubs	Regional production centres for medicines or diagnostics aimed at strengthening supply resilience, reducing import dependency, and improving long-term market sustainability.	WHO. *World Local Production Forum Report*. Geneva: WHO, 2023. https://www.who.int/publications/i/item/9789240097896
Malaria case management	The systematic provision of parasitological diagnosis and effective treatment of malaria in accordance with WHO and national guidelines, ensuring timely access to quality-assured commodities and reporting of confirmed cases.	World Health Organization (WHO). *WHO Guidelines for Malaria*. Geneva: WHO, 2023. https://www.who.int/publications/i/item/guidelines-for-malaria
Market shaping	Strategic interventions to influence market dynamics – price, competition, supply, quality – to improve sustainable access to health commodities at scale.	Unitaid. *Unitaid Strategy 2023–2027*. Geneva: Unitaid, 2023. https://unitaid.org/publication/strategy-2023-2027-unitaid/

Term	Definition	Reference
Multiple first-line therapy (MFT)	A resistance-mitigation strategy deploying more than one recommended first-line ACT simultaneously within a population to reduce selective drug pressure.	WHO. *Multiple first-line therapies as part of the response to antimalarial drug resistance: An Implementation guide*. Geneva: WHO, 2024. https://www.who.int/publications/i/item/9789240103603
Outreach Training and Supportive Supervision (OTSS)	A structured model for improving quality of care delivered by health providers, combining periodic training visits with on-site observation, feedback, and mentoring. Applied to private drug retailers and community health workers to improve adherence to malaria diagnosis and treatment guidelines.	Ashton RA, *et al*. Can Outreach Training and Supportive Supervision Improve Competency in Malaria Service Delivery? An Evaluation in Cameroon, Ghana, Niger, and Zambia. Am J Trop Med Hyg. 2023 Dec 4;110(3_Suppl):10-19. doi: 10.4269/ajtmh.23-0150. PMID: 38052082; PMCID: PMC10919235. https://pubmed.ncbi.nlm.nih.gov/38052082/
pfhrp2/3 gene deletions	Genetic deletions in *Plasmodium falciparum* parasites that prevent production of HRP2/HRP3 antigens, leading to false-negative HRP2-based RDT results.	WHO. *False-Negative RDT Results and Implications of pfhrp2/3 Gene Deletions*. Geneva: WHO, 2016. https://www.who.int/docs/default-source/documents/publications/gmp/false-negative-rdt-results.pdf?sfvrsn=ec917b72_2
Presumptive treatment	The practice of treating a patient for malaria based on clinical symptoms (e.g., fever) without confirmatory diagnostic testing. Associated with overuse of antimalarials, drug resistance, and failure to identify other causes of fever. WHO recommends parasitological confirmation before treatment.	WHO: Diagnostic testing for malaria

Term	Definition	Reference
Private Medicine Retailers (PMRs)	Private retail outlets such as pharmacies and drug shops that sell medicines directly to consumers and often serve as first point of care for febrile illness.	Bennett, Andrew, et al. "Engaging the Private Sector in Malaria Surveillance." *Malaria Journal* 16 (2017): 252. https://link.springer.com/article/10.1186/s12936-017-1901-1
Product Development Partnership (PDP)	A non-profit organisation working to accelerate the research, development, and introduction of new health tools for diseases disproportionately affecting low- and middle-income countries, typically through public-private-philanthropic partnerships. PDPs are key actors in the malaria R&D pipeline.	Bulc, B. and Ramchandani, R. Accelerating global health R&D: the role of product development partnerships. Global Development 2021. https://www.mmv.org/sites/default/files/uploads/docs/publications/Accelerating-global-health-RD_The-role-of-product-development-partnerships_BBulc_RRamchandani_March2021.pdf
Public–Private Mix (PPM)	A structured collaboration integrating private providers into national disease control strategies to deliver standardised services aligned with public health goals.	Public–private mix for TB prevention and care: a roadmap. Geneva: World Health Organization; 2018. https://www.who.int/publications/i/item/WHO-CDS-TB-2018.32
Quality-Assured ACT (QA ACT)	ACT that meets WHO Prequalification or stringent regulatory authority standards for quality, safety, and efficacy.	WHO Prequalification Programme. "Prequalification of Medicines." https://extranet.who.int/prequal/medicines
Rapid Diagnostic Test (RDT)	A point-of-care immunochromatographic test that detects malaria parasite antigens in blood, enabling parasitological confirmation before treatment.	WHO Global Malaria Programme. "Malaria Rapid Diagnostic Tests." https://www.who.int/teams/global-malaria-programme/case-management/diagnosis/rapid-diagnostic-tests
Regional regulatory harmonisation	Alignment of regulatory requirements across countries to streamline product registration, reduce duplication, and accelerate access to quality-assured health commodities.	https://www.who.int/teams/regulation-prequalification/regulation-and-safety/regulatory-convergence-networks/harmonization

Term	Definition	Reference
Social and Behaviour Change (SBC)	A strategic communication and community engagement approach using evidence-based methods to encourage health-promoting behaviours, such as seeking diagnostic testing before treatment, completing a full ACT course, or consistent use of insecticide-treated nets.	RBM Partnership, *Community Health Worker Malaria Social and Behaviour Change Toolkit*, Social and Behaviour Change Working Group, Geneva. https://endmalaria.org/sites/default/files/CHW-Malaria-SBC-Toolkit.pdf
Social marketing	The application of commercial marketing techniques to promote health products and behaviours in the public interest, often involving subsidised distribution, branding, and promotion of health commodities (such as RDTs or ACTs) through private sector channels.	Hay SI. "Social marketing of insecticide-treated bed nets." Trends Parasitol. 2001 May;17*(5)*:215. doi: 10.1016/s1471-4922*(01)*01961-4. PMID: 11323293; PMCID: PMC3173861. https://pmc.ncbi.nlm.nih.gov/articles/PMC3173861/
Substandard and falsified medicines	Medical products that fail to meet quality standards (substandard) or deliberately misrepresent identity, composition, or source (falsified).	WHO. *WHO Global Surveillance and Monitoring System for Substandard and Falsified Medical Products*. Geneva: WHO, 2017. https://www.who.int/publications/i/item/9789241513425
Task shifting / task sharing	Redistribution of clinical responsibilities from highly trained cadres to less specialised health workers to optimise workforce capacity and expand service coverage.	WHO. *Task Shifting: Rational Redistribution of Tasks among Health Workforce Teams*. Geneva: WHO, 2008. https://apps.who.int/iris/handle/10665/43821
Test, Treat, Track (T3)	WHO policy requiring parasitological confirmation before treatment and reporting of all confirmed malaria cases into surveillance systems.	WHO. *Test. Treat. Track*. Geneva: WHO, 2012. https://www.who.int/news/item/24-04-2012-world-malaria-day-2012

Term	Definition	Reference
Universal Health Coverage (UHC)	Ensuring all people have access to needed health services of sufficient quality without financial hardship.	World Health Organization (WHO). "Universal Health Coverage (UHC)." Accessed February 21, 2026. https://www.who.int/health-topics/universal-health-coverage
Vertical programme	A disease-specific program operating through dedicated governance, funding, and delivery structures rather than integrated primary health systems.	WHO Maximizing Positive Synergies Collaborative Group. "An Assessment of Interactions between Global Health Initiatives and Country Health Systems." The Lancet 373 (2009): 2137–2169. https://doi.org/10.1016/S0140-6736*(09)*60919-3
WHO Prequalification (PQ)	A WHO quality assurance service assessing medicines and diagnostics for compliance with international standards of safety, efficacy, and manufacturing quality.	WHO Prequalification Programme. https://extranet.who.int/prequal/

1. Introduction

Introduction: Key takeaways

- Malaria case management – prompt diagnosis and effective treatment – remains a cornerstone of malaria elimination strategies.
- The private sector provides a substantial share of malaria services, and recent financing shifts and donor contractions are expected to increase reliance on private providers for frontline malaria care.
- Private health care providers are highly heterogeneous, context-specific, and inconsistently and insufficiently integrated into national stewardship framework.
- Improving private-sector quality, affordability, and reporting is critical to protecting the efficacy of existing malaria tools.
- This landscape aims to generate actionable, scalable strategies to strengthen private sector engagement with national health systems, building on identified barriers and opportunities identified from previous initiatives.

Malaria case management involves the prompt diagnosis and effective treatment of malaria. To improve access to high quality and effective health care, Ministries of Health (MOH), their national malaria programmes (NMPs), national drug regulatory agencies (NDRAs), and the wider global healthcare community need to continuously monitor the operating landscape and explore opportunities and new pathways. Recent shifts in the global health financing landscape, including decreasing donor contributions have increased demands on domestic resources, which underscores the growing relevance and influence of the private sector in malaria control and elimination.

The private sector in the context of global and national malaria initiatives

With 2030 approaching, countries and the global malaria community are mobilising behind the Big Push to End Malaria to reignite progress in the malaria response. As part of powering the Big Push, the RBM Partnership to End Malaria has developed Unity 2030, a new strategic framework from 2026 – 2030, that places country-driven approaches and national ownership at its core. Unity 2030 aims to create a malaria ecosystem that is "coherent, resilient, and aligned and ready to accelerate eradication when tools and financing converge."[8]

However, stakeholders have noted a lack of clarity and understanding of the many variable components of the private sector globally, and specific to each country and context. While building and sustaining local capacity partnerships with the private sector are listed as a supporting action in Pillar 2 of the Big Push, there is not yet a maturity of understanding for engaging the private sector in global and regional initiatives.[9] In many countries, there is often no single point of contact for the private sector. Some countries have a federation of health care providers, or associations of doctors or pharmacists. However, these vary by country and in their level of coverage. Informal providers are rarely represented by an umbrella body.

At this time of declining donor funding, expanding biological threats, political uncertainty, and growing reliance on mixed health systems, the role of the private sector within the malaria ecosystem will likely become more prominent as well as more complex, shaping how care is delivered, how data are generated, and how national strategies are implemented. It is thus critical to document, map, and understand who and what constitutes the private sector, how it currently works, where and how it could be used and reinforced to extend access to quality malaria case management.

Describing and understanding the private sector and its enabling environment

The private sector is complex and heterogeneous within and across countries – and often poorly understood and under-studied – creating challenges for effective engagement at-scale by the government and the global malaria community. It is critical to deepen our understanding of private sector actors, systems, enablers and barriers at global, national, and community levels. While elements of private antimalarial markets have been mapped and described in depth through several initiatives, much is still unknown. The initiatives include Population Services International (PSI) programs since 2002 including social marketing of ACTipal in Madagascar and PRIMO in Rwanda, Greater Mekong Subregion Elimination of Malaria through Surveillance (GEMS), Sun Quality Health and Sun Primary Health social franchises in Myanmar, RDT and ACT market facilitation in DRC, and the mRDT project in Kenya, Madagascar, and Tanzania. Extensive data has also been reported through seven ACTwatch countries from 2008 to 2012;[10] diagnostic and antimalarial markets in three ACTwatch Lite countries from 2022 to 2025; and Maisha Meds data collection. Market assessments will be critical to describing and understanding patient, caregiver, and consumer behaviour; key market actors; private sector supply chains; rapid diagnostic test (RDT) and antimalarial availability and quality in each country; as well as the private sector enabling environment.

Over the last two decades, a wide range of interventions have attempted to improve and/or leverage delivery of care in the private sector, with varying degrees of success. Some have shown promise in improving access to quality antimalarials and improving adherence to national treatment guidelines, while also revealing lessons to learn from, including the potential to create distorting incentives. Digital platforms have addressed barriers for some private providers, where they have the means to access them, and where there are limitations in capabilities for reporting patient and consumer case data.

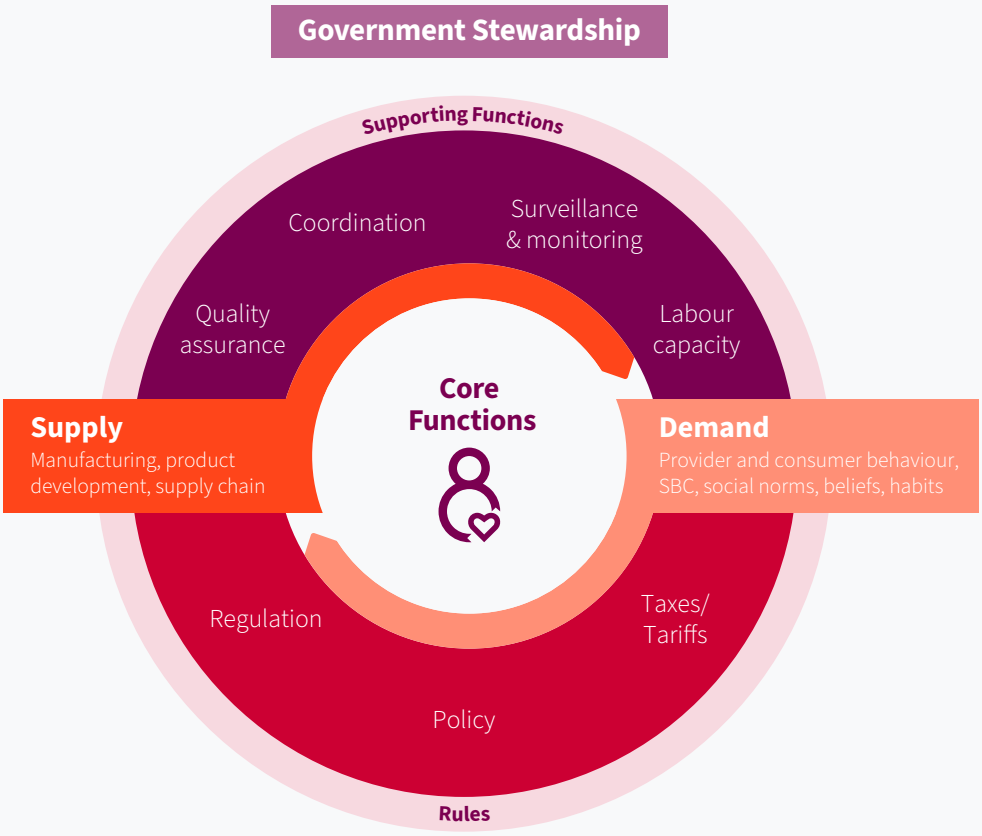
Many of these interventions have struggled with sustainability and scale-up. To address those limitations, it will be critical to build on the learning from tested approaches within stronger, more integrated national public health systems. To achieve that, it is critical to understand and strengthen the private sector's enabling environment for sustainable access to quality RDTs and antimalarials.

The private sector enabling environment (Figure 1) is fundamentally guided by **government stewardship**, through a whole-of-system approach that prioritises NMP leadership to guide the achievement of national malaria strategic plan priorities and targets. Keeping patients and caregivers at the centre of this model, the enabling environment includes:

- **Core demand elements** including provider, patient, caregiver and consumer behaviours, social norms, beliefs and habits, and the social and behaviour change (SBC) approaches to influence those,
- Core actors involved in the **supply** of quality RDTs and antimalarials across private markets e.g. manufacturers and supply chain actors, providers, patients, caregivers and consumers respectively
- **Supporting functions**, include coordination, quality assurance, human resources, surveillance and monitoring; and

- **Rules**, to provide regulatory oversight, normative policies and guidance, as well as government taxes, tariffs and laws governing commerce, all of which are necessary in a coordinated and mutually reinforcing context for effective sustainable private sector malaria case management at scale.

Figure 1: Structural elements of a health market system, with the private sector



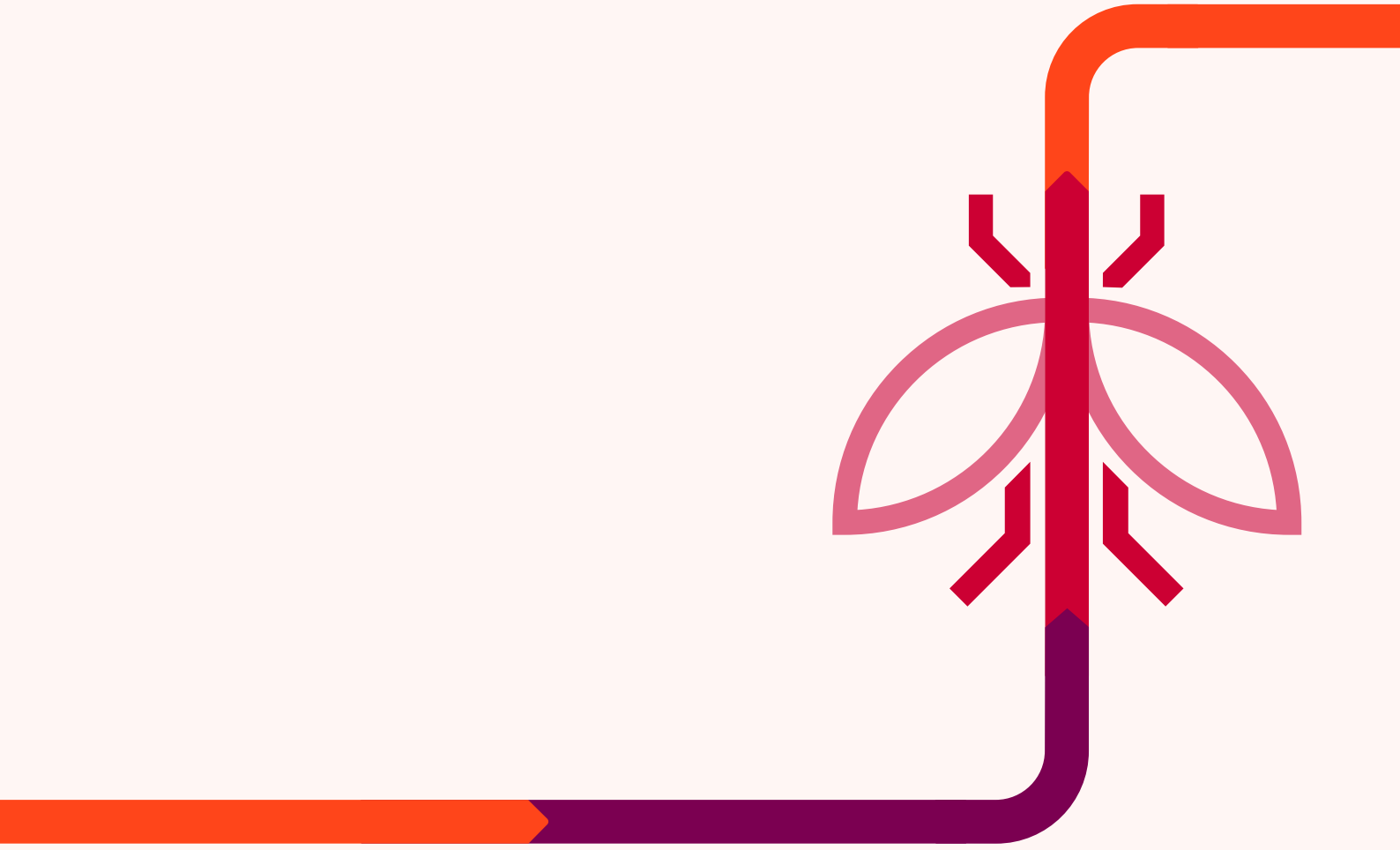
Adapted from: A roadmap for private sector malaria rapid diagnostic testing: Lessons learned from a multi-country pilot project in Africa, Population Services International 2019

Achieving Unity 30's vision for the malaria ecosystem will require a more integrated approach that recognises the private sector as an essential partner in malaria case management. This means strengthening governance so that private sector delivery is aligned with national strategies, integrated into care and surveillance systems, and supported by coherent regulation and supervision. It also requires ensuring that innovation and financing mechanisms are designed to improve efficiency and expand access across all sectors, so that high-quality malaria care is consistently available wherever patients seek treatment.

