The Post-Market Data Collection Toolkit: Turning insights into action

Julie-Anne Akiko Tangena

AMP 2025 Annual Partners Meeting

7th of April 2025

Variability in net and environment shape its lifespan

- Since 2004 >**3 billion ITNs** have been distributed.
- These ITNs are a mix-match of yarn, chemicals, knitting pattern and size.

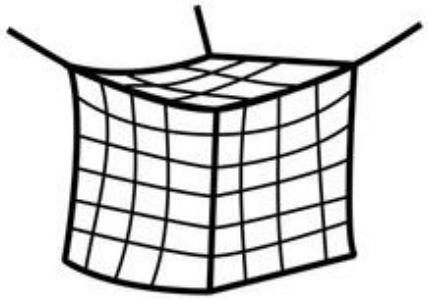

Flickr, Wonderlane 2009


© The Global Fund / John Rae

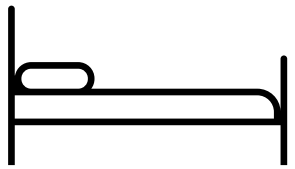
Variability in net and environment shape its lifespan

- Since 2004 >**3 billion ITNs** have been distributed.
- These ITNs are a mix-match of yarn, chemicals, knitting pattern and size.

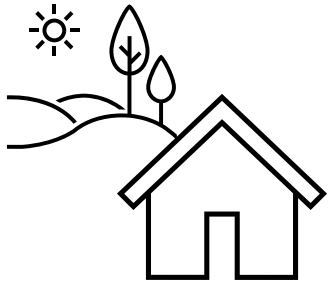
→ But **how long** can they effectively protect communities?



