



The Alliance for
Malaria Prevention

Assessing ITN campaign quality using cLQAS

Introducing the new AMP online training course

AMP month TA team call

June 2025





AGENDA

What we will cover today

- 01** Why does ITN campaign quality assessment matter?

- 02** What is clustered lot quality assurance sampling (cLQAS)?

- 03** The online training and module spotlights

- 04** The downloadable toolkit

- 05** Q&A

Menti 1

1. Do you have first-hand experience of assessing the quality of HHR during a mass campaign?
 - Yes / No
2. Do you have first-hand experience of assessing the quality of mass campaign ITN distribution?
 - Yes / No
3. How familiar are you with LQAS?
 - A. Never heard of it
 - B. Heard of it, never used it
 - C. Used LQAS but not for malaria campaigns
 - D. Used cLQAS for ITN campaigns
4. What challenges have you encountered with HHR implementation quality in the past?
 - Text response
5. What challenges have you encountered with ITN distribution quality in the past?
 - Text response

01

Why does ITN campaign quality assessment matter?

Why does ITN campaign quality assessment matter?



THE PROBLEM

Post-campaign surveys arrive weeks after the window for corrective action has already closed.



THE SHIFT

cLQAS provides actionable information during and immediately after the campaign programmes get the real-time data they need.



Early error detection

Spot mistakes in household registration and ITN distribution as they happen.



Stronger supervision

Timely, reliable data strengthens monitoring and field supervision.



Operational lessons

Capture lessons to improve planning, logistics, training and future campaigns.

02

What is clustered lot quality assurance sampling (cLQAS)?

What are LQAS-based survey methods?

- ✔ LQAS uses a limited number of observations to classify areas — “**lots**” — as meeting or not meeting a target threshold.
- ✔ Results from multiple lots **combine** into a coverage point estimate.
- ✔ Like all surveys, quality depends on careful **planning and implementation**.

Clustered LQAS (cLQAS)

Uses the same statistics as LQAS, but breaks each lot into several clusters of households to make sampling and fieldwork practical.

SAMPLING DESIGN



60

households per lot



6

clusters per lot



10

households sampled per cluster

In-process vs end-process assessment



IN-PROCESS

Household registration

Runs during HHR — corrective action can be taken immediately

KEY QUESTIONS

- Are all households registered?
- Do teams count household size correctly?

KEY OUTPUTS

- Daily analysis with next-day feedback to HHR teams
- Tracking of error types and causes
- Real-time performance dashboards



END-PROCESS

ITN distribution

Runs after distribution — assesses overall campaign performance

KEY QUESTIONS

- Do households receive the correct number of ITNs?
- What is population access and ITN use?

KEY OUTPUTS

- Lot classification table by district
- Coverage point estimates with 95% CIs (regional level)
- Data for post-campaign SBC activities

