Medicines Access and Use in ADDO Districts of Tanzania

Medicines Access and Use in Districts Served by Accredited Drug Dispensing Outlets in Tanzania

Concept Paper and Work Plan

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I. Background

Since 2001, the MSH Center for Pharmaceutical Management has worked with Tanzania Food and Drugs Authority (TFDA) to establish the Accredited Drug Dispensing Outlet (ADDO) program in Tanzania.¹⁻³ The program aims to improve access to quality essential medicines and pharmaceutical services to underserved communities. The government of Tanzania has now rolled out the ADDO program in all 21 mainland regions with over 4000 ADDOs established and 9000 dispensers trained.

A number of assessments and routine monitoring visits have been conducted to monitor medicines use practices in the ADDOs.⁴⁻⁸ These assessments have tended to look at individual components of medicines use, such as dispensing or care seeking behavior. None has taken a holistic view of the interrelationship between medicines and their sources in Tanzanian communities, combining consumer care-seeking and medicines use, public health facility prescribing and dispensing practices, ADDO dispensing practices, and stakeholder knowledge and attitudes about key issues related to medicines access and use.

The goal of the current activity is to conduct a holistic assessment of health care seeking behavior, medicines availability, medicines use, and stakeholder perceptions in communities served by ADDOs in Tanzania. This activity was described under Objective 3 in the SDSI proposal to the Gates Foundation as follows:

Objective 3. Define and characterize data elements related to consumer access to and use of medicines, quality of products and services provided by drug sellers, and government officials' and health care providers' and users' perception and knowledge regarding medicine use and AMR for use in developing public health policy, regulatory standards, and treatment guidelines.

After discussions during a July 2012 meeting between the MSH and technical advisors from Harvard, the original SDSI objective has been proposed for revision into three sub-objectives as follows:

- 3.1 Design and conduct an in-depth assessment of community access and use of medicines and knowledge and perceptions of key stakeholders regarding medicine use and antimicrobial resistance (AMR).
- 3.2 Develop and demonstrate use of a cost-efficient strategy for ongoing monitoring of the quality of products and services provided in the ADDOs.
- 3.3 Build capacity of Tanzanian organizations to continue data collection, analysis, and use for ongoing policy development and regulatory purposes.

This document outlines the components of a proposed two-stage approach to achieve the third objective of the Sustainable Drug Seller Initiative (SDSI). The initial draft was written in preparation for the September 2012 stakeholder meeting that brought together the SDSI partners to discuss and agree upon the Objective 3 work plan. This revision incorporates

changes in methods that were agreed upon during the stakeholder discussions. Additional changes will be incorporated as the implementing partners finalize methods for individual assessment components.

II. Evaluation and Monitoring Approach

The in-depth cross-sectional assessment will combine four linked surveys:

- A multi-component survey of medicines prescribing, availability, and dispensing in public and private health facilities, pharmacies, and ADDOs;
- A survey of medicines access and use by households and AMR knowledge and perceptions among survey respondents;
- A survey of perceptions, knowledge, and attitudes of ADDO dispensers and government stakeholders at central, district, and ward levels, regarding ADDOs, medicines access/use, health insurance, and AMR;
- A characterization of the quality of products available during the surveys in ADDOs and pharmacies.

The overall design and specific methodologies used in this assessment take into account the potential for cost-efficient longer-term monitoring of practices in ADDOs. Wherever possible, the components of the assessment will be linked to programmatic activities of the collaborating government partners who are working with SDSI: the Tanzania Pharmacy Council (PC), Tanzania Food and Drugs Authority (TFDA), and the Pharmaceutical Services Section (PSS) of the Ministry of Health and Social Welfare, as well as the implementing partners, which include Management Sciences for Health, Apotheker Consultancy Ltd., INRUD Tanzania, the Schools of Pharmacy and Public Health at the Muhimbili University of Health and Allied Sciences (MUHAS), the Tanzania Consumer Advocacy Society (TCAS), and the Invention and Technological Ideas Development Organization (ITIDO). The future role in ongoing assessment and monitoring by other organizations such as ADDO associations and community-level advocacy groups will be defined separately based on the results of the cross-sectional assessment.

A strategy for future ADDO monitoring will be informed by the experience and lessons learned from this cross-sectional assessment. Working with PC, TDFA, and PSS, the ADDO monitoring strategy will be implemented, evaluated, and revised for handover to the appropriate government organizations in SDSI project Year 3. Those activities will be handled separately.

III. Cross-sectional Assessment

Survey components of the cross-sectional assessment are designed to collect information about community access and use of medicines, as well as community and key stakeholder knowledge and perceptions about medicines use and AMR. Proposed key questions to be answered during the assessment are stated in terms of the four main evaluation targets (ADDOs, health care facilities, government stakeholders, and community) and listed in Annex 1. Final questions will incorporate input from the collaborating partners and the results of pilot testing of survey instruments. The cross-sectional assessment will be conducted in 12 districts that span a range of geography, wealth, experience with ADDOs, and public health facility infrastructure.

1. Sample Selection

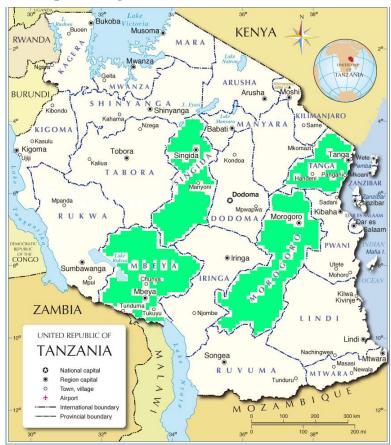
The facilities, households, and individuals included in this assessment will be sampled in 4 regions that were purposively selected based on their:

- Geographic location and accessibility;
- Socio-economic range;
- Experience with ADDOs (i.e., regions in which the ADDO program was implemented prior to 2006, between 2006 and 2010, or after 2010).

The assessment regions will include:

- 1. Morogoro: eastern region, mature ADDO region
- 2. Tanga: northern region, ADDOs in operation for 2 years
- 3. Mbeya: southern highland region, ADDOs 2-3 years, relatively high SES;
- 4. Singida: central region, relatively poorer, 10-12% CHF penetration, with historical data (site of previous household survey in 2009-2010)

Figure 1: Proposed Regions for Assessment of Medicines Access and Use



The methods to sample districts, wards, health facilities, pharmacies, ADDOs, villages, and households for the study are described below. Specific details and selection probabilities for

the district and ward samples are listed in Annex 2. In each assessment region, the survey sample will include the following:

- **3 districts selected per region** (n=12) with probability proportional to district population size
- Wards in each sample district divided into 3 strata based on the number of ADDOs in the ward:
 - High density wards with 5 or more ADDOs (except in Singida, where high density wards were defined as 3 or more ADDOs)
 - Low density wards with 1-4 ADDOs (except Singida, where low density wards have 1-2 ADDOs)
 - ➢ Wards with no ADDOs
- **5 wards selected per assessment district** (n=60), with probability proportional to ward population size within the 3 ADDO density strata in each district:
 - 2 wards from each <u>high ADDO density stratum</u>, except in Singida Rural which <u>has only 1 high density ward</u> (n=23)
 - > 2 wards from each <u>low ADDO density stratum</u> (n=24)
 - I ward without ADDOs, except in Singida Rural where 2 wards without ADDOs were selected (n=13);
- **24 ADDOs per district will be randomly selected in the field (n=96)** from up-todate lists of ADDOs functioning at the time of the survey, as follows:
 - ➤ 3 ADDOs randomly selected in each <u>high ADDO density ward</u> (n=69)
 - > 1 ADDO randomly selected in each <u>low ADDO density ward</u> (n=24)
 - 3 additional ADDOs selected in low density wards in Singida Rural (whether part of the ward sample or not) in order to bring total in the Singida to 24 ADDOs.
- Up to 2 private pharmacies per district (n=up to 24), chosen randomly from all pharmacies present in the assessment districts
- **1-2 public health care facilities per ward** (n=84) plus up to 12 additional district hospitals if they are not otherwise selected, chosen randomly as follows:
 - > 2 health facilities per ward in <u>high ADDO density wards</u> (total n=48)
 - i) 1 public hospital (if any public hospital is present in the ward)
 - ii) Up to 2 primary health care centers (if a public hospital is not present but 1+ primary health care centers are present)
 - iii) Up to 2 dispensaries (if no public hospitals or <2 primary health care centers are present in the ward)
 - > 1 health facility per ward in <u>low ADDO density and no ADDO wards</u> (n=36)
 - i) 1 public hospital (if any public hospital is present in the ward)
 - ii) 1 primary health care center (if a public hospital is not present but 1+ primary health care centers are present)

- iii) 1 dispensary (if no public hospitals or primary health care centers are present in the ward)
- If the district hospital has not been selected for the sample by this process, then it will be included in the sample as an additional health facility
- Up to 1 faith-based facility per district (n=up to 12), chosen randomly from all mission facilities present in the assessment districts
- **20 households per ward** (total n=1200, with 720 located close to an ADDO and 480 located far from any ADDO), selected by methods described in the MUHAS School of Public Health field manual that will be implemented during the survey:
 - High density and low ADDO density wards (total n~720 households located close to an ADDO and n~240 households located far from any ADDO):
 - i) All villages in the ward will be grouped into two strata located: (1) close to an ADDO (within 5 km) and (2) far from an ADDO (>5 km)¹
 - ii) Villages within each stratum selected with probability proportional to village population size, if possible, or alternatively, selected with equal probability
 - iii) 5 households selected randomly in each of 3 villages chosen in the <u>close-to-ADDO stratum</u> (n=15 per ward)
 - iv) 5 households selected randomly in one village located <u>far from any ADDO</u> <u>stratum</u> (n=5 per ward)
 - ➤ <u>No ADDO wards</u> (total n=240 located far from any ADDO)
 - i) All villages in the ward will be grouped into two strata containing those located (1) close to the ward population center (within 5 km) and (2) far from the ward population center $(>5 \text{ km})^2$
 - ii) 5 households selected randomly in each of three villages chosen in the <u>close to</u> <u>the ward population center stratum</u> (n=15 per ward)
 - iii) 5 households selected randomly in one village located <u>far from the ward</u> population center (n=5 per ward)
 - Criteria for selecting the individual households in each village included in the sample will be specified in the MUHAS School of Public Health field manual using a procedure designed to minimize within-village clustering

The respondents in each health facility, ADDO, and household, and the focus of the survey in each location, are summarized in Table 1.

¹ If no villages in the ward lie more than 5 km from an ADDO, such as in a ward in a densely populated urban area, the criterion for far from an ADDO should be adjusted to identify a stratum containing roughly 20%-25% of the ward population living as far as possible from any ADDO

 $^{^2}$ If no villages in the ward lie more than 5 km from the population center, the criterion for far from the population center should be adjusted to identify a stratum containing roughly 20%-25% of the ward population living as far as possible from the population center

Sample Domain	Number Included	Survey Topics
ADDOs	 8 ADDOs per district 1-2 key respondents per ADDO (shop owner and shop dispenser, if these are different people) 	ADDO utilization; quality of services; medicines availability and price; sources and quality of products; antibiotic prescribing and dispensing; knowledge about AMR; interactions with local health facilities; experience with NHIF reimbursements
Private pharmacies	 Up to 2 pharmacies per district (if available in district) 1 key respondent: Pharmacist 	Roles of pharmacy and ADDOs in the community; interactions with district authorities and CHF (if applicable in the district); sources and quality of products; medicines availability and price; antibiotic prescribing and dispensing; knowledge about AMR; experience with NHIF reimbursements
Public health facilities	 7-8 public health facilities per district, including one public health facility per assessment ward plus the district hospital if not otherwise selected Up to 3 respondents per facility: Medical Officer in-charge, Pharmacist in-charge, and Accountant Up to 30 patients presenting for care at each facility on the day of the survey 	Utilization of health services and quality of services provided; medicines availability and price; antibiotics prescribing and dispensing; interactions with and perceptions about ADDOs; training on rational use and infection control and prevention; knowledge about AMR; management of NHIF/CHF patients
Faith-based facilities	 Up to 1 faith-based facility per district (if available in district) 1 key respondent per facility: Medical Officer in-charge 	Utilization of health services and quality of services provided; medicines availability and price; antibiotics prescribing and dispensing; interactions with and perceptions about ADDOs; training on rational use of medicines and infection control; knowledge about AMR; management of NHIF/CHF patients
Households	 100 households per district 1 respondent per household selected according to WHO criteria⁹ 	Care seeking; recent use of medicines and locations obtained; medicines at home; opinions and experiences in accessing care and medicines in ADDOs and health facilities; practices that impact AMR; perspectives about CHF
Central administration	 2 respondents from TFDA: Director General and Director of Medicines and Cosmetics 2 respondents from PC: Registrar, Head of Pharmacy Practice 2 respondents from PSS: Chief Pharmacist, Officer in charge of rational use of medicines 4 respondents from NHIF: Director General, NHIF pharmacist, CHF Coordinator, person in charge of ADDO reimbursement 	Role in ADDO administration and management; medicines financing and supply with focus on antibiotics; perceptions about AMR; existing AMR activities, coordination, training programs; monitoring of antimicrobial use; membership, structure and functioning of NHIF/CHF; perceptions about NHIF-ADDO linkage and potential for CHF linkage.
District administration	 4 respondents from district office: Executive Director, Council Chairman, Treasurer, and NHIF/CHF Coordinator 3 respondents from the district health team: Medical Officer, Pharmacist, and Health Secretary 	Key issues about community health services; perceptions about role and quality of services at health facilities, pharmacies, and ADDOs; budget for medicines and ADDO activities; existence of STGs; monitoring of antibiotic prescribing and dispensing; AMR surveillance.

TABLE 1: SUMMARY OF SAMPLES AND RESPONDENTS

2. Data Sources and Tools

The information about community access and use of medicines and about community and stakeholder perceptions and knowledge about medicines use and AMR will be collected using a variety of survey tools. Annex 3 provides overviews of the locations, methods, respondents, types of data to be collected, and responsible partners for the four linked surveys comprising the cross-sectional assessment.

ADDOs

Simulated customer visits

Prior to the ADDO visits by the Apotheker/INRUD teams, TCAS will select a sample of 25 ADDOs in each of the 12 districts to receive mystery shopper visits. In Singida Region, where there are currently only 59 ADDOs listed, all ADDOs will be included, and the sample in Morogoro District expanded so that a total of 300 ADDOs receive mystery shopper visits. We will try to choose 300 ADDOs for the study-one per visit-but based on the number of ADDOs available in the study districts, mystery shoppers may have to make two visits to the same shop to achieve 300 visits total (e.g., if we 200 shops are available for the study, shoppers will visit 100 shops two times). These ADDOs will be identified by location and name so Apotheker can use the same selected pool to choose 96 ADDOs for the survey data collection; this will enable linkage between the two sets of data-simulated customer and survey. Each mystery shopper will simulate a different respiratory illness scenario occurring in a child: (1) a severe case of ARI, (2) a mild case of ARI, or (3) a customer requesting antibiotics for a respiratory infection. There will be 100 visits planned for each scenario. TCAS will extensively train the mystery shoppers, and the ADDO visit and data recording processes will be pilot tested prior to actual data collection. TCAS and Apotheker/INRUD will work together to ensure coordination in the field and to streamline the logistics for the mystery shoppers.

