NMCC
NATIONAL MALARIA
CONTROL CENTRE

REPUBLIC OF ZAMBIA

THE ZAMBIA ACCESS TO ACT INITIATIVE (ZAAI) SURVEY, 2009

BOOK 5: ANTHROPOMETRICS AND BIOMARKERS

ENUMERATOR'S INSTRUCTIONS MANUAL

IMPLEMENTING FILMS: PALM ASSOCIATES LTD & GEO-HYDRO LTD

Chapter: 1

INTRODUCTION

1.1: Background to ZAAI and Purpose of the Household Survey for the Impact Evaluation

The Zambian National Malaria Program has achieved remarkable success in expanding access to preventive services in recent years. The percentage of households owning at least one mosquito net increased from 48% in 2006 to 72% in 2008, the population covered by Internal Revenue Services (IRS) increased from 1.2 million to 3.5 million during the same period and the share of mothers taking 2 doses of Intermittent Presumptive Treatment (IPT) during their last pregnancy increased from 62% in 2006 to 67% in 2007 (2006 and 2008 Malaria Indicator Surveys [MIS]). The efforts to expand preventive services have translated into a significant drop in number of malaria cases and deaths caused by malaria. The percentage of children with parasitemia decreased from 29% in 2006 to 10% in 2008 and under-five mortality decreased from 168 (2002) to 117 (2007).

While the expansion of preventive services has been extraordinary; malaria case management is substantially lagging behind prevention efforts. According to the results from the 2008 MIS, only 29% of children under the age of five took an anti-malarial within 24 hours of onset of symptom. Furthermore, only 11% of children under-five living in urban area and 5% of those in rural areas took Artemisinin-Based Combination Therapy (ACT), the adopted first line treatment for malaria, within the same/next day of onset of fever. The weakness in the area of case management was discussed during the 2008 mid-term review of the Malaria Booster Project. The National Malaria Control Center emphasized that interventions are needed in order to (i) improve access and guarantee availability of anti-malarial drugs and (ii) ensure availability of diagnostic tools.

Background studies indicate that the relative underperformance in case management is due to several factors including: (i) inefficiencies in the public supply chain of drugs which results in frequent stock-outs of ACTs and Rapid Diagnostic Tests (RDTs) in public health facilities (Picazo, 2006) (ii) price barriers and lack of awareness about ACTs and diagnostics in the private sector, and (iii) limited coverage of the Community Health Workers (CHWs) that are trained in and have access to ACTs and RDTs. CHWs access ACTs and RDTs directly from public health facilities in Zambia.

The Zambia Access to ACT Initiative has, upon request by the Government of the Republic of Zambia (GRZ), been designed to inform the GRZ on how to best increase the access to ACTs and other essential drugs. ZAAI has been designed in close collaboration between the GRZ and several Cooperating Partners (CPs) and will be co-financed by DFID and USAID. The ZAAI has been designed to implement and evaluate the effectiveness of a combination of public and private sector strategies for improving access to ACTs and diagnostics in the country. **The ZAAI has four main objectives:**

i. To enhance public sector supply chain management in order to reduce stock out rates of ACTs and RDTs and improve availability of important medicines and medical supplies at health centres and hospitals throughout Zambia.

ii. To improve access and affordability of ACTs as well as diagnostics through the private sector by introducing a combined ACT and RDT subsidy to private sector wholesalers and other outlets.

iii. To provide access to ACTs and RDTs through Community Health Workers (CHWs), the National Malaria Control Centre (NMCC) has rolled out a CHWs programme in 11 out of the 72 districts. Under the framework of this programme, the NMCC trains CHWs in diagnostics and makes ACTs and RDTs available through the public distribution system. ZAAI will provide funding to further expand the CHWs programme to 2-3 more districts.

iv. To inform policy decision makers about the impact and effectiveness of the above interventions. Observing the impact of the three interventions when implemented either separately or co-jointly is a unique opportunity to quantify the relative effect of each intervention as well as their combined effect on the household decision making on malaria treatment.

Impact Evaluation and Related Survey Work: To achieve the fourth objectives and in line with international best practice, the project will undergo a rigorous impact evaluation, using a randomized design to infer the effect of the interventions. This evaluative research will provide rigorous quantitative evidence on the effectiveness and cost effectiveness of each pilot intervention. The paired public and private sector interventions presents a unique opportunity to measure and evaluate concurrent improvement in both public and private sector accessibility and their joint effect on household access to first line treatment. A key input into this process will be the collection of high quality, comprehensive, and multi-purpose household data, as well as community level data to account for community effects.

1.2 Coverage

The survey will be conducted in three provinces of Zambia namely; Eastern, Northern and Luapuala provinces. In total, eight districts will be covered in these provinces, these are Milenge and Mwense in Luapula Province, Kasama and Chinsali in Northern Province and Nyimba, Chadiza, Lundazi and Chama in Eastern province.

1.3 Sample Design

Rigorous evaluation demands that any observed change in outcomes in areas where the interventions/treatments are implemented is compared with a valid counterfactual representing the course of events that would have occurred in the absence of the intervention. There are various methodological approaches to construct a valid counterfactual, but by far the most rigorous evaluation design is an experimental design where treatment/control status is assigned to a locale on a randomized basis. Randomization assures that all units have an equal chance of control or treatment status and satisfies the conditions of a valid counterfactual comparison.

The public sector intervention is implemented at the district level. A total of 16 out of 58 peri-urban and rural districts will receive one of the two public sector intervention. Urban districts are not included because of the relatively high performance of the health system

in urban areas as well as relatively low malaria burden. Districts will be randomly selected from strata (defined below) to ensure a balance across treatment arms in regards to district characteristics.

An additional eight districts will be selected in the public sector study to serve as controls. Maintaining a relative balance between peri-urban and rural districts, this implies the selection of 8 peri-urban and 16 rural districts among the total 24 selected. The treatment arms and control status will be randomly assigned within this sample of 24, stratified by rural or peri-urban status as well as by the three macro-regions of the country.

Facility data collected in 2006 indicates there are 4 significant predictors of ACT stock outage at the facility level (in addition to rural/peri-urban status). These predictors are: malaria incidence (a positive relationship), likelihood of phone at facility level (a negative relationship), district population (negative relationship), and average catchment area of facility (positive relationship). Together these predictors account for about 15% of the variation in observed ACT outages in the non-urban districts.

Given these findings, districts within each region and peri-urban or rural category are further grouped into "high risk" districts (those that have either 3 or all 4 of these risk factors) and "low risk" districts (those with 2 or fewer risk factors). An equal proportion of high and low risk districts are randomly selected into the study sample. As a final step, the assignation of districts to System A (district stores plus CP), B (cross-docking plus CP), or Control (existing system) are also randomly determined.

This method results in the selection of districts listed in Annex 1 Table 1.

The private sector intervention is geographically targeted to four districts. Limiting the private pilot's scale (compared to the public intervention) is required due to the costly nature of the ACT and RDT subsidy. Because of the cross-over nature of the study, two of the districts with the private intervention will also receive some version of the public sector intervention.