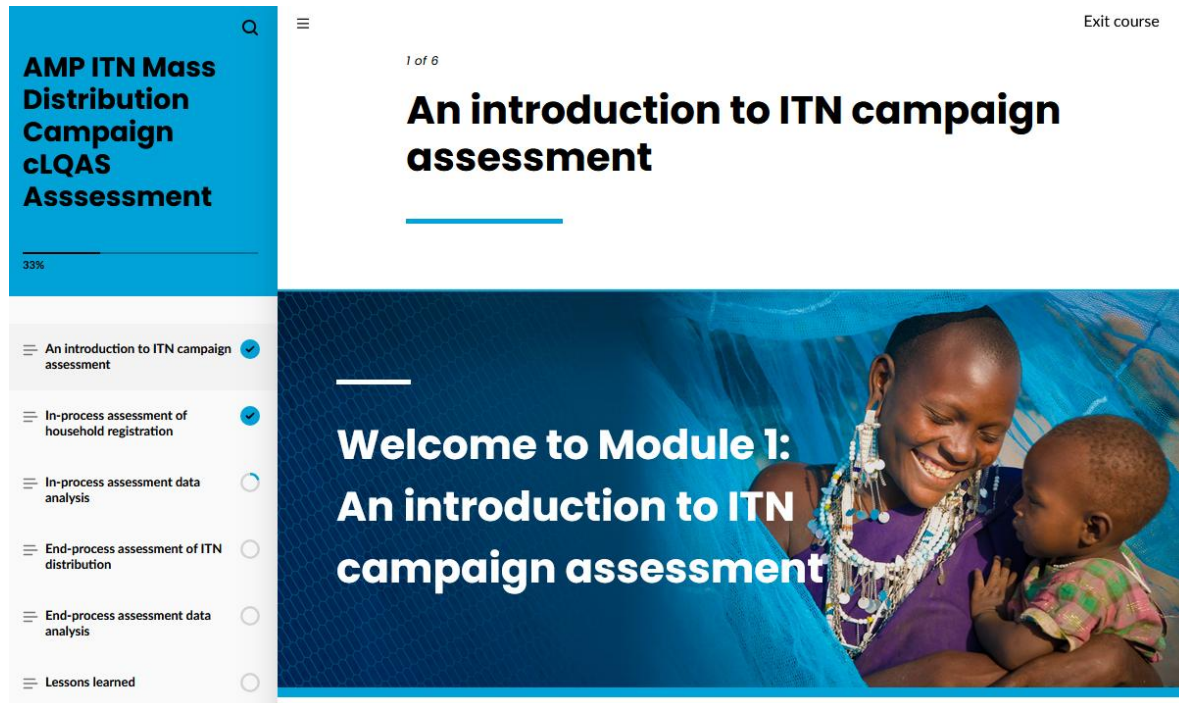
03

The online training course

Free, self-paced, on the IFRC Learning Platform

Free training on the IFRC Learning Platform

Six modules. Two hours. Self-paced with knowledge checks integrated throughout.



Six modules

- 1 Introduction to ITN campaign assessment
- 2 In-process household registration
- 3 In-process data analysis
- 4 End-process ITN distribution
- 5 End-process data analysis
- 6 Lessons learned

[View on the IFRC Learning Platform](#)



Who is this course for?

Anyone involved in planning, implementing, monitoring, or evaluating ITN distribution campaigns



Campaign managers & supervisors

Field staff overseeing household registration and ITN distribution who want real-time quality assurance.



M&E officers & data analysts

National programme staff who collect, analyse and report campaign assessment data.



Technical assistance providers

Partners supporting countries to design and implement campaign assessments.



Programme planners & grant managers

Those linking assessment evidence to grant results and reporting.

M1

Module Spotlight 1

Introduction to ITN campaign assessment

Module 1 of 6

Module 1 serves as an entry point for novices and ITN-specific framing for staff with LQAS experience



The following topics will be covered in this module:

- Types of assessments in Insecticide-treated nets (ITN) campaigns
- An introduction to clustered Lot Quality Assurance Sampling (cLQAS)

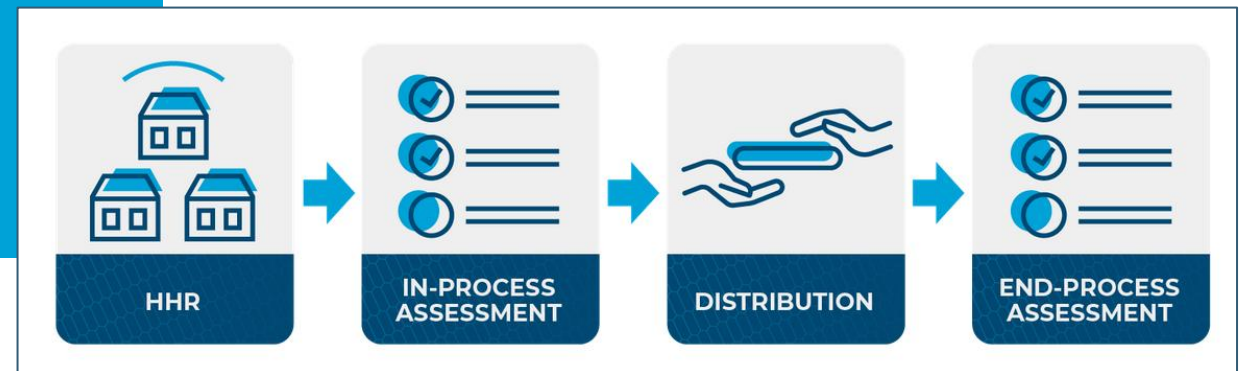
Module 1 establishes the conceptual foundation for both assessment types and explains when to use in-process versus end-process



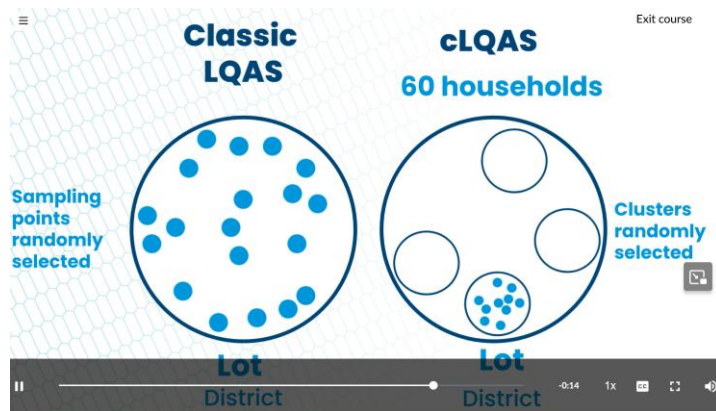
Exit course

Assessments can be conducted during HHR and ITN distribution activities as part of **in-process assessment**, or after activities have been completed as part of **end-process assessment**. The choice of assessment type will depend on the mass campaign design, activity timelines, and financial and human resources available. Drawing on country experience to date, AMP recommends countries consider in-process assessment of HHR and end-process assessment of ITN distribution. These examples form the basis of this training.