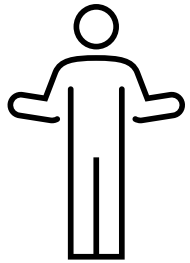
Physical and insecticidal properties



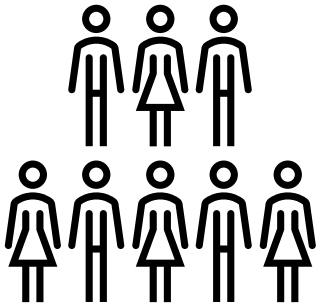
Sleeping environment



Environmental factors



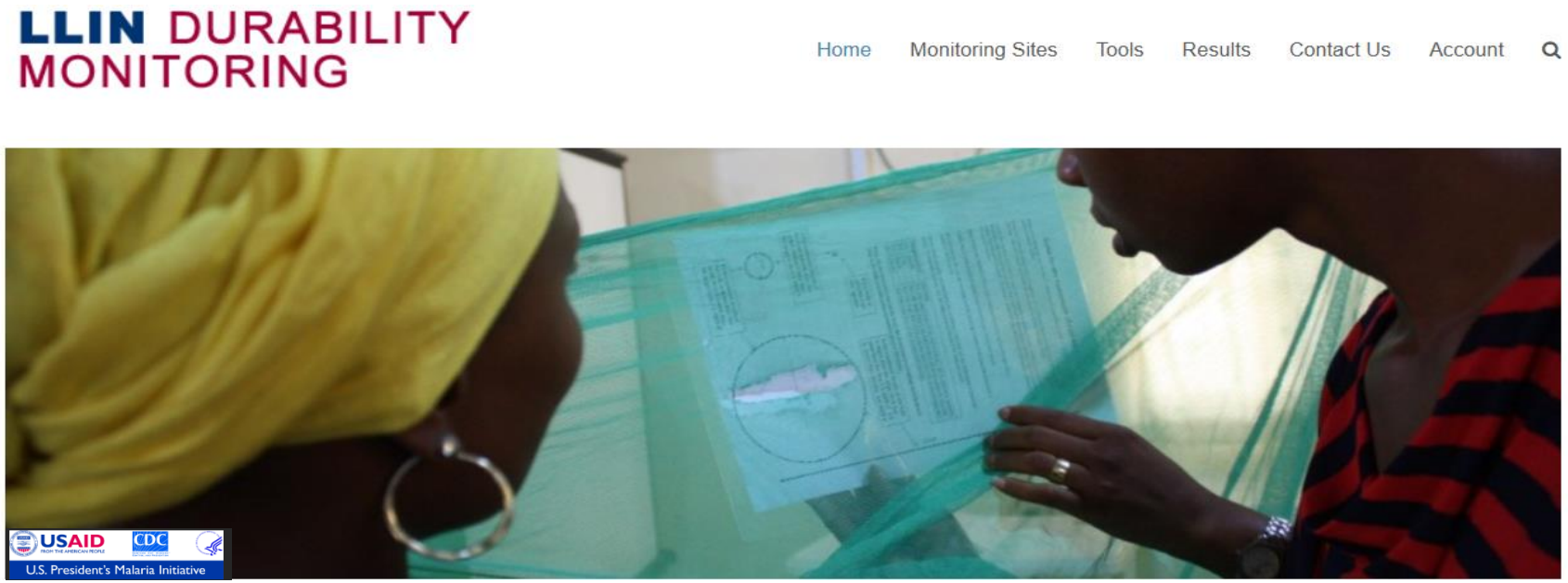
Individual



Community

Post Market Data Collection: Field measurements of net durability

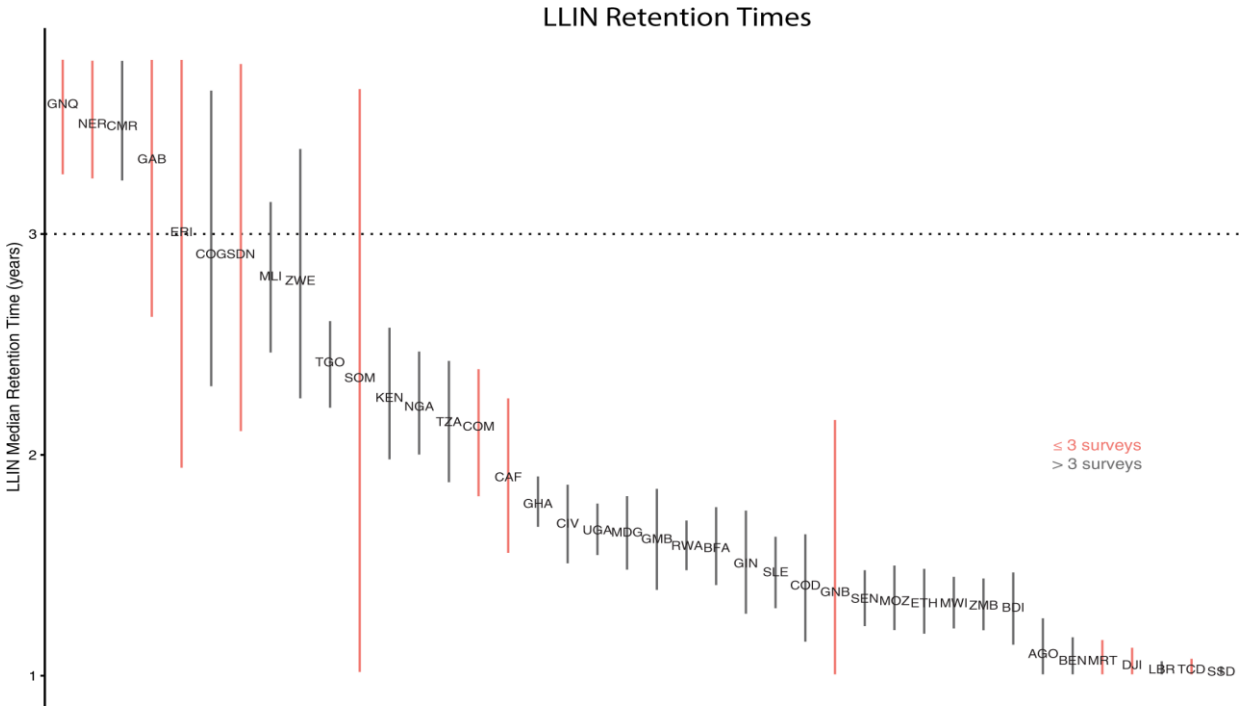
Programme data, academic studies and especially **durability monitoring studies** have resulted in a huge amount of information on net durability.



ITNs are not lasting long enough

Three years is the recommended lifespan of ITNs.

- >50% report less than 2 years lifespan*.
- Large variability across net types and areas.



Bertozzi-Villa A, Bever CA, Koenker H, Weiss DJ, Vargas-Ruiz C, Nandi AK, et al. Maps and metrics of insecticide-treated net access, use, and nets-per-capita in Africa from 2000-2020. Nature Communications. 2021; 12:3589.

Insufficient resources for durability monitoring

- Severe budget constraints limit country adoption of DM.
- High level of resources and skills required.
- Challenges in translating data into decisions.
- One size doesn't fit all.

→ Further exacerbated by recent funding cuts.

How can we help country programs collect the information they need for tailored decisions in a complex ITN landscape under severe resource constraints?

Programmes need guidance to understand PMDC landscape

Listening exercises done in 2022 with five country programmes (Burkina Faso, Pakistan, Malawi, Uganda, Nigeria).