2. Methodology

This landscape report aims to provide a comprehensive overview and analysis of the private sector and its role in malaria case management; assess the effectiveness of past and current interventions; and identify opportunities to build on these activities.

Using a mixed-methods approach, the landscape integrated findings through a thematic analysis, including a document review, stakeholder interviews, and expert inputs.



3. Public health challenges affecting malaria case management

Public health challenges: Key takeaways

- Malaria progress has stalled since 2015 due to multiple factors and falling funding.
- The quality of care faces several challenges, including inadequate adherence to protocols, counselling, and follow-up. Biological threats – including artemisinin resistance and *pfhrp2/3* deletions – undermine the effectiveness of current diagnostics and therapies.
- Climate variability and conflict exacerbate the unpredictability of malaria transmission and strain fragile health systems.
- Financing gaps limit access to QA RDTs, ACTs, and surveillance systems.
- Overburdened public systems, workforce shortages, and fragmented supply chains push patients toward private providers where oversight has been uneven.

3.1 Public health challenges

Despite substantial declines in malaria cases and deaths since the global peak in 2000, malaria remains a persistent and significant public health challenge. In 2024, an estimated 282 million malaria cases were reported across 80 endemic countries, resulting in approximately 610,000 deaths.[11] After years of progress, gains have stalled since 2015. Global malaria cases have increased by an estimated 22% and malaria deaths have also risen, increasing by 5.5% between 2015 and 2024, with more than one-third of this increase occurring between 2023 and 2024.[12] These increases are driven by multifactorial causes which are often country and context specific, including an increase in population growth, decreases in financing and budget, growing conflict and insecurity in some settings, biological threats, climate variability, health system weaknesses, and persistent gaps in the quality, coverage, and regulation of malaria case management, particularly within the private sector.[13]

Urgent action is therefore required to strengthen access to quality malaria case management across both public and private sectors and to support the *RBM Big Push to End Malaria* and get back on track to meet the Global Technical Strategy (GTS) for Malaria 2016–2030 target of reducing malaria cases and deaths by 90% by 2030.[14,15]

The rise of biological threats has the potential to render malaria tools less effective. For example, the failures in RDTs that are based on detecting the Histidine-Rich Protein 2 (HRP2) antigen have been reported in six countries due to deletions in the *pfhrp2/3* genes.[16] Partial resistance to artemisinin used in artemisinin-based combination therapies (ACTs) has now been confirmed in four endemic countries and suspected in four additional countries, which could lead to treatment failures, complications for patients and increased onward transmission.[17]

Prevention tools, such as insecticide-treated nets (ITNs) and indoor residual spraying are also at risk of losing their efficacy, which increases the risk of rising malaria infections. In a 2020 study of 53 countries reporting pyrethroid resistance (the common chemical used in WHO-prequalified ITNs), resistance was confirmed (in at least one site) in 48 countries.[18] If prevention tools become less effective, malaria cases will likely increase, requiring the delivery of more quality malaria case management, with fewer resources. In this context, ensuring quality case management across both public and private sectors depend on the preserved efficacy of existing and future tools.

Funding shortfalls, financial instability, and constrained resources within an evolving health landscape are disrupting service delivery, reducing access to vector control, weakening health systems, and posing a major threat to sustained access to quality malaria case management. Population growth is adding increased pressure to already insufficient budgets. Sharp reductions in donor funding have created critical financing gaps in many countries that have historically relied on external support to fund malaria diagnostics, treatments, and frontline health workers. In 2024, total malaria funding was estimated at USD 3.9 billion, down slightly from USD 4.0 billion in 2023 and less than half of what is needed to achieve Global Technical Strategy targets. This sustained financing gap is increasingly constraining effective malaria case management, undermining access to quality diagnostics, medicines, and surveillance. The situation has been worsened by a 21% decline in global development assistance for health between 2024 and 2025, driven by a 67% reduction in United States financing and further aid cuts by other high-income countries in 2025, heightening the risk of service disruptions and loss of recent gains.[19]

Efforts by countries to step up domestic financing are underway, for example Nigeria allocated an additional USD 200 million for the health sector in 2025 to curb the impact of halts in U.S. foreign aid.[20] For many NMPs, however, these gaps cannot be absorbed through domestic resources.

Increased climate variability. Variation in climatic conditions, such as temperature, rainfall patterns, and humidity can affect malaria transmission over time.[21,22] Climatic shocks threaten malaria programmes and progress in many ways. Extreme weather events destroy infrastructure including health facilities, damage homes and available vector control tools, and displace populations increasing their vulnerability. Ongoing weather changes are increasing the unpredictability of seasons; expanding the geographic areas of malaria vectors and parasites; and increasing the number of mosquitoes which hinder effective planning for interventions and could increase malaria cases.[23] Modelling indicates variations in climatic factors play a key role in driving malaria incidence, challenging the current strategies used to control and manage malaria.[24] Extreme climate events, for example in Madagascar, have been linked to spikes in malaria cases in recent years.[25,26] Seasonal variations also impact a country's ability to adequately prepare for peak transmission periods, especially during the rainy season when access can be difficult. Without timely ecological data and climate responsive policies, these pressures risk undermining consistent access to effective diagnostics and treatments and exacerbating existing weaknesses within health systems.

Access to quality care. Approximately two thirds (64.8%) of children under five seek treatment for fever. In the public sector, 67.7% of children seeking care received treatment and only 37.5% received a malaria test. Even when diagnostics and medicines are available, poor adherence to protocols, counselling, and follow-up can compromise patient outcomes.[27]

Ensuring adequate coverage of RDTs and ACTs globally remains a persistent challenge. Between 2010 to 2024, manufacturers delivered approximately 3.3 billion ACTs to the public health sector, compared with an estimated 450 million ACTs to the private sector outside of AMFm or other co-payment mechanisms.[28] As approximately 35% of patients with suspected malaria seek treatment in the private sector,[29] current volumes of quality-assured ACTs, particularly in private markets, are therefore unlikely to meet treatment needs in endemic countries.

At the same time, demand for RDTs should exceed ACT demand (with a 2:1 test to treat ratio, but adapted to level of endemicity), as testing should precede treatment for febrile care-seeking. However, manufacturers reported about 295 million RDT sales in 2024.[30] Reported sales data compared to the estimated 282 million cases of malaria in 2024 indicates that the coverage gap for testing is likely still large, especially in the private sector.[31]

Patient and caregiver behaviour is an ongoing challenge for effective malaria case management. Malaria is often perceived as a mild illness, leading to delays in seeking care.[32] Patients may initially self-medicate or rely on informal providers or medicine vendors, only seeking formal care when symptoms worsen. These delays increase the risk of severe disease and onward transmission and complicate effective case management. Cost also plays an important role in care-seeking and decision-making. Higher testing rates have been observed when the price of the drug was very high relative to the price of the test.[33] On the other hand, for many patients, the combined cost of diagnosis and treatment at a single visit can be prohibitive, leading some to forgo testing and purchase medicines alone, compromising appropriate case management.[34]

3.2 Health system challenges

Health system weaknesses are a key malaria case management public health challenge. Inadequate investment and competing health priorities, and the complexity and heterogeneity of health systems and access to quality malaria case management, particularly in malaria-endemic countries, continue to impede the delivery of timely and appropriate care. Together, these dynamics create persistent gaps in understanding health markets as well as potential barriers to access, quality, and continuity of malaria case management.

Three interrelated health system challenges directly shape provider behaviour and care-seeking behaviour.

Overburdened public systems and constrained access

In many malaria-endemic countries, public health facilities remain overstretched and under-resourced.[35] High patient volumes, staff shortages, and limited infrastructure result in long waiting times, frequent stock-outs, and poor patient experiences.[36,37] For example, patients may face long delays at a public facility waiting for a basic consultation or diagnostic test.[38] These experiences undermine trust in public services and deter timely care-seeking.

A public sector response to overburdened systems has been to introduce policies on task-shifting and task sharing for healthcare services. This has been achieved through supporting community delivery mechanisms either as stand-alone community-based diagnosis and treatment programs or within integrated community case management (iCCM). This approach has had a key role in expanding care to rural and hard to reach places. For example, Nigeria introduced Task-shifting and Task-sharing for Essential Health Care in 2024 to address a shortage and inequitable distribution of the appropriate cadres of the health workforce. This policy includes a 36-month training course followed by supportive supervision to expand the community health network, but notes high attrition rates of trained workers as a barrier to success in iCCM implementation.[39]

Health workforce limitations and systemic training gaps

A limited and unevenly skilled health workforce is another critical challenge.[40] Persistent funding constraints have led to major gaps in training and supervision, particularly for frontline health workers responsible for malaria diagnosis and treatment. Training is required across the entire malaria value chain, such as provider training that ensures alignment with national guidelines, data collection/interpretation and technology training for monitoring and surveillance.[41] Targeted approaches like the Outreach Training and Supportive Supervision (OTSS), and strategies like iCCM for malaria and the integrated management of childhood illness (IMCI) have provided frameworks and platforms for training, especially across the lower cadres of care, yet large skill gaps remain. Anecdotally, in some settings malaria case management training has not occurred for several years due to donor funding reductions.[42] Over time, inadequate training and supportive supervision contributes to declining clinical skills, reduced adherence to guidelines, and inconsistent practice across facilities and providers.

These capacity and oversight gaps directly shape provider behaviour, contributing to deviations from the "Test, Treat, Track" protocol that underpins effective malaria case management.[43] Despite the availability of RDTs, presumptive treatment based on symptoms (primarily fever) is still practiced.[44] Aggregated data from household surveys conducted between 2005 – 2024 reported in the World Malaria Report 2025, show that while diagnosis among those with fever who sought care increased from 29.8% to 47.1% since baseline, presumptive treatment remains common.[45] Furthermore, it has been reported that a lack of training can limit some providers' ability to investigate non-malarial causes of fever, putting patients at risk and increasing pressure on malaria tools.[46]

These practices can be driven by time pressure, patient expectations and preferences, fear of losing clients, and financial incentives. In some settings, providers report prescribing ACTs after negative tests to generate revenue for facilities or to satisfy patients who expect medication.[47] Reports also show an increase in antibiotic use following a negative malaria test.[48] One analysis of observational and randomised studies across public and private health settings found that antibiotics were prescribed to 40% of patients with a positive test result and to 69% of those with a negative result.[49] Such practices undermine the appropriate use of antimalarials, contribute to unnecessary drug exposure, and increase the risk of drug resistance for both antimalarials and antibiotics more broadly.

Fragmentation of data systems and supply chains

Fragmentation across health systems further exacerbates challenges to accessing quality malaria case management. An estimated 35% of malaria patients seek treatment in the private sector on average globally, a rate which is higher in several countries, for example up to 50-60% in Nigeria.[50,51] However, many treated cases are never reported to national Health Management Information Systems (HMIS).[52,53] This creates a "black hole" of missing data, leaving NMPs without a complete picture of disease burden, treatment practices, or emerging risks. Challenges in improving databases include fragmented and poorly managed data streams, inadequate surveillance and delayed monitoring, weak data integration and limited use for decision-making, and poor coordination across stakeholders.[54] As a result, programs are often forced to plan and respond with incomplete information, weakening surveillance and accountability.

Supply chains are similarly fragmented. This fragmentation, alongside weak regulation and limited capacity to enforce policies, can result in frequent stockouts, diversion of products across sectors, and substandard products at the point-of-care. For example, in surveys conducted across six malaria endemic countries between 2009 – 2010, among private sector outlets stocking at least one anti-malarial, non-artemisinin-based therapies were widely available (>95% of outlets) as compared to first-line, quality-assured ACTs (<25%).[55] Furthermore, supply chain quality checks and monitoring along the supply chain is not consistently enforced. Country capacity to implement routine checks for diagnostics and treatments is challenged by resource limitations, limited access to quality-monitoring tools, and limited skills.

4.
The private sector ecosystem

Key actors and the pathway to sustainable, quality malaria case management services and commodities at scale

Private sector ecosystem: Key takeaways

- The private sector includes formal and informal providers operating under diverse regulatory, commercial, and clinical conditions.
- In many settings, private outlets are the first point of care for febrile illness, particularly in underserved communities.
- Informal and semi-formal actors deliver substantial volumes of care but remain poorly understood and weakly regulated.
- Invisibility of private sector data limits surveillance.
- Private provider motivations combine public health intent with financial sustainability considerations.
- Viewing the private sector as an integral component of national systems, rather than a parallel actor, is essential for effective stewardship.

Patients and caregivers have individual rationale that will drive their care-seeking. As noted in Box 1,[56] these may include individual needs or preferences for service hours, location, provider availability, perceptions of quality, cost, and trust. As funding to address these challenges is declining, pressure on public services is increasing, exacerbating the challenges of overburdened health systems. Long wait times and inconsistent availability due to high patient volumes, staff shortages, and limited infrastructure in the public sector[57,58] may lead patients to private providers such as pharmacies, drug shops, informal vendors, or private clinics where care can be quicker and more convenient. Furthermore, the proximity of private providers, who are often based in communities (villages or urban suburbs)[59] in many cases leads them to be the first point of contact, with approximately 35% of patients with suspected malaria seeking care in the private sector[60] and some 50% of total health expenditure going to private providers.[61] Rapid urbanisation and climate-driven ecological change are also reshaping the malaria ecosystem and are likely to expand the role of the private sector in delivering malaria care. The detection

of invasive *An. stephensi* malaria vectors in urban and peri-urban settings, particularly in the Horn of Africa,[62] is increasing reliance on private providers, pharmacies, and informal providers and medicine vendors that are often the first point of care in these environments. Greater climatic variability is also making malaria transmission less predictable, increasing demand for flexible, rapid-access care that the private sector is well positioned to deliver.

Within this context, it will be critical to improve people-centred sustainable access to quality malaria case management at scale in the private sector. To achieve this, it is important to understand the key actors who provide care directly to patients and caregivers as well as the key stakeholders along the pathway. This will strengthen understanding of the opportunities to expand sustainable access to quality malaria case management at scale and to mitigate any potential unintended consequences of unchecked market forces.

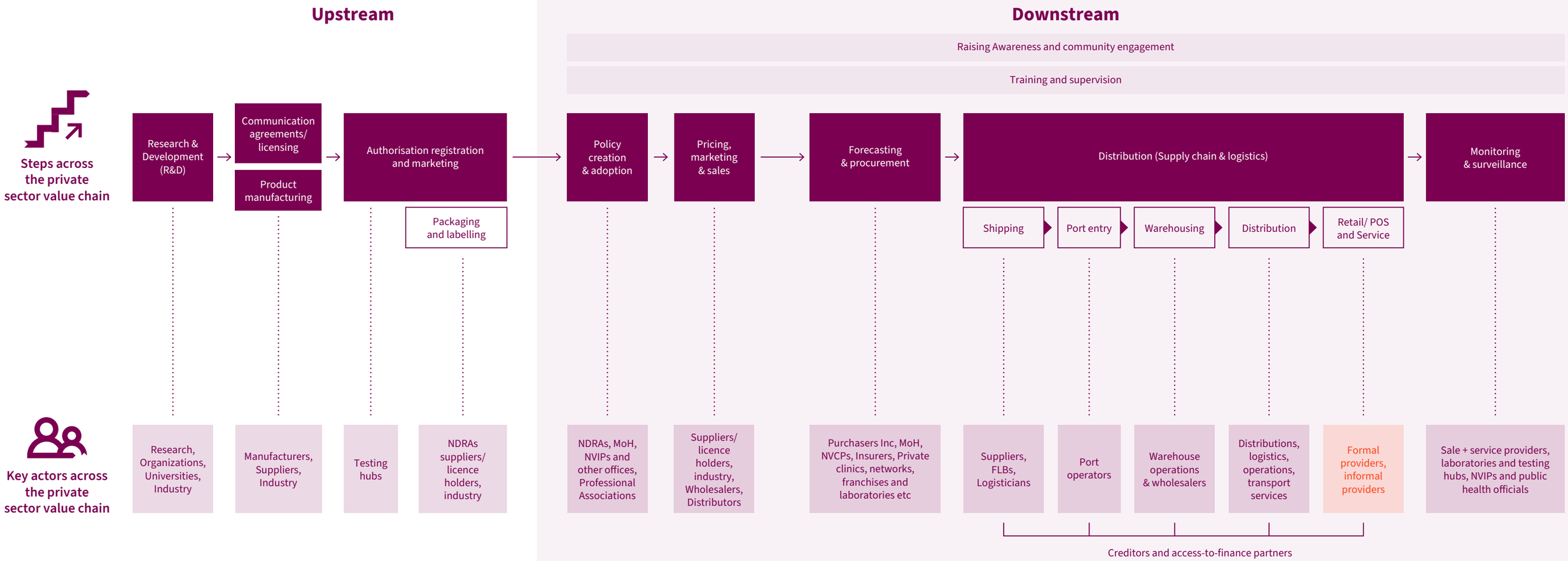
Recognising that many gaps persist in describing and understanding the heterogeneous private sector by country and context, this landscape provides an initial overview of key private sector actors, enabling environment stakeholders, and touchpoints along the pathway to providing quality RDTs and antimalarials.