Look at these two types of assessments in more detail.



Module 1 describes clustered Lot Quality Assurance (cLQAS) and positions it as a monitoring method for ITN campaign assessments



These assessments are driven by **clustered Lot Quality Assurance Sampling (cLQAS)**.

cLQAS is a rapid, small-sample monitoring method to classify an area as meeting or not meeting a predefined performance threshold. It is useful when results are needed quickly and when budget is limited.



M2-3

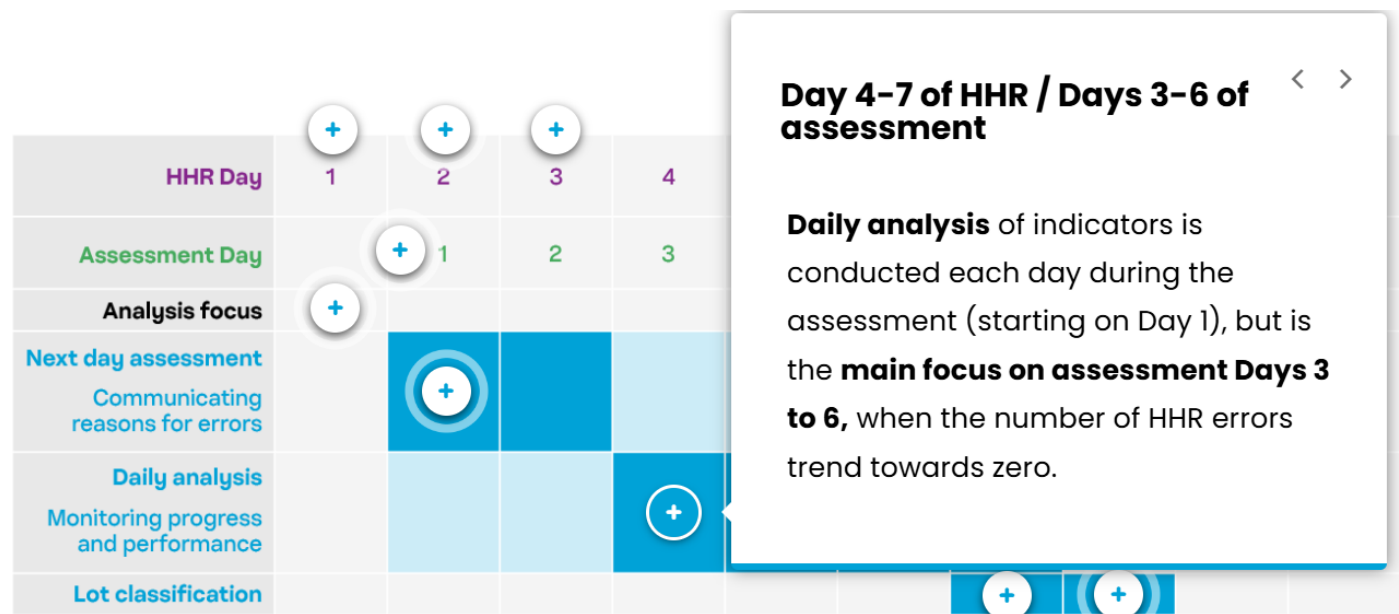
Module Spotlight 2

In-process household registration

Modules 2 & 3 of 6

Module 2 presents the day-by-day schedule for sampling, analysis, and feedback for in-process HHR assessment