1. Need more granular durability monitoring data for targeted decisions (subnational tailoring).
2. Budget constraints call for more tailored monitoring focussed on key programmatic decisions.

Challenging

3. Ensure the collected data is utilized to its fullest potential.

→ There is a clear call for guidelines that help identify and collect durability indicators for country decision-making.

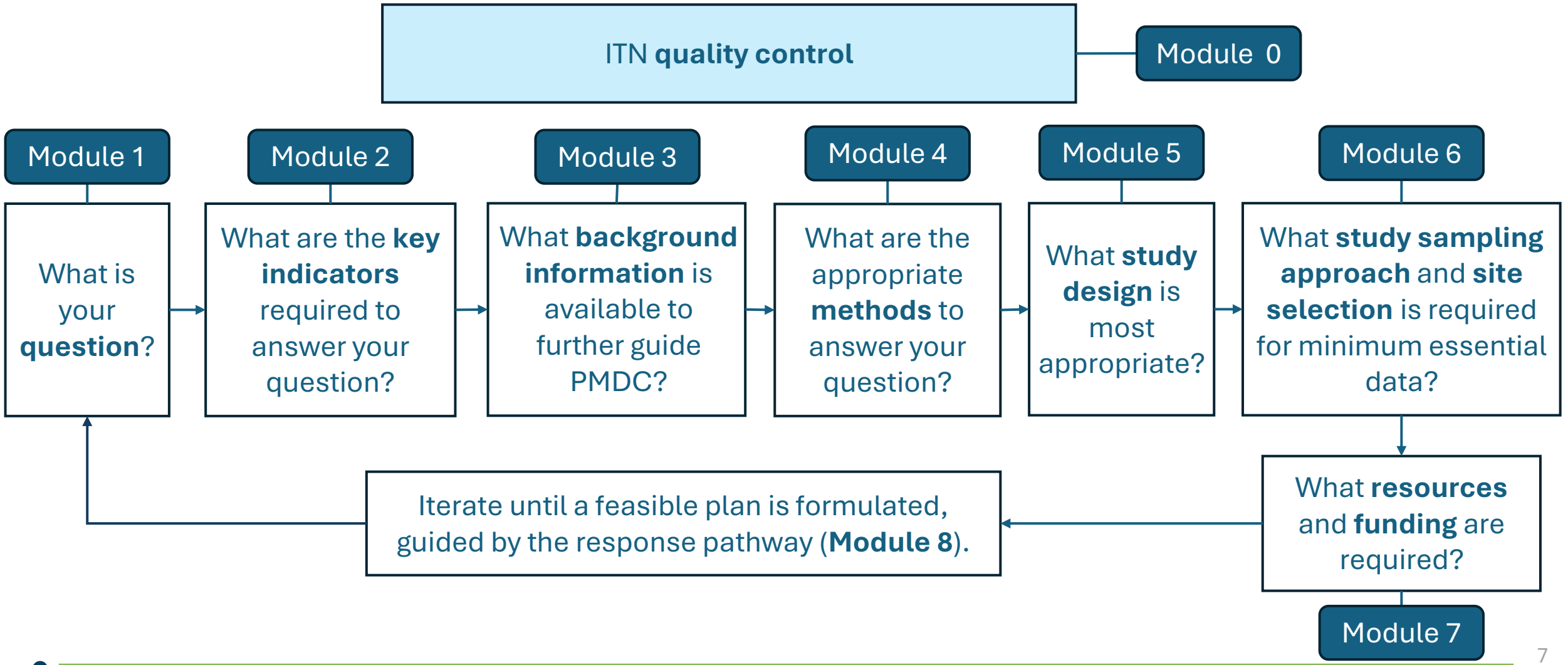
The Post Market Data Collection toolkit

Aim: Create a toolkit that guides programmes through designing a post market data collection study: something they can also share with potential funders.

How: Modular approach inspired by the Entomological Surveillance Planning Tool (ESPT) developed by Malaria Elimination Initiative

Focus on: Programmatic decisions/actions related to procurement, distribution, monitoring.