Box 1: Reasons patients seek care from private providers

- Location and proximity
- Longer opening hours than public facilities
- Shorter waiting times
- Fewer administration or documentation requirements
- Better perceived quality of care and customer service
- Client perception that commodities will be in stock and of high quality
- Long-standing relationships with providers, trust
- Ability to pay on credit

Figure 2 provides an overview of key stakeholders and steps along the pathway to sustainable, quality private sector malaria case management services and commodities at scale.

Figure 2: Key actors and the pathway to sustainable, quality malaria case management services and commodities at scale



Raising awareness and community engagement: Professional Associations, NVPs, Insurers, Employers, Community Health Workers, Medical outlets (including social media), Telecommunications providers

Training and supervision: Professional Associations, NVPs, Insurers, Employers, Franchisers, Service Providers

Point of service stakeholders

Within the private sector enabling environment (Figure 1), **private healthcare providers** play a critical role in the provision of malaria care. Indeed, private providers – ranging from licensed hospitals, clinics and pharmacies to faith-based organisations, traditional healers, and informal providers and medicine vendors – are often the first point of contact for patients with suspected malaria and can be leveraged to expand access in many contexts.

A 2017 review of strategies and recommendations for elimination settings notes that the "types of private providers that are most visited for malaria diagnostic and curative services differ widely by country" and that in the informal private sector there may be hundreds of providers and medicine vendors, including "pharmacies and drug vendors, who provide huge volumes of treatment but are not linked with one another and whose practices are often poorly understood."[63] Within that complexity, and with a focus on patient- and caregiver-centred care, four general categories of private providers of malaria case management services and source of RDTs and antimalarials have been identified, categorised based on their for-profit or non-profit business model, as well as their national formal or informal regulation status, as shown in Table 1.[64] This includes formal for-profit providers; formal non-profit providers; as well as informal for-profit and informal non-profit providers.

It is important to note that the definitions for each of these categories vary by country and context, reflecting the broad heterogeneity of the ecosystem of private sector malaria case management. As such, these categories and definitions remain to be further understood, documented, and identified as an important next step in prioritising barriers as well as recommended approaches for overcoming them. In many countries, for example, volunteer health workers are part of the formal MOH system. They receive training, supervision, MOH commodities, and provide regular data and reports. Separating formal and informal providers from pharmaceutical outlets may also be a helpful categorisation. The informal sector can also be characterised as operating from fixed sites or as itinerant or ambulatory *ad hoc* vendors. These are private providers and outlets who "provide huge volumes of treatment but are not linked with one another and whose practices are often poorly understood." They are known by many different names for example *Black Baggers, Wheelbarrow Sellers, Vendeur ambulants*.[65] These additional groupings may be helpful, as each group has different regulations and needs.

Table 1: Private sector health providers

	For-profit provider Profit-driven and entrepreneurial	**Nonprofit provider** Mission-driven
Formal provider Refers to providers who are formally trained and whose clinical practice is regulated by the government; records are more easily obtained and regulations more easily enforced	• Private hospitals • Private clinics • Pharmacies and registered or accredited drug dispensaries • Large corporations or companies that provide healthcare to their workers • Private diagnostic facilities and laboratories	• NGOs and NGO-operated hospitals, clinics and other health facilities • Faith-based and charity hospitals, clinics and other health facilities
Informal provider Includes providers who may not have received formal training and whose clinical practice is not registered with or licensed by any government body; records are more difficult to obtain and regulations are more difficult to enforce	• Unregistered, unlicensed or unaccredited drug sellers (including itinerant vendors) and retail outlets • Private practitioners working from home • Public practitioners working from home as private providers • Village doctors and traditional healers • Unregulated small mining and agricultural companies that provide healthcare to their workers	• Volunteer health workers

Source: Bennett et al (2017). Engaging the private sector in malaria surveillance: a review of strategies and recommendations for elimination settings. Malar J (2017) 16:252

Archetypes provide a powerful tool for describing this extremely diverse set of private sector providers into actionable categories that reflect the reality of how patients seek care and how the market operates. As detailed in Table 2, private sector archetypes include a wide range of actors from high-end private hospitals to village drug shops and itinerant vendors. They serve as the final link to the patient, providing both the diagnostic tools (i.e. RDTs) and the treatments required for case management. Prices to patients and caregivers are highly dependent on mark-ups across the value chain from the manufacturer to first-line buyers (FLB) to wholesalers before reaching retailers who survive based on their margins. In Francophone African countries, for example, retail mark-ups are strictly regulated, often doubling the product's price between the port and the patient. Mark-ups typically range from 14-36% for wholesalers and 23-67% for pharmacists, providing more incentives to sell expensive branded products than cheaper generics. In contrast, the informal market operates with much lower margins (e.g., 13% in Benin) and competes purely on price.[66]

Table 2: Archetypes of the key private sector malaria case management providers

Archetype	Key Characteristics	Geography	Services
Professional clinical hub	Registered private hospitals or clinics with laboratory, doctors, nurses, and possibly a dispensary; Fees for service, diagnosis, and prescription	Urban	Microscopy and/or RDT diagnosis; management of severe and uncomplicated malaria cases; prescription and sale of quality-assured ACTs
Professional clinical hub	Faith-based or non-profit facilities; Operate under MOUs, blending private-sector proximity with public-sector standards; Free or highly subsidised fees for service, diagnosis, prescription	Urban, Peri-urban	Microscopy and/or RDT diagnosis; management of uncomplicated malaria cases (and severe malaria in some cases); prescription and provision of quality-assured ACTs
Private practitioner	Public- and private-sector doctors and nurses provide malaria and other diagnosis and case management services (public sector personnel may 'moonlight' in the private sector); Fees for service, diagnosis, and prescription	Urban, Peri-urban	Microscopy and/or RDT diagnosis; management of uncomplicated malaria cases; prescription of antimalarials (ACTs and others)
Formal pharmacy	Fees for RDTs, medicines	Urban, Peri-urban	Sells antimalarials OTC, and to fill prescriptions. May provide diagnosis with RDTs
Neighbourhood nurse or midwife	Frontline community provider, often seen as the 'community doctor' regardless of formal designation	Peri-urban, Rural	RDT diagnosis, sells antimalarials; often lacks space for on-site testing; Pre-referral treatment as needed
Agile drug shop	Small, high-volume, often the 'first mile' of care in rural areas	Peri-urban, Rural	Predominantly presumptive treatment; sells antimalarials, high influence on patient
Community shopkeeper	Small, high-volume, often the 'first mile' of care in rural areas alongside provision of other staples (e.g., cooking oil, salt, batteries, fuel)	Peri-urban, Rural	Predominantly presumptive treatment; sells antimalarials, high influence on patient choice; Community member, influenced by need to maintain trust, reputation
Workplace/ enterprise provider	Clinics within mines, plantations, or large corporate offices; Focused on employee productivity; Free services and antimalarials to employees	Plantations, Mines, Factories	Microscopy and/or RDT diagnosis; management of uncomplicated malaria cases; prescription and provision of antimalarials (ACTs and others)
Informal itinerant	Mobile medicine vendors or 'chemists' without a fixed location. Retired doctors or pharmacists (in Asia)	Peri-urban, Rural	Presumptive treatment, often sells monotherapies, substandard drugs

In addition to point of care providers, public and private sector stakeholders at all levels have important roles in effectively coordinating these approaches and reinforcing private sector alignment with national malaria priorities and treatment guidelines. Each faces unique challenges to be addressed in reinforcing their ability to strengthen the private sector's role in sustainably improving access to quality malaria case management at scale.

National stakeholders

- **National Drug Regulatory Agencies (NDRA)** provide the essential quality assurance framework that allows the private market to function safely. Responsible for product approval, registration, and enforcing quality standards in the private market, NDRAs play a critical role in monitoring RDT and ACT suppliers and products. Their mandate includes enforcing quality standards in the market, monitoring the supply chain to combat substandard or counterfeit medicines, and regulating which commodities can be legally sold. Key challenges include acute resource constraints, such as insufficient staffing and laboratory capacity, which limit their ability to conduct routine market surveillance or enforce standards across fragmented informal markets. Furthermore, the rapid pace of digital innovation and cross-border trade complicates NDRA efforts to keep pace with sophisticated counterfeit networks and unregulated online pharmacies.
- **National Malaria Programmes (NMP)** provide strategic leadership, defining national guidelines for Test, Treat, and Track protocols and integrating private sector activities into national strategies and budgets. Their role is to steward the overall health system – including patients who seek care privately – by ensuring that private providers are involved in service delivery design, aware of and capable to align with current protocols, and equipped to report case data into national surveillance systems like DHIS2. Reinforcing trust and collaboration between NMPs and NDRAs is critical to aligning public health goals with regulatory oversight and enforcement, as well as ensuring the quality of available RDTs and antimalarials. NMPs may struggle with limited visibility into private-sector data, making it difficult to accurately forecast commodity needs or track emerging resistance patterns outside of public facilities. They also face the significant challenge of reconciling mandates of free service delivery with private provider needs to maintain profit margins and business solvency.

- **Professional Associations:** Organisations such as pharmacy boards or paediatric associations are important partners who often provide platforms and professional development opportunities to private sector providers. Their networks can be leveraged for coordination, advocacy, disseminating and reinforcing national policy and guidelines, training and other upskilling for private providers. These groups often grapple with organisational fragmentation and uncertain influence over informal or unlicensed providers, who fall outside their traditional membership base but handle a high volume of malaria cases. Additionally, associations may face financial and logistical barriers to providing professional development and supervision for their members, particularly in remote or underserved rural areas. Most countries have several active associations, for example:

Kenya

- Pharmaceutical Society of Kenya (PSK): for pharmacists, dedicated to advancing pharmaceutical practice and advocacy
- Kenya Medical Association (KMA): for doctors and dentists in Kenya, focused on healthcare policy and member welfare.

Senegal

- *Syndicat des Pharmaciens Privés du Sénégal*: An association specifically representing the interests of private-sector pharmacists and pharmacy owners.
- *Ordre National des Médecins du Sénégal (ONMS):* National body responsible for the regulation of medical practice and the representation of doctors.

Mozambique

- *Ordem dos Farmacêuticos de Moçambique*: Official professional order for pharmacists, responsible for licensing and professional standards.
- *Ordem dos Médicos de Moçambique (OrMM)*: Regulatory and professional body for the medical profession in Mozambique.

Other Key Regional and National Associations

- Nigerian Medical Association (NMA): The largest medical association in West Africa, representing over 50,000 doctors.
- Ordre National des Pharmaciens de Côte d'Ivoire : The statutory body for pharmacists in Ivory Coast, showing further diversity in Francophone West Africa.
- Healthcare Federation of Liberia (HFL): A private health membership-based organisation in Liberia. HFL is the first point of contact with its members, who include for-profit, non-profit, and non-governmental entities across health areas. We are the first point of contact for interaction with the private health sector.
- African Pharmaceutical Forum (APF): A regional forum of the International Pharmaceutical Federation (FIP) that brings together national pharmacy associations from across the continent to harmonise practice standards.

- **First-Line Buyers (FLB)** are primarily pharmaceutical importers and large-scale distributors. They act as the primary gateway for malaria commodities entering the private sector. Stakeholders noted key challenges, for example that many pharmaceutical importers – the main suppliers of antimalarial drugs – were initially unfamiliar with RDTs or were paying two to three times the public sector price for them, reluctant to invest in new diagnostic tools (such as non-HRP2 tests) without clarity on which suppliers will be selected for long-term procurement by major donors like the Global Fund, and those committed to quality-assured products face stiff price competition from low-

quality substitutes and counterfeit products that easily flow into the market. Stakeholders also identified several entities operating at the importer and distributor level.[67]

- **Wholesalers** provide critical functions for bulk purchasing, price and margin setting, storage, and supply for retailers. Following importation, it is important to support the safe movement of goods patients and caregivers. In many Anglophone and Southern African countries, distribution is characterised by many types of both formal and informal wholesalers, with commodities often passing through two to three steps and in some cases up to six steps, as they move from the manufacturer to the retailer. Volumes are also somewhat concentrated but less so than for West Africa.[68] In West Africa, the formal wholesale market is highly concentrated, and as reported in 2015, two major companies, Eurapharma-Laborex and Planète Pharma-Ubipharm, held 60–70% market share. With most formal products transiting through France as an operational hub, this increases logistics costs and prices. Formal wholesalers in West Africa face high barriers to entry, including expensive registration fees and requirements to stock 90% of all registered products. The International Federation of Pharmaceutical Wholesalers (IFPW) plays a strategic role in professionalising the wholesale sector and ensuring that global standards for Good Distribution Practices are adapted to the realities of emerging markets.

Insurance providers and social protection schemes can be critical levers for aligning private sector profit motives with public health standards for malaria case management. They can support regulatory alignment by mandating adherence to national protocols as a condition for reimbursement. For example, informants suggested that health insurance standards should be designed so that conducting malaria case management without a parasitological diagnosis or prescribing non-recommended treatments, such as injectable artesunate for uncomplicated cases or use of is not an allowable cost. Insurance can also drive patients toward accredited facilities; for example, in Kenya, patients are more likely to choose private clinics over unaccredited ones if they know their insurance covers the costs at those specific sites.[69] In Ghana, malaria is integrated into the National Health Insurance Scheme (NHIS), which provides nearly 100% reimbursement. However, systemic challenges often undermine this financial protection:[70] The potential impact of insurance-linked private-sector engagement is likely to depend substantially on the breadth and function of insurance coverage. Where social health insurance has meaningful reach and reimburses both diagnostics and treatment reliably, it can lower out-of-pocket spending and steer patients toward accredited private providers. However, these benefits are often concentrated in settings with stronger formal-sector employment and better-developed provider networks, which may skew coverage toward urban and peri-urban areas unless special provisions are made for rural and informal populations.

Regional stakeholders

- **African Medicines Agency (AMA):** To ensure quality and safety across different markets, this Specialized Agency of the African Union (AU) was established in 2019 and launched in November 2025. The AMA aims to improve access to quality, safe, and effective medical products in Africa through harmonised standard regulatory requirements and fighting counterfeit and substandard medicines across countries.[71] Harmonised regulation presents a key opportunity to reduce the barriers for manufacturer entry into multiple African markets by eliminating the need to repeat the registration process in each country, following registration in one African country. Some 29 AU members have ratified the AMA Treaty, presenting a significant opportunity to expand the market of available quality RDTs and ACTs.

- **Emerging manufacturing hubs** in countries like Nigeria, Kenya, and Uganda are increasingly producing malaria commodities and supplying regional and domestic markets. While some are working toward international accreditation, many currently supply domestic private markets based on national regulatory approvals.
    - Only three PQ manufacturers of ACTs are in Africa[72] although many manufacturers in Africa produce ACTs registered by national regulatory authorities other than the WHO. A 2016 report found 40 antimalarial manufacturers registered in Nigeria alone.[73] Ministries of Finance and MOHs have a strong interest in supporting manufacturers to establish and grow production in their country and as a regional supplier. Some suggest that with increased need for domestic resource mobilisation to fill funding gaps left by reduced US and global funders, governments will increasingly focus procurement of both RDTs and antimalarials with national or regional suppliers.
    - The malaria diagnostic manufacturing landscape in Africa is expanding through strategic international partnerships and regional hubs. Access Bio, a US-based manufacturer of the WHO-prequalified CareStart™ RDTs, maintains a primary production site in Ethiopia. In East Africa, Astel Diagnostics operates a manufacturing facility in Kampala, Uganda, providing diagnostic products for clinical and laboratory use. Nigeria is emerging as a critical hub for in-vitro diagnostics (IVD) through Codix Bio, which commissioned a state-of-the-art facility in Sagamu in May 2025. Developed via a technology transfer partnership with South Korea's SD Biosensor and technical guidance from the World Health Organization (WHO), this plant has an initial annual capacity of 147 million kits. Notably, Codix Bio is the first African partner selected for the WHO Health Technology Access Pool, receiving proprietary know-how and material to produce high-quality RDTs for malaria and other diseases.[74] Beyond these hubs, South Africa and Senegal maintain established RDT manufacturing capacities.
    - Entities like Medicines & Equipment Delivery Services (MEDS) are cited for their potential to act as independent regional testing and procurement centres for both faith-based and private sectors. Challenges may include securing sustainable financing for high-tech laboratory infrastructure and specialised expertise, while keeping testing fees low enough for local manufacturers and small-scale distributors to afford. Additionally, they must navigate complex multi-country regulatory requirements and variations in national quality standards, which can hinder their ability to serve as a truly unified regional authority for product verification.