Again, only rural and peri-urban districts will be randomly selected into the private sector intervention since the malaria burden in urban districts is comparatively low.
The four selected private sector districts are listed in

Scope of ZAAI Household and Community Survey Sample Coverage:

• *Household Survey*, with a sample size of 2,700 households, covering 8 districts in Zambia. A total of 20 communities will be sampled in 7 districts, and 40 communities will be selected in 1 district, resulting in a total of 180 communities across the 8 districts. In each community 15 households will be sampled.
• *Community-Level Survey*, covering the 180 sampled communities in the 8 districts.

To reflect recent discussions with the NMCC regarding the evaluation of CHWs, this contract is scheduled to be extended to cover additional 2 districts with 40 communities, resulting in a total increase of 80 communities. The addition of these districts will require

the Firm to integrate this sub-component into the ZAAI survey.

Table 1. Survey Districts

	Province	District	Public Pilot	Private Pilot	CHW Pilot
1	Eastern	Chadiza			
2	Eastern	Chama	B		
3	Eastern	Lundazi		Yes	
4	Eastern	Nyimba			
5	Northern	Chinsali		Yes	
6	Northern	Kasama	B	Yes	
7	Luapula	Milenge	A	Yes	
8	Luapula	Mwense	A		

1.4 Survey instrument

To offset these limitations, the evaluation will include a household survey. A combined malaria indicator and socioeconomic household survey will be administered in randomly selected households in both the control and intervention districts prior to the intervention (baseline), and one year following the baseline survey (follow up).

- The household survey modules will provide data on: household composition (age, gender, etc.), consumption, assets, education, labor supply, health seeking behavior, fever/malaria episode-related KAP, history of malaria within the household, treatment seeking behavior, WTP for anti-malarials, fever/malaria related expenditures, and opportunity costs of illness.
- In addition, the survey will collect biomarker tests: parasite prevalence, hemoglobin, and anthropometry will be collected from all household residents. Upon consent from the household member or his/her guardian, parasite prevalence will be tested using Rapid Diagnostic Test kits (RDTs). The procedure is mildly intrusive, whereby a small sample of blood is taken by standard finger-prick methods using a sterile lancet (the same sample will be used for hemoglobin assessment). Trained public health technicians will be responsible for all blood collections.

All surveys will be performed according to the international guidelines for human experimentation in clinical research. Ethical clearance for the survey has already been obtained from the MOH.

Complementary data will also be collected to track and understand the effect of potential confounders, and to, ideally, ensure lack of contamination between treatments and control groups, or, if unavoidable, to best mitigate these effects during the analytical work. Complementary data includes: i) monthly weather statistics; ii) community factors, including changes in behavior communication related to fever/malaria prevention and treatment, etc.; and iii) specialized agency consultations (MOH, NMCC, NRA, MLS, DHMT, etc.) to track/control for confounding interventions, such as introduction of new programs (e.g. additional preventive intervention ITNs, IRS etc. through other donors; changes in the regulatory regime, etc.)

In addition to tracking operational progress and the impact of the interventions on the population, the study includes a rigorous costing and cost effectiveness component. The cost-effectiveness analysis will provide evidence on the relative costs and consequences of different interventions in order to assist in priority-setting and budget allocation. Costing will inform on accounting and economic costs of the interventions. Cost effectiveness will inform on the gross (incremental cost of intervention only) and net costs (incorporating potential cost savings as a result of the intervention, measured e.g. as cases averted, reduction in productivity loss, etc.) of the interventions.

Table #: Table of Content (TOC) ZAAI (Version 04.08/09)

B#	BOOK COMPONENTS	RESPONDENT	Section #	SECTION	Sub-Section #	SUB-SECTIONS
0	Consent Forms	Interviewer & Respondent		Informed Consent		
BOOK 1	1.A Roster	Interviewer	0	Survey Cover ZAAI		
				Interviewer Notes		
		HH Head or Eligible Adult	1	HH Listing & Flap (Names, ID, Eligibility)		
			2	Education		
			3	Labor		
			...	...	...	...
			5	Housing		
	1.B Household Socioeconomic Status	Respondent: HH Head or Eligible Adult	6	Household Assets	6.1	
				Household-level Economic Activity	6.2	Non-Farm Enterprise
					6.3	Farm Enterprise
			7	Transfers and Other Income	7	
	1.C. Household Consumption and Malaria Behavioral Questions	Housewife or Eligible Adult	8	Consumption	8.1	Weekly Food
					8.2	Monthly Non-Food
					8.3	Annual Non-Food
				Malaria KAP / Prevention - Behavioral Questions	8.4	Bednets / IRS
					8.5	Malaria KAP
BOOK 2	2.A. Adult Health	HH members >12 (*ill with fever in past 3 months)	10	Adult Health	10.1	Health Status and Utilization
		...			...	...
		HH members >12 (*ill with fever in past 3 months)			10.3	Health Care Satisfaction (Only for Fever/Malaria Care)
		HH members >12	11	Mental Health	11...	
		HH members >15		Time Preference	11.2	Risk Preference (G/H Likelihood)
		HH members >18			11.3	Risk Preference (F-SG)
		HH members >18			11.4	Time Preference (F-SG)
	2. B. Willingness to Pay (WTP) for ACT & RDT	1 HH member >18 (Random Selection)		WTP for ACT & RDT	11.5	Base Questions
					11.6	WTP Bid Game
					11.7	Malaria Risk Profile (HH-Level Experience)
B4	4. Child Health	Mothers/primary caretakers with children <12 (*ill with fever in past 3 months)	14	Child Health	14.1	Health Status & Utilization
					14.2	Health Care Satisfaction (Only for Fever/Malaria Care)
B5	5. Anthropo & Biometrics	Children Under 5 & Women (15-49)	16	Medical	16.1	Antrhopometrics
					16.2	Biomarkers (Anemia and RDT)

Notes: F-SG Financial Standard Gamble; G/H LikelihoodGeneral / Health-Specific Likelihood Questions

Chapter: 2

DUTIES AND PERFORMANCE OF ACTIVITIES

(a) Importance of Interviewer Performance

As an interviewer, your work is of great importance because the collection of quality data highly depends on you. An interviewer serves as a link between those who analyze and use the data and the respondents who furnish the data. The information collected in any survey is only as good as the interviewers working on the survey. Quality depends on all interviewers following the same procedures. Only when the same techniques have been used for all interviews can the data be effectively analyzed and interventions confidently implemented.

(b) Ethics and Rules of Conduct of Interviewers

As an interviewer, it is your responsibility to keep completely confidential anything you learn and observe during an interview. Never disclose any facts about anyone you interview to someone else. Respondents should be told that the information they provide will be used in statistical form only and that their names will not be associated with their answers when the data are analyzed.

Things You Must Do

- You must introduce yourself on every visit and explain to the respondent the reason for your visit before starting the interview. Read out the consent statements (Malaria/Anaemia and Anthropometric), explain clearly in local language.

- You must read and intensively study your manual to become thoroughly familiar with its contents in order to do your work efficiently.

- You must ask the questions in exactly the same way to each respondent and in the same order in which they are presented in the questionnaire.

- You must make every effort to write legibly, and keep the documents you are working on clean and free from damage.