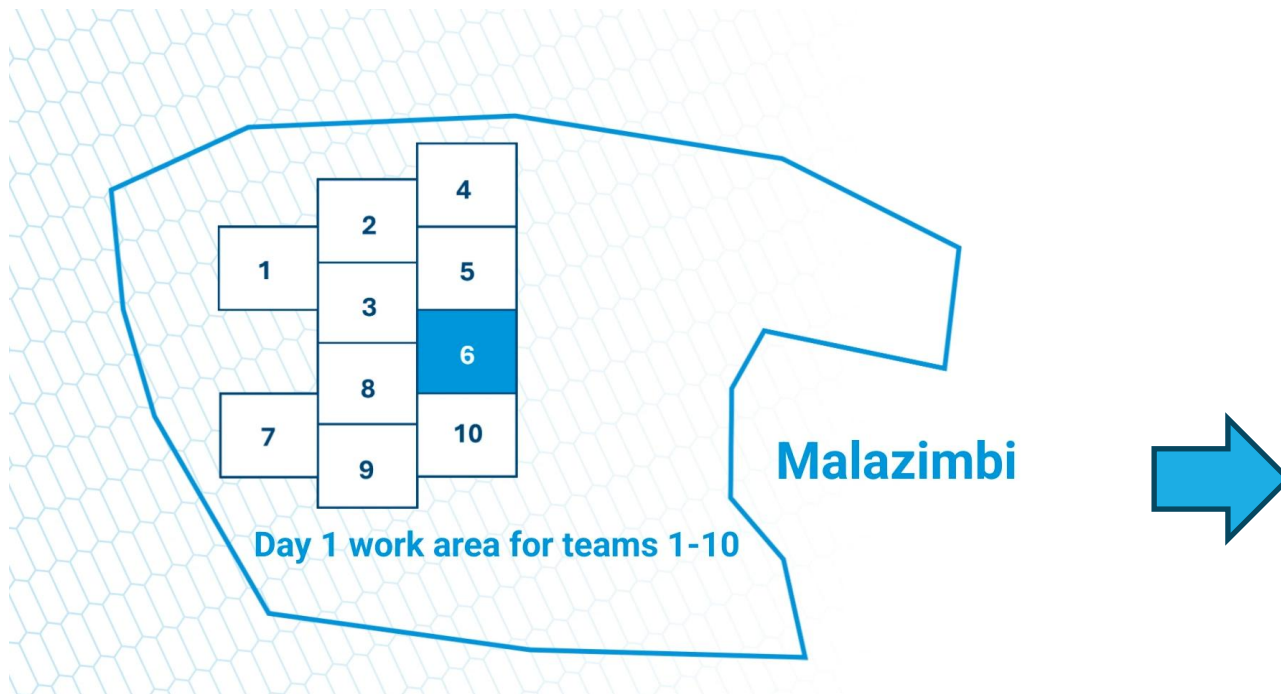
- Day 1 of HHR: Fieldwork only. **No assessment sampling**
- Day 2 onwards: **A sample of** previous day's **HHR** clusters **assessed each morning**
- Findings **shared with supervisors** before next-day fieldwork begins
- Supervisors review error types; **systematic errors corrected** in the field