- **Health technology innovators.** To address the noted challenges, a new generation of health technology innovators is emerging – most of them based in and operating across African countries – to address systemic market failure and improve access to quality health products. Despite their rapid growth, many innovators are hindered by low levels of integration into national digital health architectures (e.g. DHIS2). This may limit the public sector's ability to use the high-quality data they generate. According to the Salient Advisory 2024-2025 Market Intelligence Report, these innovators are now maturing beyond small-scale pilots, with leading companies reaching nearly 10 million consumers and partnering with over 75 public health institutions.[75] Innovators included in the report and identified by stakeholders can be organised into four strategic categories that reinforce private sector malaria case management:

  Order and Inventory Management (B2B Aggregators) resolve inefficient procurement by consolidating demand from small pharmacies and drug shops to negotiate pricing similar to public sector levels. Available evidence suggests that country coverage for digital B2B and related pharmacy platforms is expanding and dynamic but currently remains uneven. They include:

  - Axmed consolidates fragmented demand from public, private, and NGO sectors to create digital economies of scale and manages end-to-end logistics to ensure high-quality ACTs reach underserved markets. By matching pre-qualified (PQ) manufacturers with providers, Axmed can reduce procurement costs by up to 25%. As a cross-country procurement platform, its early target markets include Kenya, Nigeria, Ethiopia, Tanzania, and Rwanda.
  - Lifestores Healthcare operates the OGApharmacy platform, focused in Nigeria, supporting over 700 pharmacies and reaching 10% of the national market. They provide small retailers with access to credit and modern inventory software, reducing procurement costs by 10-20% and ensuring 100% of their 7,000+ products are sourced from top-quality suppliers.
  - mPharma, through its Mutti pharmacy network, uses a consignment model to manage inventory for small pharmacies, absorbing the financial risk of stock-outs and ensuring only quality-assured ACTs are dispensed. It also uses point-of-care software to collect outcome data and track fever trends. mPharma's pharmacy and supply platform spans multiple countries, including Ghana, Nigeria, Zambia, Kenya, and Rwanda.
  - F/eld is a technology company which is strengthening supply chain digitisation, modernisation, and sustainability. To do this, Field uses a subscription-based inventory management model (e.g., "Pharmacy-as-a-Service"); provides inventory management software and physical stocks to pharmacies, managing the replenishment cycles; aggregate demand from hundreds of independent community pharmacies to negotiate better prices from manufacturers, passing those savings and quality assurances down to the retail level. Field also often operated on a "pay-as-you-sell" or consignment-style basis, which provides working capital relief to small pharmacy owners.

Online Pharmacies and Direct-to-Consumer (DTC) platforms provide a digital "seal of quality," allowing consumers to bypass informal markets and access verified diagnostics and treatments.

- Kasha: The highest-grossing health supply chain innovator in Africa (reporting over $50M in 2023). Kasha provides a discreet, omnichannel platform (USSD, WhatsApp, Web) that delivers health products to urban and rural low-income communities across Rwanda, Kenya, and South Africa. They build trust by screening every product for high quality and full accessibility.
- My Dawa sources medicines directly from manufacturers and WHO-approved centres in Kenya to secure the supply chain for QA malaria diagnostics and antimalarials. It uses unique “track and trace” mechanisms (QR codes and SMS) to allow consumers to authenticate their malaria treatments, tackling the issue of counterfeits in the private market.

Last-mile data analytics firms use advanced tech to solve the rural gap, delivering life-saving treatments to disconnected populations in record time.

- reach52 focuses on disconnected rural populations, where 52% of the world lacks essential care. It uses an offline-first mobile app to digitise and upskill a network of community agents who provide health education, malaria screenings, and referrals, while linking them to quality-assured products through retail partners.

Product Protection and Visibility companies focus on supply chain "gatekeeping," ensuring that only authentic, quality-assured products reach patients.

- Proqurable, which provides a transparent digital marketplace to link global suppliers and national distributors. The platform collectively assesses delivery models and supports private providers to access negotiated prices comparable to donor-funded programs.
- NCD-Connect. While focused on non-communicable diseases, NCD-Connect (as part of the IDA Foundation) provides a replicable digital procurement model for malaria by offering a curated catalogue of high-quality, pre-qualified products. It streamlines purchasing for governments and NGOs, ensuring consistent supplies and transparent pricing.

- **Revolving credit and access-to-finance partnerships** play a critical role in stabilising fragmented private sector supply chains and ensuring the consistent availability of QA malaria commodities. Aggregator platforms use these partnerships to allow providers to consolidate demand, enabling them to act as a single, large-scale buyer that can negotiate favourable terms and prices. By providing small pharmacies and drug shops with flexible capital, these financial mechanisms address systemic market failures that often lead to stock-outs or the procurement of cheaper, substandard alternatives. For example, mPharma’s Mutti network consignment-like inventory management helps small pharmacies absorb the financial risk for, mitigating liquidity concerns and reinforcing dispenses of QA antimalarials. Many wholesalers also face high barriers to entry and expensive registration fees, which are often passed down to the patient. Revolving credit facilities for FLBs and distributors can lower these operational costs, helping to harmonise pricing across the public and private sectors.

Global suppliers

There are more than 15 prequalified (PQ)[76] manufacturers of WHO-recommended ACTs, located primarily in India and China. There are currently 23 WHO prequalified RDTs. Building on advances in regulatory maturity, the WHO listed authority (WLA) is replacing previous stringent regulatory authority (SRA) designation to identify and publicly recognize medical regulatory authorities that operate at an advanced level of performance. In alignment with shifts toward health sovereignty, African-based malaria manufacturing is currently defined by a move away from simple drug finishing toward integrated production and regional supply hubs.

Key manufacturers of ACTs located in Africa include:

- Quality Chemical Industries Ltd (QCIL), Uganda, is a regional producer of QA ACTs for Eastern and Southern Africa.
- Emzor Pharmaceutical, Nigeria, is currently commissioning West Africa's first Active Pharmaceutical Ingredient (API) plant, thus reducing dependence on India and China.
- Fosun Pharma (Guilin), Côte d'Ivoire, as part of a global group, and with a specialized production hub in Abidjan, represents a major shift toward localized manufacturing of injectable artesunate and high-quality ACTs specifically for the Francophone West African market

RDT manufacturers in Africa include:

- Revital Healthcare, Kenya, since 2025 has scaled up the mass production of the first locally developed malaria RDT kits in East Africa.
- With MedAccess, several South African firms are focusing on high-tech diagnostic assembly, for the next generation of dual-target RDTs (HRP2/pLDH) to address the rise of HRP2-deleted parasites in the Horn of Africa.

Unitaid is currently funding a consortium of organizations through the Medicines Supply Resilience Africa (MedSuRe Africa) project, led by USP, to expand resilient production of essential medicines in Africa – including for ACTs. The Gates Foundation is also funding the Partnership for Acceleration of Innovative Diagnostics for Malaria (PARADIGM) project led by PATH, which is focused on supporting global manufacturers, primarily in South Korea and China, to produce and supply next generation malaria RDTs (combination RDTs). This work will advance the availability of sensitive diagnostic tests that address current and evolving needs, and will provide market insights for the private sector.

5. Barriers to access

Barriers to access: Key takeaways

- **Demand and adoption:** Limited patient awareness, persistent presumptive treatment, and misaligned provider incentives weaken demand for diagnostic confirmation and quality-assured malaria commodities.
- **Innovation and availability:** Fragmented private markets, regulatory uncertainty, and unclear long-term demand constrain the effective introduction and appropriate adoption of new malaria diagnostics and therapies.
- **Supply and delivery:** Fragmented distribution channels, weak regulatory enforcement, and inconsistent availability of quality-assured RDTs and ACTs undermine reliable access to care.
- **Affordability:** High out-of-pocket costs for testing and treatment, combined with liquidity constraints among small providers, discourage diagnostic testing and reduce uptake of quality-assured products.
- **Quality:** Variable training, limited supportive supervision, and weak surveillance integration contribute to inconsistent adherence to national treatment guidelines and continued circulation of substandard products.

Within the enabling environment rules and supporting functions (Figure 1 above), private sector actors face significant barriers to providing sustainable access to quality malaria case management to patients, caregivers, and consumers at scale. Through systematic examination of the fundamental barriers to achieving sustained access at scale, Unitaid's Results Framework[77] identifies five categories of access barriers: demand and adoption, innovation and availability, supply and delivery, affordability, and quality. These categories provide a useful way of understanding the barriers facing malaria case management in the private sector.

Demand and adoption

Private providers are often treated as peripheral entities rather than essential components of the national health strategy. This separation is compounded by a misalignment between public health mandates and the multifaceted motivations of private actors, who must balance clinical protocols with commercial viability. For patients and caregivers, deeply entrenched consumer beliefs and outdated behavioural norms continue to drive preferences for presumptive treatment, hindering the transition to Test, Treat, Track standards. Barriers to demand and adoption within the private sector enabling environment ecosystem include:

- **Lack of integration of the private sector in national health.** Many national health systems treat the private sector as a separate entity rather than an integral part of the whole system. Private sector actors are often excluded from designing, planning and implementing public sector disease programmes.[78] Where private sector solutions are project-driven, separate to the national health system, and/or short-term, this may lead to a lack of continuity once external funding ends. For example, the reduction and/or discontinuation of the ACT subsidy post AMFm is evident in import prices, where the cost of QAACTs exceeds average import costs for non-PQ ACTs.[79]

  In many countries, laws and regulations restrict private sector actors from purchasing or providing diagnostic tests, which hinder PMRs and private providers from stocking or incorporating RDTs alongside antimalarials.[80] At the same time, the common pattern whereby patients are tested in the public sector but subsequently purchase ACTs in the private sector often reflects broader system fragmentation, including public stock-outs, waiting times, convenience, and patient preferences. This becomes problematic when it weakens continuity between diagnosis and treatment, increases out-of-pocket costs, or shifts patients toward non-quality-assured products outside routine reporting systems.

  Governments may ignore or not officially recognise lower-level providers like drug shops, creating surveillance blind spots and fragmented care. Furthermore, stringent licensing requirements often preclude many providers from formal registration. In Kenya, for example, there was a significant increase of approximately 20,000 community pharmacy retail outlets, compared to only 5,000 registered and practising pharmaceutical technicians. Stakeholders noted that this common scenario renders official regulatory enforcement ('sticks') impossible, leaving 'carrots' (incentives) as a more viable tool.[81]

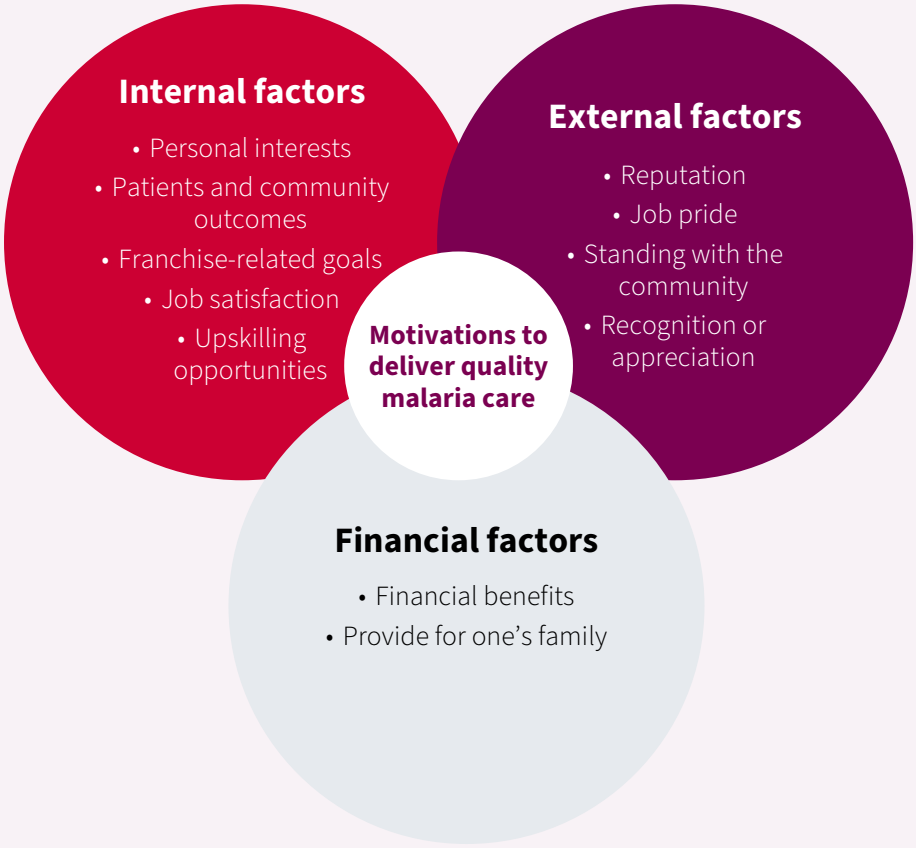
  Although PMRs are often the first place where patients and caregivers seek treatment for fever, given their proximity to communities and households, "the specific needs and differences of private health services are not usually addressed in national strategies and plans for delivering appropriate and quality care close to the patient."[82] Likewise, private sector actors are often invited to participate in new initiatives only at the implementation and not the planning phase (i.e. they are "invited at the end").[83]

- **Limitations in understanding of the private sector at all levels.** As noted above, the private sector refers to a vast and complex group of actors characterised by extensive heterogeneity, fragmentation, and geographic dispersion, across numerous markets where there may be hundreds of diverse facilities, from formal hospitals to pharmacies and drug shops, tabletop or itinerant vendors. Within this context, traditional, person-heavy supervision models may be financially unfeasible at scale.

- **Misalignment with the motivations of and incentives for private sector providers.** The current ecosystem often assumes that private providers are primarily driven by financial incentives. This leads to models that are thus misaligned with actual provider motivations, and expectations of private sector actors that are not well suited to what they are best equipped to do.

  While financial considerations, such as earning an income or supporting one's family, can influence behaviour (for example, some providers may skip testing to avoid losing sales during the 15 minutes it takes to conduct a test),[84] motivation is multifaceted (Figure 3). Evidence from the Greater Mekong Subregion shows that provider motivation is a combination of financial, internal and external factors.[85] Internal factors may include personal interests, the perceived value of outcomes for patients or the community, franchise-related goals, job satisfaction, opportunities for skill development, and the intrinsic satisfaction derived from performing the task. External factors encompass reputation, recognition or appreciation, job pride, and standing within the community. The study also demonstrated that financial motivations can be long-term, rather than transactional, with providers recognising that good health outcomes is good for business. So, while the private sector ecosystem is in part driven by the opportunity cost of time and financial outcomes, there are many other forces at play that are shaping the delivery of quality care.

Figure 3: The intersection of internal, external and financial factors motivating private sector providers to deliver malaria care



- **Patient, caregiver, and provider beliefs may hinder effective care-seeking behaviours for febrile illness.** The formal shift by the WHO toward universal diagnostic testing only occurred in 2010. For decades prior to this shift, treatment based on symptoms (presumptive treatment or "fever = malaria") was a standard recommendation for high-burden areas. Beliefs and behavioural factors may underpin patient and caregiver reluctance to demand tests, due in part to 'strong prior beliefs about their malaria status, i.e. a low perceived value of information from testing'.[86] At the same time, consumers may be exerting significant influence on PMR behaviours, as it has been noted that:
  - PMR staff capacity and confidence in providing advice may be low
  - Customers perceiving these limitations may not accept advice from PMR staff
  - In endeavouring to foster return customers, PMRs may defer to customer preferences, which may be based on these outdated beliefs
  - Staff in PMRs have less depth of knowledge and so are less confident in giving advice to customers compared to pharmacists and staff in hospitals and clinics.
  - Furthermore, consumer "demand for testing services does not exist everywhere and testing is often not perceived as a service that has to be paid for."[87]

- **Weaknesses in social behaviour change (SBC) to improve malaria care-seeking and management.** Communication is a critical element for informing consumer demand, and 'was identified as a primary determinant of antimalarial selection'.[88] Generating demand for malaria diagnosis and strengthening education for the Test, Treat, and Track strategy is also needed. The demand for testing will drive suppliers to meet it.[89] Nevertheless, significant barriers hinder effective communication for malaria case management, particularly in the private sector.

  In many Francophone West African countries for example, 'communication to populations about medicines is generally forbidden'.[90] Limited evidence on the effectiveness of different behaviour change communication approaches in private sector settings[91] alongside persistent funding gaps also often leads to a deprioritisation of SBC initiatives relative to other technical aspects of malaria case management. Although the AMFm mid-term evaluation found that 'communication campaigns that lasted longer showed the greatest increase in the market share of QAACTs delivered'[92] supporting interventions including communication campaigns trailed implementation by up to six months, and thus were unable to be evaluated.[93] While 'consulting with community members on the design, cultural appropriateness of the content and methods of delivery are key factors to consider... and may improve participation and acceptance of malaria activities conducted. Patients, caregivers and providers are often not directly consulted or included in collaborating or co-leading design and deliver malaria interventions, including case management'.[94]

- **Transformational scaling.** Projects to strengthen malaria case management quality have also struggled to shift from transactional scaling, characterised as emphasising 'pilots, training, commodity distribution, and short term incentives with limited institutional change' to transformational scaling, which incorporates systemic changes that produce outcomes, by embedding a new normal into rules, incentives, markets, institutional roles, and routine capabilities so that quality and coverage persist after project funding ends.

For private sector malaria case management, transformational scaling means the private market consistently delivers patient- and caregiver-centred test before treat, quality assured commodities, affordable access, and routine reporting into national surveillance. Achieving that outcome requires governance, financing, and market shaping, not only program delivery.[95]

Innovation and availability

In response to pfhrp2/3 gene deletions and partial artemisinin resistance, new evidence-supported, adapted products are currently deployed and will be poised for rapid introduction in LMICs. Innovations to support their roll-out include updated diagnostic policies in some countries, guiding the shift from exclusive HRP2-based RDTs to alternative diagnostic tools such as parasite lactate dehydrogenase (pLDH)-based tests in response to high deletion prevalence. For MFTs, innovations may include updated rules and approaches regarding their introduction and scale up in the private sector as well as for managing supply chain and storage issues for multiple ACTs to align with national policies. Key barriers to innovation within the current private sector enabling environment ecosystem are described below.

- **Risk of the private sector being left behind, delayed, and ill equipped to align with new HRP2/LDH RDTs and/or MFT guidelines and practices.** The private sector is frequently forgotten in the design, planning, and implementation of public health programs, including national rollout of new medicines, and may not receive communication regarding new protocols and regulations.[96] Furthermore PMRs may lack access to new RDTs or first line therapies at affordable prices; lack clarity regarding the tools and approaches which are allowed or prioritised for private sector use; lack access to policies, implementation guidance and tools and thus be (or feel) ill-equipped to align with national malaria priorities – with the lack of coordination and clarity thus hindering the effectiveness of any introduction and scale up of new RDTs as well as MFT approaches. Thus, as noted in the WHO implementation guide for MFTs for example, 'MFT must be a deliberate, managed intervention at all levels of the health system, including the private sector. Coordination between the public and private sectors must therefore be improved to ensure adherence to treatment guidelines and rational prescribing practices.'[97]
- **Supply chain dependency risks.** Africa imports more than 70% of its medicines, which exacerbates their high cost and countries' dependence on global supply.[98] This necessitates innovations for investing in development of manufacturing for quality RDTs and antimalarials which shortens supply chains, reduce over-reliance on imports, builds capacity of national and regional suppliers, and ensures the quality of their malaria commodities.