PMDC Toolkit modules

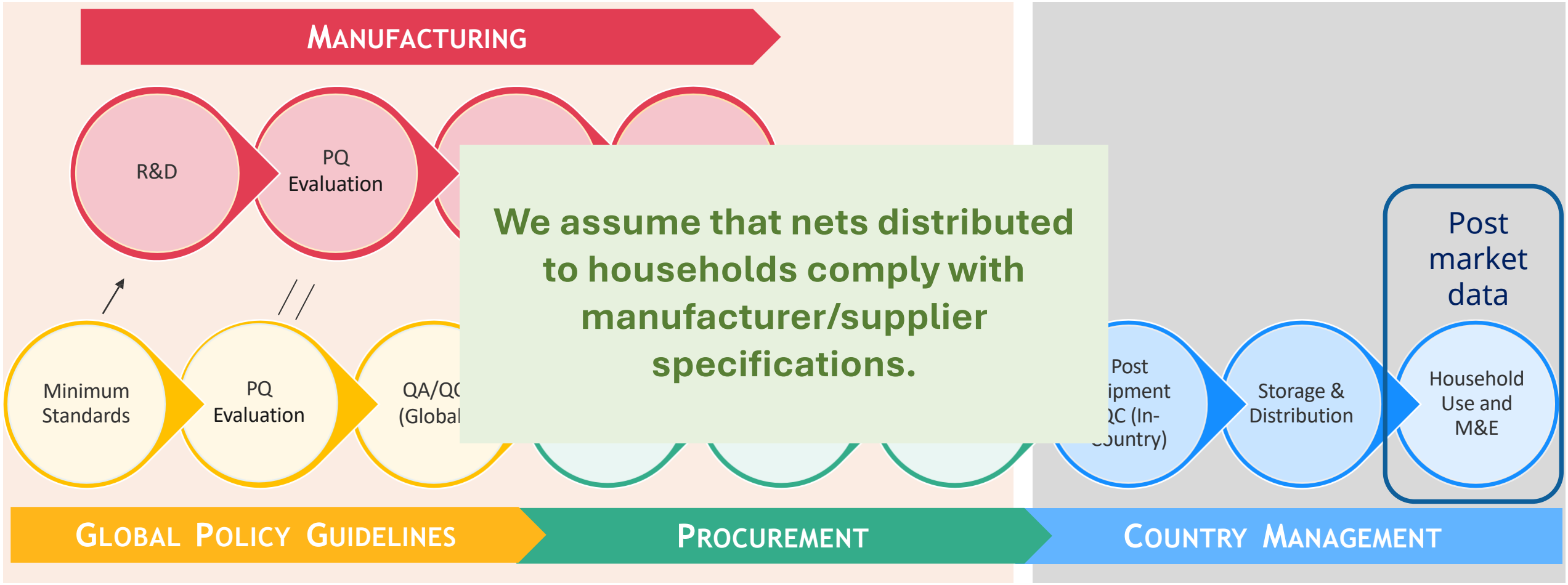


Case study

Country Y is discussing how often nets should be distributed, as there is indication that coverage is below 50% one year post distribution.

Decision: How often should ITNs be distributed?

Module 0. Net quality control



Module 1. What is your question?

Identify the programmatic decisions of interest and transform these into key questions.

Physical durability	Insecticidal/ chemical activity	Net use and individual behaviours	ITN setting
• Can we determine the optimal net replacement intervals? • Is there a difference in physical durability compared to previous distributions?	• Is the insecticidal activity across the lifespan sufficient to control the local mosquito population? • Can we determine the optimal net replacement intervals?	• Are people keeping their ITNs for the duration of their useful life? • What is the acceptability of the ITNs compared to other ITN types?	• Is the ITN environment accelerating net degradation? • What individual factors are associated with longer ITN retention?