TCAS will work with MSH to produce detailed descriptions of each scenario, the field protocol for the simulated visits, and a mystery customer training plan. Existing ADDO Data Collection Forms will be adapted to capture key details about the simulated encounters.¹¹ Data from the visits will be collected on paper forms, *then* entered into computers, cleaned, and analyzed by TCAS. The mystery clients will be extensively trained, and the ADDO visit and data recording processes will be thoroughly pilot tested before actual data collection to ensure fidelity to the study scenarios, consistency across data collectors, and completeness of recording. No more than one simulated visit will be made to an ADDO in a given week.

Referrals

The second type of data collected in the ADDO survey will be retrospective data on referrals. Data collectors will first determine and document if the referral register is regularly used in the ADDO; if the register or an equivalent system is not used, data collectors should record the reasons why. In that case, the dispenser should be asked to estimate how many customers were referred in the previous month. If some type of referral register is in use, data collectors should record the total number of referrals over the past 3 months. In addition, they should record dates, demographics, symptoms, and place of referral for the last 10 customers referred, if available.

Data on the number and types of referrals will be collected on tablet computers. The layout of the data collection forms will be developed by Apotheker /INRUD in collaboration with MSH and ITIDO.

Dispensing record review and general facility information

An additional component of the ADDO survey will be extraction of data from customer dispensing registers (Annex 4). The primary purpose of this data collection is to characterize the extent that dispensers collect data and what data they collect. Our objective is to provide information to enable the Pharmacy Council to revise the ADDO recordkeeping requirements to make it an exercise that is both feasible and useful. We are also interested to survey which and how many antibiotics are being dispensed for which particular condition. This will give us some idea of community drug use.

Data collectors will first determine and document if dispensing registers are available and in regular use in the ADDO. If not, they will record the reasons why registers are not used as reported by the dispenser, and also determine whether the ADDO uses another record system to collect dispensing data. If no suitable method for retrospective sampling of dispensing is available in a given ADDO, this survey component will be skipped in that ADDO. If the field supervisor determines that dispensing records are available in other ADDOs in the ward, one additional ADDO will be selected at random and added to the sample; all of the different types of ADDO data in the survey except the simulated customer visits will be collected in the additional ADDO. If dispensing records are not available in other ADDOs in the ward, no additional ADDO will be included in the sample.

If suitable dispensing records are available, data collectors will sample retrospective data on 40 ADDO customers treated with any antibiotic during the previous 3 months, as described in the study manual; if fewer than 40 customers treated with an antibiotic are identified in that time period, data collectors should continue to look back in the registers for up to one year prior to the survey. Sampling will be based on the WHO Level II methodology for sampling medical records¹⁰ or another explicit sampling approach described by Apotheker/INRUD in their field manual. If available in the register, data will be recorded on whether the customer presented a prescription or not.

In addition to recording details of the 40 cases, data will be collected on the completeness of the registers. For the first customer data recorded on each of the 10 last completed pages of the current register, data collectors will document which fields have been filled out for each record: date, customer name, customer address, age, sex, illness/symptoms, generic name dispensed, dosage, and quantity dispensed of dispensed medicine. Each field will be recorded separately. This will give us an idea of which fields are easiest for the dispenser to routinely record.

In addition, the data collector will have a checklist of items regarding the store operation including: Is the ADDO open at the time of the visit? Is there a trained dispenser on duty? Is she wearing her white coat? Has the annual fee been paid?

Data for the dispensing record review and general information will be collected on tablet computers. The layout of the data collection forms for recording availability of dispensing registers, completeness of data in the registers, and the retrospective dispensing survey will be developed by Apotheker /INRUD in collaboration with MSH and ITIDO.

Availability and price of tracer medicines

Data collectors will enter data on availability, price, and volume of a set of tracer antimicrobials authorized to be sold in ADDOs, as well as a shorter list of antimicrobials that are not authorized to be sold. MSH has made a preliminary selection of 15 authorized antimicrobials and developed a draft data collection form (Annex 5); they will develop the list of unauthorized products in collaboration with assessment partners.

Data collectors will ask to see all of the products in stock for each medicine listed. The number of products in stock for each medicine will be defined as the number of products for which at least one full course of therapy is available. For the product with the greatest amount of stock available, data collectors will record information on brand name, manufacturer, registration status, expiry status, package size and price, and unit price.

Data on availability and price of tracer medicines will be collected on tablet computers. The final layout of the data collection forms will be developed by Apotheker /INRUD in collaboration with MSH and ITIDO.

Focus group discussions with ADDO owners and ADDO dispensers

Apotheker will work with a subcontractor to conduct focus group discussions in all 12 districts, inviting participants from the 96 study ADDOs to participate in groups of 6–10. We will also invite 2–4 additional ADDO owners/proprietors from the district center to assure a reasonable quorum. That should be a reasonable number of groups to elicit the range of opinion, and to be able to compare opinion to a certain extent across regions and across population density. The focus group facilitator and note-taker will work to elicit positive and negative feedback.

Topics will include monthly ADDO utilization; monthly revenues; knowledge about antibiotics and AMR; previous experience with supervision and inspections; experience with NHIF reimbursement process (if applicable); and training history and needs. In addition, the discussions will aim to get at dispensers' perceptions about prescribing and dispensing practices and what drives their behavior in this area. The preliminary set of topics to be discussed in the focus-group discussions can be found in Annex 6. The final list of topics and field protocol for the structured interviews will be developed by Apotheker and INRUD, in collaboration with MSH, TFDA, PC, and PSC, with input from the Gates Foundation.

Survey on medicines quality

For a small number of medicines, data collectors will purchase a predetermined number of units (minimum of 26 units). Products will be selected to represent first-line therapies on treatment guidelines for common conditions (e.g., adult and pediatric pneumonia, malaria, hypertension) or those with known quality problems.

MUHAS School of Pharmacy will develop a detailed protocol for the quality study in collaboration with TFDA and MSH. Data collectors will purchase specific products according to protocol (e.g., most commonly used, lowest price, specific manufacturers, etc.). The purchased products will be bagged, labeled, and stored in in accordance with established protocols, and then tested for specific quality parameters after the survey teams return to Dar es Salaam. Data identifying the date, ADDO, drug names, manufacturers, lot numbers, amounts, and cost of all products purchased will be recorded on paper forms developed by MUHAS School of Pharmacy, TFDA, and MSH.

Private Pharmacies

The assessment of private pharmacies will be limited to dispensing record review, survey on availability and price of tracer medicines, survey on medicines quality, and structured interviews of pharmacy owner and dispensers. The same data sources and tools used in the ADDO survey will be used to carry out these activities.

Public Health Care Facilities

Prescribing and dispensing record review

The retrospective review of prescribing and dispensing records in public health facilities will follow a similar protocol and sampling approach as the review of dispensing records in ADDOs. The health facility study will include 40 patients of any age treated for respiratory infections (ARI, URTI) in the previous 3 months; if fewer than 40 patients with respiratory illness are able to be identified during that time period, data collectors should continue to look back in the registers for up to one year prior to the survey. For each patient, data collected will include age, gender, insurance status, diagnosed health problem, name of medicines prescribed; and amounts of each medicine dispensed and their cost. Data will be collected on tablet computers. The layout of the data collection form will be developed by Apotheker /INRUD in collaboration with MSH.

Data will usually be extracted from primary care prescribing and dispensing registers in use in the respective facilities. Examples of these registers can be found in Annex 7 and Annex 8. The highest priority will be to know which medicines were prescribed for respiratory infections, with second priority to determine which of these prescribed medicines were actually dispensed in the facility. Similar primary care prescribing and dispensing registers may not be available in the outpatient departments of hospitals, although that would be the first choice for sampling; data may need to be extracted from prescriptions stored in the pharmacy, as long as they contain the necessary data to determine what type of respiratory infection was being treated. The field supervisor will need to determine the best method for sampling in each health facility when on site, depending on the records available, completeness, and ability to link prescribing and dispensing. Apotheker/INRUD will describe the likely options and preferred approaches in their field manual.

Data for the prescribing and dispensing record review will be collected on tablet computers. The final layout of the data collection forms will be developed by Apotheker /INRUD in collaboration with MSH and ITIDO.

Availability of tracer medicines

The health facility study team will record data on the availability and price on the day of the survey of the same set of tracer antibiotics used in the ADDO survey (Annex 5). As in the ADDO, availability will be determined by visual inspection. Data on stock-outs of the same list of tracer medicines will also be collected retrospectively from pharmacy stock records in the health facilities, if those data are available. Data will be collected as the number of days during the previous 6 calendar months when the health facility had none of the tracer antibiotics in stock (Annex 9).

Data on availability and price of tracer medicines and stock-outs will be collected on tablet computers. The final layout of the data collection forms will be developed by Apotheker /INRUD in collaboration with MSH and ITIDO.

Patient exit interviews

The patient exit interviews will target up to 30 patients presenting for care at each facility on the day of the survey. Patients will be sampled according to the methodology described in the WHO Level II Facility Survey Manual.¹⁰

The interviewer will use an adapted version of the WHO Level II Facility Survey Form to collect age, gender, insurance status, symptoms, tests ordered and performed, medicines prescribed and dispensed, cost of dispensed medicines (if any were dispensed), plans to obtain prescribed medicines that were prescribed and not dispensed during the visit, knowledge about how and how long to take prescribed medicines.

Exit interview data will be collected on tablet computers. The layout of the exit interview data collection form will be developed by Apotheker /INRUD in collaboration with MSH and ITIDO.

Referral tracking

The survey teams will explore gathering data at health facilities on referrals to health facilities from ADDOs. If there is a register of referrals from ADDOs, it may possible to gather data on the volume and types of cases referred. The feasibility of gathering this type of information will need to be determined by pilot visits during the development of the survey by SDSI partners.

If data on referral from ADDOs appear to be available in registers in some health facilities, Apotheker/INRUD will need to develop a paper data collection form to record information on number of referrals and source and reason for 10 recent referrals.

Structured interviews with medical in-charge

These interviews of health facility in-charges will focus on: general attitude towards ADDOs; perceived responsibility for quality of care in ADDOS; current referral experience to and from ADDOs; knowledge and perceptions about antibiotics and AMR; experience with NHIF and CHF and perceptions about drug shortages for NHIF and CHF members; and rational medicine use training history and needs. The preliminary set of topics to be discussed in the semi-structured interviews can be found in Annex 6.

The final list of topics and field protocol for the structured interviews of health facility incharges will be developed by Apotheker and INRUD, in collaboration with MSH, TFDA, PC, and PSC. It is expected that two survey staff will participate in each interview, one to guide the conversation and the other to take notes on paper forms. The practical and feasibility of entering interview notes directly on tablet computers will be explored in early pilot tests.

Households

Household survey

Household surveys are the best method for collecting data on medicines access and actual medicines use, two key components of the cross-sectional assessment. SDSI partners have agreed to adapt the validated WHO/MeTA household survey instrument for use in the assessment (Annex 10).¹² In addition, the AMR Module for the Demographic and Health Survey (DHS) will be used as a resource to develop questions specifically related to AMR.¹³ Questionnaires will be administered in Swahili.

The field protocol for household data collection and the final contents of the instrument will be developed by MUHAS School of Public Health, in consultation with MSH and other SDSI partners. One of the challenges in household surveys is ensuring representativeness and adequate response rate. The probability-based survey design offers the potential for population-based estimation of key medicines access and use parameters in the four regions in which the assessment is taking place. MUHAS and the field teams will track ward and village sampling probabilities and household response rates as part of the field protocol.

Household survey data will be collected on tablet computers. The tablet-based household survey application developed by ITIDO will need to be tested in the field by MUHAS School of Public Health prior to the actual field work in order to ensure that it works under actual survey conditions.

Community stakeholders

Structured Interviews

Structured interviews will be conducted with both central-level and district-level administrative and health sector officials. A draft outline of the topic areas for structured interviews identified by the SDSI stakeholders is provided in Annex 6. The final topics and leading questions will be agreed upon by TFDA, PC, PSC, and MSH.

Structured interviews of government and health sector stakeholders at the central and district levels will be conducted by two-person teams comprised of staff from TFDA, PC, and MSH.

Stakeholder interviews in ADDOs, pharmacies, and health facilities at the ward level will be carried out by staff from Apotheker/INRUD.

3. Study Team Composition and Training

The assessment will be conducted by four main field teams:

- Staff members from the TFDA, PC, and MSH will conduct stakeholder interviews at central and district levels. These will be conducted in advance of other field work in the districts. During these visits, the interview teams will carry out the needed political and logistical preparation for field work at the ward level.
- Apotheker/INRUD will assemble and manage the teams carrying out field work in ADDOs, pharmacies, and health facilities. Necessary skills for data collectors will include familiarity with pharmaceutical names and basic medical terminology. This team will also have responsibility for collecting samples of medicines for quality testing by MUHAS School of Pharmacy.
- MUHAS School of Public Health will assemble teams of data collectors to conduct the household surveys. Knowledge of pharmaceutical data will be less important for these data collectors, although some familiarity with medical terms will be helpful.
- TCAS will recruit, train, and manage data collectors to carry out the simulated customer surveys in ADDOs. These will be completed in each ADDO at least 2 weeks prior to the arrival of the health facility survey teams.

The structure of personnel for the two main field teams will be determined by Apotheker/INRUD and MUHAS School of Public Health for the health facility and household surveys respectively, and described in their field manuals. Each field team should have a designated field supervisor responsible for implementing the study methods according to plan and available for communication with the study coordinating center at MSH.

Individual team members will specialize in collecting the different types of data included in each assessment. Because of the nature of the data to be collected, team members for the health facility survey are likely to be pharmacists, clinical officers, or nurses since they would be familiar with the types of data to be collected. For the household survey, general knowledge about health issues and the structure of the health system would be preferable, although the overall level of training could be lower. Identifying the two individuals in each health facility survey team responsible for the structured interviews will be especially important to meeting the goals of the assessment; special attention should be paid to their training and the consistency of their interviewing and data recording.

The health facility survey and household survey teams will be independent in the field, although coordination will be needed to ensure that they do not arrive in a ward at the same time since they are likely to use the same local contacts. Overall, data collection in the field should not take more than two months in order to meet the overall study timeline of holding a dissemination meeting in June 2013. The implementing partners should staff the field teams in a way that allows work in each district (5 wards and any additional central level facilities) to be completed within a week, and work in each region within about 3 weeks. Data

collection for both the health facility and household components could thus be completed in about 2 months with 2 field teams, and within 1 month with 4 teams. For consistency of field methods, the former may be the preferred approach. The time for data collection in the field will depend on the final number and composition of study teams.

Ideally, the teams would be trained together in a two-day training session to become familiar with the overall goals and methods of the survey. Specialized training in individual study methods for the surveys may take additional time. It would again be optimal for the teams to participate in a two-day pilot test of the data collection process using reduced sample sizes in districts and wards close to Dar es Salaam. Based on the experiences in the pilot test, the assessment protocol and data collection forms would be revised before the actual field work.

4. Proposed Work Plan

The timing of proposed assessment-related activities through June 2014 is summarized in the following table.

Period	Activity
Sept 2012	Stakeholders review components of the cross-sectional assessment and suggest revisions Discuss which aspects are feasible for routine monitoring
Oct - Nov 2012	Finalize assessment strategy and instruments Prepare application for ethical clearance
Jan 2013	Ethical review and clearance Data collector training and pilot test
Jan – Apr 2013	Assessment field work; data entry and cleaning
Mar – May 2013	Data analysis and reporting
Jun 2013	Stakeholder meeting to interpret the results, make recommendations, and develop monitoring strategy
Jul 2013 – Jun 2014	Finalize and test monitoring strategy

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Annex 1 Cross-Sectional Assessment Questions

Survey components will include information about community access and use of medicines, as well as community and key stakeholder perceptions and knowledge about medicines use and AMR. From a draft list of possible assessment questions that could be addressed in such a cross-sectional assessment, SDSI stakeholders have focused on the reduced list of questions below. They will need to agree on a final list before the survey and adjust the survey tools accordingly.