- You must attend to all 'call-backs' as early as possible, and must be punctual in keeping all appointments made.

(c) List of Basic Duties and Responsibilities

As a primary data collector, you must understand that data quality starts at the source. This means that you play a major role in collecting quality information from the households. After the data is collected, and is found to be erroneous, at the processing stage it will not only be an expensive venture to go back and make corrections from the source, but it could prove to be impossible since you may be dealing with a different respondent. Your duties and responsibilities are as follows:

- Attend the training course and all other scheduled meetings
- Study this manual very carefully and remember the main points that are explained here. Become fully familiar with the questionnaire
- Complete all the data collection activities as required
- Review each completed questionnaire for accuracy and completeness
- Submit completed questionnaires to your Supervisor as promptly as possible
- Enumerate all the Households sampled in the SEA
- Ensure that all survey materials are looked after properly and returned to the supervisor after the survey exercise is over
- Keep all information received completely confidential.

(d) Timeliness of the submission of questionnaires

Prompt submission of the questionnaires is absolutely crucial for timely processing. If submission of the forms is delayed, it will be impossible to process them on a timely basis. The value of the data for planning and decision-making is directly related to its timeliness.

Chapter: 3

GENERAL INTERVIEWING PROCEDURES

3.1 Preparing for the interview

There are four important steps that must be taken before you visit the household.

a) Reviewing the Interviewer's Manual
This includes reviewing the general interviewing procedures, the specific field procedures and the question-by-question instructions.

b) Reviewing the Questions on the Survey Questionnaire
Before you begin interviewing, practice using the questionnaire to build up your confidence. A successful interview requires an interviewer who fully understands the survey questionnaire and can use it easily and correctly. Stumbling through the questionnaire (losing your place, shuffling papers, etc.) can disturb the person being interviewed.

c) Organizing Survey Materials
Be sure you know what survey materials you need and that you have them with you before going into the field to interview.

d) Appearance and Behaviour
The first thing a respondent notices about the interviewer is his/her appearance. It is important to create a good impression by being polite, neat and courteous.

3.2 Establishing a good working relationship

A comfortable relationship between the interviewer and the respondent is the foundation for good interviewing. The person's impression of you during your visit will largely determine the atmosphere during the interview. If you seem bored, uninterested or hostile, the respondent will probably act in a similar way. This means that you have to impress the respondent as being someone who is friendly and understanding. Through your behaviour you can create an atmosphere in which the respondent can talk freely.

3.3 Using the survey questionnaire and asking the questions

The goal of the interview is to collect accurate information by using the questionnaire and following standard interviewing practices. To reach this goal, the interviewer needs to understand the survey questionnaire, including how to ask the questions, how to follow the instructions in the questionnaire and how to identify the types of questions.

In asking the questions, observe the following rules:

Remaining Neutral

The questions in the questionnaire are all carefully worded to be neutral. They do not suggest that any answer is preferable to another, therefore when asking these questions you must maintain a neutral attitude with the respondent. You must be careful that nothing in your words or manner implies criticism, surprise, approval, or disapproval of either the questions asked or the respondent's answers.

You can put respondents at ease with a relaxed approach and gain their confidence. The respondent's answers to the questions should be obtained with as little influence as possible by the interviewer. Another interviewer should be able to obtain the same answers as you.

Asking Questions in the Order Presented

Never change the order of the questions in the questionnaire. The questions follow one another in a logical sequence; to change that sequence could alter the intention of the questionnaire. Asking a question out of sequence can affect the answers you receive later in the interview.

Asking Questions as Worded

Do not change the question. If the respondent does not seem to understand the question, simply repeat it. In order that the information from the questionnaire can be put together, each question must be asked in exactly the same way to each respondent.

In some unusual cases, the respondent may simply not be able to understand a question. If it is apparent that a respondent does not understand a question after you have repeated it using the original language, you can rephrase it in simpler or colloquial language. However, you must be careful not to alter the question when doing this.

Avoid Showing the Questions to the Respondent

Respondents can be influenced by knowing what questions are coming next or by seeing the answer categories that are not asked together with the questions.

3.4 Instructions in the questionnaire

In addition to the questions you must ask, the questionnaire contains instructions for you, the interviewer. The instructions are for you to use the questionnaire correctly and must be followed closely.

`Skip'= Instructions

`Skip' instructions usually are written out. You must read the `Skip' instructions with care, so that you do not skip questions, which should have been asked. Likewise, it is important that you skip to the correct question when necessary. If you are careless, you may skip some questions incorrectly and miss some essential information. When questions are not asked because of a `Skip' instruction, leave

the response boxes blank. The questionnaire has a good example of an important skip pattern.

EXAMPLE: Question 16.12: RDT test result
Answer:

GE +……1
GE -……2 → go to next person

3.5 Probing

(a) Probing and Why It Is Necessary
Probing is the technique of questioning by the interviewer to obtain a full, complete and relevant answer. An answer is probed whenever it is not meaningful or complete, that is when it does not adequately answer the question.

Probing must be done without introducing bias or antagonizing the respondent. Respondents must never be made to feel that you are probing because their answer is incorrect or unacceptable.

(b) Understanding the Intention of the Questions

When you understand what the intention of each question is, you will know in what way a particular answer falls short of being satisfactory. Then you will be able to devise a probe in such a way that you are able to meet that gap. This will require ingenuity, tact and persistence.

(c) Neutral Probing Methods
It is always very important to use neutral probes. By `neutral', we mean that you must not imply to the respondent that you expect a particular answer or that you are dissatisfied with an answer.

The reason for probing is to motivate the respondent to answer fully or precisely without introducing bias. Bias is the distortion of responses caused by the interviewer favouring one answer to another.

Some respondents have difficulty putting their thoughts into words. Others may give unclear or incomplete answers; still others may be reluctant to reveal their attitudes. You must deal with such factors and use procedures that encourage and clarify responses. The following kinds of probes might help you obtain more accurate responses.

(e) When to Stop Probing
You should stop probing when you have a clear, relevant answer. However, if at any time the respondent becomes irritated or annoyed, stop probing that question. We do not want the respondent to refuse to complete the rest of the interview.

3.6 Controlling the Interview

While it is important to maintain a pleasant, courteous manner in order to obtain the respondent's co-operation, you must also be able to control the interview so that it may be completed in a timely and orderly fashion. For example, when answering questions, the respondent may offer a lengthy explanation of problems or complaints. In this situation, you must be able to bring the discussion to a close as soon as possible so that the interview may continue. Politely, tell the respondent that you understand what he is saying but that you would like to complete the interview. If necessary, you may try to postpone any outside discussion by saying `Please, let's finish this interview first and we can talk about that later'.

In some cases, the respondent may start to provide information about some aspect of his farm that is covered at a later time during the interview. Again, you must control the interview by telling the respondent that you must ask other questions first and that he should wait until later to provide information on that particular aspect.

3.7 Recording the Answers

Asking the questions correctly and obtaining clear answers is only part of your job. Equally important is recording the answers given by the respondents.

(a) Legibility

It should be obvious to you that all the entries you make in the questionnaire must be legible. If your Supervisor cannot read an entry, the questionnaire will be returned to you for correction. When this happens, much time will be wasted. Since you must spend a great deal of time to go to a household and obtain the information in the first place, why not take care in recording information so that no one else will have difficulty in reading it later.