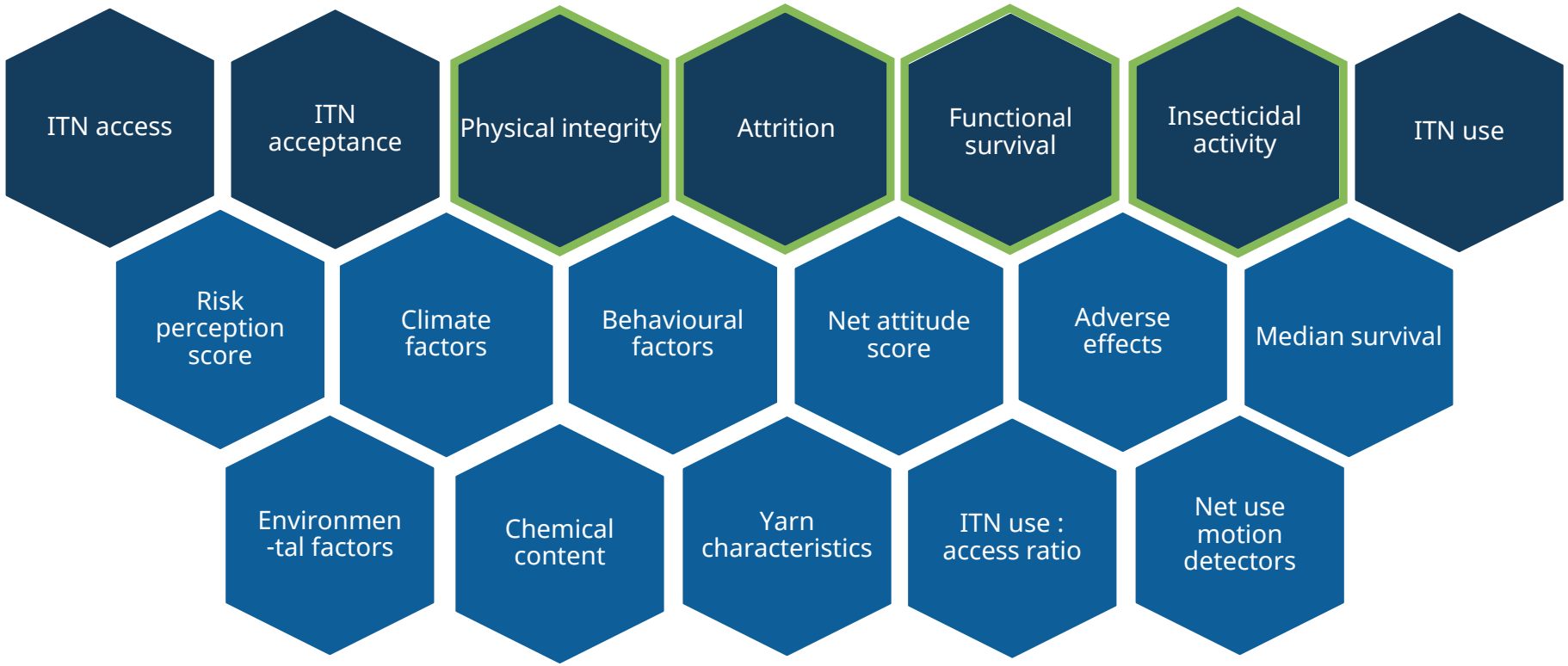
Decision: How often should ITNs be distributed?

Question: How long are ITNs lasting in the field?

Module 2. What are the key indicators required to answer your question?

