

Building an evidence base to inform the optimisation of insecticide-treated net distribution in three African settings

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Background

Insecticide-treated nets (ITNs) remain **one of the most effective tools in malaria control**, although how distribution is planned and delivered varies across settings.

In an increasingly resource-constrained context, **learning from country experiences is vital to identify efficiencies and gaps** to inform the optimisation of ITN delivery strategies.

Aim: To explore key decision-making and implementation factors for ITN distribution, including overarching commonalities, differences, barriers and enablers across three African settings.

Methods

Duration: March 2024 – September 2025

Methodology: Qualitative

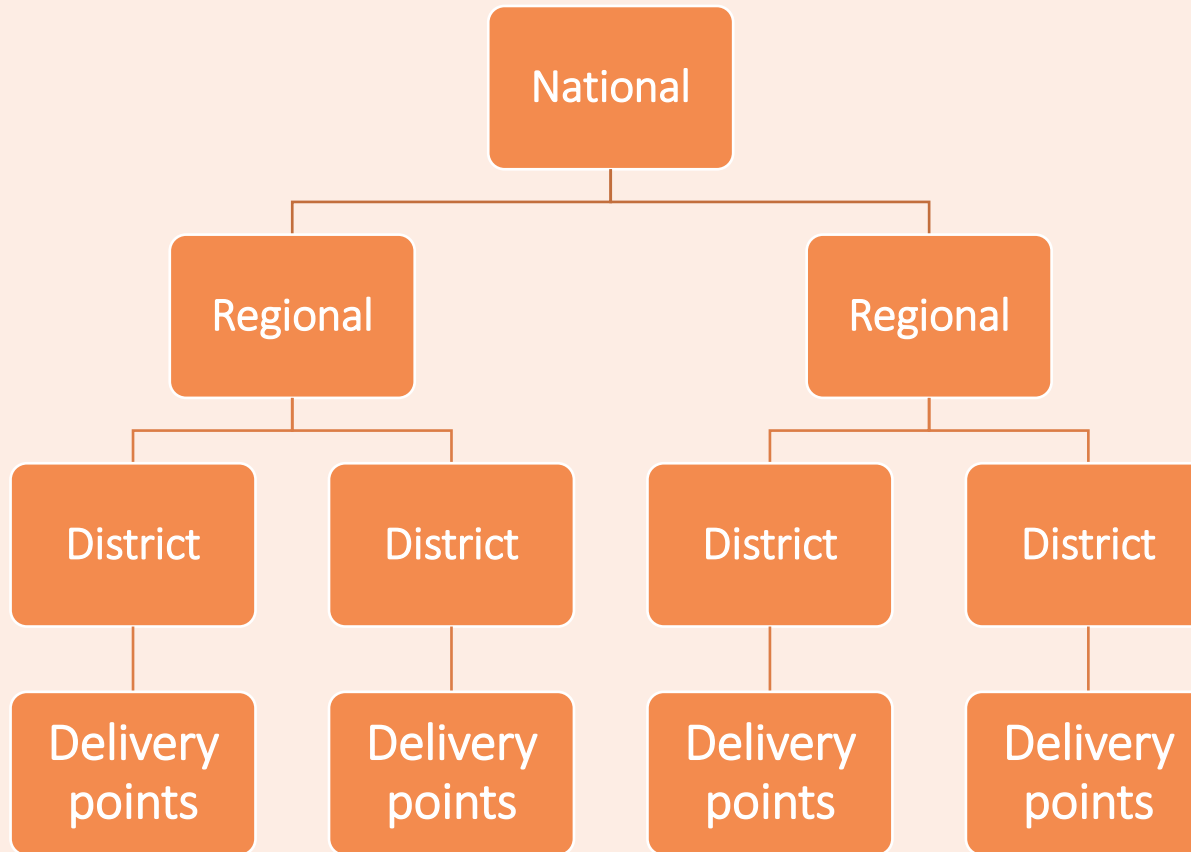
Setting: Cameroon, Côte d'Ivoire, Tanzania

Sampling: Purposive at national, regional, district and delivery-point levels

Methods: Interviews, focus group discussions and standard thematic analysis (NVivo 15)



Data collection



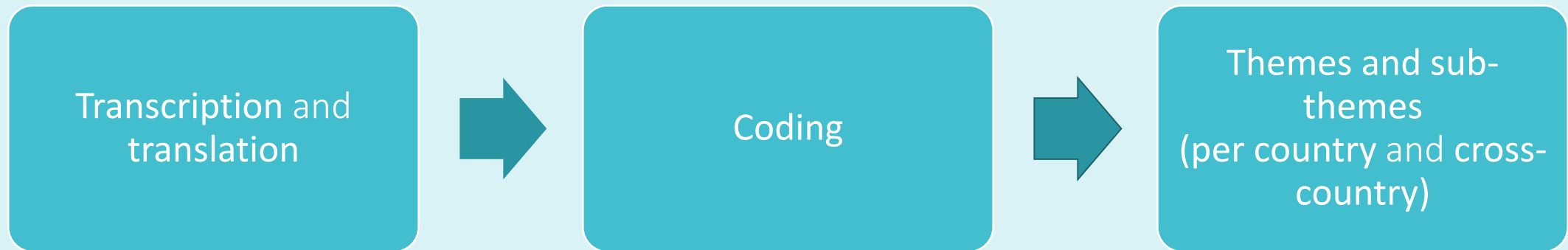
Guiding framework

Modified health systems framework to explore ITN distribution



Data analysis

Thematic analysis using NVivo 15 was used to examine the data collected, both within and across countries.