<u>ADDOs and Pharmacies [as Applicable](NB: ADDO data collection will be through focus</u> group discussions, while pharmacies will be through a structured survey)

- What is the quality of ADDO services (prescribing, counseling, and referral)?
 - a. Do ADDOs stock medicines approved by TDFA to be sold in ADDOs and suitable for treating pediatric pneumonia (amoxicillin and co-trimoxazole in adult and pediatric formulation, procaine penicillin, and erythromycin)?
 - b. Do ADDOs prescribe antibiotic in appropriate quantities when they suspect pneumonia?
 - c. Do ADDOs prescribe antibiotics when then know that the patient has a non-pneumonia respiratory complaint?
 - d. Do ADDOs do anything to differentiate between different kinds of respiratory illness?
- How frequent are referrals and for which conditions? What are the outcomes of referrals?
- What is the estimated total volume of customers and revenues per month in ADDOs? What percentage of revenues is related to sale of antibiotics?
- What is the quality of key medicines sold in ADDOs, including antibiotics suitable for treating pneumonia?
- What has been the recent history of supervisory visits and inspections (by staff at the national, district, and ward level)?
- What is the stock situation and prices for a tracer list of key antimicrobials observed during survey?
- What has been the experience in local ADDOs of being reimbursed by NHIF (overall satisfaction, common problems, length of time to be reimbursed)?

Are NHIF reimbursement prices to the ADDOs sufficient to recover medicine costs and make a fair profit?

Health Care Facilities

- What is the quality of prescribing and dispensing services provided by health care facilities for respiratory infections?
- How do health care facility personnel perceive the quality of services provided by the local ADDO? What do they see as their responsibility for assuring quality of care and medicines to their community members?
- Are there separate systems used for capturing utilization by NHIF/CHF members?
- What is the stock situation for key essential medicines (observed during survey and over time if retrospective data are available)?

- Is prescribing (number of medicines, types of medicines overall and for key diagnoses) the same or different by insurance type (NHIF, CHF, out of pocket, exempt)?
- What proportion of medicines prescribed is dispensed at the health facility? Which medicines are most commonly unable to be dispensed?
- How is the CHF funding process administered in health facilities at different levels?

Households and Community

- Where do community members go to seek care (public facilities, mission facilities, ADDOs, pharmacies, traditional healers)?
- Where do community members go to access medicines?
- Which medicines do they receive for common acute and chronic illnesses?
- Which medicines are stored at home? Do community members keep antibiotics at home for future use?
- What are the opinions about the quality of care and medicines available in the public and private sector?
- How convenient is access to care in the public facility (opening hours, waiting time, approachable staff, and cost)?
- Is quality of care in public facilities perceived to be satisfactory (competence of providers, availability of medicines and tests)?
- How convenient is access to care in ADDOs (opening hours, waiting time, approachable staff, and cost)?
- Is quality of care in ADDOs perceived to be satisfactory (competence of shop attendant, availability and affordability of medicines)?
- What are experiences with ADDO referral to public facility?

Community Stakeholders

- What are the opinions of district officials about the quality of services provided by the ADDOs?
- What are the key health services issues in the community identified by district officials (financing and quality of care, financing and quality of medicines)?
- What are the opinions of district officials about the controls (or lack of) applied to the sale of antibiotics, and about the actual consumption of antibiotics in the community?
- Do district officials understand what AMR is and perceive it to be a priority issue in their community?
- What are the experiences, expectations, and knowledge about NHIF and CHF?

Annex 2 Selection of Districts and Wards

1 – District and Ward Sample

Region	District	ADDO density	Ward	Population (2002) census	Number of ADDOs
Mbeya				345297	57
	Mbarali			136390	1
		High		60112	
			Madibira	28319	
			Ubaruku	31793	
		Low		49203	
			Igurusi	23384	
			Utengule/Usangu	25819	
		No ADDO		27075	
			Mawindi	27075	
	Mbeya Urban			78595	
		High		36815	
			lyela	22358	
		1	Nzovwe	14457	
		Low	Itezi	21872	
			Mwakibete	8140	
		No ADDO	wwakibete	13732 19908	
		NO ADDO	Ruanda	19908	
	Mbozi		Nuanua	130312	
	Model	High		72015	
			Tunduma	34316	
			Vwawa	37699	
		Low		42719	
			Ihanda	25243	
			Mlowo	17476	
		No ADDO		15578	
			Ruanda	15578	
Morogoro				266889	8
	Kilombero			91198	3
		High		47681	
			Idete	14882	
			Mlimba	32799	
		Low		25165	
			Chita	16768	
			Mkula	8397	
		No ADDO		18352	
			Lumelo	18352	
	Kilosa			86671	
		High	Kibasha	49347	
			Kibedya	15652	
		Low	Kidodi	33695 30189	
		Low	Lumuma	10302	
			Mabwerebwere	19887	
		No ADDO	Mapwerepwere	7135	
		NO ADDO	Kilangali	7135	
	Morogoro Urban		KilanBall	89020	
	moregore ensan	High		64781	
			Kihonda	12381	
			Mazimbu	52400	
		Low		20014	
			Boma	8937	
			Uwanja wa ndege	11077	
		No ADDO	,	4225	
			Kingo	4225	

				Values	
Region	District	ADDO density	Ward	Population (2002) census	Number of ADDOs
Singida				237359	
	Iramba			93963	13
		High		44948	
			Iguguno	21558	
			Shelui	23390	
		Low		32759	
			Ilunda	19429	
			Nkinto	13330	
		No ADDO		16256	
			Mtekente	16256	
	Singida Rural			95799	
		High		25186	
			Mtinko	25186	
		Low		40391	
			Puma	16121	
			Sepuka	24270	
		No ADDO		30222	
			Maghojoa	17938	
			Mudida	12284	
	Singida Urban	111-1		47597	
		High	kladal	16908	
			kindai	9181	
			Utemini	7727	
		Low		23374	
			Mandewa Mitunduruni	14517	1
			Mitunduruni	8857	
		No ADDO	Uniomburo	7315 7315	
			Unyambwa	198492	
nga	Handeni			84508	
	Handeni	High		39453	
		nign	Chanika	29570	
			Kabuku	9883	
		Low	Kabuku	36373	
		LOW	Mkata	21425	
			Segera	14948	
		No ADDO	Jegera	8682	
		101000	Kang'ata	8682	
	Muheza		Kung utu	45303	
	intuiteza	High		17002	
			Majengo	9409	
			Masuguru	7593	
		Low		16451	
			Mtindiro	9217	
			Ngomeni	7234	
		No ADDO		11850	
			Misalai	11850	
	Tanga			68681	
		High		44189	
		-	Mabawa	26508	
			Makorora	17681	
		Low		20206	
			Mwanzange	7727	
			Usagara	12479	
		No ADDO		4286	
			Mabokweni	4286	
			wabokweni	4280	0

2 - District Sample Selection

	District	Wards with ADDOs	ADDOs	Population (2002 census)	Cumulative population	Selected	Notes	# in Sample	Segment size	Random number	Target population	Sample district #
Mbeya	Mbozi	17	46	513,600	513,600	** 1 **		3	687,776	0.21159	145,525	1
Mbeya	Rungwe	18	32	306,380	819,980						833,301	2
Mbeya	Mbeya Urban	17	42	265,586	1,085,566	** 2 **					1,521,077	3
Mbeya	Mbeya Rural	10	24	254,069	1,339,635							
Mbeya	Mbarali	9	33	234,101	1,573,736	** 3 **						
Mbeya	Chunya	8	26	205,915	1,779,651							
Mbeya	Kyela	12	51	173,830	1,953,481							
Mbeya	lleje	3	5	109,847	2,063,328							
Morogoro	Kilosa	28	158	488,191	488,191	** 1 **		3	584,454	0.35686	208,567	1
Morogoro	Kilombero	16	138	321,611	809,802	** 2 **					793,021	2
Morogoro	Morogoro Rural	16	80	263,012	1,072,814						1,377,475	3
Morogoro	Mvomero	15	122	259,347	1,332,161							
Morogoro	Morogoro Urban	10	35	227,921	1,560,082	** 3 **						
Morogoro	Ulanga	11	55	193,280	1,753,362							
Singida	Singida Rural	28	8	400,377	400,377	** 1 **	No high density ward	3	362,249	0.85422	309,441	1
Singida	Iramba	16	34	367,036	767,413	** 2 **					671,690	2
Singida	Manyoni	16	26	204,482	971,895						1,033,940	3
Singida	Singida Urban	15	17	114,853	1,086,748	** 3 **	No high density ward					
Tanga	Lushoto	?	?	0	0		No ADDO list	3	405,876	0.39240	159,267	1
Tanga	Muheza	27	31	278,405	278405	** 1 **					565,143	2
Tanga	Korogwe	33	72	260,238	538643		No ward population data				971,019	3
Tanga	Handeni	10	27	248,633	787276	** 2 **						
Tanga	Tanga	13	76	242,640	1029916	** 3 **						
Tanga	Kilindi	15	41	143,792	1173708							
Tanga	Pangani	6	14	43,920	1217628		Only 1 high density ward					

3 – Ward Sample Selection

				Values								
					Course of							
				Population (2002	Sum of Population	Number		# 4 m h .		Denders	Trend	Maria
Region	District	ADDO density	District/ward	census)	2002 census		Selected	# to be selecte	-	Random number	Target population	Ward select #
Mbeya	Mbarali	High	Mbarali/Ubaruku	31793				Scievie	2 5539		2348	1
			Mbarali/Madibira	28319						0.0120000	57741	2
			Mbarali/Rujewa	27401				L				-
			Mbarali/Chimala	23273								
		High Total		110786		23						
		Low	Mbarali/Utengule/Usangu	25819	25819	3	*1*		2 39712.	0.1705695	6774	1
			Mbarali/Igurusi	23384							46486	2
			Mbarali/Mapogoro	15768								
			Mbarali/Mahongole	14454	79425							
		Low Total	-	79425		10						
		No ADDO	Mbarali/Mawindi	27075	27075	0	*1*		1 4389	0.1125471	4940	1
			Mbarali/Ruiwa	10386	37461	0						
			Mbarali/Msangaji	6429	43890	0						
		No ADDO Tota	il de la constant de	43890)	0						
	Mbarali Total			234101		33						
	Mbeya Urban	High	Mbeya Urban/Iyela	22358	22358	5	*1*		2 2893	0.5259534	15221	1
			Mbeya Urban/Ilomba	21063							44160	2
			Mbeya Urban/Nzovwe	14457								
		High Total		57878		16						
		Low	Mbeya Urban/Ilemi	16709					2 58920.	0.3838225	22615	1
			Mbeya Urban/Mwakibete	13732							81536	2
			Mbeya Urban/Igawilo	10469								
			Mbeya Urban/Iyunga	9898								
			Mbeya Urban/Iwambi	9162								
			Mbeya Urban/Msalaga	8959								
			Mbeya Urban/Isanga	8603								
			Mbeya Urban/Itezi	8140								
			Mbeya Urban/Iganzo	8016								
			Mbeya Urban/Mabatini Mbeya Urban/Uwolo	6579 6184								
			Mbeya Urban/Uyole	5106								
			Mbeya Urban/Iganjo Mbeya Urban/Iduda	3436								
			Mbeya Urban/Isyesye	2848								
		Low Total	wibeya of bally isyesye	117841		26						
		No ADDO	Mbeya Urban/Ruanda	117841					1 8986	0.0489306	4397	1
			Mbeya Urban/Kalobe	9626				L	× 0000	0.0403300		1
			Mbeya Urban/Maanga	7263								
			Mbeya Urban/Forest	7181		-						
			Mbeya Urban/Mbalizi Road	6988								
			Mbeya Urban/Sinde	5512								
			Mbeya Urban/Sisimba	4663								
			Mbeya Urban/Itiji	4245								
			Mbeya Urban/Ghana	3961								
			Mbeya Urban/Maendeleo	3689								
			Mbeya Urban/Majengo	3469								

				Values								
					Sum of							
				Population (2002	Population			#to be	Segment	Random	Target	Ward
Region	District		District/ward	census)	2002 census			selected	size	number	population	select #
	Mbeya Urban	No ADDO	Mbeya Urban/Iziwa	2924								
			Mbeya Urban/Itende	2697								
			Mbeya Urban/Nonde	2140		-						
			Mbeya Urban/Nsoho	1505								
			Mbeya Urban/Mwansenkwa	1349								
			Mbeya Urban/Itagano	1219		-						
			Mbeya Urban/Tembela	988								
			Mbeya Urban/Mwasanga	540		0						
		No ADDO Tota	1	89867		0						
	Mbeya Urban 1		• 41	265586		42			1777.0	0.0004050	0.405	
	Mbozi	High	Mbozi/Vwawa	37699				2	47358	0.2004869	9495	1
			Mbozi/Tunduma	34316							56853	2
		Ulah Tatal	Mbozi/Halungu	22701								
		High Total	A de a st das las	94716		26			105000 5	0.5445020	60007	
		Low	Mbozi/Itaka	33254				2	125023.5	0.5445929	68087	1
			Mbozi/Igamba	29541							193110	2
			Mbozi/Ihanda	25243								
			Mbozi/Msia	24965								
			Mbozi/Iyula									
			Mbozi/Ivuna Mbozi/Nambizo	21630 18724								
				18/24								
			Mbozi/Mlowo									
			Mbozi/Kamsamba	15307 13442								
			Mbozi/Myovizi	13442								
			Mbozi/Chiumo	13360		-						
		Low Total	Mbozi/Chiwezi	250047		3 20						
		No ADDO	Mbozi/Isansa	35402				1	168837	0.6218409	104990	1
		NO ADDO	Mbozi/Nyimbili	21249				1	100037	0.0210409	104990	1
			Mbozi/Myunga	16584								
			Mbozi/Mlangali	16232		0						
			Mbozi/Ruanda	15578								
			Mbozi/Isandula	13743								
			Mbozi/Chitete	13743								
			Mbozi/Msangano	13080								
			Mbozi/Ndalambo	9007		-						
			Mbozi/Nkangamo	8098								
			Mbozi/Kapele	8080								
		No ADDO Tota		168837		0						
	Mbozi Total	10 1000 1018		513600		46						
Mbeya Tota				1013287		121	-					
Morogoro		High	Kilombero/Ifakara	45518				2	123499	0.8071805	99686	1
			Kilombero/Kidatu	35209				-	220400		223185	2
			Kilombero/Mlimba	32799								-
			Kilombero/Mang'ula	28802								