(b) Recording responses

All responses that require written words should be clearly printed in block letters rather than script. All numbers should be clearly written so that one number is not confused with another. Remember that the numbers will be used in both hand and computer calculations.

3.8 Interviewer comments/calculations

The only kinds of entries that should be made in the spaces provided for answers are names or numbers. If any other notes or explanations are necessary or if you must do some arithmetic, use the spaces around the table or below the questions. Do not make any comments or calculations inside a space provided for an answer. If you require more space for comments/calculations, use any available space on the page with reference to the item number on which the comments/calculations are being made. The use of the spaces around the table for comments or calculations is very important. An important phrase to remember is `When in doubt, write it out'.

3.9 Ending the interview

It is important that you leave the respondent with the idea that you are grateful for his or her co-operation. After all the questions have been asked, thank the respondent and mention that his or her co-operation has been most helpful in providing the information for the survey.

Chapter 4:

GENERAL CONCEPTS AND DEFINITIONS

It is important that you acquaint yourself with the general concepts and definitions used for this survey before embarking upon the fieldwork.

Definitions

Qualified Respondent: An adult female member of the household aged 15 to 49 years and is knowledgeable about Children under the age of 5 is a suitable respondent. It is not necessary that all the information be given by one person. A respondent may consult any other member of the household on different items in the questionnaire.

Household: Consists of all members of one family who are related by blood, marriage, or adoption, including other persons, such as house-help or farm labourers, if any, who normally live together in one house or closely related premises and take their meals from the same kitchen. It may also consist of one member.

Household Member :

1. Any individual who in the last 12 months has lived with the household for at least six months regardless of whether they have intentions to stay or not;
2. An individual attending school away from home;
3. Newly born babies;
4. Individuals who are newly wedded-in;
5. Individuals who have stayed for less than six months but have come to stay with the household.

Non-Household Member:

1. An individual who may have left the household with no intention of rejoining the household;
2. Individuals who are married away.
3. All other household who do not meet the criteria for household membership

Head of Household: A person who is considered to be the head by the members of the household. The husband, in a matrimonial household is usually taken as the head of the household. In his absence it is the wife or the eldest member of the household who assumes responsibility of head of household.

Rapid Diagnostic Test (RDT): This is a device which can be used to test whether or not a person has malaria. The test is safe to use and causes no pain or discomfort, as they require only a drop of blood obtained through a finger prick and results are ready in 15 minutes. It can be used on both children and adults of all ages, including children under five years old and recently born infants.

Atimisinin-Based Combination Therapies (ACTs): This is basically "Coartem", the most recommended medicine for the treatment of malaria. It is recommended by the National Malaria Control Centre. There are many kinds of such therapies and Coartem is very effecitive in Zambia.

Chapter 5:

How to select the respondent

You are required to use the sticker of random numbers which have been provided to select the respondent. This sticker of random numbers has numbers 1 to 15 which represent the ID codes of the household members. When selecting move along the row (from left to right, then top to bottom). The first one to be selected among the eligible persons is the one to interview because he/she matches the criteria.

Selection Criteria: Randomly select among household members a knowledgeable female adult aged 15 to 49 years old. The 1 who comes first on the selection list if eligible. For example, if there are 4 members in the household, the household head who is male and 3 are female adult household members ages (25 years-code 02, 21 years-code 03 and 19 years-code 04), the first one to be found among the 3 female members qualifies for the interview.

The random sticker before selection will look as below

RANDOM STICKER AT THE BEGINNING:

15	06	04	07	10
14	11	03	12	13
08	02	01	05	09

Select from left to right, top to bottom. Remember we are selecting among the 3 adult female members aged between 15 to 49 years (ID 02, ID 03 and ID 04). Looking at the sticker after selection below, 04 (female adult number 4) has been selected because she comes before the others.

RANDOM STICKER AFTER SELECTION:

~~15~~	~~06~~	04	07	10
14	11	03	12	13
08	02	01	05	09

What it means is this;

15 Doesn't exist
06 Doesn't exist
04 Yes, Select because he/she is eligible or matches the criteria
07 Doesn't exist
10 Doesn't exist
14 Doesn't exist
11 Doesn't exist
03 No
12 Doesn't exist
13 Doesn't exist
08 Doesn't exist
02 No
01 No
05 Doesn't exist
09 Doesn't exist

The same method applies when selecting a child under 5 years of age. In the event where the individual to be tested refuses the blood testing, the medical assistant should ask another eligible household members. If all the eligible individuals refuses, then consider it a refusal on the result of the interview.

Chapter 6:

Zambia Access to ACT Initiative (ZAAI) DATA COLLECTION PROCEDURES

Approaching a Household

The interviewer is expected on the onset to identify himself/herself by name and explain the purpose of the visit, the confidential nature of the interview, and the expected time the interview will take. The purpose of the interview is to collect data which when processed will provide information, which will assist policy makers plan and make better decisions. The interviewer is not expected to make promises. Just stick to the purpose. The interviewer can mention that he/she is merely the eyes and ears of government.

COVER PAGE

Items 1 to 8 will be entered on each questionnaire prior to the interview. The Supervisor should ensure that the interviewer completes all the entries. For the medical assistants, this information will be copied from the household questionnaire.

1. Province
Write, in the space provided, the name of the province in which you are operating, and enter the province code in the box provided.

2. District
Write, in the space provided, the name of the district in which you are operating, and enter the district code in the boxes provided.

3. Constituency
Write, in the space provided, the name of the Constituency in which you are operating, and enter the Constituency code in the boxes provided.

4. Ward
Write, in the space provided, the name of the Ward in which you are operating, and enter the Ward code in the boxes provided.

5. Census Supervisory Area (CSA)

Your supervisor will give you the number of the CSA in which your work area is located. Enter this number in the boxes provided.

6. Standard Enumeration Area (SEA)
This is the area allocated to you for enumeration. Enter the number in the box provided.

7. Household Serial Number
Enter the household serial number as shown on the LIST OF SELECTED HOUSEHOLDS, in the boxes provided.

8. Village/Locality
Write the name of the village/locality in which the household is located. This is also indicated on the LIST OF SELECTED HOUSEHOLDS. You can also confirm the locality name with the household.

9. Chief/Chieftainess area
Indicate in which chiefdom the household is located LIST OF SELECTED HOUSEHOLDS.

10. Name of Head of Household
Write, starting with the family or second name, the full name of the head of the household you are interviewing. This is also shown on the LIST OF SELECTED HOUSEHOLDS.

11. Name of Main Respondent
Identify the household head but if the head is not there, the interviewer should identify a qualified respondent who is knowledgeable and can answer questions. Write, starting with the family or second name, the name of the main respondent.

12. GPS Coordinates of household

The Global Positioning System (GPS) is a worldwide space based navigation system, operated by the Department of Defense (DoD) of the United States of America (USA). The satellite gives out signals that can be picked up by GPS receivers for positioning and navigation. Basically, GPS is usable everywhere, except at the poles and where it is impossible to receive the signals, such as inside buildings, in caves and under water.