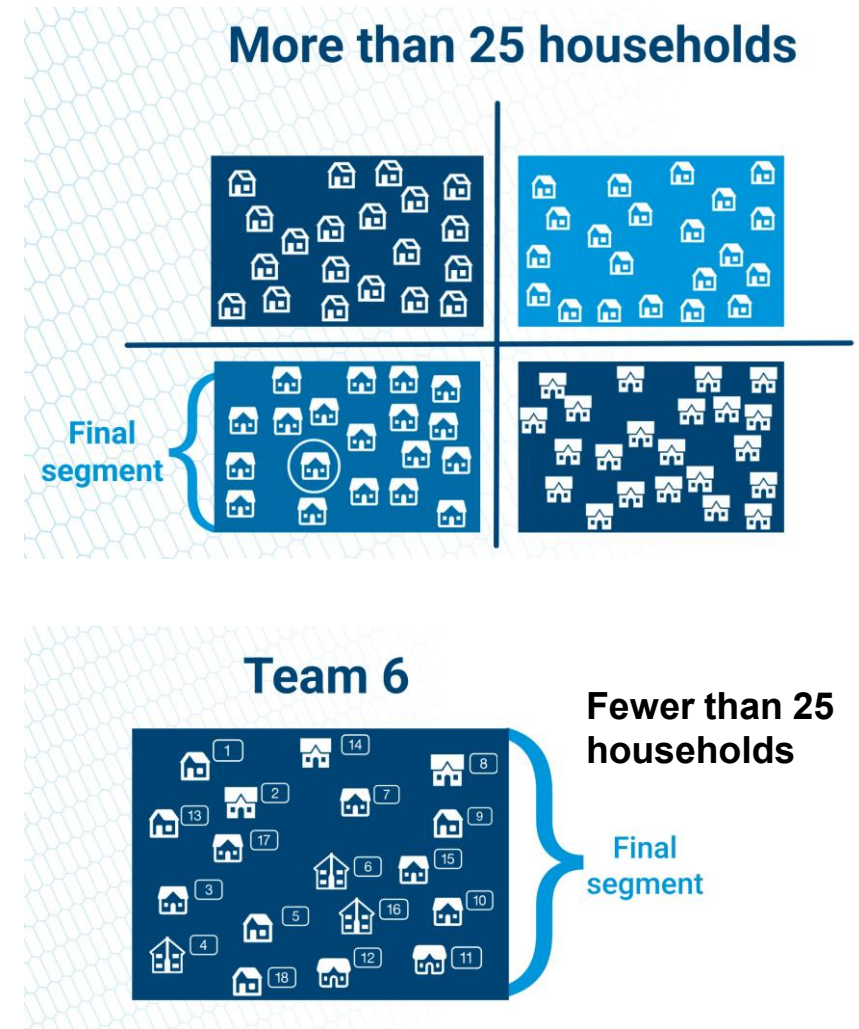
THE RESULT

Errors are caught and fixed during the campaign — not surfaced weeks later in a survey nobody can act on.

Module 2 describes household sampling using clusters, segmentation and mapping



Sampling for the in-process assessment requires randomly selecting a household registration work area **and** a “final segment” **within that area**, then selecting **10 households for inclusion in the survey**



Module 2 presents the HHR in-process questionnaire



The HHR in-process questionnaire comprises the following sections:

- Household identification
- Consent procedures
- Household roster on day of assessment
- Household registration outcomes
- Knowledge of the campaign



Exit course

You can download an example of the in-process questionnaire below.



In-process - qq for eligible persons.pdf
826.4 KB



The screenshot shows a blue interface with a title "What data are captured in the HHR in-process assessment?". Below the title, it says "You and your assessment team should capture data for each household visited." and "Select each heading to view the section of the questionnaire." There are two expandable sections: "Geographic location and household ID" and "Introduction and consent", each with a plus sign to its right.

Module 2 introduces data processing, analysis, and reporting for the in-process assessment