				Values								
					Sum of							
				Population (2002	Population	Number		#tobe	Segment	Random	Target	Ward
Region	District	ADDO density	District/ward	census)	2002 census		Selected	selected	size	number	population	select
Aorogoro	Kilombero	High	Kilombero/Mchombe	27207								
			Kilombero/Kibaoni	20872								
			Kilombero/Kiberege	18459								
			Kilombero/Idete	14882								
			Kilombero/Mbingu	13541								
			Kilombero/Sanje	9709								
		High Total		246998		123						
		Low	Kilombero/Chita	16768				2	24227	0.1829251	4432	1
			Kilombero/Kisawasawa	9060							28659	2
			Kilombero/Mkula	8397	34225	3	*2*					
			Kilombero/Utengule	6231								
			Kilombero/Mofu	4886								
			Kilombero/Chisano	3112								
		Low Total		48454		15						
		No ADDO	Kilombero/Lumelo	18352				1	26159	0.5168774	13521	1
			Kilombero/Masagati	5810							10011	-
			Kilombero/Uchindile	1997								
		No ADDO Tota		26159		ō						
	Kilombero Total	1		321611		138						
	Kilosa	High	Kilosa/Gairo	35565				2	120462	0.5458911	65759	1
			Kilosa/Kidodi	33695							186221	2
			Kilosa/Chakwale	29072							100111	-
			Kilosa/Dumila	20289								
			Kilosa/Magole	17522								
			Kilosa/lyogwe	17363								
			Kilosa/Msowero	16742								
			Kilosa/Mikumi	15705								
			Kilosa/Kibedya	15652								
			Kilosa/Ruhembe	15102								
			Kilosa/Chanzuru	13595								
			Kilosa/Kasiki	5736								
			Kilosa/Kimamba 'B'	4886								
		High Total		240924		124						
		Low	Kilosa/Mamboya	20654				2	92601	0.2864874	26529	1
		2011	Kilosa/Mabwerebwere	19887					52001	0.2004074	119130	2
			Kilosa/Rubeho	16975							115150	-
			Kilosa/Berega	14986								
			Kilosa/Magubike	14300								
			Kilosa/Rudewa	13860								
			Kilosa/Ulaya	13086								
			Kilosa/Lumuma	10302								
			Kilosa/Lumuma Kilosa/Kisanga	10302								
				10284								
			Kilosa/Kidete	9655								
			Kilosa/Malolo	8935	152845	3						

				Values									
					Sum of								
				Population (2002	Population	Number			# to be	Segment	Random	Target	Ward
Region	District	ADDO density	District/ward	census)	2002 census		Selected		selected	size	number	population	select #
negion	District	Low	Kilosa/Magomeni	8381								Population	
			Kilosa/Mkwatani	7903									
			Kilosa/Chagongwe	7326									
		Low Total		185202		34							
		No ADDO	Kilosa/Chanjale	12819	12819	0		Г	1	62065	0.5631916	34954	1
			Kilosa/Vidunda	9781	22600	0		-	I				· · · · ·
			Kilosa/Mandege	7235	29835	0							
			Kilosa/Kilangali	7135	36970	0	*1*						
			Kilosa/Masanze	6378	43348	0							
			Kilosa/Lubuji	5727	49075	0							
			Kilosa/Kimamba 'A'	5651	54726	0							
			Kilosa/Mbumi	4040	58766	0							
			Kilosa/Uleling'ombe	3299	62065	0							
		No ADDO Tota	I	62065		0							
	Kilosa Total			488191	L .	158		_					
	Morogoro Url	ban High	Morogoro Urban/Mazimbu	52400	52400	9	*1*		2	46454.5	0.9736713	45231	1
			Morogoro Urban/Mwembesongo	28128								91686	2
			Morogoro Urban/Kihonda	12381									
		High Total		92909		21		_					
		Low	Morogoro Urban/Mafiga	14056				L	2	37392	0.7933447	29665	1
			Morogoro Urban/Kichangani	13259				Ļ				67057	2
			Morogoro Urban/Uwanja wa ndege	11077		-							
			Morogoro Urban/Kingolwira	10653									
			Morogoro Urban/Mji Mpya	10191									
			Morogoro Urban/Boma	8937									
		Low Total	Morogoro Urban/Bigwa	6611									
		Low Total	Manager Halter (Mitchele	74784		14 0		Г		60228	0.8922237	52727	
		No ADDO	Morogoro Urban/Kilakala	13709				L	1	60228	0.8922237	53737	1
			Morogoro Urban/Mbuyuni Morogoro Urban/Mzinga	8854									
			Morogoro Urban/Wizinga Morogoro Urban/Uwanja wa Taifa	7558									
			Morogoro Urban/Mimani	6520		-							
			Morogoro Urban/Mji mkuu	6157		-							
			Morogoro Urban/Kingo	4225									
			Morogoro Urban/Sultan Area	3102									
			Morogoro Urban/Sabasaba	3002									
		No ADDO Tota	-	60228		0							
	Morogoro Uri			227921		35							
Morogoro	-			1037723		331							
Singida	Iramba	High	Iramba/Shelui	23390				Г	2	57136.5	0.1428638	8163	1
-		-	Iramba/Kiomboi	22213	45603	4						65299	2
			Iramba/Iguguno	21558	67161	3	*2*	-	I				·
			Iramba/Kinyangili	18787	85948	3							
			Iramba/Ulemo	14671	100619	5							
			Iramba/Kinampanda	13654	114273	4							

				Values								
					Course of							
				Population (2002	Sum of Population	Number		#to be	Segment	Random	Target	Ward
Region	District	ADDO doncity	District/ward	census)	2002 census		Selected	selected	-	number	population	select#
Singida	Iramba	High Total	District/ward	114273		27		Science	3 5120	number	population	Selectin
Bing	in difficult	Low	Iramba/Ilunda	19429					2 38081.5	0.2284862	8701	1
			Iramba/Ntwike	14195						0.220.0002	46783	2
			Iramba/Nkinto	13330				I			40700	-
			Iramba/Ndago	12307								
			Iramba/Ibaga	10648								
			Iramba/Tulya	6254								
		Low Total		76163		7						
		No ADDO	Iramba/Mwanga	21420	21420	0			1 176600	0.4043565	71409	1
			Iramba/Mtoa	17597	39017	0			-			-
			Iramba/Kaselya	16555								
			Iramba/Mtekente	16256								
			Iramba/Nduguti	15921								
			Iramba/Mwangeza	12414								
			Iramba/Urughu	11451								
			Iramba/Mpambala	10857								
			Iramba/Kidaru	10433								
			Iramba/Mbelekese	10241								
			Iramba/Kisiriri	10174								
			Iramba/Gumanga	9851								
			Iramba/Kyengege	6997								
			Iramba/Msingi	6433		0						
	Includes Total	No ADDO Tota	81	176600		-						
	Iramba Total Singida Rural	High	Singida Rural/Mtinko	367036 25186		34		· · · · · ·	1 25186			1
	Singiua Kurai	High Total	Singida Kural/Munko	25186		3			1 25160	>		1
		Low	Singida Rural/Sepuka	24270								
			Singida Rural/Ikhanoda	20797					2 55241	0.2284862	12622	1
			Singida Rural/Ikungu	18590						0.220.0002	67863	2
			Singida Rural/Puma	16121				ļ	-			-
			Singida Rural/Mungaa	15761								
			Singida Rural/Ngimu	14943								
		Low Total		110482		6						
		No ADDO	Singida Rural/Kinyeto	19259		0			2 132354.5	0.2348432	31083	1
			Singida Rural/Maghojoa	17938	37197	0	*1*				163437	2
			Singida Rural/Mwaru	17776	54973	0			-			-
			Singida Rural/Muhintiri	16512	71485	0						
			Singida Rural/Ilongero	16366	87851							
			Singida Rural/Merya	15809								
			Singida Rural/Makuro	15453								
			Singida Rural/Ughandi	14564								
			Singida Rural/Ntuntu	13950	147627							
			Singida Rural/Ihanja	13547								
			Singida Rural/Mudida	12284								
			Singida Rural/Issuna	11267	184725	0						