Write down the coordinates of the homestead from the GPS receiver starting with the longitude, followed by latitude and then the altitude in meters.

13. Medical Assistants (Interviewer)'s name

Write your name against 'Medical Assistant's name' and the date on which you first interviewed this household against `Date of first interview'. If you visited a particular household more than once indicate you name and the date of the second visit against 'Date of second interview',. Leave the spaces for `Supervisor' blank. The Supervisor will complete this part

14. Result of interview

Record the response status for the questionnaire by book using the following codes:-

Complete Response: i.e., the interview was successfully completed, enter 1.

Partially completed: i.e. the interview was not wholly completed, enter 2.

Refusal: i.e., the household refused to co-operate, enter 3.

Household members not present (Non-contact): i.e., for some reason, no responsible adult member was available during the period of the survey. The Supervisor has to ensure that the interviewer visits these non-contact households at least three times during the course of the survey. Enter 4 if Household members not present.

Other (specify): Any other response which can not fit in the above categories should be coded as '96' and write down the answer given.

Enter the appropriate response status code in the box provided.

The interviewer should report to the supervisor all response status entries other than 'completed' and the supervisor should investigate all such cases. Final entries of the response codes other than 'completed' should be done only after the supervisor has completed his/her follow ups.

16. Screener

These will be provided by supervisor following listing and random selection of the 7 fever screened households. You will have the list so these on the cover are just to help you and the supervision process. If any household member had fever/malaria 1 month prior to the day of listing recode code '1' if the response is yes and '2' if the response is no in the box provided.

Also record the ID codes of the persons found with parasitemia (malaria) during the testing exercise.

17. Tracker

These will as well be provided by supervisor following listing and random selection of the 8 Population Representative Households. These are those households which did not experience fever/malaria 1 month prior to the day of listing.

Record the ID code of the persons found with low hemoglobin level (Anemia).

18. Supervisor's name:

Leave the spaces for `Supervisor' blank. The Supervisor will complete this part, he or she will also enter the date the questionnaire was checked.

19 and 20. Data Entry Operator and Data Entry Supervisor:

This space should also be left blank for the Data Entry Operator and Data Entry Supervisor respectively.

HOUSEHOLD ROSTER (BOOK 1)

Section 1: Household Listing and Flap

Q1.00: Make sure that only members of the household are included in the interview. Use the definition from the manual.

Q1.01: List the names of all usual members of the household. Write in block letters starting with the head of the household. Ensure that you start with their family or surnames first.

Q1.02: Is …… male or female?

Record the sex of each household member. If you can tell the sex of a person you are talking about you should record the response without asking. If you are in doubt about the

person's sex who may not be present at the time of the interview, ask for the sex of that person. Record code '1' if the response is male and '2' if the response is female.

Q1.03: Copy the age of each household member from Q1.12 in the household roster. For babies and infants under the age of one record zero in the year column.

Q1.04: Circle the IDs of all household members above 18 years old.

Q1.05: Circle the IDs of all household members above 12 years old.

Q1.06: Circle the ID of all women 15 – 49 years old

Q1.07: Circle the ID of all women with children 0 to 12 years old

Q1.08: Circle IDs of all children under the age of 5.

Q1.09: Circle IDs of all Pregnant women.

BIOMARKERS (BOOK 5)

SECTION 16.1: MALARIA AND ANEMIA TESTING CONSENT FORM

Refer to the flap in the household questionnaire for most of the questions in this section.

(3) Will there be need to list all the household members in the consent form? I would suggest that we only enter the eligible members selected from the flap. Respond to this……

Q1.01: Copy the names and surnames of all the children under the age of 5 years and adult female household members aged 15 to 49 years from the flap.
Here you should list the names and surnames of all the people living in this household, beginning with the head of the household. Make sure that only members of the household are included in the interview. Use the definition from the manual for the household questionnaire. Record each name separately in the appropriate box.

Q1.02: Gender
Record the gender of all the children under the age of 5 years and adult female household members aged 15 to 49 years from the flap. If you can tell the sex of a person you are talking about you should record the response without asking. If you are in doubt about the person's sex who may not be present at the time of the interview, ask for the sex of that person. Record code '1' if the response is male and '2' if the response is female.

Q1.03: Copy age from Q1.12, from household roster (Book 1).
Ask the age of each household member. For infants or babies that are under the age of 1, record '0.' For example if a person is 8 years 11 months, you should record 8 only. Just record the number of years the person has completed, ignore the months.

Q1.04: Circle the ID of all female household members aged 15 to 49 years.
Refer to the flap in the household questionnaire.

Q1.05: Circle the ID of all women with children aged 0 to 5 years.
Circle only those mothers who are household members.

Q1.06: Circle the ID of all children under 5 years old.

Q1.07: Read Consent form to Mother/Adult Responsible for the Child, Have them sign. (See consent statement below)

Make sure they clearly understand the procedure and have signed the consent form against the eligible persons. If they do not consent to the test, make sure they still sign in the NO space provided.

Malaria and Anaemia Consent Statement

Context

To match the extraordinary progress in malaria prevention in the past few years, the National Malaria Control Center (NMCC) has put more emphasis on case management and is committed to (i) improve access and guarantee availability of anti-malarial drugs, particularly of the first line drug, Artemisinin Combination Therapies (ACTs), and (ii) ensure that diagnostic tools are available and accessible even in remote areas.

The Zambia Access to ACT Initiative has, upon request by the Government of the Republic of Zambia (GRZ), been designed to inform the GRZ on how to best increase access to life saving malaria treatment (such as ACTs) and to diagnosis that can best target this treatment. The GRZ is emphasizing the use of Rapid Diagnostic Test (RDTs) in malaria testing, a technology that is affordable and can be made more widely accessible than routine microscopy – an important consideration given the size of the rural population in Zambia.

ZAAI Survey Biomedical Tests Objectives, Safety & Privacy Standards

To help the efforts of the NMCC in improving malaria prevention and case management, as part of the ZAAI survey, we are asking people to take two tests: anaemia and malaria. These medical tests are simple and fast to do, completely safe, and painless. We are working with experts from the Tropical Disease Research Centre (TDRC), Zambia, and rely on the protocols developed by the World Health Organization (WHO) to comply with all technical, environmental, and safety procedures. The results will be kept confidential.

Target Group

For the anaemia and malaria test, we request children under the age of 5 (born after 2004) and all female household members age 15-49 to participate in the biomedical testing, giving a drop of blood obtained through a fingerpick – a simple, virtually painless, and safe testing method.

Test Procedures

Malaria is caused by a parasite that infects blood cells. These parasites cause fever and other symptoms common to malaria. Malaria parasites produce chemicals (proteins) called antigens.

1. **Rapid Diagnostic Test:** One way to test for malaria parasites is to do a rapid Diagnostic Test (RDT). RDT requires taking a drop of blood obtained through a finger prick. If malaria antigens are present, the person will test positive. If malaria antigens are not present, the person will test negative. RDTs are completely safe to use for children and adults of all ages, including children under five years old and recently born infants and cause virtually no pain or discomfort. The kit that will be used has never been used before and will be thrown away after each test. Results are typically given in 15 minutes and can be used to ensure that the sick person gets the most appropriate treatment for his/her illness and therefore has an increased chance of recovering quickly and is less likely to suffer negative long-term consequences/effects.. The new clinical guidelines, approved by the Ministry of Health (MOH) and the National Malaria Control Center (NMCC), encourage the use of RDTs.