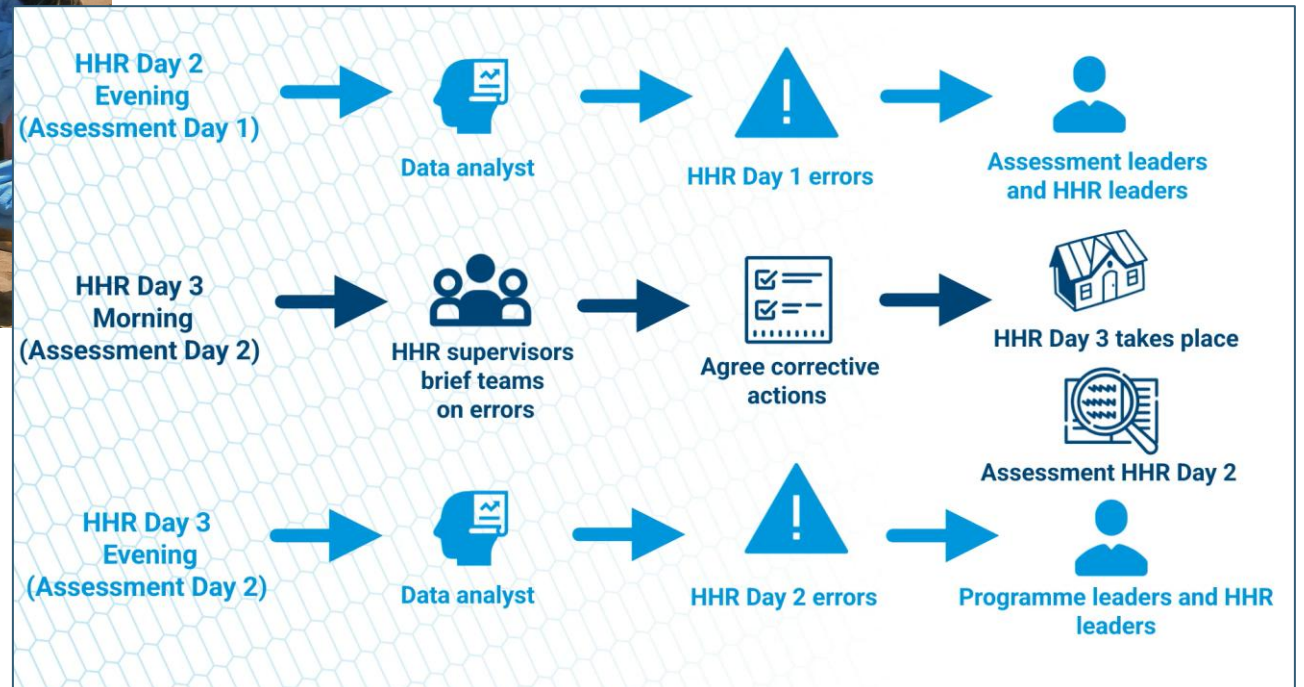
Data processing and analysis

Analysis outputs: A2 Daily error and error reason line list

Table A2. Daily error and error reason line list
Assessment day: 1

Col A Source of data:	Col B	Col C	Col D Recall	Col E Assessment HH roster		
District	Cluster number within district	HH number within cluster	Eligible persons: HHR	Eligible persons: assessment	Reason (category)	Reason (detail)
District 1	1	3	3	2	Ineligible person	Total residents is 3, but one arrived 1 month ago. Therefore, number of eligible persons is 2.
District 1	1	5	3	2	Miscount	Total persons was 3 at HHR, but only 2 at interview.
District 3	1	5	4	8	HH definition	HH definition not respected. HHR split family into two, yet only one HH by campaign rules.
District 4	1	6	5	4	Miscount	Total persons was 5 at HHR, but only 4 at interview re-count.

Lot definition: District

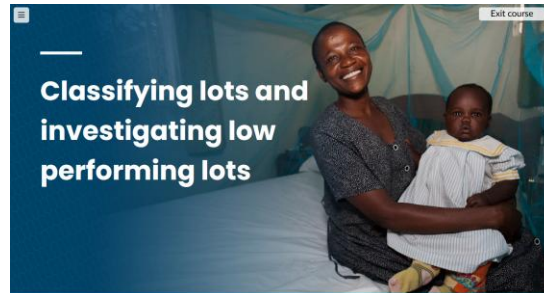


Module 3 provides more detail on data analysis, interpretation and reporting, including cluster performance criteria and investigation triggers

The HHR in-process assessment daily analysis outputs are:

1. Table A1. Daily completeness and error table by district (lot)
2. Table A2. Daily error and error reason line list
3. Table A3. Percentage of households with HHR errors, by assessment day
4. Table A4. Percentage of households with HHR errors by district (lot)
5. Table A5. Percentage of households with HHR errors by region
6. A6. Map of HHR errors by district (lot)
7. Table A7. Reasons for HHR errors by district (lot)
8. Table A8. Reasons for HHR errors by region
9. Table A9. Summary of HHR errors and direction of errors
10. Table A10. Summary of assessment outcomes and reasons for errors

Knowledge checks for interpretation of daily analysis outputs:



Question 1

What initial trends can you identify from these data below?

Select all that apply, then select Submit.

Table A4. Percentage of households with HHR errors by district for a given region, daily and cumulative total
Region: 1
Assessment day: 2

District	Assessment day results Incorrect count of eligible persons at HHR			Cumulative results Incorrect count of eligible persons at HHR		
	HHs with data	Number of HHs	Percentage of HH	HHs with data	Number of HHs	Percentage of HH
District 1	10	0	0%	20	0	0%
District 2	10	0	0%	20	2	10%
District 3	10	0	0%	20	0	0%
District 4	10	1	10%	20	2	10%
District 5	10	2	20%	20	7	35%
District 6	10	1	10%	20	5	25%
District 7	10	0	0%	20	2	10%
District 8	10	0	0%	20	0	0%
District 9	10	0	0%	20	0	0%
District 10	10	1	10%	20	4	20%
Total	100	7	7%	200	22	11%

Lot definition: District
Source of data: Assessment recount vs participant recall of HHR
Percentage values are based on unweighted counts

Exit course

Classification of lots based on correct count of eligible persons during HHR.

Region 1

Name of district (lot)	Number of HHs with incorrect HHR count (Denom = 60 HHs)	Classification
District 1	5	Uncertain
District 2	0	Good
District 3	7	Uncertain
District 4	2	Good
District 5	10	Inadequate
District 6	8	Uncertain
District 7	0	Good
District 8	12	Inadequate
District 9	9	Inadequate
District 10	4	Uncertain

Data source:
Assessment recount vs participant recall of HHR

Decision rules (assuming 60 HH denominator):
0-3 failures = Good
4-8 failures = Uncertain
9+ failures = Inadequate

Classification categories:
Good ≥ 90%
Uncertain >80% to <90%
Inadequate: ≤80%

Exit course

Here is the completed table with the classifications of each lot.