Supply and delivery

Within the fragmented and heterogeneous private sector markets, it is critical to reinforce production and availability of quality, affordable RDTs and ACTs. Barriers to sustainable supply and service delivery at scale are described below.

- **Limitations of vertical health programs.** While vertical malaria and other health programs focused primarily on commodities have yielded impressive results in some cases, for example, 'substantially reducing the burdens of malaria, childhood illnesses, and maternal mortality; slowing the spread of HIV; and increasing the use of modern contraception.' However, evolving policy and funding considerations are causing a 'broad reappraisal of these programs, many of which have structures and systems that, to varying degrees, stand apart from the broader health system – such as separate supply chains, financing sources, monitoring and evaluation (M&E) systems, and even facilities and staff.'[99]

  While the current context is driving malaria case management toward the private sector, approaches to delivery of care do not always align with the way the private sector operates. For example, malaria control tools are still mostly delivered through vertical programs, led by NMPs. However, many private sector actors such as PMRs are largely multi-disease and medicine-focused rather than malaria-specific, reflecting the sector's integrated commercial nature and its role in delivering a broad range of health products alongside malaria diagnostics and treatments. This often results in product and service availability being determined by consumer demand, so malaria tools may not always be available if consumer demand is low, adding complexity to achieving integration and cohesion across the ecosystem.[100]

- **Data invisibility.** Most cases managed in the private sector are not reported or tracked, which reduces the ability of the MOH to track a significant portion of fever cases reported, confirmed malaria cases, treatment outcomes, referrals for severe malaria and outcomes. This may be because 'Private providers are often excluded from routine disease reporting systems such as HMIS' or because 'private providers do not recognise or value the need to count and report all cases.'[101]

  Some suggest that government requests for data often comes in the form of complicated and lengthy requirements which may not align with provider electronic medical and other systems in place. Furthermore, private providers are often not compensated for provision of the data and data results, and analysis are not shared with them. For some private facilities, it was noted that they may not currently have the systems and capacity in place even to track their finances, and thus no tools in place to track patient records.[102] Stakeholders have also noted that malaria program and other reviews are based on only the portion of data available from the public sector and to a certain extent private sector providers supported by faith-based organisations, donor-funded projects, or some private for-profit clinic and outlets. Data gaps also reduce supplier visibility into expected and emerging malaria burden trends as well as the volumes and types of RDTs and antimalarials needed – by brand, by function, by age grouping.

  At the global level, this has reduced understanding of the characteristics of the private sector, the portion of cases managed; the key gaps in access, quality and affordability, have arguably led to an underrepresentation of the private sector in the RBM Big Push framework, due to limited understanding for engaging the private sector in global and regional initiatives.[103]

- **Rural accessibility limitations.** In many cases, distributors and formal providers cluster in urban areas, which if unaddressed can leave rural populations to rely on informal, unregulated providers or medicine vendors. Four consequences of rural accessibility challenges were identified as 'having to restart the care-seeking process, abandoning it, using emergency services for primary care, and health deterioration due to delay.'[104] This can also naturally lead to higher retail prices in rural areas where competition is low, and there is limited oversight - leading to substandard RDTs and antimalarials. Geographic disparities in access affect diagnostics and specialised medicines more than ACTs. In three countries where ACTwatch Lite studies have been conducted - Benin,[105] Cameroon,[106] and Nigeria[107] - urban areas maintain a quality advantage, with urban outlets in Nigeria (Kano) and Cameroon showing higher stocking rates for WHO-PQ and nationally approved ACTs compared to their rural counterparts. While basic ACT availability is relatively high across both settings, often differing by only a few percentage points in states like Abia and Lagos, diagnostic ability is often lower. For example, in Benin, overall antimalarial availability drops from 89% in urban centres to 78% in rural zones. Interestingly, Cameroon provides a slight outlier where the Littoral region outside the major city of Douala showed relatively higher availability of WHO-PQ ACTs and similar levels of nationally approved ACTs - suggesting that targeted regional programs can occasionally bridge the urban-rural divide.

Affordability

Cost remains one of the most critical barriers to accessing affordable, quality-assured malaria case management, particularly for economically, geographically, and socially vulnerable populations most affected by malaria. Balancing initiatives to offer malaria services and commodities at the lowest, sustainable price, which does not impose an unreasonable financial burden on governments, donors, individuals, or other payers remains a persistent problem. Barriers to affordability of malaria case management at scale are described below.

- **Sustainability and scalability limitations.** Approaches to strengthen quality private sector malaria case management at scale, including large-scale market shaping initiatives, have significantly increased the availability of QAACTs.[108] However, sustainability of these interventions, due to the need for ongoing financial resources represents a significant barrier. The AMFm, for example, faced significant barriers in some cases to ensuring the subsidy was adequately passed on to consumers as well as limits to sustainability in continued levels of availability of QAACTs.[109]

  Interventions to create private sector markets for RDTs also significantly increased uptake, however long-term sustainability was hampered and scale was affected by non-conducive policy environments (e.g. legal restrictions on pharmacists administering tests) and the lack of systematic integration into national malaria control strategies.[110]

  Although recent diagnosis contingent incentive projects, have demonstrated measurable public health and market impact demonstrated substantial reductions in misuse of antimalarials, they have not yet been demonstrated at scale.[111,112]

- **High out-of-pocket (OOP) expenditures.** *Negative consequences of high OOP expenditures* are multi-faceted, including impeding access to malaria treatment and prevention services. One study in Kenya found that 'up to 40% of households delayed or avoided seeking formal healthcare due to financial constraints, opting instead for self-medication or traditional remedies.'[113] OOP expenditures can rise to a catastrophic level, where households need to choose between essential needs like food and housing versus healthcare. 'In Ethiopia and Uganda, for example, households were reported to spend between 5% and 25% of their annual income on malaria treatment and prevention.'[114] In many countries, these affordability issues measurably reduce public health outcomes. 'In regions like Tanzania and Ghana, high OOP costs were correlated with higher malaria prevalence and mortality rates.'[115]
- **Higher private sector costs for QAACTs.** Following the end of the AMFm and subsequently the Global Fund's Private Sector Co-Payment Mechanism, the import cost of QAACTs now exceeds average import costs for non-WHO prequalified ACTs.[116] The heterogeneity and lack of stewardship of the private sector noted above further reduces the ability to coordinate, provide visibility to manufacturers to plan for the overall needs of the sector, and thus to access prices based on sector-wide volume pricing or pooled procurement pricing available to public sector entities. While there may be some concern that wholesale and retail price markups can further increase costs to patients and caregivers, a study conducted just prior to the AMFm found that 'When setting prices wholesalers and retailers commonly considered supplier prices, prevailing market prices, product availability, product characteristics and the costs related to transporting goods, staff salaries and maintaining a property. Price discounts were regularly used to encourage sales and were sometimes used by wholesalers to reward long-term customers.'[117] Evidence from the AMFm pilots showed that private sector retail prices could have decreased further because of the factory-gate subsidies without suppliers losing money. This may indicate some tendencies for wholesalers and retailers to retain some of the subsidies, even while overall prices and price markups decreased for QAACTs, and to a lesser degree for other antimalarials.[118] In Francophone West Africa, however, regulated mark-ups (averaging 30% for wholesalers and 30% for retailers) can double the port price of a product by the time it reaches the patient.[119]
- **Challenges for establishing optimal pricing for RDTs.** To effectively promote malaria diagnosis and reduce presumptive treatment in the private sector, it is important, and challenging, to (a) provide RDTs at a price that consumers (patients and caregivers) are willing to pay and (b) that allow suppliers a sufficient margin to meet their business profit needs. Kenya, Tanzania and Uganda were able to establish unsubsidised prices that achieved both objectives during the Unitaid-funded *Creating a private sector market for quality-assured mRDTs project.*[120] During the WHO Technical consultation on malaria case management in the private sector in high-burden countries in 2019, stakeholders noted that 'Ideally, the costs of testing and treatment should be the same, regardless of the test results' while also identifying supply chain complexities e.g. licenses, approvals, and tariffs which increase costs to patients and caregivers.[121]

Quality

Ensuring product quality, adherence to national malaria case management guidelines, and reliable information on product quality for NMPs, patients, and caregivers is critical for quality care management. To achieve this, effective approaches should balance regulatory oversight with incentives for the provider. Barriers to the quality of malaria case management at scale are described below.

- **Presumptive treatment.** High levels of presumptive treatment pose risks for overuse, antimalarial resistance, and missed diagnosis of non-malaria illness. While countries have made substantial progress in improving the quality of public sector malaria case management services, the quality of malaria diagnosis and treatment varies widely among private providers and remains limited in many settings.[122,123] A recent randomised controlled trial (RCT) found that 'absent any interventions, 87% of suspected malaria patients purchase ACTs, of which as many as 66% are doing so unnecessarily because they do not have malaria' which indicates a high level of unnecessary ACT use.[124]

  Among children, while a significant proportion of fever cases are managed in the private sector, household surveys show that fewer than half (43%) of these receive a parasitological test confirming malaria, treatment is often incomplete or inappropriate using sub-standard medicines or injectable monotherapies, can accelerate the emergence and spread of resistance, further compounding existing biological threats.[125] This is despite multiple quality-assured diagnostics being available in endemic countries. There are many potential root causes of low testing rates, including:

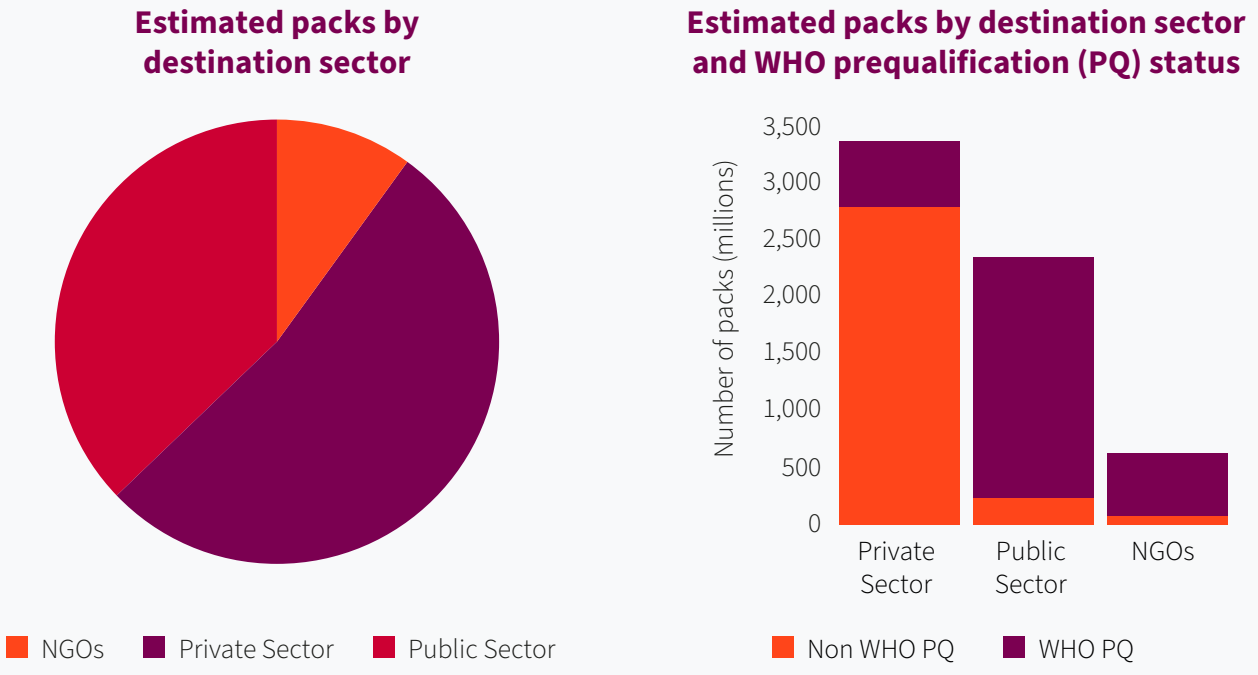
  - Limited patient funds or time, which may require patients and caregivers to choose between paying and/or waiting for a diagnosis prior to treatments.[126]
  - Microscopy is often not possible in retail settings, RDTs are not consistently available, or the person with suspected malaria is not present at the point of care.[127]
  - Where available, private providers often lack confidence in their ability to administer RDTs,[128] as well trust in RDT results.[129]
  - Private providers and medicine vendors are often understaffed and perceive a lack of bandwidth to add testing prior to treatment.[130]
  - Financially, private providers and medicine vendors are motivated to maintain patient, caregiver and consumer satisfaction to ensure they return for future services and medicines. They fear alienating busy patients, caregivers and consumers who expect relief in medicine form and who may not appreciate having to wait and after waiting not receiving any type of medicine and leaving empty handed.[131]
  - SBC for the general population and private sector providers has not been systematically reinforced. Therefore, patients often pressure private providers for a medicine or injection without diagnosis or even irrespective of RDT results.[132]

- **Potential for high levels of medicine waste and subsequently wasted resources.** The private antimalarial market serves both confirmed malaria cases and large numbers of febrile patients treated presumptively in the absence of diagnostic testing, meaning total antimalarial demand (including ACTs, non-artemisinin therapies and artemisinin monotherapies) substantially exceeds the estimated malaria burden.[133] One study estimated that in 2010 approximately 655 million antimalarial treatments were delivered through the private sector in Africa, compared with an estimated 174 million malaria cases, highlighting the scale of private-sector consumption relative to cases.[134]

Additionally, data from Maisha ACT shows that nearly half of the antimalarials in Africa are distributed through the private sector which is approximately five times higher volumes than previous estimates suggested. In some countries, the channel represents up to 95% of total sales. Yet only about 20% of these products are WHO-prequalified (Figure 4).[135]

As countries are increasingly required to do more with less, achieving the right balance between quality testing and appropriate treatment, across both public and private sectors, will be critical to overcoming the main challenges in access to effective malaria case management.

Figure 4: Estimated packs of antimalarials by destination sector, and by those with WHO prequalification status



Adapted from: Maisha ACT RBM Partnership to End Malaria. Maisha ACT: Maisha Meds' Antimalarial Consumption Tracker

- **Quality of RDTs:** Technically, RDT production remains a high-precision endeavour. It requires a complex integration of monoclonal antibodies and chemical stabilisers to ensure sensitivity and specificity, particularly in equatorial conditions where buffer evaporation can compromise kit integrity. Maintaining these standards is challenging due to strict requirements for thermal stability (ideally up to 40–45°C), controlled humidity ranges, and specialised equipment that is difficult to maintain regionally. Given these variables, independent lot testing remains critical; it is the primary quality control mechanism to evaluate lot-to-lot variation and ensure that only high-performance batches reach endemic countries.
- **Quality of antimalarials:** While many ACTs sold in the private sector are likely to be of good quality, limited oversight and transparency mean that a substantial share of products is of unknown quality, increasing the risk that patients receive substandard medicines. For instance, data collected through Maisha Meds shows that since the end of the AMFm, in the absence of the subsidy, private-sector markets have shifted away from QAACTs toward products whose quality is unknown (Figure 4).[136] Primarily due to the loss of the factory gate subsidy, this opens the door to widespread contamination of supply chains by falsified and substandard antimalarials. As the price of QAACTs rose, low-cost generics have flooded into the market replacing QAACTs. The Private Sector Co-Payment Mechanism which replaced the AMFm required countries to allocate their own Global Fund resources to WHO PQ-approved ACT procurement and thus countries prioritised their public sector needs.
- **ACT and RDT availability and quality vary** widely across provider types and geographic (urban and rural) contexts. ACTwatch Lite reports for Benin,[137] Cameroon,[138] and Nigeria,[139] show a significant gap in product availability, quality and diagnostic capacity. In Benin, for example, most private sector outlets stocking RDTs and antimalarials are from the formal private sector (pharmacies and accredited facilities). In contrast, in Cameroon, WHO-PQ ACTs are found in 38% of formal outlets compared to just 6% of informal ones. For RDTs, a critical gap in pharmacies exists across all three countries. In some states in Nigeria, a significant proportion of antimalarials are distributed by PPMVs, yet testing was only found to be common in PPMVs in Kano. This creates a market where the informal sector provides the most accessible last-mile reach but lacks the diagnostic tools and QA medicines necessary for effective, standardised case management. While pharmacies almost universally stock ACTs, RDT availability is low (ranging from only 1.2% in Benin to 27.6% in Kano, Nigeria).
- **Competency challenges.** As they have not been integrated into national systems, many private providers, including professional medical and pharmacy societies, receive little or no formal training in malaria case management and operate outside routine supervision structures.[140] This is reflected in many private providers who have poor knowledge of national standards and recommendations, and who may face challenge in accurately diagnosing patients following a negative malaria diagnosis.
- **Surveillance challenges:** Despite significant advances in malaria surveillance and case management, the malaria ecosystem continues to be characterised by fragmented intelligence and limited integration across public and private sectors. This lack of integrated intelligence undermines demand forecasting, supply planning, and early detection of diagnostic or drug resistance, weakening the overall effectiveness and accountability of malaria control efforts.

Regulatory environments may not be fully aligned with the vision of improving access to quality malaria case management in the private sector. National regulations often lag with changing needs, particularly in the private sector, where many formal and informal providers deliver care while operating with limited regulatory oversight.[141] All countries have introduced regulations to improve access to quality of care, but they are often inadequate to address the layers of challenges present in the private sector, or countries lack the capacity to enforce them.[142,143] In some countries, for example, staff in different private sector outlets (e.g. pharmacies and accredited drug shops) are not allowed to administer diagnosis using RDTs. Another challenge in many countries is that malaria treatment is effectively available in contexts as an over-the-counter option, whereas diagnostic testing is not.[144] In some cases, legal requirements for establishing and registering a pharmacy can often be prohibitive, for example granting registration only to licensed pharmacists in countries and contexts with significant shortages in pharmacists. Given the scarcity of registered pharmacies, this often concentrates availability of formal pharmacies to urban areas, and communities which can afford to pay premium prices.