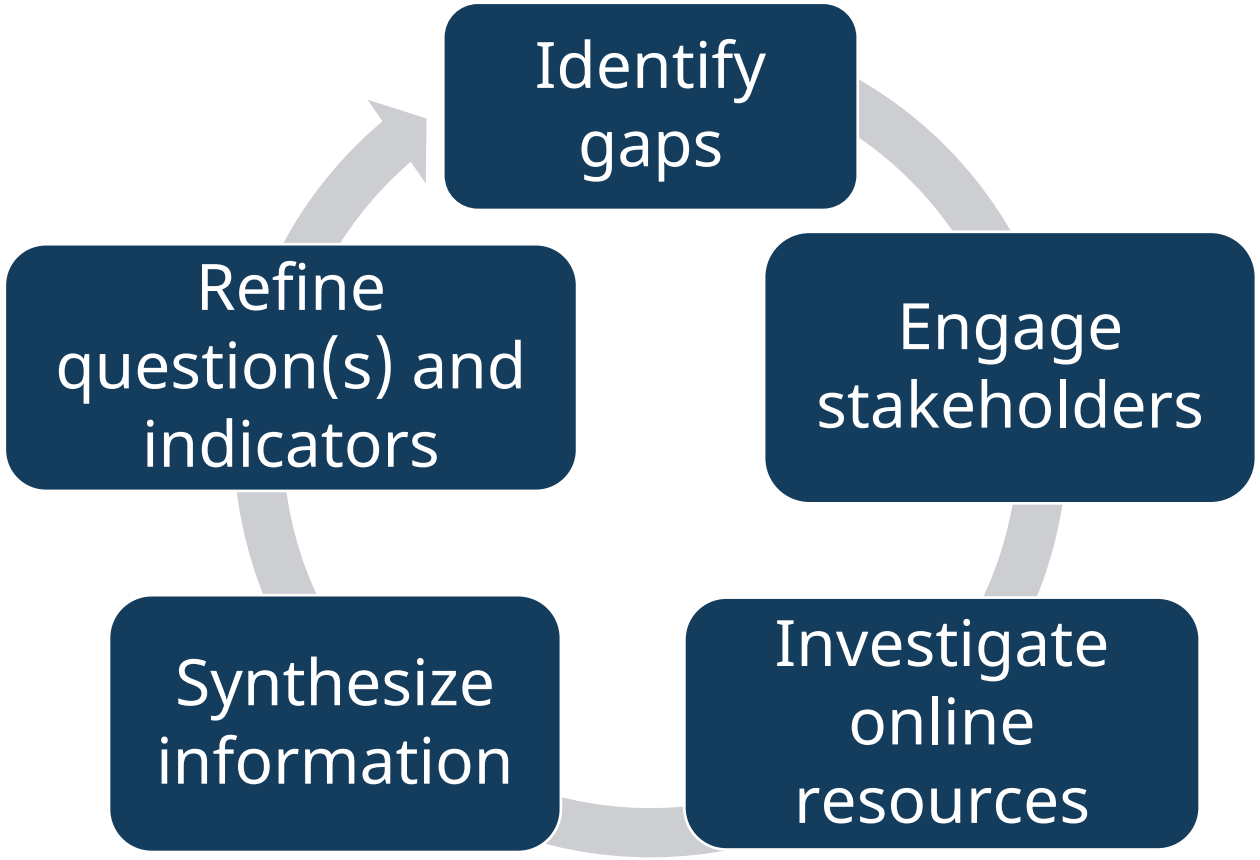
Primary indicators

Secondary indicators



Question: How long are ITNs lasting in the field?

Module 3. What background information is available?



Question: How long are ITNs lasting in the field?

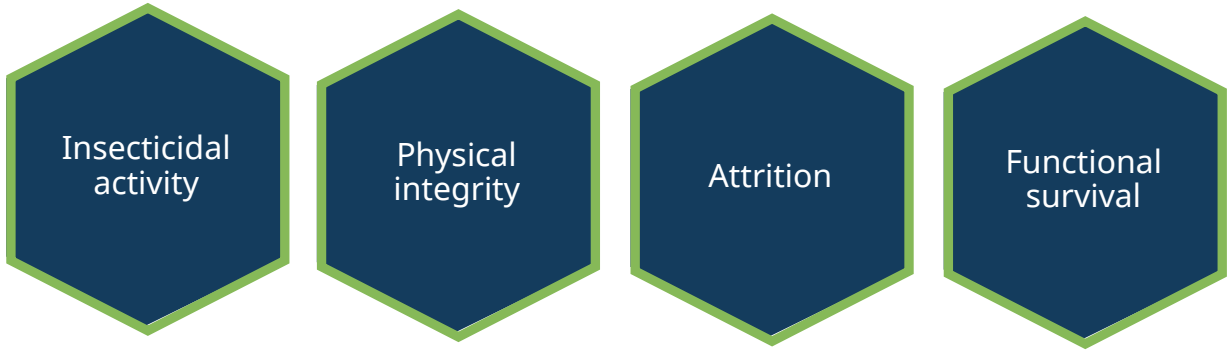
→Understand heterogeneity across the country?
→ITN type information from other countries?

Module 4. What are the appropriate methods?

Presentation of all methods associated with each indicator.

- Linked to methodologies, outcome measures and other useful guidelines.
- Highlights strengths and weaknesses to guide choice.
- Specified (where appropriate) for different chemicals.

Question: How long are ITNs lasting in the field?



Module 4. What are the appropriate methods?

Presentation of all methods associated with each indicator.

- Linked to methodologies, outcome measures and other useful guidelines.
- Highlights strengths and weaknesses to guide choice.
- Specified (where appropriate) for different chemicals.

Question: How long are ITNs lasting in the field?

Insecticidal activity

WHO cone test

WHO tube test

Tunnel test

Experimental hut studies (IACT)

Module 5. What study design is most appropriate?

Identifying methodology that best aligns with your objectives.

- **Timeframe**: Prospective or retrospective?
- **Study Structure**: Longitudinal design (observing changes over time), a cross-sectional approach (a snapshot at a single point), or a combination of both?

Question: How long are ITNs lasting in the field?

→ Are the nets of interest already distributed or still in storage?

→ Can the nets in the field be identified to the respective distribution campaign?