Modules 2 & 3 · Takeaways

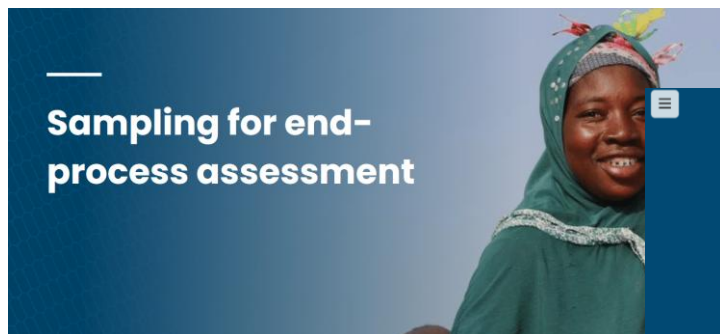
- 1 The design and content of the in-process HHR questionnaire
- 2 How to sample for the in-process assessment
- 3 The roles and relationships of key team members, including the national analyst
- 4 The standard analysis outputs from the in-process assessment
- 5 How to use assessment data for decisions during and after HHR

M4-5

Module Spotlight 3 End-process ITN distribution

Modules 4 & 5 of 6

Module 4 describes sampling clusters for the end-process assessment using the probability proportional to size (PPS) sampling method



Exit course

Sampling for end-process assessment: selecting clusters

There are **six steps** to sampling clusters with PPS. The **selection of clusters** should occur **before any data collection** begins. This is different to the **in-process assessment**, where **clusters are selected daily** during the assessment.

Select each step below to learn more.

Step 1

List all clusters (villages) in the lot and their population size. Calculate the cumulative population.

Look at the table below.

You can download an Excel sampling tool below to help automate PPS sampling for the end-process assessment.



End-process_PPS sampling template.xlsx
112.3 KB




After PPS, **segmenting clusters** and **selecting households** use the same approach as **in-process assessments**.

Module 4 presents the HHR in-process questionnaire


Exit course

Let's look at the questionnaire used in the end-process assessment.

You can download an example of the end-process questionnaire below.



End-process - qq ITN distribution.pdf
973.2 KB



These questionnaires are samples and can be adopted and modified.
Select each heading to view the section of the questionnaire.

Data captured during the end-process assessment includes:

- Geographic location and household ID: region/province, district/lot, HH number
- Additional data that can be used to match digital records (e.g. contact phone number)
- Household composition at the time of the assessment
- Outcome of household registration
- Number of eligible residents stated during HHR (from participant recall)
- Number of campaign ITNs received
 - Reasons why households received no campaign ITNs
 - Reasons why households did not receive the correct number of campaign ITNs
- Number of ITNs remaining in household's possession at the time of interview
- ITN use practices (net hanging, net use)
 - In the case of non-use, reasons why person(s) did not use ITN(s) the previous night
- Exposure and knowledge of campaign SBC messages (from HHR and distribution)
When we show up to the present moment with all of our senses, we invite the world to fill us with joy. The pains of the past are behind us. The future has yet to unfold. But the now is full of beauty simply waiting for our attention.

Module 5 walks through end-process data interpretation and next steps in full

Overview of data processing and analysis steps for end-process assessments

Select each step below to learn more.

STEP 1

STEP 2

STEP 3

STEP 4

Early in the planning phase

- The questionnaire is adapted and finalized on paper, then programmed on a digital platform and extensively tested before data collection.
- The data analyst prepares an analysis plan.
- The data analyst modifies the R scripts available from AMP to match the campaign-specific assessment design.



Lot-level analysis and classification

Classification of lots based on receipt of correct number of campaign ITNs.

Name of district (lot)	LQAS Classification		Five key indicators (%)				
	Number of HHs with incorrect ITNs (Denom = 60 HHs)	Classification	HHs with at least 1 campaign ITN	HHs with correct Nb campaign ITNs	Population access	ITN use, all ages	ITN use, <5 yrs
Lot 1	0	Good	100	100	100	97	95
Lot 2	0	Good	100	100	95	88	92
Lot 3	1	Good	100	98	87	40	61
Lot 4	4	Uncertain	100	93	89	76	70
Lot 5	4	Uncertain	94	93	85	77	83
Lot 6	5	Uncertain	99	92	92	87	87
Lot 7	6	Uncertain	99	90	88	83	87
Lot 8	9	Inadequate	86	85	73	67	76
Lot 9	10	Inadequate	95	83	76	41	54
Lot 10	10	Inadequate	100	83	78	67	70
Lot 11	11	Inadequate	100	80	72	66	96
Lot 12	12	Inadequate	89	78	67	30	45
Lot 13	13	Inadequate	100	76	84	68	88
Lot 14	13	Inadequate	99	76	78	57	74
Lot 15	15	Inadequate	94	74	75	50	93

Lot classification: each lot classified as pass/fail against the coverage threshold.

Campaign-level coverage: weighted point estimates and 95% confidence intervals calculated at higher administrative levels.