In Francophone West Africa, the regulatory environment presents both enabling and constraining features. Stronger professional regulation of pharmacies and clearer formal channels, for example, may support stewardship and quality assurance. On the other hand, evidence from Francophone West and Central Africa suggests that concentrated wholesale structures, higher logistics costs, regulated mark-ups, and dependence on imported products can raise end-user prices and reduce flexibility for expanding access through lower-cost retail channels. In this sense, current market dynamics may support quality in the formal segment, while at the same time hindering affordability and scale through informal providers and outlets, especially for lower-income and rural populations.[145]

6. Opportunities for improving access to quality malaria case management at scale

While the barriers to accessing quality malaria care in the private sector are multifaceted, they are not insurmountable, particularly by shifting from a regulatory stance to one of active stewardship. This section draws on past interventions to provide key learnings and concrete examples, illustrating the potential impacts of these opportunities for addressing the challenges outlined in the previous section.

This section explores past activities and opportunities across five critical pillars – Demand and adoption, Innovation and availability, Supply and delivery, Affordability, and Quality. Concrete examples, and available evidence of successes and lessons are presented in this section as snapshots (in text boxes) that have been implemented in malaria endemic countries, highlighting the strengths and weaknesses of the different approaches.

Within the context of further anticipated funding declines, it will be critical for governments to quantify expected gaps for malaria case management and to leverage national malaria strategic planning cycles to include data collection efforts (e.g., ACT Watch lite or similar) to understand the opportunities and key actors in each country and begin designing options for further leveraging private sector engagement opportunities.

Evidence from past malaria market-shaping efforts suggests that affordability gains do not have to rely solely on donor subsidies. A more durable approach is to embed targeted, time-bound subsidies within domestic financing and market reforms, including social health insurance reimbursement for testing and treatment; negotiated prices which provide price neutrality for QA RDTs and ACTs for the private sector on par with public sector prices; and tax or tariff policies that do not disadvantage diagnostics relative to medicines. Furthermore, it is important to align regulation and incentives so that malaria testing is affordable and commercially viable in the private sector.

Lessons from reproductive health programmes, HIV and tuberculosis (TB) provide cross-sectoral examples of sustained and effective private-sector engagement that have had a role in improving the quality of care in these areas. Specific examples are also included in text boxes below. Although not exhaustive, the examples included aim to provide insights into cross-sectoral experiences that have potential learnings for future private sector engagement for malaria case management.

Demand and adoption

Government stewardship at all levels. Embedding private sector malaria case management in national health strategies and budgets, addresses issues of siloed or fragmented approaches. Enabling this requires fostering and strengthening government stewardship, moving away from a strictly regulatory focus toward a participatory approach that includes private providers in the development of service delivery models.

Box 2: Stewardship in Namibia

Stewardship has been demonstrated, for example, through frameworks like Leadership, Engagement, and Accountability for Improved Delivery of Services (LEAD) and Malaria Budget Advocacy (MBA). For example, the MOH in Namibia demonstrated the importance of strengthening private sector engagement from a decentralised district level by *(1)* integrating private sector data into national reporting systems; *(2)* establishing subnational malaria elimination teams to advocate for domestic resources that can be used to support private sector engagement; *(3)* using MBA to strengthen financial monitoring and advocacy skills to help MOH teams secure funding for critical cross-sectoral needs, such as transport and training, which are necessary for supervising private providers; *(4)* embedding leadership skills through change management certification; and *(5)* incorporating malaria activities into Regional Council plans to provide a formal pathway for accessing the resources needed for sustained private sector oversight.

- **Impact:** Decentralised malaria elimination teams strengthened government oversight of private providers and secured domestic resources for supervision, training, and data integration.
- **Transferable lesson:** Building district-level leadership and budget advocacy capacity can sustain private sector engagement by embedding it within government planning and financing structures.

Source: Chung, AM et al. (2022). Strengthening Management, Community Engagement, and Sustainability of the Subnational Response to Accelerate Malaria Elimination in Namibia. American Journal of Tropical Medicine and Hygiene, 106(6), 2022, pp. 1646–1652 doi:10.4269/ajtmh.21-1195

Aligning commercial and public health goals. To build sustainability for ongoing results, after donor funding ends, MOHs and NMPs may choose to identify specialised expertise (business models, incentives, supply chains, regulation). Developing a convincing business case is important for showcasing both the 'public health gains and the profit-making goals of all market players' which will be possible from improving private sector supply and demand for RDTs.[146] This can simultaneously achieve public health gains and profit-making goals. Partnering with market aggregators—such as major distributors and wholesalers—can streamline market entry, provide national programs with efficient focal points for engagement, and reinforce systems for reaching the last mile in a more efficient and sustainable manner (commercially and clinically).

Box 3: Strengthening management and financing, lessons from HIV programming

HIV programmes provide examples of strengthening management and financing to reinforce service delivery. Programmes have provided technical assistance to banks and private providers to improve lending to the health sector, helping clinics access capital to expand services and operate as sustainable social enterprises. This has enabled private providers to introduce or scale up HIV testing, treatment, and prevention services. At the same time, evidence has been generated and shared with governments to improve policies and regulations that support responsible private HIV service delivery. For example, through the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) Sustainable Financing Initiative (SFI), USAID worked with financial institutions and private health providers to mobilise private capital and expand access to HIV care in low- and middle-income countries. This approach recognised that strengthening private providers' financial sustainability can complement donor funding and help build more resilient HIV service delivery systems.

- **Impact:** Government engagement with private providers and financial institutions helped expand private HIV service delivery while strengthening regulatory oversight.
- **Transferable lesson:** Aligning public health goals with sustainable business models can attract private investment and expand service coverage.

Sources: Unitaid. Marqusee H, Schowen R, Amanzi P, Baker S, Egena P, Hijazi M, et al. Engaging the private sector to increase access to HIV services and increase sustainability of the HIV response. BMC Health Serv Res. 2025 May 28;24(Suppl 1):1672. doi:10.1186/s12913-025-12530-1.

Modernised health messaging. To address outdated beliefs, such as 'fever equals malaria,' updated health messaging which resonates with populations across urban, rural, wealth quintiles, age groups, and malaria risk profiles should be developed. Dissemination should seek to reach these populations broadly and equitably. To do so, NMPs can leverage private provider professional networks, community and faith leaders, rural radio, and partnerships with mobile phone companies and social media platforms like TikTok and Facebook. In Kenya, Madagascar, Tanzania and Uganda, for example, SBC campaigns have built demand. Consumer education has also increased demand for quality-assured RDTs. Logos and branding have been used to help consumers identify quality-assured RDTs and participating outlets in quality assurance programmes. Logo use has reportedly can increased demand for quality-assured products and for outlets carrying the logo in general.[147]

Box 4: Telemedicine, social media and SMS campaigns

Telemedicine, social media and SMS campaigns have been used to support the implementation of private sector access initiatives for reproductive health. For example, private providers and mobile network operators in South Africa (e.g., MomConnect, NurseConnect), Kenya (e.g., PROMPTS, AfyaMama ChatMate), and Nigeria (OMOMI app, The Abiye Safe Motherhood) use SMS, WhatsApp, and specialized apps for maternal health support, referrals, connection to transport and health facilities, and to facilitate payments and access.

- **Impact:** Digital communication tools expanded reach for health messaging and service delivery, improving awareness and care-seeking behaviour.
- **Transferable lesson:** Low-cost digital platforms can rapidly scale demand generation and provider–patient engagement where mobile penetration is high.

Sources: Agbeyangi AO, Lukose JM. Telemedicine Adoption and Prospects in Sub-Sahara Africa: A Systematic Review with a Focus on South Africa, Kenya, and Nigeria. Healthcare (Basel). 2025 Mar 29;13(7):762. doi: 10.3390/healthcare13070762. PMID: 40218059; PMCID: PMC11989057.; Mbunge E, Sibiya MN. Mobile health interventions for improving maternal and child health outcomes in South Africa: a systematic review. Glob Health J. 2024;8(3):103-112. doi:10.1016/j.glohj.2024.08.002.; Jacaranda Health. Building inclusive technology with and for mothers [Internet]. https://jacarandahealth.org/building-inclusive-technology-with-and-for-mothers/ (accessed 17 Feb 2026).; National Department of Health (South Africa). MomConnect [Internet]. https://www.health.gov.za/momconnect/ (accessed 17 Feb 2026).

Provider behaviour change. To improve quality malaria case management in alignment with their motivations for delivering value to patients through positive health outcomes, opportunities for skill development, recognition and standing in the community, PMR may need tools and training to reinforce alignment with national diagnosis and treatment guidelines, access to quality RDTs and antimalarials, and reporting alongside strengthened collaboration with national health systems. Further tools and training will be critical as new policies and guidelines for mitigating partial artemisinin resistance are put in place. This will include access to and understanding for the procurement, storage, and appropriate dispensing of multiple first line therapy (MFT) strategies for confirmed cases. Depending on national policy decisions, this may also include differentiated therapy, selecting first-line therapies for availability in the private sector which differ from those used in the public sector, and managing a rotation of drugs across the population.

Box 5: Changing consumer behaviour with SBC

Cross-sectoral results - SBC. The SHOPS Plus project in Ghana successfully moved the needle in the treatment of paediatric diarrhoea away from the use of antibiotics and towards the WHO-recommended treatment of zinc plus ORS. SHOPS Plus worked closely with the Pharmacy Council and the Ministry of Health to design and deliver the relevant training, BCC and regulatory changes to make the programme a success. Changing customer behaviour was achieved by BCC directed at the consumer through the media and/or by strengthening PMR staff's knowledge and confidence in giving advice to consumers. This was also reinforced by appropriate communications materials for display in PMRs and other medical facilities.

- **Impact:** Social and behaviour change (SBC) campaigns increased testing uptake and improved adherence to recommended treatment practices.
- **Transferable lesson:** Demand-side interventions can reinforce provider training by empowering patients to request diagnostic testing before treatment.

*Source: World Health Organization. Meeting Report of the WHO Technical Consultation on Malaria Case Management in the Private Sector in High-Burden Countries: 1–3 May 2019, WHO Headquarters, Geneva, Switzerland. WHO/CDS/GMP/MPAC/2019.12. Geneva: World Health Organization, 2019. https://www.who.int/publications/m/item/WHO-CDS-GMP-MPAC-*2019.12.

Prioritising provider, patient, and caregiver insights. To improve understanding of provider motivations and patient and caregiver beliefs and behaviours – it will be important to directly incorporate providers, patients and caregivers into designing private sector approaches, as well as demand creation and behaviour change tailored to context and markets. Provider, patient, and caregiver insights will be essential in designing the tailored and flexible approaches needed to strengthen private sector malaria case management. Key findings from the AMFm underscore the importance of communication campaigns to improve access to malaria case management in the private sector, with RBM noting 'Large-scale public communications programmes are essential to ensure that the population know that there are new and effective drugs (ACTs) now available, how they should be used, where they can be bought, and that they should be affordable'.[148]

In West Africa and other regions, a key first step in planning communication campaigns may require addressing limitations if polices are in place which do not allow communication regarding medicines to be disseminated to populations.[149]

Innovation and availability

Box 6: Maisha Meds collateral model

The Maisha Meds collateral model is a supply chain system designed to deliver high-quality health commodities to private pharmacies while minimizing the risk of stock mismanagement and fraud. The model operates through three primary mechanisms:

- Financial Security for Supplies: During onboarding, each facility pays a one-time collateral value equivalent to a single fulfilment, which serves as stock security.
- Automated Fulfilment: Weekly orders are fulfilled automatically, but their total value is strictly limited to the amount of available collateral the facility has provided.
- Risk Mitigation: In the case of stock mismanagement or leakage, Maisha Meds recovers the lost value from this security deposit.

This model is paired with a stock reconciliation process where Maisha Meds audits claim to confirm both patient and stock consumption before replenishing supplies. This ensures that pharmacies receive WHO-prequalified tests and medicines within 24–36 hours from central warehouses while maintaining a transparent and accountable distribution networks.

- **Impact:** Access to credit and inventory management tools enabled pharmacies to stock quality medicines consistently and improve financial sustainability.
- **Transferable lesson:** Linking financing with supply chain tools can strengthen private provider capacity to maintain reliable stocks of essential medicines.

Source: Maisha Meds (2025). Technology Advancing High Quality, Affordable Health Care in Africa's Private Sector. PowerPoint slide deck.

Reinforcing MFT access and uptake. Studies of MFT strategies (such as the Unitaif-funded STOP-AMDR project, led by Jhpiego) are in progress and aim to demonstrate the feasibility of diversifying ACT use with the inclusion of underused ACTs (e.g. artesunate-pyronaridine [ASPY] or dihydroartemisinin-piperaquine [DHA-PPQ]).[150] Incorporating the private sector in MFT implementation will be an important component for reinforcing broad access and uptake for the significant proportion of patients and caregivers who seek care from private providers and PMRs. An essential component for effectively engaging private sector providers and PMRs will be to reinforce alignment with national treatment guidelines and ensure uniformity of case management practices across public and private sectors. For example, MOHs through NDRAs may explore introducing regulations around first line therapies available in the private sector differing from those available in the public sector. Another approach might explore establishing an approach or policy with large private sector health franchises or pharmacy chain whereby all adult patients received DHA-piperaquine, children under 5 received pyronaridine-artesunate and pregnant women receive artemether-lumefantrine to complement a national public sector rollout. MFTs will also have implications for PMRs, as they may need to adapt to stocking multiple QAACTs to align with national policies, and to understanding their use and prioritisation while phasing out non-aligned antimalarials and any non-QAACTs.

The implementation and adoption of new malaria treatment protocols creates both risks and opportunities for private sector engagement. In private markets, adoption is shaped by price, availability, provider knowledge, patient demand, and regulatory clarity. Without clear strategies to engage private providers, new tools risk slow uptake, inappropriate use, or concentration in higher-income segments, limiting their impact.

The supply landscape of new antimalarials is also evolving, with countries rethinking current approaches to sourcing and QA for new products. Regional regulatory harmonisation mechanisms and regional pooled procurement mechanisms are expanding their capacity to respond to the evolving healthcare ecosystem. In parallel, there is a growing push for local supply security through regional and national manufacturing of malaria commodities, creating closer links between health, finance, and economic development sectors and positioning private actors as key players in supply chain resilience. Focused and aligned stewardship for these models will be important for contributing to an effective enabling environment.

New product development and introduction. Diagnostic and antimalarial product innovations are essential to addressing biological threats and sustaining progress. These include combination HRP2/LDH RDTs, which could enter the market in the next year,[151] as well as new medicines, including: ganaplacide-lumefantrine (GanLum); Triple Artemisinin-Based Combination Therapies (TACTs) combining three medicines instead of two; and Single-Dose Malaria Treatment which can simplify the multi-day multi-dose regimen -these are on a slightly longer timeline.

During the phases of product development and introduction, product and market development organisations for new RDTs and antimalarials have an important responsibility and opportunity to tailor these for private sector delivery, and to leverage the work of health technology innovators described above in reinforcing order and inventory management, access to verified diagnostics and treatments, and product protection and visibility. This may include developing clear instructions and job aids for both public and private providers and PMRs to understand and have the capabilities to appropriately procure, store, administer and track use of each new tool and their appropriate combinations in alignment with national policies. Furthermore, clear SBC messages are important to guide patients and caregivers in their care-seeking, reinforcing the importance of parasitological diagnosis, as well as appropriate case management with the new tools.

Regional and local manufacturing serves as a critical enabler by building national capacity, shortening supply chains and reducing the over-reliance on imports (which currently account for 70% of Africa's medicines). As domestic resource mobilisation increases in filling funding gaps, governments will likely explore further opportunities to procure both RDTs and antimalarials with national or regional suppliers (supported through interventions such as the Unitaid-funded MedSuRe Africa project). Within this context, partnerships like the African Medicines Agency (AMA) support harmonisation of regulatory standards across borders, allowing local producers to access larger regional markets and achieve the scale needed for financial viability. Strengthening the manufacturing ecosystem in-country will also contribute to a more secure, rapid, and quality-controlled response to malaria surges.

Box 7: Supply chain innovation in Senegal

Supply chain innovation has also been central in reproductive health programmes. For example, the Government of Senegal implemented the Informed Push Model (IPM) supply system, which involved private logisticians to collect facility-level stock turnover data once a month and provide contraceptive supplies accordingly. This model supported the delivery of contraceptives directly to facilities using consumption data to reduce stock-outs.

- **Impact:** Supply chain coordination improved product availability and reduced stock-outs through more efficient distribution systems.
- **Transferable lesson:** Partnerships with private logistics providers can improve last-mile delivery and strengthen national commodity supply systems.

Source: Daff BM, Seck C, Belkhayat H, Sutton P. Informed push distribution of contraceptives in Senegal reduces stockouts and improves quality of family planning services. Glob Health Sci Pract. 2014 May 13;2(2):245-52. doi: 10.9745/GHSP-D-13-00171. PMID: 25276582; PMCID: PMC4168620.

Supply and delivery

The fragmented nature of the private sector often leads to rural accessibility limitations and data invisibility. Digital and logistical innovations offer pathways toward integration.

Streamlining access through aggregator platforms. Aggregator platforms (e.g. Axmed, Proqurable) can consolidate fragmented orders from thousands of small pharmacies, harmonise the price landscape, offer revolving credit and access to financing, and function as a single, large-scale buyer connecting providers directly with prequalified and regional QA manufacturers at negotiated prices.