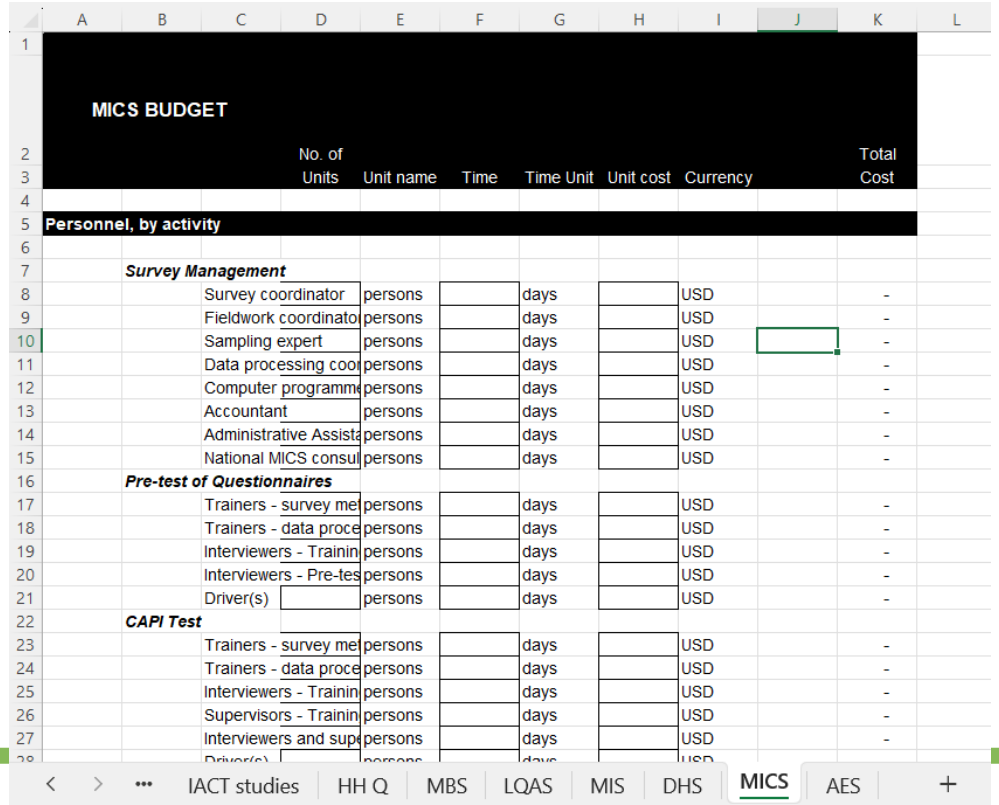
Module 6. What is your study sampling approach and site selection?

Sampling approach: Lot Quality Assurance Sampling (LQAS)
Standardized monitoring
Streamlined monitoring
……

Site selection: Sentinel sites
Targeted areas (high malaria)
Transect
……

Module 7. What resources and funding are required?

Breakdown of the budget and resources required for your selected methods.