2. **Hemocue Test:** Since malaria can be symptomatic, another way to test for malaria is to look at anaemia (low levels of blood). This is done by taking a sample of blood obtained through a finger prick and examining the sample with a Hemocue machine. Such machines have been in use for the past 25 years. They are clean, completely safe, and endorsed by the MOH.

Benefits

Testing for malaria and anaemia is important so that people in these vulnerable target

groups (under-five children and women of reproductive age) who have malaria or anaemia can be treated in the best way possible.

Further, these tests will still be useful for those who do not test positive for malaria and/or do not have critical hemoglobin levels, but still have medical complaints. These people will be advised on where to seek consultation and care in order to establish the true cause of their ill health. For those who will test positive for malaria will be given Coartem and folic acid for those with low hemoglobin level (with anaemia).

Risks
This is a mildly intrusive procedure that is not painful. You and your child will feel a pinch that will last a few seconds when we take the blood test. This will not cause any harm to your health.

Confidentiality
Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Your responses can be linked to your personal information only through a number that will be kept secure by the survey administrator. The study will focus on the average answer within your community and not on individual answers. The honesty of your answers is very important.

If you have any questions or clarification pertaining to this survey, please feel free to ask. You may also contact [The Principal Operational Research Officer], National Malaria Control Center, Ministry of Health, Lusaka. Tel: 0211 282455.

Anthropometric Consent Statement

In addition to learning about you and your child's health and recent illnesses, we are also interested in how children living in this area are growing, and in the health of all females aged 15 to 49 years in the household. Both children and adults are commonly measured and weighed when they go to a clinic as a routine health exam. For this reason, we are going to measure and weigh you and your child. This is a simple procedure and will not cause any pain or risk to your health. You can see all the equipment (weighing scale and height boards) we will use in front of you. We will need your cooperation (mother or caregiver) when weighing and measuring your child.

Would you allow us to take these measurements on you and/or your child? Only proceed if they allow you to do so. If allowed, indicate whether eligible person has been measured or not, and if not measured or absent, find out the reason. Follow skip instructions closely.

Anthropometric Measurement

Anthropometry measurement is a system for estimating nutritional and overall health status of an individual or a population. It is used for screening children at risk of malnutrition; it measures short term changes in nutritional status; it assesses and predicts performance, health, and survival of individuals as a reflection of population; it can help to determine a program's impact; and if used properly and followed upon, it can demonstrate a program's success.

SECTION 16.2: HEIGHT AND WEIGHT

This section refers to all children that are under the age of 5 and all female household members between the ages of 15-49. Before you begin this section, make sure to explain in detail what you are about to perform, and ask for their permission (consent) first. The consent statement can be found in Q16.02; please make sure you read it beforehand. They should completely understand what is about to happen to them, as children who have never had their weight and height measured, can (rarely) experience trauma since they have never been measured. Therefore, participants need to be completely comfortable with the process. The measurer should be well prepared to carry out the exercise.

Preparation: To prepare for the anthropometry you should ensure that the equipment is clean, and safely secured. Work out of direct sunlight since it can interfere with reading scales and other equipment and it is more comfortable for the measurer, child and female household member.

Typically, there are two people required to take measurements: The measurer holds the child and takes the measurements. The assistant (in this case the mother or caregiver) helps hold the child. If the assistant is the caregiver/mother, the trained medical assistant will also record the measurement down on the questionnaire. Be very careful to record the correct measurement for each individual. Do this slowly, and carefully. Do not rush, as this may confuse you.

Measuring board and placement: There will usually be several choices on where to place the measuring board or scale, but the choice should be made carefully. Be sure that you have a strong, flat surface for measuring boards and adequate light so the measurements can be read with precision.

When to weigh and measure: Weighing and measuring should not be the first thing you do in the interview. It is better to begin with questions that need to be answered. This helps make the mother and child feel more comfortable before the measurements begin.

Control the child: When you are taking weight and height measurements the child needs to be as calm as possible. A child who is excited or scared can make it difficult to get an accurate measurement. Ensure that the caregiver/mother helps in controlling the child.

Recording measurements: All measurements and entries in the questionnaire should be recorded in pencil. If a mistake is made when recording, it can easily be erased and corrected.

Question 16.01: Record individual's age from flap.

Do not ask the respondent for the age of the eligible persons, simply copy from section 1, "household roster".

Question 16.02: Read aloud the anthropometric consent form to all the women aged 15 to 49 years old.

Read and explain the anthropometric consent to the respondent what it means. See the anthropometric consent statement above.

Question 16.03: Record height in centimeter.

Measure height of one person at a time and record results in centimeters. Exclude the handicapped, deformed and/or those not present or critically ill. All measurements should be recorded in pencil, and please, record the exact number and use the decimals accordingly *(for example, 120.1 centimeters).* Be sure you have a strong, flat surface for the measuring boards and adequate light for reading the measurements. Ensure that the participants are comfortable at all time. Each enumerator will be provided with a height board.

Question 16.04: Record the method for measuring height.

Two possible methods have been provided, record only the most appropriate. Is it Standing or Lying down? The Lying Down Method only applies to children under the age of 2, especially those who are unable to stand straight while the Standing up method is used on the older children and the eligible female household members. Record '01' for standing and '02' for lying down.

Height measurement with height boards[1]

Height boards are designed to measure children under 2 years of age lying down (recumbent), older children and eligible female household members to be measured while standing up. The board should measure up to 120 cm (1.2 meters) for children and be

[1] Adapted from Anthropometrics Instrument Measurement Guide by Bruce Cogil, Fanta Project.

readable to 0.1 of a centimeter. A measuring board is a lightweight, durable, and have few moving parts.

Each medical assistant should, preferably, have their own board, otherwise it might take too long to do measurements and complete the survey.

Procedure for height measurement-lying down (children under 24 months)

- Place the measuring board on a hard flat surface, i.e. ground, floor, or steady table.
- Lay the child on the board by supporting the back of the child's head with one hand and the rest of the body with the other hand. Gradually lower the child onto the board.
- Have the assistant cup her hands over the child's ears. With her arms comfortably straight, place the child's head against the base of the board so that the child is facing up. The child's line of sight should be perpendicular to the ground. The assistant's head should be straight over the child's head, looking directly into the child's eye.
- Make sure the child is lying flat and in the center of the board. Place your left hand on the child's legs on the knees. Press them firmly against the board. With your right hand, place the foot piece of the board firmly against the child's heels.
- Check child's position.
- When the child's position is correct, read loud the measurement to one decimal point (e.g. 30.1 cm). Remove the foot piece and release your left hand from the child's knees.
- Record measurement as soon as child is released.