Box 8: Strengthening the business side of service delivery in HIV

Another way the private sector has been engaged in HIV care is by **strengthening the business and financing side of service delivery.** Programmes have provided technical assistance to banks and private providers to improve lending to the health sector, helping clinics access capital to expand services and operate as sustainable social enterprises. This has enabled private providers to introduce or scale up HIV testing, treatment, and prevention services. At the same time, evidence has been generated and shared with governments to improve policies and regulations that support responsible private HIV service delivery. For example, through the U.S. President's Emergency Plan for AIDS Relief Sustainable Financing Initiative (SFI), USAID worked with financial institutions and private health providers to mobilise private capital and expand access to HIV care in low- and middle-income countries. This approach recognised that strengthening private providers' financial sustainability can complement funding and help build more resilient HIV service delivery systems.

- **Impact:** Technical assistance to private clinics improved financial management and access to credit, enabling expansion of HIV services.
- **Transferable lesson:** Supporting the business viability of private providers can expand service delivery capacity while improving quality of care.

Source: Marqusee H, Schowen R, Amanzi P, Baker S, Egena P, Hijazi M, et al. Engaging the private sector to increase access to HIV services and increase sustainability of the HIV response. BMC Health Serv Res. 2025 May 28;24(Suppl 1):1672. doi:10.1186/s12913-025-12530-1.

Box 9: Public-private mix models in TB

TB programmes have yielded several insights to strengthen private-sector engagement.

- Public–private mix (PPM) models, implemented in India, Pakistan, and Nigeria, for example, formally integrate private providers into national notification, supervision, and drug supply systems. In India's National TB Elimination Programme (NTEP), TB is a notifiable disease and private laboratories and providers are required to register patients through the Ni-kshay digital reporting platform. To reduce inappropriate prescribing and improve treatment standardisation, access to free, quality-assured first-line medicines and publicly funded diagnostics such as GeneXpert is contingent on confirmed diagnosis and case notification.
- Combined financial (performance-based) and non-financial incentives that are tailored to the specific context and resource availability have proven effective in sustaining provider motivation over time. While financial incentives may encourage case notification and adherence to national guidelines, non-financial enablers are often equally important. These include government-issued certificates or formal recognition, as well as access to publicly funded diagnostics such as molecular testing and chest X-rays, and to quality-assured anti-TB medicines. Combining different types of incentives supports continued private provider participation in delivering standardised TB care within national programmes.
- Effectively engaging private providers requires understanding their operational realities and maintaining flexibility rather than rigid standardization. This includes the need to retain patients by offering prompt and effective diagnosis and treatment, maintaining their community standing, and working within tight time constraints. For malaria, where patients need rapid treatment in response to a fever, this will mean designing engagement models that allow private providers to quickly diagnose and treat while meeting quality standards. While diagnostic protocols and treatment guidelines are mandatory, implementation details like forms, training formats, and reporting mechanisms must adapt to diverse provider contexts. NGOs and professional associations can serve as intermediaries, bridging the gap between overstretched national programs and private providers.
- The TB experience warns against treating private engagement optional in countries where private providers dominate primary care, reaching elimination goals requires making private sector engagement a central strategy with dedicated resources. High-level political commitment and targeted financing to catalyse private sector development. Digital technologies are critical for supply chain management and data reporting. Integration of adequate financing into core budgets rather than donor-dependent pilot projects, and continuous monitoring of provider outcomes are equally relevant.
- **Impact:** Integrating private providers into national TB programmes significantly increased case detection and treatment coverage.
- **Transferable lesson:** Formal public–private coordination frameworks can improve reporting, standardise care, and expand surveillance coverage.

Sources: National TB Elimination Programme (NTEP). Notification of TB cases by private laboratories [Internet]. https://www.ntep.in/index.php/node?page=487 (accessed 17 Feb 2026); Stop TB Partnership. TB Assessment: India [Internet]. https://tbassessment.stoptb.org/India.html (accessed 16 Feb 2026); and The Global Fund to Fight AIDS, Tuberculosis and Malaria. Private Sector Engagement for Tuberculosis Care: Report [Internet]. Geneva: The Global Fund; [cited 2026 Feb 16]. Available from: https://resources.theglobalfund.org/media/tslodd32/cr_private-sector-engagement-tb-care_report_en.pdf ; Public–private mix for TB prevention and care: a roadmap. Geneva: WHO; 2018. License: CC BY-NC-SA 3.0 IGO.

Affordability

Box 10: Market systems development

Market Systems Development (MSD) is one approach which shifts the focus from donating products to addressing underlying market failures. By identifying where the end user to supplier link is broken, MSD interventions allow the commercial sector to remain intact and thrive while making quality care more accessible to the poor.

- **Impact:** Engaging at the market level can reduce prices and increase availability of quality-assured medicines in private markets.
- **Transferable lesson:** Identifying appropriate interventions can shift markets to quality-assured products, with strategies needing to focus on sustainability.

Source: Operational Guide for the Making Markets Work for the Poor (M4P) Approach https://www.enterprise-development.org/wp-content/uploads/m4pguide2015.pdf.

Subsidies and financial incentives. AMFm factory gate subsidies demonstrated the ability to quickly scale and promote wide uptake of QA antimalarials by private providers, increasing QAACT availability by 24-52%, among all outlets in Ghana, Kenya, Nigeria, Tanzania mainland, Uganda and Zanzibar with the majority of the increase in the private for-profit sector between baseline April and December 2010 and endline October 2011 and January 2012.[152]

A 2024 systematic review found that there is strong evidence to support that ACT subsidy programmes increase the market share and coverage of quality-assured ACTs, but the impact of an RDT subsidy alone is less clear. The review also found that incentives play a role in behaviour change, but that they need to be linked to provider motivations e.g., incentives should be structured in a way to prevent any financial loss due to no treatment following a malaria negative result. Evaluations of subsidy-based programmes also indicate that subsidies need to be implemented as part of an integrated approach to maximise the potential of the financial investment. For instance, in both the AMFm and ACTipal, subsidies supported behaviour change and ACT uptake when paired with interventions such as branding, provider training, and social marketing. On the other hand, some key challenges for broad and sustainable impact of subsidies include tying the subsidy to a single commodity rather than to quality case management, inconsistency of providers passing on the subsidy to consumers, and a dependence on donor funding raising doubt as to whether privately delivered models of care are sustainable in the absence of donor-supported subsidies.

Future subsidy models should be designed with clear transition milestones and an explicit off-ramp from external funding toward domestic reimbursement, pooled purchasing, or commercially sustainable prices. Further exploration of this type of smart subsidy approach will be important, in conjunction with evidence-based malaria testing, provider and PMR accreditation, and routine reporting.

Overall, subsidies are recognised as a valuable but limited instrument. They are effective to rapidly shift private markets toward quality-assured antimalarials, reduce prices, and reduce inappropriate treatment, but they are highly dependent on an integrated approach to case management, complementary investments in provider engagement such as training, supervision, data systems and regulation including accreditation.[153]

Box 11: Social marketing

Social marketing drives behaviour change by using evidence-based strategies to influence knowledge, attitudes, and practices at scale. It can complement other interventions, such as provider engagement or community programs, to increase reach and impact. Several social marketing campaigns have been deployed to strengthen malaria case management in the private sector.

Social marketing has been used successfully in Cambodia and Myanmar to rollout RDTs and quality-assured ACTs in the private sector. Coupled with provider and patient education activities and a ban on monotherapy importation as well as subsidised ACTs, the approach was successful in reducing demand for monotherapies that were exacerbating resistance. Additionally, in Uganda, social media has been widely utilised to support the adoption of quality malaria prevention, diagnosis and treatment. Social marketing has also been used to generate demand for and improve access to RDTs but remains limited to few settings, and the impact is less clear.

The benefit of social marketing is that it empowers individuals and communities to act and to make informed decisions when seeking care. Limitations include high programmatic costs, difficulties with determining the cost-effectiveness of these programmes, and wide variability of the audience's response. To be effective, campaigns ideally need to be tailored to local contexts, integrated with broader health initiatives, and supported by robust monitoring and evaluation to guide iterative improvements.

- **Impact:** Subsidised health products promoted through private retail channels improved access and uptake among underserved populations.
- **Transferable lesson:** Combining marketing techniques with subsidised pricing can expand access to essential health commodities at scale.

Sources: Bennett A, Avanceña ALV, Wegbreit J, Cotter C, Roberts K, Gosling R. Engaging the private sector in malaria surveillance: a review of strategies and recommendations for elimination settings. Malar J. 2017 Jun 14;16(1):252. doi: 10.1186/s12936-017-1901-1. PMID: 28615026; PMCID: PMC5471855.; Smith E. Social Media's Role in Raising Malaria Awareness in Uganda [Internet]. Malaria Children; 2025 [cited 2026 Jan 19]. Available from: https://malariachildren.org/social-medias-role-in-raising-malaria-awareness-in-uganda/

Health insurance. Integrating private providers into social health insurance programs may acts as a structural enabler that shifts the financial burden away from the individual. A qualitative study in Ghana, for example, showed that private providers and patients agreed that insurance programs reduced out-of-pocket costs to patients for covered services, noting however that not all services were covered.[154]

Harmonising public and private sector malaria commodity pricing through Global Fund-negotiated agreements for example, could ensure FLBs access the same low pricing as public procurement agencies. By enforcing price ceilings or standard markups, these agreements may ensure that the savings from large-scale manufacturing are passed down the chain to the patient rather than being absorbed by markups.[155] For example, governments could adopt donor practices of publishing the reference prices of key commodities, particularly when the local systems mature and governments publish their reference pricing to set reasonable pricing from national to community levels.

Quality

Quality in the private sector is often compromised by high levels of presumptive treatment and a lack of formal training for providers. Several opportunities for improving access to quality malaria case management at scale are presented below.

Competency-linked accreditation. Targeted competency building, including remote training and on-site mentorship, serves as an enabler by standardising clinical quality across diverse private outlets. In sectors characterised by high staff turnover, new recruits are often unfamiliar with national guidelines, leading to the continued use of inappropriate monotherapies or incorrect dosages. Competency-linked accreditation may reinforce adherence to Test, Treat, and Track guidelines, whether in a high-end clinic or a small drug shop. To reduce dependence on external donor funding, embedding accredited pharmacy and drug-shop networks in national systems and under national stewardship will be critical. Embedded approaches prioritise structured partnerships where governments set standards, accredit and supervise providers, and increasingly use reimbursement and digital reporting to align business incentives with public health goals. Promising approaches will link to national protocols, private clinic reimbursement through social health insurance, and digital procurement or inventory platforms that lower operating costs for pharmacies while improving access to quality-assured commodities.

Evidence shows that approaches such as Outreach Training and Supportive Supervision (OTSS) are effective and appreciated by providers through a combination of 'training, supervision, coaching, troubleshooting, action planning, and follow-up' that can improve the quality of malaria case management in combination with systems supports, supplies, and data.[156] A recent systematic review also identified that high-performance results can been achieved with minimal training. Beyond clinical instruction, supportive interventions like social mobilisation have successfully boosted RDT uptake, while targeted SMS reminders significantly improved patient adherence to test results.[157]

Box 12: Alignment, accreditation and integration

Alignment, accreditation, and integration are a set of approaches that align private providers with national malaria policies through accreditation, regulatory reform, and collaboration with health systems. These models typically combine training, clearly defined scopes of practice, supportive supervision, and conditional permission to diagnose and treat malaria, with the expectation that reporting and compliance increases as provider capacity improves. Private providers are progressively formalised through accreditation programmes, sometimes tiered or stepwise, and in some settings, linked to reimbursement arrangements with insurers or public payers. For governments, these approaches improve visibility over the quality of care delivered; for providers, they can enhance professional legitimacy and reputation, which has been shown to be a key motivator for delivering higher-quality care.

Programmes such as Tanzania's accredited drug dispensing outlets (ADDO) initiative, Ethiopia's stepwise authorisation of private outlets, tiered accreditation schemes, and contractual Memoranda of Understanding with faith-based and private facilities in Rwanda have all demonstrated how private sector malaria care can be progressively formalised and integrated into the health system. Evidence from these settings shows consistent improvements in guideline adherence, parasitological confirmation, and regulatory oversight, particularly where private providers were fully integrated into national supply chains and surveillance systems. Unlike subsidies, these models emphasise stewardship and accountability rather than short-term financial incentives, making them particularly relevant in low-resourced settings.

The main limitations of alignment and accreditation approaches relate to pace, capacity, and resourcing. Conservative regulatory environments, limited enforcement capacity, and weak incentives for accreditation can slow scale-up and reduce provider participation. In many LMICs, regulatory functions are under-resourced, resulting in infrequent inspections, limited use of sanctions, and weak enforcement by local authorities, even where deviations from standards are well recognised. Nonetheless, alignment and accreditation approaches have proven successful for reducing fragmentation, improving data visibility, and embedding private providers as legitimate actors within the malaria ecosystem.

- **Impact:** Accreditation schemes improved provider compliance with national treatment guidelines and strengthened supervision mechanisms.
- **Transferable lesson:** Tiered accreditation models can gradually formalise informal providers while improving quality of care.

Sources: Bennett A, Avanceña ALV, Wegbreit J, Cotter C, Roberts K, Gosling R. Engaging the private sector in malaria surveillance: a review of strategies and recommendations for elimination settings. Malar J. 2017; 16:252. doi:10.1186/s12936-017-1901-1.; Silverman R., Rosen D., Regan L., Vernon J., Yadav P., Malaria Case Management in the Private Sector in Africa: A Call for Action to Identify Sustainable Solutions. Centre for Global Development, CDG Note, (2021); Brown M, Bouanchaud P, Tesfazghi K, Phanalasy S, Thet MM, Nguyen H, Wheeler J. Motivation to test, treat, and report malaria cases: a quantitative assessment among private sector providers in the Greater Mekong Subregion. Malar J. 2022; 21:82. doi:10.1186/s12936-022-04090-7.; Argaw MD, Mavundla TR, Gidebo KD, Desta BF, Daåmte HD, Mebratu W, Edossa W, Dillu D, Mitiku AD, Desale AY. Adherence of healthcare providers to malaria case management guidelines of the formal private sector in north-western Ethiopia: an implication for malaria control and elimination. Malar J. 2022 Nov 21;21(1):347. doi: 10.1186/s12936-022-04379-0. PMID: 36414935; PMCID: PMC9682744.

Box 13: Subsidies and financial incentives-based approaches

Subsidies and financial incentives-based approaches have been among the most extensively tested mechanisms for engaging the private sector in malaria case management, particularly to address affordability constraints and market failures. These approaches have been implemented through global, national, and subnational programmes and can be applied at the manufacturer or importer level, or to the service provider/seller. They generally require that the subsidised price is passed on to the purchaser. Subsidies can come in forms such as subsidies for ACTs alone (e.g. the large-scale, multi-country AMFm and ACTipal in Madagascar); subsidies for RDTs alone (including pilots within the ADDO programme in Tanzania and the Unitaid-funded project on creating a private sector market for rapid malaria tests in Kenya, Madagascar, Nigeria, Tanzania and Uganda); subsidies for both ACTs and RDTs (such as the AMDFm in Nigeria); and conditional subsidies, where ACT subsidies are linked to demonstrated RDT use (e.g., the TESTsmART pilots in Kenya and Nigeria).

- **Impact:** Financial incentives increased uptake of diagnostics and appropriate treatment by reducing cost barriers for patients and providers.
- **Transferable lesson:** Carefully designed subsidy mechanisms can shift provider behaviour toward guideline-compliant practices.

Box 14: Integrating service delivery with supply chain stewardship

Reproductive health programmes provide examples of sustained private-sector engagement that integrate service delivery with supply chain stewardship. Social franchise networks, such as BlueStar Network (Marie Stopes Ghana) and Sun Quality Health (PSI), have harmonised fragmented private providers to deliver high quality sexual reproductive health services. These networks have brought private clinics into branded systems with standardised protocols, quality assurance, aligned commodity supply, and reporting requirements while improving service consistency and data visibility across multiple African and Asian settings.

Adolescents 360 (A360) provides another relevant example for private sector engagement. A360 worked with private providers in Ethiopia, Nigeria, and Tanzania to redesign adolescent reproductive health services based on young people's motivations, social norms, and care-seeking preferences. Rather than layering vertical requirements onto providers, the programme adapted counselling approaches, service environments, branding, and pricing strategies so that youth-friendly services fit within existing public services and private business models. A key element of A360 was to align provider incentives and client expectations, particularly in retail and pharmacy settings where convenience and trust shape decisions. In doing so, the programme embedded public health goals within commercially viable delivery systems.

- **Impact:** Linking diagnostic testing to treatment incentives significantly increased RDT use and reduced inappropriate ACT consumption.
- **Transferable lesson:** Aligning provider incentives with confirmed diagnoses can improve adherence to "test-before-treat" protocols, though scaling requires simplified verification systems.