Estimating results at levels above the lot

Informal classification results, by region

Region	HHs that received correct number of campaign ITNs		HHs that received any campaign ITN	
	Percentage	95% CIs	Percentage	95% CIs
Region A	60	57 - 64	92	90 - 94
Region B	53	49 - 57	94	92 - 96
Region C	59	54 - 64	96	93 - 99
Region D	57	54 - 61	96	94 - 98
Region E	52	48 - 56	99	98 - 99
Region F	64	58 - 70	100	-
Region G	57	53 - 62	98	97 - 99
Total	57	55 - 59	96	95 - 97

Data sources:
Participant recall of ITNs received vs participant recall of HHR

Modules 4 & 5 · Takeaways



Sampling by PPS

How to sample using probability proportional to size, with step-by-step instructions and an adaptable tool.



Two ways to classify

Analysis covers both formal LQAS classification rules and informal classification based on the five key indicators.

Drag each topic into the box 'Included in the end-process assessment' or 'Not included in the end-process assessment'.

Physical integrity of ITNs in the household (the number of holes in each ITN)

Included in the end-process assessment

Not included in the end-process assessment

View the answers below.

Included in the end-process assessment	Not included in the end-process assessment
Number of ITNs in the household at the time of interview	Physical integrity of ITNs in the household (the number of holes in each ITN)
Information on usual members of the household	Information about any ITNs the household has recently discarded
Whether each household member slept under an ITN the night before the interview	Information about recent fever episodes among household members
Number of ITNs received from the recent campaign	

Question 3

The first analysis of in-process assessment data occurs on the evening of Day 2 of the HHR.

Select the correct answer, and select Submit.

True

False



That's it!

On the evening of Day 2 of HHR (i.e. the first day of data collection for the assessment), the data analyst prepares a list of households with errors in the count of eligible persons and the reasons for the errors.

This information is shared with the assessment and campaign coordination team for review. This is what we term the "next-day

04

The cLQAS downloadable toolkit

What's in the toolkit



Protocols

Two assessment protocols: in-process HHR and end-process distribution.



Questionnaires

Word format plus ODK-ready Excel files for digital data collection.



Dummy tables

Pre-formatted output tables for standard data structures.



R scripts

Cleaning and analysis scripts with R Markdown report generation.



Dummy datasets

Practice data to explore formats and test analysis scripts.



Online training

Free self-paced training via the IFRC Learning Platform.

 **Available on GitHub** github.com/Alliance-for-Malaria-Prevention

AVAILABLE ON GITHUB

Alliance-for-Malaria-Prevention / amp-clqas-toolkit

The screenshot shows the GitHub repository page for 'Alliance-for-Malaria-Prevention / amp-clqas-toolkit'. The repository is public and has 1 branch (main) and 0 tags. The commit history is as follows:

Commit Message	Commit Hash	Time	Commits
Update to gitignore to add files that are generated by running Markdown	61871c3	last month	5 Commits
Dummy data		Initial commit	2 months ago
Dummy tables		Copy-edits to documents (protocol, Word version of questio...	last month
Protocols		Copy-edits to documents (protocol, Word version of questio...	last month
Questionnaires		Copy-edits to documents (protocol, Word version of questio...	last month
.gitignore		Update to gitignore to add files that are generated by runnin...	last month
0 Create in-process dummy data.R		Initial commit	2 months ago
1 In-process check and clean.R		Initial commit	2 months ago
2 In-process interim reporting.Rmd		Corrected a space in the file name for Excel export of reasons...	last month
3 In-process final report template.Rmd		Initial commit	2 months ago
4 End-process check and clean.R		Initial commit	2 months ago
5 End-process interim reporting.Rmd		Copy-edits to documents (protocol, Word version of questio...	last month
5-End-process-interim-reporting.docx		Initial commit	2 months ago
Kobo credentials generic.R		Initial commit	2 months ago

github.com/Alliance-for-Malaria-Prevention



The Alliance for Malaria Prevention

Expanding the ownership and use of mosquito nets

How to access the course

1



Register — it's free

Go to the IFRC Learning Platform via the AMP website.
ifrc.csod.com

2



Search the catalogue

Find the course by title or keyword, e.g. “cLQAS” or “ITN distribution”.

3



Enrol and self-pace

Work through the six modules in any order — progress is saved between sessions.

KEYWORDS

cLQAS

ITN distribution

household registration

campaign M&E

malaria

coverage assessment

Menti 2

- Have you accessed the cLQAS training?
 - *Yes / No / Not aware of it before today*
- Have you completed the cLQAS training course?
 - *Yes / No / Not aware of it before today*
- For people aware of the course content, would you like to come off mic and offer feedback of your experience with the material?
- Have you heard of the Github website?
 - *Yes / No*



Learning
Platform

language English (UK) ▾

user ID

password

login

new user
not yet registered?

register

forgot password



Online Course

Assessing the quality of ITN mass

Started



Launch



Thank you