Participant overview

	Level	Cameroon	Côte d'Ivoire	Tanzania	Total
KIIs	National	4 (4)	5 (5)	4 (4)	22 (23)
	Regional	2 (3)	5 (5)	2 (2)	
FGDs	District	3 (9)	4 (26)	4 (22)	24 (129)
	Delivery point	5 (22)	4 (27)	4 (23)	
	Total	14 (38)	18 (63)	14 (51)	46 (152)

Table 1: Number of key informant interviews (KIIs)/focus group discussions (FGDs) (number of participants) by country and level

Results: Thematic areas overview

Using stratification to inform distribution

Adaptations to distribution channels

Public and private supply chain management

Financial management during implementation

Using stratification to inform distribution

Stratification plays a key role in guiding ITN type and location, but countries differ in data access, quality, granularity and how stratification is leveraged to inform other strategic decisions.

ITN selection:

“[Stratification] helps us know where we can distribute which type of ITN. **Based on different resistance types, we look for which [ITN] can be used.**”

National level staff,
Côte d’Ivoire

Data sources:

“**Stratification isn’t always as strong as we want.** We don't have the entomological data in all our districts, so we use epidemiological data to make decisions.”

National level staff,
Cameroon

Mechanism selection:

“**Resources are scarce. We need to make use of them.** In high-risk areas, we use many ITNs [mass distribution], but in low-risk areas, we use few [continuous distribution].”

National level staff,
Tanzania

Adaptations to distribution mechanisms

Each country has adapted its distribution mechanisms, with unique strengths and challenges. How adaptations are designed, communicated and implemented remains an important topic.

**Adaptations to existing channels
(mass distribution):**

“For the last campaign, we were associated with the tuberculosis control programme [...] we collaborated by coupling our activities in the field.”

– National level staff,
Côte d’Ivoire

**Adaptations to existing channels
(routine distribution):**

“[Health facility staff] often carry out advanced strategies in the community and take advantage of this to distribute [ITNs] in the community.”

– District level staff,
Cameroon

Introduction of new channels:

“We introduced a new [channel] but it's not really operating [...] delivering ITNs to special groups like the elderly, people living with HIV.”

– National level staff,
Tanzania

Public & private supply chain management

Private actors continue to play a role in ITN management, but experiences integrating ITN logistics and stock management into national health systems offer key opportunities for transparency and efficiency.

Private management:

Why fall back on the World Food Programme when we've seen all the failures that they've had, so we'd really like this flexibility to be provided by the country's team."

– National level staff,
Cameroon

Public management:

"Medical Store Department [...] should be responsible for all health commodities... we treat ITNs as we treat antimalarials — they are health commodities. We have been doing it with our own system and succeeding."

– National level staff,
Tanzania

Co-ordination needs:

There is an exchange between the National Public Health Pharmacy and the malaria programme. But I won't say the communication and planning is enough. We always say that we're looking to improve.

– National level staff,
Côte d'Ivoire

Financial management during implementation

Management structures varied across countries, but sub-national staff faced common challenges when responding to financial constraints, calling for greater flexibility and contextualisation.

Delayed payment systems:

“Sometimes we don’t have enough actors; our problem is that we don’t pay them directly. [Distributors] say, I’d rather bang out bricks for cash than [distribute ITNs] and wait two months for payment.”

– Delivery point level staff,
Cameroon

Insufficient funds:

“Funds are often insufficient compared to the areas to be covered. We inform [distributors] of the extra days they’re expected to work. We use such strategies to ensure [ITNs] reach the community.”

– Regional level staff,
Tanzania

Budgeting needs:

“If we can involve the different districts in developing budgets, it would be good, because the realities of [district A] are different from those of [district B].”

– District level staff,
Côte d’Ivoire

Key takeaway

Learning from countries' experiences with ITN distribution across the different levels involved in planning and delivery is a valuable opportunity to share solutions to existing challenges and advocate for sustained support for effective practices.





Thank you!

Study collaborators:

- Malaria Consortium, United Kingdom
- London School of Hygiene & Tropical Medicine, United Kingdom
- National Institute for Medical Research, Tanzania
- Centre for Research in Infectious Diseases, Cameroon
- Institut Pierre Richet, Côte d'Ivoire

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