Singida Rural No ADDO Singida Rural/Mogini 11149 105574 0 Singida Rural/Mogini Singida Rural/Mogini 10711 227347 0 Singida Rural/Manophi 10111 227538 0 0 Singida Rural/Manophi 10111 227538 0 0 Singida Rural/Manophi 10112 227538 0 0 Singida Rural/Manophi 10128 227276 0 0 Singida Rural/Matilia 7108 25894 0 0 0 Singida Kural Total Singida Urban/Matemin 7727 16008 3 12* Singida Urban/Matemin 7727 16008 3 1** 0 1288 1 1288 1 1288 1 1288 1 1288 1 1288 1 1 1288 1 1288 1 1288 1 1288 1 1 1283 1 1283 1 1 1283 1 1288 1														
tegion District ADDO density District/read Centus CADDO density Tende Read Description Singla Rural No. ADDO Singla Rural/Monitory 10762 20636 0 Singla Rural/Monitory 10712 22738 0 0 Singla Rural/Mongory 1011 22738 0 0 Singla Rural/Mongory 1011 22738 0 0 Singla Rural/Mongory 10131 2700 0 0 Singla Rural/Mongory 10131 2700 0						Sum of								
Singla Burel No.ADD Singla Burel/Mon 11149 15574 0 Singla Burel/Model Singla Burel/Model 10722 20636 0 Singla Burel/Model 10711 22758 0 Singla Burel/Model Singla Burel/Model 8593 265131 Singla Burel/Model Singla Burel/Model 8593 265131 Singla Burel/Model Singla Burel/Model 7028 25854 0 Singla Burel/Model Singla Burel/Model 7028 25854 0 Singla Burel/Model 7028 258709 0 12283 1 12283 Singla Urban/Model 7279 16068 3 22 1 12283 1 Singla Urban/Model 7279 16068 3 22 1 12283 1 2 Singla Urban/Modelman 7315 24673 4 2 2 6384532 22256 1 Singla Urban/Modelman 7315 24673 4 2 2 2 <td< th=""><th></th><th></th><th></th><th></th><th>Population (2002</th><th>Population</th><th>Number</th><th></th><th></th><th># to be</th><th>Segment</th><th>Random</th><th>Target</th><th>Ward</th></td<>					Population (2002	Population	Number			# to be	Segment	Random	Target	Ward
Singla kurul/Mgeni Singla kurul/Mangonyi 1072 20636 0 Singla kurul/Mangonyi 1011 22753 0 Singla kurul/Mangonyi 1011 22753 0 Singla kurul/Mangonyi 1011 22753 0 Singla kurul/Misughan 4842 24593 0 Singla kurul/Misughan 1081 25934 0 Singla kurul/Misughan 1080 25934 0 Singla kurul/Misughan 1080 25934 0 Singla kurul/Misughan 1918 3 71 Singla kurul/Misughan 1918 3 72 Singla kurul/Misughan 1917 1276 4 Low Singla kurul/Misughan 1312 4318 2 Singla kurul/Misughan 5215 422 1 1 Singla kurul/Misughan	legion	District	ADDO density	District/ward	census)	2002 census	of ADDOs	Selected		selected	size	number	population	select #
singida Burai/Manganyi 1011 217347 0 Singida Burai/Manganyi 10191 22738 0 Singida Burai/Manganyi 1813 25278 0 Singida Burai/Manganyi 1813 25278 0 Singida Burai/Masiahaa 18462 24693 0 Singida Burai/Masiahaa 1813 25278 0 Singida Burai/Masiahaa 1813 25278 0 Singida Burai/Masiahaa 1813 25278 0 Singida Burai/Masiahaa 1813 25278 0 Singida Burai/Masiahaa 1818 0 Singida Uhaan/Masiahaa 1818 0 Singida Uhaan/Maniahi Singida Uhaan/Maniahi Singida Uhaan/Maniahi Singida Uhaan/Maniahi Singida Uhaan/Manahi/Masiahaa 1813 2480 1 Singida Uhaan/Manahi/Masiahaa 1813 2480 1 Singida Uhaan/Manahi/Masiahaa 1813 2480 1 Singida Uhaan/Majango 1813 2480 1 Singida Uhaan/Manahi/Masiahaa 1813 2480 1 Singida Uhaan/Majango 1813 2480 1 Singida Uhaan/Majango 1813 2481 2 Singida Uhaan/Majango 1813 2481 20 Singida Uhaan/Majango 1813 251 4282 0 Singida Uhaan/Majango 1810 7 Singida Uhaan/Majango 1810 2500 2 Singida Uhaan/Majango 1810 2 Singida Uhaan/Majango 1810 2 Singida Uhaan/Majango 1810 2 Singida Uhaan/Majango 1810 2 Singida Uhaan/Majango 2 Singida Uhaan/Majango 2 Singida Uhaan/Majango 2 Singida Uhaan/Majango 2 Singida Uhaan/Ma		Singida Rural	No ADDO	Singida Rural/Minyughe	11149	195874	0							
Singida Rural/Mangonyi 1011 22738 0 Singida Rural/Mangonyi 8593 26131 0 Singida Rural/Misupha 8462 244593 0 Singida Rural/Mangonyi 708 25983 0 Singida Rural/Mangonyi 708 25983 0 Singida Rural/Mangonyi 708 5 0 Singida Rural/Mangonyi 718 5893 2014 0 Singida Rural/Mangonyi 718 9813 3 1*1 Singida Utan/Mangonyi 7197 14283 1<1				Singida Rural/Mgori	10762	206636	0							
singia Rural/Singia Singia Rural/Singia 8462 24633 0 Singia Rural/Maupha 8462 24493 0 Singia Rural/Mainia 7108 25276 0 Singia Rural/Mainia 7108 25613 0 Singia Rural/Mainia 7108 25673 0 Singia Rural/Mainia 7108 25673 0 Singia Mural/Mainia 718 25673 0 Singia Uhan/Man/Manduma 718 25673 0 Singia Uhan/Man/Manduma 1437 32496 1 Singia Uhan/Man/Manduma 1431 32496 1 Singia Uhan/Manduma 1432 32486 1 Singia Uhan/Manduma 1432 32496 1 Singia Uhan/Manduma 1352 2673 0 1 Singia Uhan/Manduma 7370 25275 0 1 Singia Uhan/Manduma 3251 26473 0 1 Singia Uhan/Manduma 3251 26473 0 1 Singia Uhan/Manduma 3251 26473 0 1				Singida Rural/Dungunyi	10711	217347	0							
singla furu//Minghna 84.62 244.93 0 Singla furu//Ming 713 252.726 0 Singla furu//Ming 713 259.84 0 Singla furu//Ming 713 259.84 0 Singla furu//Ming 713 259.84 0 Singla furu//Ming 713 9181 3 12 Singla furu//Ming/mar 713 10608 3 12 Singla furu//Ming/mar 713 10608 3 12 Singla furu//Ming/mar 713 10608 3 12 Hub Singla furu/Ming/mar 1312 24318 2 Low Total Singla furu/Ming/mar 1315 24518 2 Low Total Singla furu/Ming/mar 1305 0 1 Singla furu/Ming/mar 7315 26473 0 1 Singla furu/Ming/mar 7315 26473 0 1 Singla furu/Ming/mar 7315 26473 0 1 Singla furu/M				Singida Rural/Mangonyi	10191	227538	0							
Singla Run/Mgungjan 13.3 25226 0 Singla Run/Msing 1708 0 Singla Run/Msing 1708 0 Singla Run/Msing 1708 0 Singla Run/Msingla 1708 0 Singla Run/Mgungla 1712 16098 0 Singla Run/Mgungla 1712 16098 0 120 Singla Run/Mgungla 1712 16098 0 120 Singla Urban/Minidali 1712 16098 0 120 Singla Urban/Mannew 1312 4388 0 120 1203 1 Singla Urban/Mannew 1352 4388 0 1 <t< td=""><td></td><td></td><td></td><td>Singida Rural/Siuyu</td><td>8593</td><td>236131</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>				Singida Rural/Siuyu	8593	236131	0							
Singida Rura/Maisa Singida Rura/Total 7108 2594709 0 No ADO Total 264709 0 Singida Rural Total 4037 9 Singida Rural Total 51894 3 *1* Singida Rural Total 51894 3 *2* Singida Rural Total 7197 15008 3 *2* Singida Rural Total 7197 32496 1 *2* Singida Rura/Maingen 11322 4348 2 *2* Singida Rura/Maingen 11322 4348 2 *2* Singida Rura/Maingen 11322 4348 2 *2* Singida Urban//Maruna 52675 1 *2* *2* Singida Urban//Maruna 2051 0 *1* *1* Singida Urban//Maruna 2052 0 *1* *1* Singida Urban//Maruna 2053 0 *1* Singida Urban//Maruna 22575 1 1 42432 0.5439472 2081 1				Singida Rural/Misughaa	8462	244593	0							
No ADD Total 26470 0 Singla Rural Test 4875 26470 0 Singla Rural Test 400377 9 1 2 Singla Rural Test 1990 15000 3 21 Singla Rural Test 1990 1990 3 21 Singla Rural Test 1996 3 21 11283 2 High Total 1976 1979 2 11283 2 Singla Rural/Ringo 1979 2 1 128 2 11283 2 Singla Urban/Manego 1979 2 1 2 2 0.84522 22963 1 49634 2 Singla Urban/Manego 7375 52675 1 2 2 0.84522 23926 1 Singla Urban/Manego 7375 26473 0 1 2 2 2333 44953 2 2 1 42432 0.8439472 2081 1 1 42432 <td< td=""><td></td><td></td><td></td><td>Singida Rural/Mgungira</td><td>8133</td><td>252726</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>				Singida Rural/Mgungira	8133	252726	0							
No ADDO Total 264709 0 Singida Urban / Madi 39151 9181 3 *1* Singida Urban / Madi 39151 9181 3 *1* Singida Urban / Manduma 3028 19706 - - Singida Urban / Mandewa 1977 16908 3 - Singida Urban / Mandewa 1977 - - - Singida Urban / Mandewa 1977 - - - Singida Urban / Mandewa 19737 2 - - - Singida Urban / Mandewa 19737 2 - - - - Singida Urban / Mandewa 1935 2875 1 2* -				Singida Rural/Msisi	7108	259834	0							
$ \begin{array}{ c c c c c c } Single3 kural roat is indical strand/lice mini Single3 urban/lice mini Single3 urb$				Singida Rural/Irisya	4875	264709	0							
Singida Urban High Singida Urban/Uembini 9181 377 181 1600 3 172 112 1600 3 122 11 1223 12 1223 12 1233 12 12 12 12 12 12 12 12 12 12 12 12 12 1			No ADDO Tota	1	264709)	0							
Singlad Urban/Utemini 7727 16098 3 *2* Singlad Urban/Utemini 2283 19746 4 Hgh Total 19746 10 Low Singlad Urban/Majengo 1979 2 Singlad Urban/Majengo 1979 2 Singlad Urban/Madewa 1517 32496 1 Singlad Urban/Muphanga 11322 43818 2 Singlad Urban/Muphanga 1312 43818 2 Low Total 52675 6 1 42432 0 No ADDO Singlad Urban/Mupambwa 7315 26673 0 1 42432 0 Singlad Urban/Mutana 6230 39181 0 1 42432 0 No ADDO Total 42452 21425 3 1 42432 0 Inglad Urban/Mutana 6240 39453 6 2 1 42432 0 No ADDO Total 49453 102 1 2 10726.5 1		Singida Rural To	tal		400377	,	9							
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Singida Urban/Ipembe 288 19746 4 High Total 19746 10 Low Singida Urban/Majengo 19799 17979 2 Singida Urban/Mandewa 14517 32496 1 1 Singida Urban/Mandewa 14517 32496 1 1 Singida Urban/Mandewa 1517 24 4818 2 Singida Urban/Munduruni 8875 6 1 2 No ADDO Singida Urban/Munduruni 8875 2675 6 Singida Urban/Munduruni 6270 10451 0 Singida Urban/Mundumana 6230 32151 0 Singida Urban/Mundumana 6230 32151 0 Singida Urban/Mundumanaji 3251 0 1 No ADDO Total 14432 0 1 No ADDO Total 14432 0 1 Handeni/Kata 21452 0 1 High Total 10451 10451 0 Low Handeni/Kata 21425 3 1 Handeni/Kata 21425 3 1 Low Handeni/Kata 21425 3 1 Handeni/Kata 124452 0				Singida Urban/Utemini	7727	16908	3	*2*					11283	2
Low Singida Urban/Mandewa 17979 17979 2 Singida Urban/Mandewa 14517 32496 1 ** Singida Urban/Mandewa 15122 43818 2 Singida Urban/Muthunduruni 8857 52675 1 *2* No ADDO Singida Urban/Muthunduruni 10451 0 ** Singida Urban/Muthunduruni 6478 32551 0 ** Singida Urban/Muthungunaji 3251 0 *** ** Singida Urban/Muthungunaji 3251 0 *** ** Singida Urban/Muthungunaji 3251 0 *** ** Singida Urban/Mungunaji 3251 0 *** ** Singida Urban/Mungunaji 3251 0 *** ** Singida Urban/Muthungunaji 3251 0 *** ** Singida Urban/Muthuguna 3251 0 *** ** ** Singida Urban/Muthuguna 3251 0 *** ** **				Singida Urban/Ipembe	2838	19746	4			I	I	I		
Singida Urban/Mandawa 1417 32496 1 11 11 Singida Urban/Mundhanga 11322 43818 2 Singida Urban/Muthandrunni 8857 52675 1 22 No ADDO Singida Urban/Muthandrunni 8857 52675 1 22 Singida Urban/Muthandrunni 8857 52675 1 22 Singida Urban/Muthandrunni 8857 52675 1 22 Singida Urban/Muthandrunni 10451 10451 0 1 Singida Urban/Muthana 6270 19158 0 1 Singida Urban/Muthana 6230 39181 0 1 Singida Urban/Muthana 6230 39181 0 1 Singida Urban/Muthana 6270 39 1 Singida Urban/Muthana 29570 9 *1 Ianden/Kabuku 29570 9 *1 Handen/Kabuku 29570 9 *1 Handen/Kabuku 21072 1 1 Handen/Marin 120			High Total		19746		10							
Singida Urban/Mandawa 1417 32496 1 *1* Singida Urban/Munduruni 887 52675 1 *2* Low Total Singida Urban/Munduruni 887 52675 1 *2* No ADDO Singida Urban/Munduruni 887 52675 1 *2* No ADDO Singida Urban/Munduruni 887 52675 1 *2* Singida Urban/Munduruni 887 52675 0 *1* Singida Urban/Munduruni 887 71158 0 *1* Singida Urban/Munduruni 3251 24373 0 *1* Singida Urban/Munduruni 3251 42432 0 ** No ADDO Total 42432 0 ** ** No ADDO Total 42432 0 ** ** ringida Urban/Munduruni 3251 42432 0 ** singida Urban/Munduruni 3251 42432 0 ** ** ringida Urban/Munduruni 3251 42432 0 ** ** singida Urban/Munduruni 3251 42432 0 ** ** ringida Urban/Munduruni 3255 1 ** ** ** rinden/			Low	Singida Urban/Majengo	17979	17979	2		Г	2	26337.5	0.8845327	23296	1
Singlad Urban/Mughanga 11322 43818 2 Singlad Urban/Mughanga 11322 43818 2 Low Total 52675 6 No ADD0 Singlad Urban/Unyamikumbi 10451 0 Singlad Urban/Muyamokoo 8707 19158 0 Singlad Urban/Muyamokoo 7315 26473 0 11 Singlad Urban/Mugamabwa 7315 26473 0 11 Singlad Urban/Mugamabwa 7315 26473 0 11 Singlad Urban/Mugamaji 3251 42432 0 1 42432 0 No ADDO Total 14835 16 1 1 1 1 2 1 1 2 1 1 2 1 </td <td></td> <td></td> <td></td> <td></td> <td>14517</td> <td>32496</td> <td>1</td> <td>*1*</td> <td></td> <td></td> <td></td> <td></td> <td>49634</td> <td>2</td>					14517	32496	1	*1*					49634	2
Low Total S2675 6 No ADDO Singida Urban/Unyamikumbi 10451 10451 0 Singida Urban/Unyambwa 7315 26473 0 *1* Singida Urban/Unyambwa 7315 26473 0 *1* Singida Urban/Mtipa 678 32951 0 *1* Singida Urban/Mtamaa 6230 39181 0 *1* Singida Urban/Mtamaa 6230 39181 0 *1* Singida Urban/Mtamaa 6230 39181 0 *1* Singida Urban/Mungumaji 3251 42432 0 *1* Singida Urban/Mungumaji 2527 9 *1* *1* Singida Urban/Mungumaji 2527 9 *1* *1* Singida Urban/Mungumaji 2957 9 *1* *2* Handeni/Kabuku 983 39453 6 *2* Handeni/Kabuku 10870 40132 2 *2* Handeni/Kandeni 1076 68156 3 *1* Handeni/Mainigara 1180 79966 2					11322	43818	2		- L			ı		·
No ADDO Singida Urban/Unyamikumbi 10451 10451 0 Singida Urban/Musoko 8707 19158 0 Singida Urban/Musipa 6478 32951 0 Singida Urban/Mtipa 6478 32951 0 Singida Urban/Mtipa 6478 32951 0 Singida Urban/Mtipa 6478 32951 0 Singida Urban/Musamaa 6230 39181 0 Singida Urban/Musamaa 29570 9 *1* Handeni/Kauku 9883 0 2 High Total 1807 40132 2 2 39830 0.1741978 6965 1 Low Total Handeni/Mazingara 11810 79966 1 19214 0.8381889 108306 1 <tr< td=""><td></td><td></td><td></td><td>Singida Urban/Mitunduruni</td><td>8857</td><td>52675</td><td>1</td><td>*2*</td><td></td><td></td><td></td><td></td><td></td><td></td></tr<>				Singida Urban/Mitunduruni	8857	52675	1	*2*						
Singida Urban/Mwankoko 8707 19158 0 Singida Urban/Mupambwa 7315 26473 0 *1* Singida Urban/Mtipa 6478 3251 0 *1* Singida Urban/Mtamaa 6230 39181 0 0 *1* No ADDO Total 42432 0			Low Total		52675		6							
Singida Urban/Unyambwa 7315 26473 0 *1* Singida Urban/Mtipa 6678 32951 0 Singida Urban/Mtamaa 620 3911 0 Singida Urban/Mtamaa 620 3911 0 Singida Urban/Mtamaa 623 3911 0 Singida Urban/Mungumaji 3251 42432 0 Singida Urban/Mtama 62950 29570 9 *1* Singida Urban/Mtama 29570 29570 9 *1* Handeni/Kabuku 29570 29570 9 *1* High Total 1 39453 -5 -5 Low Handeni/Kabuku 294570 20570 9 *1* Handeni/Kabuku 294570 20570 9 *1* Handeni/Kabuku 21425 21425 3 *1* Handeni/Kabuku 13076 68156 3 Handeni/Kagambo 13076 68156 3 Handeni/Kagambo 16070 0 1 Handeni/Kagambo 16070 0 1			No ADDO	Singida Urban/Unyamikumbi	10451	10451	0		Г	1	42432	0.5439472	23081	1
Singida Urban/Mtipa 6478 32951 0 Singida Urban/Mtamaa 6230 39181 0 Singida Urban/Mungumaji 3251 42432 0 No ADDO Total 114853 16 Singida Urban Total 114853 16 Singida Total 882266 59 Fingida Total 882266 59 High Total 39453 6 *2* High Total 18707 40132 2 Handeni/Sindeni 13670 68156 3 Handeni/Sindeni 13007 68156 3 Handeni/Mazingara 1100 79966 2 Low Total 79966 12 1 No ADDO Handeni/Mazingara 1100 79966 2 Handeni/Mazingara 16019 32089 0 1 129214 0.8381889 108306 1 Handeni/Mazingara 13292 58971 0 1 129214 0.8381889 108306 1 Handeni/Mazingara 13292 58971 0 1 129214				Singida Urban/Mwankoko	8707	19158	0		F					••
Singida Urban/Marmaa 6230 39181 0 Singida Urban/Mungumaji 3251 42432 0 Singida Urban/Total 14853 16 ingida Total 14853 16 ingida Urban/Mangumaji 29570 9 *1* Handeni/Kabuku 9883 39453 6 *2* High Total 1 10 2 High Total 10 2 1 Low Handeni/Kabuku 39453 6 *2* Handeni/Kabuku 1010 0 2 1 Handeni/Kabuku 1016 6815 3 *1* Handeni/Kiangara 11810 79966 2 *2* Handeni/Mazingara 1160 100 0 1 129214 0.8381889 108306 1 Handeni/Magmbo 13590 45679 0 1 129214 0.8381889 108306 1 Handeni/Komkonga 11428 70399 0 1 129214 0.8381889 108306 1 Handeni/Komkonga 1329 <td></td> <td></td> <td></td> <td>Singida Urban/Unyambwa</td> <td>7315</td> <td>26473</td> <td>0</td> <td>*1*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>				Singida Urban/Unyambwa	7315	26473	0	*1*						
Singida Urban/Mungumaji 3251 42432 0 No ADDO Total 42432 0 Singida Urban Total 14883 16 singida Total 882266 59 ranga Handeni/Kabuku 9883 39453 6 2* High Total Low Handeni/Kabuku 9883 39453 6 2* Handeni/Kabuku 9883 39453 6 2* 1 Handeni/Kabuku 9883 39453 6 2* High Total Low Handeni/Kabuku 18707 40132 2 Handeni/Kabuku 18707 40132 2 2 39983 0.1741978 6965 1 Low Handeni/Kabuku 18707 40132 2 2 39983 0.1741978 6965 1 Handeni/Kabuku 19706 12 1 46948 2 1 Low Handeni/Magingara 10707 16070 0 1 129214 0.83818				Singida Urban/Mtipa	6478	32951	0							
No ADDO Total 42432 0 Singida Urban Total 114853 16 Singida Total 114853 16 Singida Total 882266 59 Ianga Handeni/Chanika 29570 9 *1* Handeni/Kabuku 9883 39453 6 *2* High Total 100 10 10 10 10 Low Handeni/Kabuku 9883 39453 6 *2* 10<				Singida Urban/Mtamaa	6230	39181	0							
No ADDO Total 42432 0 Singida Urban Total 114853 16 Singida Total 114853 16 Singida Total 822266 59 Fanga Handeni/Chanika 29570 9 *1* High Total Handeni/Kabuku 9883 39453 6 *2* High Total 1000 9483 5080 2 *2* Handeni/Vibaoni 18707 40132 2 *2* Handeni/Vibaoni 18707 40132 2 *2* Handeni/Vibaoni 18707 6965 1 *2* Handeni/Vibagara 11810 79966 1 129214 0.8381889 108306 1 No ADDO Handeni/Maima 13292 58971 0 1 129214 0.8381889 108306 1				Singida Urban/Mungumaji	3251	42432	0							
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Handeni/Sindeni 13076 68156 3 Handeni/Mazingara 11810 79966 2 Low Total 79966 12 No ADDO Handeni/Ndolwa 16070 16070 1 129214 0.8381889 108306 1 Handeni/Kwankonje 16019 32089 0 1 129214 0.8381889 108306 1 Handeni/Kgambo 13590 45679 0 1 129214 0.8381889 108306 1 Handeni/Kisima 13292 58971 0 0 1 129214 0.8381889 108306 1 Handeni/Kowedizinga 11428 70399 0 0 1				Handeni/Vibaoni	18707	40132	2		- F	2	39983	0.1741978	6965	1
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				Values									
					Sum of								
				Population (2002	Population	Number			ŧ to be	e	Random	Trent	Ward
legion	District	ADDO density	District /word	census)	2002 census		Selected		elected	Segment size	number	Target population	select#
egion	Handeni	No ADDO	Handeni/Kwamsisi	8757					cicotcu	SILC	mannoer	population	Selection
		11074000	Handeni/Kang'ata	8682									
			Handeni/Kwamatuku	6922									
			Handeni/Kiva	6807									
			Handeni/Kwasunga	5487									
		No ADDO Tota		129214		0							
	Handeni Total			248633		27							
	Muheza	High	Muheza/Majengo	9409	9409	9	*1*		2	8501			1
			Muheza/Masuguru	7593	17002	8	*2*						2
		High Total		17002	2	17							
		Low	Muheza/Mtindiro	9217					2	34166	0.1366952	4670	1
			Muheza/Lusanga	9201								38836	2
			Muheza/Songa	8636					-		_		
			Muheza/Pande	7670									
			Muheza/Ngomeni	7234									
			Muheza/Magila	5693									
			Muheza/Mbaramo	5602		_							
			Muheza/Kicheba	5294									
			Muheza/Potwe	5037		-							
			Muheza/Misozwe	4748									
		Low Total	Muham /Manasha	68332		14		,		102074	0.240400	67225	
		No ADDO	Muheza/Maramba	25392					1	193071	0.348189	67225	1
			Muheza/Mhinduro Muheza/Kisiwani	13153 12847									
			Muheza/Duga	1284/									
			Muheza/Duga Muheza/Misalai	11946		-							
			Muheza/Gombero	11367									
			Muheza/Nkumba	10629									
			Muheza/Kwafungo	9056									
			Muheza/Mkinga	7851									
			Muheza/Mkuzi	7458		-							
			Muheza/Kilulu	7122									
			Muheza/Zirai	7022									
			Muheza/Moa	7015									
			Muheza/Kigongoi	6322	149030	0							
			Muheza/Manza	5665	154695	0							
			Muheza/Kigombe	5607	160302	0							
			Muheza/Daluni	5459	165761	0							
			Muheza/Tingeni	5054	170815	0							
			Muheza/Magoroto	5051									
			Muheza/Bwembwera	4538									
			Muheza/Mwakijembe	4413									
			Muheza/Mtimbwani	4302									
			Muheza/Kwale	3952		-							
		No ADDO Tota	1	193071	L	0							