Sources: Marie Stopes Ghana. BlueStar Franchise Network [Internet]. Accra: Marie Stopes Ghana; [cited 2026 Feb 19]. Available from: https://mariestopes.org.gh/about/bluestar-franchise-network/; Population Services International. Managing primary health care at scale: Myanmar's Sun Quality Network [Internet]. ReliefWeb; 2019. Available from: https://reliefweb.int/report/myanmar/managing-primary-health-care-scale-myanmar-s-sun-quality-network; A360 Learning Hub. A360 Knowledge Management Technical Publication [Internet]. 2019. Available from: https://a360learninghub.org/wp-content/uploads/2019/08/KM-Tech-Pub-Book-Pages.pdf

Diagnosis-contingent incentives. To reduce the 66% of unnecessary ACT purchases, interventions must link treatment to testing. Several interventions have tested different approaches to increase consistency of diagnosis as part of a comprehensive malaria case management through private sector providers and outlets. This includes the Unitaid-funded *Creating a private sector market for quality-assured mRDTs* project, which subsidised the price of RDTs and including provider training which yielded proof of concept and possibility of incubating private sector markets for RDTs, some sustainable markets at sub-national scale, and successful leadership of Tanzania and Kenya which demonstrated longer term sustainability.[158] Building on RDT subsidy approaches, TESTsmART linked ACT subsidies to the RDT result, and demonstrated the operational feasibility of providing a subsidy to shop owners (one week to ten days after) rather than caregivers, which showed the potential for RDTs to reduce ACT overconsumption but the difficulty to scale incentive structures.[159] Building from these initiatives, CHAI piloted and will scale an approach to provide free products contingent on an RDT used and confirmed using a digital RDT reader, in the private sector, which increased malaria cases treated with an ACT by 62%.[160] As part of an RCT funded by the Gates Foundation, a two-part contract was tested. The contracts incentivised RDT use and restricted additional rewards for ACT treatment to cases with a confirmed positive test. Incentives for patients and providers were tested and compared. Key findings showed a significant improvement in testing and targeted treatment adherence, with the diagnosis-contingent contracts increasing RDT uptake by 25 percentage points (a more than 300% increase over the control group), a 7-percentage point increase in ACT purchases by malaria-positive patients and a 27-percentage point decline in purchases by malaria-negative patients. Both patient subsidies and provider incentives were found to be effective, with patient subsidies inducing demand by lowering the price of RDTs by 43% and provider Incentives, which did not lower prices for patients but led pharmacists to provide more comprehensive counselling and detailed explanations of test results.[161]

Stewardship to address fragmentation and high staff turnover. Formalising partnerships through Memorandums of Understanding (MOUs), particularly with faith-based organisations and private hospitals, integrates private providers into the national system. These agreements oblige facilities to follow national treatment guidelines and submit to regular supervision in exchange for essential commodities, such as free medicines or training support. Effective stewardship involves including private sector representatives in decision-making bodies to ensure that policy, planning, and implementation reflect the full spectrum of care delivery actors in the health system and align incentives toward shared public health goals.[162]

Training and supportive supervision underpin most private-sector engagement strategies in malaria case management. Across accreditation schemes, provider networks, social franchises, public–private partnerships, and subsidy-linked models, structured training on Test, Treat and Track protocols, appropriate dispensing, referral, and reporting is reinforced through ongoing supervision. Providers that receive regular mentorship demonstrate improved diagnostic use, stronger adherence to national guidelines, and better reporting compliance. However, these approaches are resource intensive. Effective supervision requires a skilled workforce, clear oversight structures, transport and logistics, monitoring tools, and often digital reporting systems. In fragmented markets with many small outlets, reaching providers at scale can be costly and operationally complex, particularly in rural and peri-urban areas. Sustained financing and institutional capacity are required to ensure gains are not lost due to staff turnover, weak follow-up, and shifting incentives. As funding pressures grow, maintaining high-quality training while adopting more efficient approaches such as digital refresher tools and risk-based supervision could support sustaining private-sector quality in malaria case management.

Strengthen private sector data reporting. Digital tools and artificial intelligence (AI) are being used to improve real-time data visibility and information sharing between public and private actors, including systems that track commodities, capture service delivery data, verify product authenticity, report inventory and sales, and link private sector activities to national surveillance platforms. As NMPs explore potential digital and AI solutions, it will be important to balance considerations of both equity and access in serving hard-to-reach areas and/or complex operating environments. Tools that automate reimbursement claims and track RDT usage can capture millions of digital records. AI-driven traceability (e.g., Sproxil in Nigeria) uses machine learning to verify RDT results and track product authenticity from port to patient, making it harder for fake medicines to compete with authenticated QA products. Integrating this real-time data into national reporting systems (like DHIS2) is nearly complete in Kenya and Uganda. Point-of-sale data revealed that more antimalarials are sold in the private sector than previously thought, providing a roadmap for better resistance models and policy design.[163]

By making performance, compliance, and service delivery more visible, these data-driven approaches support stronger oversight and accountability. When integrated with national health information systems such as DHIS2, they enable governments to extend stewardship and regulatory oversight into private delivery channels that have historically operated outside routine surveillance frameworks.

Micropayments or free product resupply have been used to incentivise private sector data reporting. In these application-based systems, providers may be required to upload photos of completed RDTs to receive their next shipment of ACTs or a small financial credit. It is important to note that digital tools only work in the private sector if they function as business management tools (helping with stock, profit, sales) rather than just reporting tools for the government (like DHIS2), which are viewed as extra work with no incentive.[164]

Box 15: Combining accreditation and incentives

Combining accreditation and incentives. Franchising is one approach that organise private providers into structured networks to improve malaria case management through standardisation, supervision, and accountability. Rather than engaging individual outlets in isolation, these models focus on network-level governance, where participation is conditional on meeting agreed service standards. They typically combine network membership with defined scopes of practice, training on malaria test-and-treat protocols, access to quality-assured commodities, supportive supervision, and requirements for reporting and compliance – which often include components of accreditation. In some cases, these arrangements are complemented by reimbursement mechanisms, performance-based payments, and/or commercial or other incentives.

Franchising models for malaria have generally focused on private clinics or pharmacies operating under a common brand and aligned quality standards, and in some settings have extended to community-based delivery through social entrepreneurship models. Examples include social franchise clinic networks supported by PSI in Kenya, Uganda, and Myanmar, which have demonstrated improvements in diagnostic use and adherence to treatment guidelines through branding, quality assurance systems, and routine monitoring across affiliated facilities. Community-based delivery models such as the Living Goods model in Uganda represent a micro-franchise approach, in which digitally enabled community health workers were organised to deliver iCCM, including the sale of subsidised malaria RDTs and ACTs. This model combined training and accreditation for community health workers with structured supervision and performance management to support appropriate testing, treatment, and commodity use.

- **Impact:** Accreditation combined with financial incentives improved provider performance and strengthened adherence to national guidelines.
- **Transferable lesson:** Quality assurance mechanisms are more effective when paired with incentives that reward compliant providers.

Sources: Montagu D. Franchising of health services in low-income countries. Health Policy Plan. 2002;17(2):121–130.; Population Services International (PSI). Social franchising: Lessons learned from private sector engagement for health service delivery. Washington (DC): PSI; 2017.; Bayer Foundation. Digitally empowering community health workers to deliver essential healthcare. Bayer Foundation. 2024. Available from: https://www.bayer-foundation.com/news-stories/digitally-empowering. Accessed 27 Jan 2026.; Oko AB, Jennifer A, Chinyere AJ, Nelson NJ, Omokhudu I, Edward OC, Dennis A. Assessment of integrated community case management of childhood illness (ICCM) practices by trained patent and proprietary medicine vendors (PPMVs) in Ebonyi and Kaduna states, Nigeria. BMC Health Serv Res. 2023 Jan 20;23(1):57. doi: 10.1186/s12913-023-09067-6. PMID: 36658517; PMCID: PMC9854073.

Specialised technology, like near-infrared handheld scanners, can assess the level of active ingredients and excipients directly at supply chain checkpoints, without expensive laboratory setups. Substandard and falsified antimalarials can account for up to 30% of medicines in developing countries. Within an overall approach to respond to results of substandard or falsified products at point-of sale or other market testing locations, these handheld technologies can enable rapid, non-destructive testing at supply chain checkpoints, including ports, regional warehouses, and retail pharmacies, without the need for sample destruction or expensive laboratories.

These include:

- *Near-Infrared (NIR) molecular scanners* can detect both falsified and substandard drugs.
- *Mobile product authentication (MPA)* provides unique scratch-off codes on medicine packaging, which can be sent to a toll-free number and receives and instant "genuine" and "fake". In Nigeria, Sproxil supported the Affordable Diagnostics and Medicine for Malaria Funding Model (ADMFm) in collaboration with the National Agency for Food and Drug Administration and Control (NAFDAC).[165]

Box 16: A controversial public-private partnership in Lesotho

Lesotho's main hospital provides examples of **public-private partnership** (PPP) successes and financial challenges. Replacing the aging Queen Elizabeth II (QE II) hospital with the modern Queen Mamohato Memorial Hospital in 2008, a PPP with a leading South African private healthcare providers in Lesotho. Critical improvements included reducing hospital mortality by 41%, expanded access with 126% increase in outpatient visits, implemented computerised records and 24/7 laboratory and pharmacy services, which significantly reduced triage times and medicine stock-outs, and achieved Council for Health Service Accreditation of Southern Africa (COHSASA) accreditation for the first time. The successes were attributed to a combination of performance-based contracts with clear KPIs and financial penalties for service failures and a focus on preventive maintenance and consistent supply chains to provide staff with consistent access the tools to perform their roles effectively. The funding required to build and maintain this hospital PPP, however, consumed approximately 51% of Lesotho's total health budget, which potentially diverted funds from rural primary care and yet did not cover key chemotherapy and radiotherapy services. Over time, disagreements between public and private partners led to litigation and strained cooperation.

- **Impact:** Large-scale PPPs expanded service capacity but raised concerns about long-term costs and sustainability.
- **Transferable lesson:** Public–private partnerships require strong governance and financial safeguards to avoid long-term fiscal risks.

Source: Taryn Vian, Nathalie McIntosh, Aria Grabowski, Elizabeth Limakatso Nkabane-Nkholongo & Brian W. Jack (2015) Hospital Public–Private Partnerships in Low Resource Settings: Perceptions of How the Lesotho PPP Transformed Management Systems and Performance, Health Systems & Reform, 1:2, 155-166, DOI: 10.1080/23288604.2015.1029060.

Innovative stock tracking and supply-chain visibility tools, including digital inventory management systems used by private provider networks and social enterprises such as Maisha Meds, are working to strengthen commodity availability and reduced stock-outs while generating actionable data for supervisors and policymakers.[166] Consumer-facing verification technologies, such as Sproxil's scratch-off codes, have been deployed to support product authentication and traceability, reinforcing regulatory oversight, and patient trust.[167] Last-mile distribution models that incorporate digital tracking have further improved accountability in private supply chains by linking product movement to licensed outlets and reporting requirements. Together, these examples demonstrate how digital innovation can support parasitological confirmation, guideline adherence, and regulatory oversight by embedding private providers within national data and surveillance ecosystems.

Box 17: Building confidence in private-sector data

Greater Mekong Subregion Elimination of Malaria through Surveillance (GEMS) built government confidence in private sector reporting by cross-checking reports against used RDTs, and later, comparing electronic reports against paper records. These checks typically showed data were accurate and complete. The program also institutionalised **routine data quality assessments** using a standardised tool adapted from the MEASURE Evaluation data quality assessment to assess completeness, accuracy, and timeliness of data. Reported accuracy from these assessments found 90–99% data quality across countries.

Once confidence in the data had been established, GEMS linked private provider data to national systems, firstly with PSI serving as the interface to enter data into the national HMIS structures. By the end of the project, GEMS Phase II (GEMS+) had transitioned a large share of the network into national/subnational management structures and achieved varying levels of private-case integration into HMIS across countries.

- **Impact:** Improved reporting systems increased visibility of private sector cases and strengthened national surveillance systems.
- **Transferable lesson:** Integrating private provider data into national health information systems is essential for accurate disease monitoring.

Source: Population Services International, GEMS+: The Learning Legacy of the Greater Mekong Subregion Elimination of Malaria though Surveillance Project 2016 – 2022, 2023. https://www.psi.org/wp-content/uploads/2023/09/GEMS-Legacy-Book-2023.pdf.

Enhanced tracking, monitoring, and surveillance strengthen transparency, support targeted supervision, and enable evidence-based decision-making without relying on subsidies or financial incentives. They can also complement other models such as accreditation, franchising, or provider networks to boost impact. Challenges include digital literacy, connectivity, data quality, and the costs of building and maintaining systems. Fragmented platforms and poor integration with national systems can further limit effectiveness. For sustainable impact, these initiatives should be interoperable, aligned with national governance, and supported by investments in provider capacity, data use, and regulatory enforcement.

Box 18: Lessons learned from electronic tools to improving private-sector testing and case reporting

From 2016–2022, GEMS iterated multiple electronic reporting tools for private providers, consistent with NMP reporting requirements. This was done alongside some paper-based reporting required by the government, and for cross-checking. Between 2016 and 2019, private providers enrolled in the program reported a total of 3,521,586 suspected cases tested and 96,400 confirmed malaria cases into national surveillance systems. the relatively small number of private providers enrolled compared to public outlets represented 16% of total confirmed malaria cases reported to the World Malaria Report in that period by Cambodia, Lao, Myanmar and Vietnam. A key learning was that technology can improve reporting, **but only if it is user-centred, fit-for-purpose, and adapted** to diverse provider profiles and connectivity constraints. The iteration of reporting tools included:

1. **A Dedicated mobile app (project-built, provider-facing)**, which was visually appealing and user-friendly, and guided providers through testing and treatment with prompts/instructions in local languages to support both correct case management and reporting.
    - **Advantages:** Can embed job aids and stepwise prompts; improves standardisation; reduces missing fields; can speed reporting when connected. Data entered directly into PSI's DHIS2 for verification before being entered into the government's HMIS.
    - **Disadvantages:** The app required providers had a compatible device. In Cambodia, project-owned phones were issued (costly; issues with loss and updates). In Lao PDR, installing on provider-owned Android phones excluded providers without smartphones and those using iOS, limiting uptake, and requiring operational fixes like remote updating.
2. **Generic DHIS2 app** served a similar role and was compatible with national systems (DHIS2 tracker) to enable smoother integration and faster availability of data for dashboards and action.
    - **Advantages:** Easier integration with DHIS2 and national HMIS; easier installation on provider phones; supports automated dashboards and reporting when integrated into DHIS2.
    - **Disadvantages:** Less visually attractive; less intuitive for providers less comfortable with technology (e.g. older providers) risking uneven adoption without extra support.
3. **Using apps providers already use** was a key innovation, shifting reporting into familiar social messenger platforms (e.g., Facebook Messenger in Myanmar/Laos; Zalo in Vietnam) via chatbots that guided providers through data submission in their own language and familiar interface.
    - **Advantages:** Lower training burden because the interface is already widely used; potentially faster reporting and fewer drop-offs; can be more inclusive for providers who struggle with new dedicated apps. If integrated to DHIS2, data can upload automatically, supporting rapid availability.
    - **Disadvantages:** Requires careful design, maintenance of chatbot scripts/flows, and reliable backend integration; may depend on platform policies/connectivity; still needs QA processes to maintain trust in data.

Source: Population Services International, GEMS+: The Learning Legacy of the Greater Mekong Subregion Elimination of Malaria though Surveillance Project 2016 – 2022, 2023. https://www.psi.org/wp-content/uploads/2023/09/GEMS-Legacy-Book-2023.pdf and Potter R, Tesfazghi K, Poyer S, Eliades MJ. Private Sector Contributions to National Malaria Surveillance Systems in Elimination Settings: Lessons Learned from Cambodia, Lao PDR, Myanmar, and Vietnam. The American Journal of Tropical Medicine and Hygiene. 2023;108(2_Suppl):14-23. doi:10.4269/ajtmh.22-0147, https://www.ajtmh.org/view/journals/tpmd/108/2_Suppl/article-p14.xml.

7. Conclusion

Malaria case management currently functions in a complex and unprecedented environment. The convergence of biological threats that undermine efficacy of the most critical tools and a significant decline in global financing for both commodities and service delivery have the potential to reshape how malaria services are accessed - across both public and private sectors. In parallel, expansion of digital systems and data availability - including from previously undocumented private sector interactions - now offer opportunities to better understand patient pathways, and can potentially help guide more responsive, evidence-based responses. These shifts place the malaria response at a clear inflection point.

Private sector case management remains central to the malaria response. For various reasons, a significant proportion of patients continue to seek care through private providers, and barriers to accessing quality care persist in this sector. The plateau in the malaria response over the last decade underscores the urgency of strengthening all points of care, including those outside the public system. The private sector should not be considered peripheral in the malaria response, but as an important contact to reach populations that may otherwise remain underserved. Indeed, progress toward the 2030 Global Technical Strategy targets, and ambitions for reductions in malaria morbidity and mortality beyond that will be difficult to achieve without effectively engaging this sector.

While public systems will continue to serve as the backbone of malaria control and elimination efforts, failing to engage with the private sector means overlooking a critical part of how and where many people still seek care, leaving important gaps in coverage, quality and continuity of care. Efforts to strengthen private sector malaria case management should not be seen as displacing or undermining public sector service provision, but as a means of reinforcing the overall system, with the ability to close coverage gaps and ensure continuity of care across the diversity of health care entry points.

A people-centered, complementary approach means recognizing the strengths and limitations of both public and private providers as part of an integrated system that meets people where they are to expand access to timely, appropriate malaria diagnosis and treatment. This must be undertaken with a consistent focus on access and ensuring that the most vulnerable can benefit from quality, affordable services where they seek care.

Addressing the access challenges that are documented in the private sector requires a whole-of-system, partnership approach. Private care providers cannot be treated as a siloed or parallel system,but must be embedded as an essential component of national health systems. For this to be effective, private sector providers need to be included in policy development, planning, financing, and accountability mechanisms. Strengthened coordination, aligned incentives, and integrated data systems are critical to this approach. Ministries of Health and national malaria program stewardship will be critical, particularly to ensure that interventions are contextually appropriate, sustainable, and responsive to local needs.

Past malaria-specific interventions in private sector case management offer valuable insights into what can be effective. Lessons from other disease areas, such as HIV and tuberculosis can also provide important examples of how private sector engagement can be successfully integrated within broader health system frameworks. These experiences consistently highlight the importance of aligning interventions with national systems, engaging private actors early, and addressing the challenge of aligning public health and commercial incentives.

Looking ahead, there is a need to continue monitoring the private sector landscape and to iteratively test and refine interventions that address barriers to quality malaria case management. Most importantly, emphasis should be on scalable and sustainable interventions that will be operational in an increasingly constrained resource environment. It is essential to recognize the heterogeneity of the private sector, both within and between countries. A one-size-fits-all approach will not be sufficient to address the barriers outlined in this Landscape. Tailored strategies will need to reflect local market structures, regulatory environments, and patient behaviours, and will need to be supported by robust data and adaptive program design.

Efforts to strengthen private sector engagement should reinforce, rather than fragment, the collective malaria response. Ongoing efforts should rally behind key global agendas such as the Big Push initiative and advance strategies to protect the efficacy of existing tools - including drug diversification and the implementation of multiple first-line therapies. These priorities will require coordinated action across sectors and stakeholders, again underscoring the importance of partnership.

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Unitaid Secretariat

Unitaid – Global Health Campus
Chemin du Pommier 40, 5th floor
1218 Grand-Saconnex
Geneva, Switzerland

unitaid.org