Procedure for height measurement-standing (children 24 months or older, and female household members aged 15 to 49 years)

- Place the measuring board on a hard strong flat surface, i.e. ground, floor, or stable table. Make sure the board is not moving.
- Remove the child's shoes or any hair braids that can interfere with the measurement. In the case of an eligible female household member, ask her to take off her shoes and any other items that may interfere with the measurement.
- Make the child/eligible female stand with feet flat and together in the center and against the back and base of the board.
- Child/eligible female's head should look straight with shoulders level.
- Record measurement immediately.

Make sure to take your time, and record each measurement very carefully, so as not to confuse measurements.

Question 16.05: Record weight in kilograms.

Determine weight of every individual except for the handicapped, deformed, absentees and the critically ill. . Be sure to carefully decide where to put your weighing scale. Weigh one person at a time to avoid potential problems with mix-ups that might occur if you have several people to measure. Make sure that the participants are comfortable at all time. Each medical assistant will be provided with a weighing scale.

Record the exact number to 1 decimal place (e.g. 120.1 kilograms) and should be in pencil.

Weight measurement with Electronic Scale[2]

Routine Calibration (checking of the instrument)
To ensure the scale is functioning properly, a 'rough' calibration must be done routinely. First, step on the scale and weigh yourself, noting your weight. Second, add one or two 2kg calibrated weights and check to make sure the displayed weight increases accordingly.

The United Nations International Children Emergency Fund (UNICEF) have found electronic scales to be durable and flexible especially given the option of weight for the mother with the child. The scale should measure to the nearest 100g.

Each medical assistant should, preferably, have their own weighing scale, otherwise it might take too long to do measurements and complete the survey.

Procedure for weight measurement—child alone

- Adjust the scale to zero 0.
- Remove excess clothing off child e.g. shoe, caps, etc.
- Ensure that the scale is not overheated in the sun and is on an even surface enabling the reading to be clear.
- Place the child on the scale and check the position.
- Wait for weight measurement to stabilize.
- Calm the child while on the scale.
- The interviewer taking the reading of the scale should be properly positioned in front of the child to ensure accurate reading to the nearest 1 decimal point (e.g. 15.1 KGs).

The same procedure should be repeated for eligible female household members.

In situations where the child struggles or is unable to stand alone on the scale, then the mother can be weighed with the child.

[2] Adapted from Anthropometrics Instrument Measurement Guide by Bruce Cogil, Fanta Project.

Procedure for weight measurement—child with mother/caregiver

- Adjust the scale to zero 0.
- Remove excess clothing off child e.g. shoe, caps, etc.
- Ensure that the scale is not overheated in the sun and is on an even surface enabling the reading to be clear.
- Ask the mother/caregiver to stand on the scale with the child in her arms.
- Wait for weight measurement to stabilize.
- Record the weight to one decimal point (e.g. 65.5 KGs).
- Pass the child to a nearby person.
- Record the second reading for the mother/caregiver alone (e.g. 58.3 KGs).
- The difference (e.g. 7.2 KGs) is the weight of the child.

Only 7.2 KGs should be recorded for a child and 58.3 KGs for mother/ caregiver. Ignore the bundle reading (65.5 KGs).

SECTION 16.3: MALARIA AND ANAEMIA TESTS

The procedures for taking the anaemia and malaria test are written before explaining each question.

To help the efforts of the NMCC in improving malaria prevention and case management, as part of the ZAAI survey, we are asking people to take two tests: anaemia and malaria. These medical tests are simple and fast to do, they are completely safe and painless. We are relying on the protocols developed by the World Health Organization (WHO) to comply with all technical, environmental, and safety procedures. The results will be kept confidential.

- **RDT Test:** One way to test for malaria parasites is to do a rapid Diagnostic Test (RDT). RDT requires taking a drop of blood obtained through a finger prick. If malaria antigens are present, the person will test positive. If malaria antigens are not present, the person will test negative. RDTs are completely safe to use and cause little pain or discomfort. Results are typically given in 15 minutes.

- **Hemocue Test:** Since malaria can be symptomatic, another way to test for malaria is to look at anaemia (low levels of blood). This is done by taking a sample of blood obtained through a finger prick and examining the sample with a Hemocue machine. Such machines have been in use for the past 25 years. They are clean, completely safe, and endorsed by the MOH.

General information about Hemocue:

This method would be employed on the spot for the estimation of hemoglobin using the Hemocue-B-Hemoglobin system, which consists of disposable microcuvettes with reagent in dry form and a single purpose designed photometer. The microcuvette is used for measuring the sample, as reaction vessel and as measuring cuvette. No dilution is required. Reading of hemoglobin takes place in the photometer, which follows the reaction and presents the result only when the reaction has stopped. The photometer is calibrated at the factory against the hemiglobincyanide-(HiCN) method, which is the international reference method for the determination of the total hemoglobin concentration in blood.

1. A new microcuvette container is applied to a drop of blood; the required correct volume is drawn into the cuvette.
2. Surplus blood on the tip of the microcuvette is wiped off using an absorbent wipe.
    a. Ensure that no blood is sucked out of the microcuvette when the excess blood is being wiped off.
    b. Discard microcuvette and use a new one if sign(s) of air bubble is noticed.
    c. The microcuvette is then placed in the cuvette holder in the Hemocue machine and gently inserted into the photometer.
    d. Reseal the microcuvette container immediately after use. Hemoglobin level/concentration would be displaced after 15-45 seconds on the screen. This is recorded straight into the individual's document (questionnaire).

Question 16.06: Record PID of member, for children below the age of 5 record PID of mother or primary caregiver.

Question 16.07: Read aloud the Malaria and Anaemia test consent statement to all eligible female household members and mothers/caregivers of children <5 years old.

Please refer to section 16.1 for "Consent Statement". Record "01" for consenting and skip to Q16.09 and "02" for refusing. Record "03" if they are not present and go to NEXT PERSON.

It is also important to ensure that the interviewer has administered the informed consent properly, so the person conducting the re-interview should also ask the respondent if he/she was fully informed by the interviewer about the nature of participation, the confidentiality of the information provided, and other key aspects of informed consent.

Question 16.08: Why did you not agree to have the tests done on you?

Find out the reasons for refusing to be tested of malaria and anaemia. Possible options have been provided. Upon administering this question, go to NEXT PERSON.

Question 16.09: Record Hemoglobin level (g/dl)

Record the Hemoglobin level for those who have agreed to be tested in Q16.07. Hemoglobin level is the amount of red blood cells in the blood. There are two spaces before the decimal point (e.g. 20.0) to record the level. You have to undertake the Anaemia test in order to obtain a Hemoglobin level. To undertake the test you will need the following supplies. Hemocue testing equipment (microcuvettes, photometer) disposal container, disinfectant e.g. methylated spirit, cloth or wipe, cavette tip and a new pair of disposable examination gloves.

Procedure for Anaemia testing with Hemocue:

The child should be sitting on the caregiver's lap, facing the Hemocue administrator (trained medical assistant). In the case of the eligible female household member, she should be sitting and facing the Hemocue administrator.