h h Total v	District/ward Tanga/Mabawa Tanga/Mzingani Tanga/Makorora Tanga/Duga Tanga/Pongwe		Population 2002 census 26508 49795 67476	of ADDOs 9 31 21 9	Selected	# to b select		number	Target population 11573	Ward select#
h h Total v	Tanga/Mabawa Tanga/Mzingani Tanga/Makorora Tanga/Duga Tanga/Pongwe	278405 26508 23287 17681 13185	26508 49795 67476	31 21 9		select			11573	1
h Total v	Tanga/Mzingani Tanga/Makorora Tanga/Duga Tanga/Pongwe	26508 23287 17681 13185	49795 67476	21 9	*1*		2 45296	5 0.255498		
h Total v	Tanga/Mzingani Tanga/Makorora Tanga/Duga Tanga/Pongwe	23287 17681 13185	49795 67476	9	.1.		2 45296	.5 0.255496		
h Total v	Tanga/Makorora Tanga/Duga Tanga/Pongwe	17681 13185	67476							2
h Total v	Tanga/Duga Tanga/Pongwe	13185			*2*				56870	2
h Total v	Tanga/Pongwe		90661		-2-					
h Total v										
v		90593		50						
	Tanan (Manuscratic	17117	17117				2 4655	9 0.89922	41867	1
	Tanga/Nguvumali Tanga/Chumbageni	15106					2 405:	9 0.89922	88426	1 2
	Tanga/Usagara	12479	44702		*1*				00420	2
	Tanga/Tangasisi	11142			1					
					1					
	Tanga/Iviwalizalige				-2-					
	Tanga/Majango						1 590	0 6870522	40540	1
							1 5054	.9 0.0879522	40540	1
	-									
					1					
					•					
ADDO Total		58929		õ						
				134						
		3702954		645						
	Total ADDO	Tanga/Msambweni Tanga/Maweni Tanga/Mzizima Tanga/Mwanzange Total Total Tanga/Majengo Tanga/Mgamiani Kusini Tanga/Ngamiani Kusini Tanga/Ngamiani Kati Tanga/Ngamiani Kati Tanga/Ngamiani Kaskazini Tanga/Ngamiani Kaskazini Tanga/Ngamiani Kaskazini Tanga/Ngamiani Kaskazini Tanga/Ngamiani Kaskazini Tanga/Ngamiani Kaskazini Tanga/Ngamiani Kaskazini Tanga/Nabokweni Tanga/Chongoleani Tanga/Chongoleani Tanga/Marungu	Tanga/Msambweni10651Tanga/Maweni9642Tanga/Mzizima9254Tanga/Mzizima9254Tanga/Mwanzange7727Total93118ADDOTanga/Majengo8830Tanga/Majengo8830Tanga/Ngamiani Kusini8662Tanga/Ngamiani Kusini66230Tanga/Ngamiani Kati5893Tanga/Ngamiani Kaskazini4467Tanga/Ngamiani Kaskazini4286Tanga/Mabokweni4286Tanga/Congoni4013Tanga/Tongoni4013Tanga/Tongoni4013Tanga/Mabungu2212	Tanga/Msambweni 10651 66495 Tanga/Maweni 9642 76137 Tanga/Mzizima 9254 85391 Tanga/Mzizima 9254 85391 Tanga/Manzange 7727 93118 ADDO Tanga/Majengo 8830 8830 Tanga/Ngamiani Kusini 8662 17492 Tanga/Ngamiani Kusini 6230 23722 Tanga/Ngamiani Kati 5893 35713 Tanga/Ngamiani Kaskazini 4467 40180 Tanga/Ngamiani Kaskazini 4467 40180 Tanga/Chongoleani 4092 52704 Tanga/Chongoleani 4092 52704 Tanga/Chongoleani 4013 56717 Tanga/Marungu 2212 58929 ADDO Total 58929 58929	Tanga/Msambweni 10651 66495 4 Tanga/Maweni 9642 76137 4 Tanga/Mzizima 9254 85391 1 Tanga/Mzizima 9254 85391 1 Tanga/Manzange 7727 93118 2 Total 93118 26 3 ADDO Tanga/Majengo 8830 8830 0 Tanga/Ngamiani Kusini 8662 17492 0 Tanga/Central 6098 29820 0 Tanga/Ngamiani Kati 5893 35713 0 Tanga/Ngamiani Kaskazini 4467 40180 0 Tanga/Ngamiani Kaskazini 4467 4466 0 Tanga/Chongoleani 4092 52704 0 Tanga/Chongoleani 4092 52704 0 Tanga/Marungu 2212 58929 0 ADDO Total 58929 0 58929 0	Tanga/Msambweni 10651 66495 4 Tanga/Maweni 9642 76137 4 Tanga/Mzizima 9254 85391 1 Tanga/Mwanzange 7727 93118 2 *2* Total 93118 26 *2* ADDO Tanga/Majengo 8830 8830 0 Tanga/Ngamiani Kusini 8662 17492 0 Tanga/Ngamiani Kusini 8662 23722 0 Tanga/Ngamiani Kati 5893 35713 0 Tanga/Ngamiani Kati 5893 35713 0 Tanga/Ngamiani Kaskazini 4467 40180 0 Tanga/Ngamiani Kaskazini 4467 40180 0 Tanga/Ngamiani Kaskazini 4467 40180 0 Tanga/Chongoleani 4092 52704 0 Tanga/Chongoleani 4092 52704 0 Tanga/Marungu 2212 58929 0 ADDO Total 5892 0 2 <t< td=""><td>Tanga/Msambweni 10651 66495 4 Tanga/Maweni 9642 76137 4 Tanga/Mzizima 9254 85391 1 Tanga/Mwanzange 7727 93118 2 *2* Total 93118 26 *2* ADDO Tanga/Majengo 8830 8830 0 Tanga/Ngamiani Kusini 8662 17492 0 Tanga/Central 6098 29820 0 Tanga/Ngamiani Kati 5893 35713 0 Tanga/Ngamiani Kati 5893 0 *1* Tanga/Ngamiani Kati 5893 0 *1* Tanga/Ngamiani Kashazini 4467 40180 0 Tanga/Chongoleani 4092 52704 0 Tanga/</td><td>Tanga/Msambweni 10651 66495 4 Tanga/Maweni 9642 76137 4 Tanga/Mzizima 9254 85391 1 Tanga/Mwanzange 7727 93118 2 *2* Total 93118 26 1 5892 ADDO Tanga/Majengo 8830 8830 0 1 5892 Tanga/Ngamiani Kusini 8662 17492 0 1 5892 Tanga/Ngamiani Kusini 6230 23722 0 1 5892 Tanga/Ngamiani Kati 5893 35713 0 1 5893 Tanga/Ngamiani Kaskazini 4286 44466 0 *1* Tanga/Ngamiani Kaskazini 4092 52704 0 Tanga/Chongoleani 4092 52704 0 Tanga/Marungu 2212 58929 0 ADDO Total 5892 0 0 ADDO Total 5892 0 0 Tanga/Marungu 2212 58929 0 ADDO Total 58967 0 1<</td><td>Tanga/Msambweni 10651 66495 4 Tanga/Maweni 9642 76137 4 Tanga/Mzizima 9254 85391 1 Tanga/Mwanzange 7727 93118 2 *2* Total 93118 2 *2* ADDO Tanga/Majengo 8830 8830 0 1 58929 0.6879522 Tanga/Ngamiani Kusini 8662 17492 0 1 58929 0.6879522 Tanga/Ngamiani Kusini 6608 29820 0 1 58929 0.6879522 Tanga/Ngamiani Kati 5893 35713 0 1 58929 0.6879522 Tanga/Ngamiani Kaskazini 4467 40180 0 1 5892 0 1 5892 0 1 5892 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892<td>Tanga/Msambweni 10651 66495 4 Tanga/Maweni 9642 76137 4 Tanga/Mzizima 9254 85391 1 Tanga/Mwanzange 7727 93118 2 *2* Total 700 700 700 1 58929 0.6879522 40540 ADDO Tanga/Majengo 8830 8830 0 1 58929 0.6879522 40540 Tanga/Ngamiani Kusini 8662 17492 0 1 58929 0.6879522 40540 Tanga/Central 6098 29820 0 1 58929 0.6879522 40540 Tanga/Ngamiani Kati 5893 35713 0 1 58929 0.6879522 40540 Tanga/Mgamiani Kati 5893 35713 0 1 58929 0 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929</td></td></t<>	Tanga/Msambweni 10651 66495 4 Tanga/Maweni 9642 76137 4 Tanga/Mzizima 9254 85391 1 Tanga/Mwanzange 7727 93118 2 *2* Total 93118 26 *2* ADDO Tanga/Majengo 8830 8830 0 Tanga/Ngamiani Kusini 8662 17492 0 Tanga/Central 6098 29820 0 Tanga/Ngamiani Kati 5893 35713 0 Tanga/Ngamiani Kati 5893 0 *1* Tanga/Ngamiani Kati 5893 0 *1* Tanga/Ngamiani Kashazini 4467 40180 0 Tanga/Chongoleani 4092 52704 0 Tanga/	Tanga/Msambweni 10651 66495 4 Tanga/Maweni 9642 76137 4 Tanga/Mzizima 9254 85391 1 Tanga/Mwanzange 7727 93118 2 *2* Total 93118 26 1 5892 ADDO Tanga/Majengo 8830 8830 0 1 5892 Tanga/Ngamiani Kusini 8662 17492 0 1 5892 Tanga/Ngamiani Kusini 6230 23722 0 1 5892 Tanga/Ngamiani Kati 5893 35713 0 1 5893 Tanga/Ngamiani Kaskazini 4286 44466 0 *1* Tanga/Ngamiani Kaskazini 4092 52704 0 Tanga/Chongoleani 4092 52704 0 Tanga/Marungu 2212 58929 0 ADDO Total 5892 0 0 ADDO Total 5892 0 0 Tanga/Marungu 2212 58929 0 ADDO Total 58967 0 1<	Tanga/Msambweni 10651 66495 4 Tanga/Maweni 9642 76137 4 Tanga/Mzizima 9254 85391 1 Tanga/Mwanzange 7727 93118 2 *2* Total 93118 2 *2* ADDO Tanga/Majengo 8830 8830 0 1 58929 0.6879522 Tanga/Ngamiani Kusini 8662 17492 0 1 58929 0.6879522 Tanga/Ngamiani Kusini 6608 29820 0 1 58929 0.6879522 Tanga/Ngamiani Kati 5893 35713 0 1 58929 0.6879522 Tanga/Ngamiani Kaskazini 4467 40180 0 1 5892 0 1 5892 0 1 5892 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892 0 1 5892 <td>Tanga/Msambweni 10651 66495 4 Tanga/Maweni 9642 76137 4 Tanga/Mzizima 9254 85391 1 Tanga/Mwanzange 7727 93118 2 *2* Total 700 700 700 1 58929 0.6879522 40540 ADDO Tanga/Majengo 8830 8830 0 1 58929 0.6879522 40540 Tanga/Ngamiani Kusini 8662 17492 0 1 58929 0.6879522 40540 Tanga/Central 6098 29820 0 1 58929 0.6879522 40540 Tanga/Ngamiani Kati 5893 35713 0 1 58929 0.6879522 40540 Tanga/Mgamiani Kati 5893 35713 0 1 58929 0 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929</td>	Tanga/Msambweni 10651 66495 4 Tanga/Maweni 9642 76137 4 Tanga/Mzizima 9254 85391 1 Tanga/Mwanzange 7727 93118 2 *2* Total 700 700 700 1 58929 0.6879522 40540 ADDO Tanga/Majengo 8830 8830 0 1 58929 0.6879522 40540 Tanga/Ngamiani Kusini 8662 17492 0 1 58929 0.6879522 40540 Tanga/Central 6098 29820 0 1 58929 0.6879522 40540 Tanga/Ngamiani Kati 5893 35713 0 1 58929 0.6879522 40540 Tanga/Mgamiani Kati 5893 35713 0 1 58929 0 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929 1 58929

Location	Method	Data Collected	Capture with	Responsible Partner(s)	Assessment Questions (see Annex 1)
ADDOs	Record review and general observation	 Observe availability and price for tracer medicines Observe if dispensing register is available and if so, sample retrospective data on dispensing for customers with prescribed antibiotics over past 3 months Observe if referral register is available and if so, record referral volume over the past 3 months Volume and types of prescriptions reimbursed by NHIF during last 3 months (if applicable) General shop operations including the qualifications of the dispenser 	Tablet + GIS*	Apotheker INRUD	Q1a, Q1b, Q1c, Q2, Q3, Q6
	Focus group discussions	 Conduct focus group discussions in all 12 districts: Monthly utilization, overall and for antibiotics KAP regarding antimicrobial use and AMR Any experience with NHIF reimbursement Perceptions of prescribing and dispensing practices 	Paper (or tablet) + GIS*	Apotheker, INRUD + subcontractor	Q2, Q3, Q5, Q7, Q8
	Simulated customers	• Prior to the survey, 3 separate mystery shoppers will assess dispensing for 3 scenarios in different shops: severe ARI (fast-breathing); mild ARI; request for antibiotics	Paper*	TCAS	Q1b, Q1c, Q1d, Q2
	Survey on quality of medicines	 For a limited number of tracer antibiotics (commonly used or known quality problems), test quality of: Lowest price generic Most dispensed product 	Purchase and analyze	MUHAS School of Pharmacy	Q4
Private Pharmacies	Record review and observation	 Observe availability and price for tracer medicines Observe if dispensing register is available and if so, sample retrospective data on dispensing (and whether medicine was prescribed) for customers with respiratory illness (ARI/URTI) over past 3 months Volume and types of prescriptions reimbursed by NHIF during last 3 months (if applicable) 	Tablet + GIS*	Apotheker INRUD	Q1a, Q1b, Q1c, Q2, Q3, Q6
	Structured interview	 Interview Pharmacy owner and dispenser on: Monthly utilization, overall and for antibiotics KAP regarding antimicrobial use and AMR Any experience with NHIF reimbursement 	Paper (or tablet) + GIS*	Apotheker, INRUD	Q2, Q3, Q5, Q7, Q8
	Survey on quality of medicines	 For a limited number of tracer antibiotics (commonly used or known quality problems), test quality of: Lowest price generic Most dispensed product 	Purchase and analyze	MUHAS School of Pharmacy	Q4