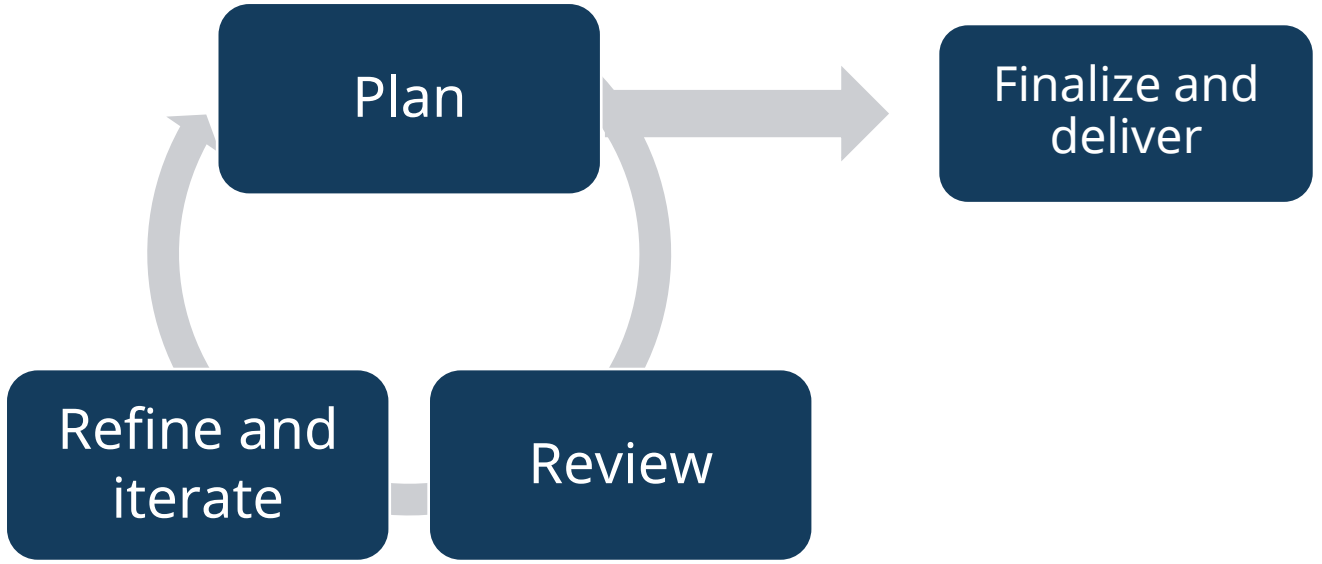


	A	B	C	D	E	F	G	H	I	J	K	L
1												
2			MICS BUDGET									
3				No. of Units	Unit name	Time	Time Unit	Unit cost	Currency		Total Cost	
4												
5			Personnel, by activity									
6												
7			***Survey Management***									
8			Survey coordinator		persons		days		USD		-	
9			Fieldwork coordinator		persons		days		USD		-	
10			Sampling expert		persons		days		USD		-	
11			Data processing coo		persons		days		USD		-	
12			Computer programme		persons		days		USD		-	
13			Accountant		persons		days		USD		-	
14			Administrative Assista		persons		days		USD		-	
15			National MICS consul		persons		days		USD		-	
16			***Pre-test of Questionnaires***									
17			Trainers - survey me		persons		days		USD		-	
18			Trainers - data proce		persons		days		USD		-	
19			Interviewers - Trainin		persons		days		USD		-	
20			Interviewers - Pre-tes		persons		days		USD		-	
21			Driver(s)		persons		days		USD		-	
22			***CAPI Test***									
23			Trainers - survey me		persons		days		USD		-	
24			Trainers - data proce		persons		days		USD		-	
25			Interviewers - Trainin		persons		days		USD		-	
26			Supervisors - Trainin		persons		days		USD		-	
27			Interviewers and sup		persons		days		USD		-	

IACT studies | HH Q | MBS | LQAS | MIS | DHS | MICS | AES

Module 8. Iterate until feasible plan is produced

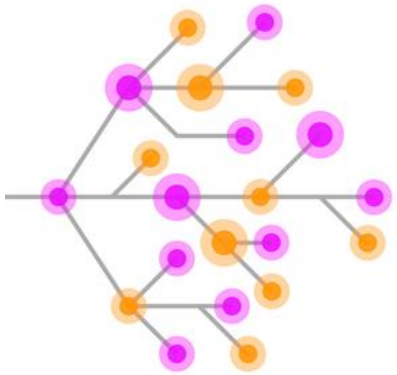
To ensure the plan fits within the resources and funding available/requested.



Turning insights into action

Response pathway (Module 9?)

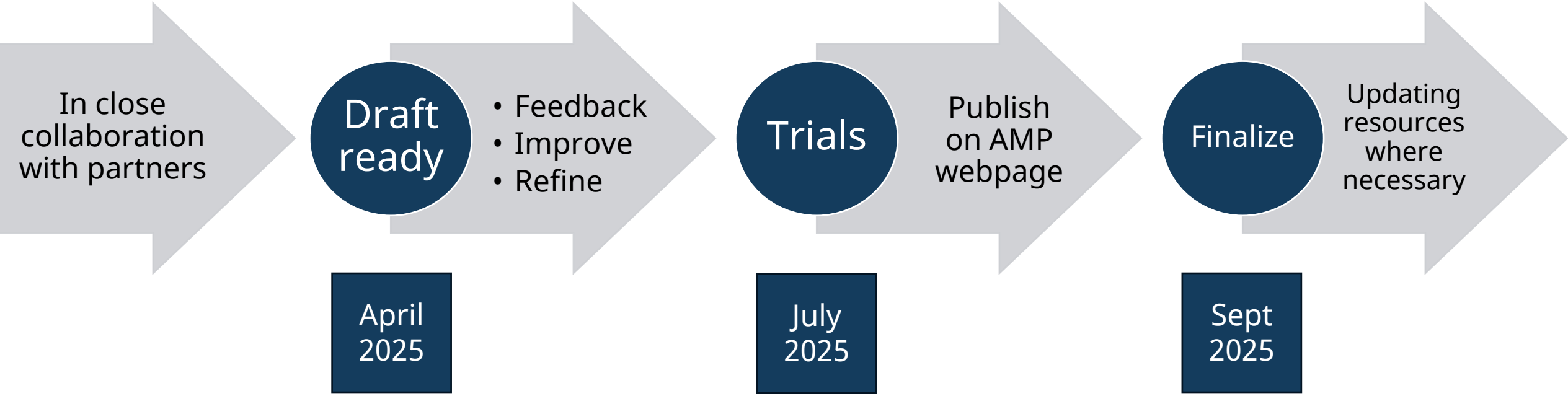
- Linking indicator outcome with response/decision.
- Key limitations within the programme (what can we change, what can't we change?).
- What are the key things to consider?



Endpoint: Consolidation of outputs from all modules.

- Use this to further refine PMDC.
- Share with potential funders.

Timeline and next steps



Thank you

National programmes from Burkina Faso, Pakistan, Malawi, Uganda, Nigeria

amp | The Alliance for Malaria Prevention

TROPICAL HEALTH

Malaria Elimination Initiative
UCSF
University of California San Francisco

CLINTON HEALTH ACCESS INITIATIVE