1. Make sure that the patient sits comfortably. The hand should be warm and relaxed. It is a good idea to heat cold hands in warm water before sampling. This increases the blood circulation. The patient's fingers should be straight but not loose, to avoid stasis.
2. Use only the middle finger or the ring finger for sampling. Avoid fingers with rings for sampling. Clean the puncture site with disinfectant and allow it to dry.
3. Using your thumb, lightly press the finger from the top of the knuckle to the tip. This stimulates the blood flow towards the sampling point.
4. The thumb has moved up to the tip of the finger. Use very gentle pressure. Prick at the side of the fingertip. Not only is the blood flow at its best at this point, it also causes the least pain.
5. Wipe away the first drops of blood. If necessary, apply light pressure again, until another drop of blood appears. Avoid 'milking.'
6. Make sure that the drop of blood is big enough to fill the cuvette completely. Introduce the cuvette tip into the middle of the drop.
7. Fill the cuvette in one continuous process. It should never be topped up after the first filling.
8. Wipe off the excess blood on the outside of the cuvette tip. Make sure that no blood is drawn out of the cuvette in this procedure. N.B.: If a second sample is to be taken from the same finger stick, it is important that this should be done immediately after the first sample has been taken. Wipe away the remains of the first drop of blood and take a second sample from a new drop of blood.
9. The filled cuvette should be visually inspected for air bubbles. Small air bubbles around the edge do not influence the results.
10. Place the filled cuvette into the cuvette holder immediately and push it into measuring position. The filled cuvette should be analyzed immediately and at the latest 10 minutes after it has been filled. Filled cuvettes are to be kept lying down.

Filled cuvettes should be inspected for air bubbles, which if present, can produce erroneously low readings. Small air bubbles around the edge do not influence the results.

11. After 15 to 45 seconds the result is displayed. The filled cuvette should be disposed off after the measurement into a sharp box. When the measurement procedure has been completed, turn the photometer's power switch to "Power Off."

If this procedure for the medical test is conducted on person "A", repeat for person "B". Do this one after another, so as not to confuse the measurements for each individual. It makes sense to first do the anaemia test and then the RDT test on each individual (one after the other), and then repeat the procedure for every eligible individual.

Question 16.10: Is the level recorded below the cut-off point for age and altitude?

This question is to be answered by the interviewer; do not ask it to the respondent. There is a standard level of hemoglobin for a person in relation to age and altitude. The standard level or cut-off point is 7.0 g/dl for both the child and the adult. If no, go to Q16.12.

Question 16.11: We detected a low level of hemoglobin in the blood of……..This indicates that……..has developed severe anaemia, which is a serious health problem. We recommend you inform a health care provider about this condition. This form will assist you in obtaining appropriate treatment for…….Do you agree that the information about the level of hemoglobin in the blood of……..be given to the health care provider?

If a low level of hemoglobin is detected in the eligible person give folic acid, but in the event where the situation is critical the household members must be advised to take that person to the health facility because this will assist them in obtaining appropriate treatment. Find out If he/she would allow you to give the results of the test to the health care provider. If allowed provide a referral letter for the sick person to be taken to the health care facility immediately.

Question 16.12: RDT test results.

Conduct RDT TEST. RDT test results can be either Positive (GE+) meaning that the person has malaria parasites present in the blood or negative (GE-) meaning that the malaria parasites are absent. If GE-, record "2" and go to NEXT PERSON.

Testing for malaria is important not only so that those people that have malaria may be treated in the best way possible, but also so that further examinations may be carried out when a person does not test positive for malaria. In this way, RDTs can help to ensure appropriate treatment no matter what a sick person is suffering from. RDTs play an important role in diagnosing illnesses and can therefore be an important step in saving a person's life.

Procedure for testing Malaria using the Rapid Diagnostic Testing (RDT) method[3]

As with the anemia test, the child should be sitting on the caregiver's lap, facing the RDT administrator (trained medical assistant). In the case of the eligible female household member, she should be sitting and facing the RDT administrator (trained medical assistant). To undertake the RDT test you will need the following supplies. New, unopened test packet (read expiry date); a cotton wool and sterilizing alcohol or methylated spirit); a new sterile lancet; a pair of disposable examination gloves; buffer; a timer (watch); a sharps disposal container and a non-sharps disposal bin.

Before testing for malaria, ask the household member if she (or child) has taken anti-malaria medication. If you are using an HRP2-detecting RDT: If the patient has taken a complete course of anti-malaria medication in the last 14 days, a positive RDT result may be misleading. It may be necessary to refer the patient to a health care center with a lab for further testing.

1. Put on a new pair of examination gloves.
2. Open the RDT box and get the test packet remove the contents-the teat cassette and the desiccant (the desiccant sachet that projects the test from humidity should be discarded),from the box, remove a blood transfer device- a pipette, an alcohol swab for cleaning the finger and a lancet for pricking
3. Write the patient's name on the cassette to avoid any confusion.
4. Open the alcohol swab and clean the patient's fourth or the third finger. If the patient is right-handed, use the patients' finger on the left hand. This will cause the least inconvenience to the patient if the pricked finger becomes sore. After cleaning the finger, it must be allowed to air dry. You should NOT blow on it or wipe it with a cloth or paper.
   Once the finger is dry, open the lancet and prick the patient's finger towards the side of the pulp (ball) of the finger. Check to be sure the finger-prick will produce enough blood, then discard the lancet in the sharps container immediately. Never set the lancet down before discarding it. Never use a lancet on more than one person.
5. Collect the blood until the first mark.

[3] Taken from "How to use a rapid diagnostic test: A guide for training at a village and clinic level," USAID Quality Assurance Project (QAP), University Research Co. LLC, and the World Health Organization (WHO).

6. Use the blood collection device pipette to add the drop of blood to the sample well (second well/small well). The blood needs to reach and be absorbed by the pad at the base of the hole
7. Discard the blood collection device after use into the sharp box immediately.
8. Add buffer to the cassette (round hole typically with the letter B). Make sure to count the correct number of drops. To do this, make sure to hold the bottle vertically.
9. Wait for 15 minutes after adding buffer before reading the test results. Write the time the results are going to be read on the test cassette.
10. Remove and discard your gloves.
11. Once the time has passed, first read the results yourself and do not tell the patients immediately. Reading the results:
12. The RDT cassette has two lines, the C- Control line and the line T-test line
    a. A line in "T" and a line in "C" visible means the patient DOES have falciparum malaria. The test is positive even if the "T1" is very faint.
    b. NO line in "T" but a line in "C" means the patient DOES NOT have either falciparum malaria..
    c. No line in "T" and NO LINE in "C" means the test is damaged. Results are INVALID.
    d. Line in "T" and NO LINE in "C" means the test is damaged. Results are INVALID.
13. Record the results and keep the used cassettes.

Question 16.13: Does……also have a fever?

If no, record "02" and go to next question.

Question 16.13: We detected malaria parasites in the blood of…….as well as fever. This is a serious health problem. We recommend you inform a health care provider about this condition. This will assist you in obtaining appropriate treatment for…… Do you agree that the information about the presence of malaria parasites in the blood and a fever for…….be given to the health care provider?

If malaria parasites are detected in the blood of the eligible person give Coartem, but in the case where the situation is complicated the household members must be advised to take the person to the health institution because it will help them in obtaining appropriate treatment. Find out if he/she would allow you to give the results of the test to the health care provider. If allowed provide a referral letter for the sick person to be taken to the health care provider immediately.