Annex 3 Methods, Sources, and Responsible Partners for Assessment

Location	Method	Data Collected	Capture with	Responsible Partner(s)	Assessment Questions (see Annex 1)
Public Health Care Facilities	Record review and observation	 Review sample of prescribing records, dispensing records, or prescriptions for patients with respiratory illness (ARI/URTI) over past 3 months to obtain Prescribing and dispensing for tracer conditions NHIF or CHF insurance status Observe if there is a source of data on ADDO referrals and if so, collect data on referrals in last 3 months Observe current pharmacy stock levels and patient prices for a basket of tracer antibiotics 	Tablets +GIS*	Apotheker INRUD	Q9, Q11, Q12, Q13, Q14
	Patient exit interviews	 For up to 30 patients exiting facility after receiving care on the day of the survey, record: Details of prescription and dispensing, including plans to obtain medicines (if not dispensed) KAP (care, access, insurance, how to take medicines) Socioeconomic status, insurance status 	Tablet (or paper)*	Apotheker, INRUD,	Q9, Q14
	Structured interviews	 Interview health facility staff on: KAP (STGs, rational use, antibiotic use, AMR) Role in relation to ADDOs and referrals Care for CHF patients 	Paper*	Apotheker, INRUD	Q10, Q11, Q13, Q14, Q15
Household	Survey	 Conduct population-based survey of households on: Illness prevalence, care seeking, medicine use (acute & chronic), medicines at home, referral Socioeconomic status, insurance status Attitudes on ADDOs, care, medicines, referrals, AMR, insurance Validate 2-wk recall against family medical care book 	Tablet +GIS*	MUHAS School of Public Health	Q16 to Q25
Community stakeholders	Structured interviews	• Interview central level and district stakeholders concerning activities, knowledge, and opinions about ADDOs, health care, access to medicines, NHIF/CHF insurance, and AMR	Paper*	MSH, TFDA, PC	Q26 to Q30

* Data collection tools to be finalized with implementing partners, who will identify and manage data collectors.

Annex 4 ADDO Patient Drug Register

Ministry of Health and Social Welfare Tanzania Food and Drugs Authority

Register for Patients' Medicines

Name of ADDO_____ Page No._____

Date	Name of Patient	Address	Sex (M/F)	Age	Type of disease	Generic name of medicine	Dosage	Quantity of medicines for the whole course	Name of health facility: Hospital, Health Center, Dispensary	Price for each medicine sold	Signature of dispenser

Source: Drug Seller Initiative ToolKit @ <u>http://www.drugsellerinitiatives.org/Toolkit/Full-</u> Toolkit.cfm

Medicines Access and Use in ADDO Districts of Tanzania

Annex 5 Model Stock Availability and Price Data Collection Form

Name & location of ADDO/pharmacy/facility	ty:		Date:	D	ata collecto	or:		
Medicine *		Enter data	for the specific pro	duct with the l	argest amou	unt availabl	e in stock:	
Generic name, dosage form, strength	Total # products available	Brand name	Manufacturer	Product registered? Y/N/DK	Product expired? Y/N/DK	# units per pack**	Price of pack	Unit price
Artemether-Lumefantrine (ALu-paediatric)								
Quinine 300mg tablets								
Quinine 600mg2ml injection (as dihydrochloride)								
Amoxycillin trihydrate capsules 250mg								
Amoxycillin trihydrate oral suspension 125mg/5ml								
Cotrimoxazole 480mg tablets								
Cotrimoxazle 240mg/5ml suspension								
Doxycycline 100mg capsules/tablets								
Erythromycin 125mg/5ml oral suspension								
Erythromycin 250mg tablets								
Metronidazole 200mg tablets								
Metronidazole 200mg/5ml oral suspension								
Phenoxymethylpenicillin 250mg tablets								
Procaine Penicillin Fortified 4MU								
Benzyl Penicillin powder for injection 5 MU								

* List will be finalized by SDSI partners

** If product is sold by individual units (e.g., tablet) rather than packs, note unit price and mark "1" for number of units per pack.

Annex 6 Outlines for Structured Interviews

Structured interviews will be used to gather information from respondents to: (1) complement and explain the empirical data gathered during the survey; (2) explore perceptions about access and use of medicines in the community; and (3) understand the key issues about delivery of medicines that need to be monitored.

Interviews at central and district level will be carried out by staff from MSH, TFDA, and PC. Interviews at ward level will be conducted by Apotheker/INRUD data collectors. The stakeholders have narrowed a list of possible issues that could be addressed during these interviews to the ones outlined below. The final list of topics and the leading questions to be used to begin discussion on these topics will need to be agreed upon prior to the application for ethical approval and initiation of field work.

ADDO owner and dispenser

ADDO management

- What is the volume of customers in the last month?
- What is the percentage of customers demanding a particular antibiotic?
- What is the volume of antibiotics purchased in the last month? What percentage of customers are dispensed antibiotics? What are the most popular antibiotics prescribed?
- What were the sources of the antibiotics purchased? (check available documents for sources)
- What are key issues related to interacting with ADDO associations, local government, local health facilities, pharmacies, and the community?
- What has been the recent history of supervisory visits and inspections (national, district, ward level)?

ADDO and NHIF

- Has the ADDO ever tried to be accredited by NHIF? What were the challenges? Would they be interested in NHIF accreditation?
- If the ADDO has decided to discontinue NHIF reimbursement, what were the reasons?
- Are NHIF prices sufficient to recover medicine costs and make fair profit?
- What are positive and negative aspects of the NHIF reimbursement process?

Opinions about AMR and training needs

- Use the ADDO dispensers training course related to use of antibiotics (duration, full dose, etc.) and the DHS AMR module to formulate specific questions testing knowledge about AMR and training needs such as:
- Have they heard about any possible dangers with using antibiotics? Do they know about antibiotic resistance? Can they describe what causes resistance? What types of training has the dispenser had since the initial ADDO training? What do they perceive as training needs?

Health facility in-charge

Opinions about ADDOs

- Where do patients obtain medicines when they are out of stock at the health facility? Do you recommend that they go to ADDOs?
- What are the potential benefits and risks of allowing CHF patients to obtain prescribed medicines at the ADDOs?
- Do you ever receive referrals from ADDOs? How many per month? Re they usually appropriate?
- How do you know if an ADDO is doing a good job?
- Do you have any role to play in relation to ADDOs (e.g., training, supervision)?

NHIF/CHF

• What percentage of patients are NHIF or CHF members?

Medicines Access and Use in ADDO Districts of Tanzania

- Are NHIF/CHF patients managed separately in the clinic process (registration, clinical services, pharmacy)?
- What proportion of medicines prescribed for CHF members is actually dispensed at the health facility?

Opinions about AMR

- Is antimicrobial use monitored in the facility? If yes, by whom and how?
- Is the HTC doing anything related to antibiotic use? What are they doing? Has it been successful?
- Has the staff received training on rational use of antimicrobials?
- Has the staff received training on infection prevention and control?

District administrators (Executive Director, Health Secretary Treasurer, Chairman)

Budget utilization

- How are decisions made about budgeting for health activities?
- Are any district funds used for purchasing medicines?
- If applicable: What is the percentage of CHF funds allocated to medicines?
- Are any funds allocated for activities related to ADDOs (training, supervision)?

Opinions about ADDOs

- What is the role of ADDOs in the health system?
- Is the ADDO beneficial to the community? In what ways?
- Do you ever receive complaints about ADDOs from customers? What are the issues raised?
- How do you know if ADDOs are doing a good job in their role?

District NHIF/CHF Coordinator

CHF membership and utilization

- What is the current CHF membership? Has it been increasing or decreasing?
- Are data available on utilization by CHF members (overall and medicines)?
- Would utilization increase if CHF members could receive medicines in the ADDOs when they are out of stock in health facilities?

CHF and ADDOs

- What are the perceptions of NHIF and CHF members about ADDOs?
- What is the role of the district in linking ADDOs and CHF members? What would be the benefits and risks for ADDOs and for CHF members?
- Are any CHF funds disbursed for ADDO-related activities? Are funds used to purchase medicines?

District medical officials (District Medical Officer, District Pharmacist)

Opinions about AMR

- Is there a team in charge of surveillance of antimicrobial use in the district? Are data on antimicrobial use collected in the district?
- Are there district regulations to restrict antimicrobial prescriptions?
- What things are being done to enforce regulations regarding sales of antibiotics?
- What is being done to restrict prescriptions of antibiotics?

Central level administrative officials

(TFDA: Director General, Director of Medicines and Cosmetics; PSC: Chief Pharmacist, person responsible for rational use; PC: Registrar, Head of Pharmacy Practice; NHIF/CHF: Director General, CHF Coordinator, person in charge of ADDO reimbursement, NHIF Pharmacist)

Opinions about AMR

- Who is in control of AMR issues in the organization?
- What structures are in place to monitor antimicrobial use?
- What things are being done to control AMR in public health facilities, private health facilities and ADDOs (surveillance, supervision, inspection)?
- Is AMR a topic in training programs?

Relationship to ADDOs

- What is the perceived role of the organization in improving quality of care in ADDOs?
- Are any funds allocated to for training and supervision in ADDOs?
- How could routine monitoring of practices in ADDOs be included in their monitoring system?

NHIF/CHF

- What would be the advantages and disadvantages of allowing CHF members to be receive medicines in ADDOs when they are out of stock at health facilities?
- What would be the best structure for processing reimbursements if such a linkage could be put in place? Would it be possible to use cell phone-based reimbursement (e.g., M-Pesa)?

Annex 7 Example of Public Health Facility Prescribing Register

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				Attendance by patient fo			me in this year		lõ	TAB			Т				\square			Τ							α			
DATE	SERIAL NUMBER	TYPE OF SUBSCRIBER*	ATTEND. NOTE:	Re-attendance =repeater	J VISIT		VILLAGE OR HAMLET	DIAGNOSIS	ACETLSALICYLIC ACID :	PHYLLINE 100MC	Othert medicines								Emergency Oral Care Minor Summery	Wound stitching/dressing	wound dressing	Stool	Urine	Blood Slide	8	Sputum	PRESCRIPTION NUMBER	VALUE CHF MEMBERS	VALUE NHIF	VALUE USER FEE
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Annex 8 Example of Public Health Facility Dispensing Register

Annex 9 Model Pharmacy Stock-out Data Collection Form

Name & location of facility:			Date:	Da	ta collector: _	
Medicine *	Enter r	nonth/year and	days during tha	t month the me	dicine was out o	f stock:
Generic name, dosage form, strength	1	/	/	/	1	/
Artemether-Lumefantrine (ALu-paediatric)						
Quinine 300mg tablets						
Quinine 600mg2ml injection (as dihydrochloride)						
Amoxycillin trihydrate capsules 250mg						
Amoxycillin trihydrate oral suspension 125mg/5ml						
Cotrimoxazole 480mg tablets						
Cotrimoxazle 240mg/5ml suspension						
Doxycycline 100mg capsules/tablets						
Erythromycin 125mg/5ml oral suspension						
Erythromycin 250mg tablets						
Metronidazole 200mg tablets						
Metronidazole 200mg/5ml oral suspension						
Phenoxymethylpenicillin 250mg tablets						
Procaine Penicillin Fortified 4MU						
Benzyl Penicillin powder for injection 5 MU						

* List will be finalized by SDSI partners

Annex 10 Modified WHO/MeTA Household Medicines Survey Instrument

	vey Record Number		Fac						urvey Record Number		Faci			Househol		
	"Household Informant"								ountry Region _		Inve	stigator		Date	5-10 kr	(dd/m m ≥1
	ally the person who is the abers of the household. T								oster Number of Respondent							
men Die	person who makes decisio	ne survey s as about h	salth care in this ha	usehold or annu	on, or appropria	is available to ansi	sent.	I	istance of Household from Ref	erence Pub	lic Health	Facility (tick	: one)	1	2	
	1∐ Yes → if Yes	, Continu	e		2∐ No → if	No, Stop here.		A A	ccess to and Use of Med	icines - F	Part Two	: Health S	ervices Ac	cess & Illr	esses	
Ace	ess to and Use of	Medicir	ies - Part One	e: Househol	d Roster			2	How much time does it take t						closest to	o your
1.	Please give the name, s each of the household n								household? Read responses	<15	15 min to	sacn one of :	ine categorie	<	15 15	
1	confidential. Write one A								Public hospital	min 1□	1 hr 2 🗆		e. ADDO		nin tol □ 2	l hr
İ	Name			Relationship			Marital		NGO or Mission hospital	10	20		f Private ph			
	Name	Sex	Age	to head	Education	Occupation	status		Public health center or dispensar		20		z. Drugselle			
_				I-Head	1-No formal	1-Farmer/fakarman	I-Married		Private hospital, clinic or physic		2	3	-			
R O S T E				2-Spouse 3-Child	sekooling 2–Some primary	2-Jeacker 3-Artizan	2-Consensual union									
š				4-Grandchild	3-Completed	4-Office worker	3-Divorced		Has anyone in this household	haan ill in f	ha nast tun	maales mith a	en ecute illues	2 An acuta il	Incre is a	. comé
Γ		I-Male	Write number of	5 -Parant 6 -Sibling	primary 4-Completed	5–Civil Servant 6–Agric/fisk labor	4-Separated		that appears suddenly: the per							
R	Write a name that identifies		years in the Years	7-Nepkew/niece	secondary	7-Non-agric labor	6-Never		1 Yes			including being		If No. Skip t	Ouerti	on 5
	each member (initials, first		column.	8-Other family member	5-Completed kijk sekool or	8-Health worker 9-Self-	married 7-Non		- =						· ·	
N U	name, nick name, or conglets name)		Use the Month	9-House kelper	equivalent	employed/own	Applicable	4	I will now ask you a series of	questions a	bout each p	erson who ha	ad an acute illn	ess in the <u>pas</u>	t two we	eks. 1
0	,	2-Female	column only if less	10– Friend 99–Otker	6-Completed	business 10 Exclosed			can you give the name of each		o had an ac	ute illness ov	er the past two	weeks? Tra	uscribe n	ame
M B E R			than I year old.	(apecify)	college/pre- university	10–Studentipupil 11–Unemployed			roster number from the house							
Ē					honiversity	12-Not in labor		L H	Name (as in ros	ter)		Roste	er number	Acute illne	ss modul	
R					7-Completed post-graduate	force/retired 99–Other (specify)						· ·		Yes		N
1			Years Months		,,									10	_	00
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12									formation about one person, check							
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14									mpleted acute illness module pag Has anvone in this househol							
15								•	disease? A chronic disease is							
6										an niness in	at will not	go away of ta	-			
17									1 🗖 Yes				0∐ No →	If No, Skip t	o Questi	on 22
8								6	For each person with a chroni-	disesse I	will now a	sk vou a series	s of questions	about this dis	esse. Fi	rst. ca
9									give the name of each person							
0									roster.							
1									Name (as in ros	ter)		Roste	er number	Chronic dis	easemodi	
22														Yes		N
23								-				_		1		0
24								-						1		0
25 26								-						1		0
20								-					-	10		0
28								-						1		0
28																
30									omplete one chronic module for ec							
30									formation about one person, check							
									hen chronic disease modules are o unber of completed 'Chronic diseo							
				Draft WHO/ADD	O Household Survey	on Access to and Use o	f Medicines					Draft WHO/ADI	DO Houzehold Sur	vev on Access to	and Use of	Medici
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	y Record Number		acility			ld Numb	
	Sick Person	Name:			Roster N	lumber	
	Vhat type of health problems/sympto	ms did (firs	t name) have	during this ill	lness? Do not rec	ad. Tick o	me box for
	each group of symptoms mentioned: Cough runny nose, sore throat, ear ach	Yes e 1⊡	No 0	g. Thirst, sw	anting	Ye 1	
	Difficulty breathing, fast breathing	id	ŏ	h. Pain, ache	s s	ic	
	Fever, headache, hot body	iŌ		i. Bleeding,		iC	
	Convulsions, fits	1	0	j. Do not kn		1	
е.	Could not sleep	10	0	k. Other (ple	ase specify):	10	0
f	Diarrhea, vomiting, nausea, could not e	at 1	0				
8. H	low serious do you think this illness						
		D Somewh		-	t Serious		
9. A	At any point, did <i>(first name)</i> (or any 1 🛄 Yes	body else or	1 his/her beha		or this illness ou → if No, Skip i		
10. F	rom which of the following sources	of care did ((first name) 1	eceive care at	any time during	the illnes	s?
R	lead responses and tick one box for						
_		Yes	No			Yes	No
	iblic hospital	10	0	e. ADDO		10	0
	ission or NGO hospital	1	0		pharmacy	1	0
	iblic health center or dispensary	10	0	g. Drugsel		10	0
	ivate hospital, clinic or physician	1	0		rneighbor	1	0
11. E	Nd he/she take any medicine during	the acute illi	ness, includin				
	1 Yes			0∐ No	\rightarrow if No, Skip (to Questio	n 16
	Vhich medicines were taken during						
R	Vrite one medicine per row, and use A	codes provid B	ied in each c	olumn to colle C	ct information a	ibout each	medicine.
	A Medicine	Route	Farmenda	-	01	D sined from	
	Write name of medicine.	1 - oral	1-205	d/ prescribed by 3 - ADDO	I – available at home	6 -	minate kealit ca
		2 - injection	2 – kouzekold	6 – pkarmacist	2 – friand or naighbo	xer (2)	rovidor
	If name is not known, write the most detailed external pixes by seven-select ("antibiotic")	99 – other (specify)	member 3 – friend	7 – drugsaller 99 – other	outside kousekele 3 – public koupitel	17-	ADDO prisel pharmas
	category given by respondent ("antibiotic", "antimalaria", "for fever")	(-920	neighbour	(specify)	4 – NGO/mission /s	ogital 9 -	árug xéller
Med I			4 - doctorhune		5 – public keakk co	tter 99 -	ako (paž)
Med 2							
Med 3							
Med 4		-					
Med 5							
Med 6		-					
Med7						1 10	cal currency
	l Iow much did your household pay fi	or medicines	used to treat	this illness?			
13. H 14. V	Vas this cost covered by health insu	rance? 1 🗖 🤉	Yes, entirely	2 🗖 Par	t of it was cover	ed 00	No
13. H 14. V	Vas this cost covered by health insu Did <i>(first name)</i> take all medicines th	rance? 1	Yes, entirely mmended or	2 Par prescribed?	t of it was cover		
13. H 14. V 15. D	Vas this cost covered by health insur Did (first name) take all medicines the $1 \square$ Yes \Rightarrow if Yes, this one-page	rance? 107 hat were reco acute modu	Yes, entirely mmended or le is now cor	2∎ Par prescribed? nplete, go ba	t of it was cover ck to Question	4 0□	No
13. H 14. V 15. D 16. D	Vas this cost covered by health insue bid (first name) take all medicines the 1 table yes > if Yes, this one-page f answer to Questions 11 or 15 is . thy (first name) did not take medicines of the second s	nance? 1, 1 hat were reco acute modu No, ask the j nes. Can you	Yes, entirely mmended or le is now con following que tell me whet	2□ Par prescribed? nplete, go ba stion: I am g	t of it was cover ck to Question oing to give you a reasons why?	4 0□ some pos	No sible reason
13. H 14. V 15. D 16. <i>J</i>	Vas this cost covered by health insue bid (first name) take all medicines ti 1 [] Yes \rightarrow if Yes, this one-page f answer to Questions 11 or 15 is thy (first name) did not take medicin lead statements, and tick one box fo	nance? 1, 1 hat were reco acute modu No, ask the j nes. Can you	Yes, entirely mmended or le is now con following que tell me whet	2□ Par prescribed? nplete, go ba stion: I am g	t of it was cover ck to Question oing to give you a reasons why?	4 0⊡ some pos: Yes	No sible reason No
13. H 14. V 15. D 16. D W R a. Sy	Was this cost covered by health insu- bid (first name) take all medicines the 1 second second second second second second f answer to Questions 11 or 15 is . they (first name) did not take medici- blead statements, and tick one box for imptoms have gotten better	nance? 1 hat were reco acute modu No, ask the j nes. Can you r each statem	Yes, entirely mmended or le is now con following que i tell me whet sent	2□ Par prescribed? nplete, go ba stion: I am g	t of it was cover ck to Question oing to give you a reasons why?	4 0□ some pos: Yes 1□	No sible reason No 0 🗆
13. H 14. V 15. D 16. J W R a. Sy b. Sc	Vas this cost covered by health insue bid (first name) take all medicines the ID Yes > if Yes, this one-page f answer to Questions 11 or 15 is . thy (first name) did not take medicin lead statements, and tick one box for imptoms have gotten better mesone in the household decided medi	nance? 1 hat were reco acute modu No, ask the j nes. Can you r each statem	Yes, entirely mmended or le is now con following que i tell me whet sent	2□ Par prescribed? nplete, go ba stion: I am g	t of it was cover dk to Question oing to give you a reasons why?	4 0 some poss Yes 1 1 1	No sible reason 0 0 0 0
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13. H 14. V 15. D 16. D W R a. Sy b. Sc c. Sc d. Si	Vas this cost covered by health insu- bid (first name) take all medicines the $1 \Box Yes \rightarrow if Yes, this one-pagef answer to Questions 11 or 15 is .they (first name) did not take medicinblead statements, and tick one box forimptoms have gotten betteromeone in the household decided medi-metone advised not to take medicinesto person take bad reactions to medicines$	rance? 1	Yes, entirely mmended or le is now cor following que tell me whet tent t needed	2□ Par prescribed? nplete, go ba stion: I am g	t of it was cover ck to Question - oing to give you a reasons why?	4 0 some poss Yes 1 1 1	No sible reason 0 0 0 0
13. H 14. V 15. D 16. J W R a. Sy b. So c. So d. Si e. So	Was this cost covered by health insu- bid (first name) take all medicines the $1 \square Yes \rightarrow if Yes, this one-pagefor answer to Questions 11 or 15 is 1why (first name) did not take medicinlead statements, and tick one box forimproms have gotten betteromeone ain the household decided medimesone advised not to take medicinesck person had bad reactions to medicinesa different statement of the medicines a differentmesone ain the household chose a differentmesone ain the household chose a differentmesone ain the household chose a differentthe mesone ain the household chose a differentmesone in the household chose a different$	rance? 1 1 hat were reco acute modu No, ask the j nes. Can you r each staten cines were no ses in the past ent treatment	Yes, entirely mmended or le is now con following que tell me whet sent t needed	2□ Par prescribed? nplete, go ba stion: I am g	t of it was cover ck to Question oing to give you a reasons why?	4 0 some poss Yes 1 1 1 1 1 1 1 1 1 1 1 1 1	No sible reason 0 0 0 0
13. H 14. V 15. D 16. D W R a. Sy b. So c. So d. Si e. So f. Th	Vas this cost covered by health insu- bid (first name) take all medicines the $1 \Box Yes \rightarrow if Yes, this one-pagef answer to Questions 11 or 15 is .they (first name) did not take medicinblead statements, and tick one box forimptoms have gotten betteromeone in the household decided medi-metone advised not to take medicinesto person take bad reactions to medicines$	rance? 1 1, 1 hat were seco acute modu No, ask the j hes. Can you r each statem cines were no less in the past ent treatment ed was too far	Yes, entirely mmended or le is now cor following que tell me whet tent t needed	2□ Par prescribed? nplete, go ba stion: I am g	tt of it was cover ck to Question oing to give you e reasons why?	4 0 some posi Yes 10 10 10 10 10	No sible reason 0 0 0 0 0
13. H 14. V 15. D 16. D W R a. Sy b. So c. So d. Si e. So f. Th g. M h. M	Was this cost covered by health insu bid (first name) take all medicines the 1 second second second second second second f answer to Questions 11 or 15 is : thy (first name) did not take medicines and statements, and tick ones box for imptoms have gotten better one one in the household decided medi immone advised not to take medicines ck person had bad reactions to medicine meone in the household chose a differ a place where medicines can be obtain addicines were not available at the public dickines were not available at private p	nance? 1 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	Yes, entirely mmended or le is now cor following que tell me whet ent t needed raway facility 20, or drug se	2 Par prescribed? mplete, go ba stion: I am g her these were	t of it was cover ck to Question oing to give you a reasons why?	4 0 some posi Yes 10 10 10 10 10 10 10 10 10 10	No sible reason 0 0 0 0 0 0 0
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14. V 15. D 16. <i>J</i> W <i>R</i> a. Sy b. So c. So d. Si e. So f. Th g. M h. M i. No j. Or	Vas this cost covered by health insu bid (first name) take all medicines the limit of the second second second second second f answer to Questions 11 or 15 is . they (first name) did not take medicines head statements, and tick one box for imptoms have gotten better of meone advised not to take medicines of person had bad reactions to medicines and place where medicines are be obtain addicines were not available at the publ addicines were not available at private public take that take the first second second second second addicines were not available at private public distances were not available at private public first second second second second second second second second second second second second second second second second addicines were not available at private public first second second second second second second second second second second second second second second second second second second	nance? 1 1 1 hat were reco acute modu No, ask the j nes. Can you r each statem cines were no cines were no cines were no cines were no cines the past ent treatment ed was too fas ic health care harmacy ADI	Yes, entirely mmended or le is now cor following que t tell me whet ent t needed raway facility 20, or drug se	2 Par prescribed? mplete, go ba stion: I am g her these were	t of it was cover ck to Question . oing to give you a reasons why?	4 0 some pos: Yes 10 10 10 10 10 10 10 10 10 10	No sible reason 00 00 00 00 00 00 00 00 00 0
13. H 14. V 15. D 16. J W R a. Sy b. Sc c. Sc d. Si e. Sc f. Th g. M h. M i. No j. Or	Was this cost covered by health insu- bid (first name) take all medicines the $1 \square Yes \rightarrow if Yes, this one-pagefor answer to Questions 11 or 15 is 1why (first name) did not take medicinesthe discussion of the take medicines of the take medicinesis a statement, and tick one box foramonone in the household decided mediimmone at vised not to take medicinesat page where medicines an boyethous a differteplace where medicines and boyethouse a differelicines were not available at the publicedicines were not available at the publicdistines were not available at private goone in the household chould take timethousehold could not afford the medicines of the medicines were not available at the publicdistines were not available at private goone in the household could take time$	nance? 1 1 x is the second sec	Ves, entirely mmended or le is now cor following que tell me whet tent t needed r away facility 20, or drug se licines	2☐ Par prescribed? mplete, go ba stion: I am g har these were	t of it was cover ck to Question . oing to give you a reasons why?	4 0 some posi 10 10 10 10 10 10 10 10 10 10	No sible reason 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

	ey Record Number		Faci	ility			Househo	ld Numb	er 📘	
	CHRONIC .									
		Sick Person Nam	ie:				Roster	Numbe	r	11-1
17. 1	Which chronic diseases	does (first name)	have?	Read r	•	Tici	t one box for each a	disease m	ention	
			Yes	No	Do not Know			Yes	No	Do not Know
a. H	lypertension, high blood	pressure	10	0 🗖	99 🗖	i.	Stroke consequence	e 1🗆	0	99 🗆
b. H	leart disease, heart attacl	k consequence	1	0 🗖	99 🗖	j.	High cholesterol	1	0	99 🗖
c. D)iabetes, high blood suga	r	1	0	99 🗖	k	Cancer	1	0	99 🗆
d. A	sthma, wheezing, chroni	c difficulty breathing	; 1🗆	0	99 🗖	1.	Tuberculosis	1	0	99 🗖
e.H	IIV infection, AIDS		10	0	99	ш.	Liver disease	1	0	990
f A	arthritis, chronic body pa	ein	1	0	99 🗖	n.	Depression	1	0	99 🗖
	pilepsy, seizures, fits		10	0	99	0.	Other (please specify)	c 1🗆 -	0	99 🗆
h. U	llcer, chronic stomach pa	in	1	0 🗖	99					
t	Has <i>(first name)</i> been t treat this disease? 1 Yes 0	told by a doctor or c No \rightarrow if No, this (-		
	Which medicines has (• • •			
	Vrite one medicine per									rine
	A A	70w, ana 120 coa62	Б		l C		D		E	-1710.
	Medic	ine	Condition f medicin recomm	e was	Numbero supply u obtain	sually	Cost for last month	Any amou cost course		
	Write name oj		Write code ;	grouided in	In da	92	In local currency	Tick Yerifi	inurance	e covers
	If name à net loown, wrêe her by respondent ("antibiotie"	most detailed category given	Question I7 a. for lager		Write medicine		Write "0" if not obtained		or all co	
	diabete	- eoleegoolegoolegoolegoolegoolegoolegool	Write X i		obtained re		regularly or obtained free.	Tick Nof a not covere	d by in	isrance.
Med I								10 Ye		🗆 No
Med 2 Med 3								1 Ye		D No
Med 4								10 Ye 10 Ye		□ No □ No
Med 5								10 Ye		I No
Med 6								10 Ye		
Med 7								10 Ye		D No
Med 8								10 Ye		🗆 No
Med 9								1 □ Ye	s 0	🗆 No
All Me	sticines Ask for the total cost o	of medicines only if the cos	t of each me	tdicine is	not known					
1	Sometimes people can recommended? \square Yes \rightarrow if Yes, this				-				88 0	No
	lf answer to Question									
	<i>(first name)</i> may not a he/she does not take m/		es as reco	ommend	led. Can	you t	ell me whether thes	e are the	reasor	18 why
	lead statements, and ti		statemen	t.			Yes		No	
	ymptoms have gotten be						10		0	
	omeone in the househol		were not n	eeded			10		0	
	omeone advised not to t ick person had bad react		hanast							
	omeone in the househol						id			
	he place where medicine			y			i		0	
	fedicines are not availab	le at the public health	1 care facil	ity			1		0	
	ledicines are not availab				seller		1		0	
ĥ. M	lo one in the household		n medicin	es			10		0	
h. M i. N		ord the medicines					1		0	
й. М і. N j. О)ur household cannot aff)ther (please specify):						10		0	

surve	y Record Number	_ Facil	lity		Hous	ehold N	umber	
Acce	ss to and Use of Medicines	- Part Thre	e: Househo	old Medic	ines			
12. D	o you have any medicines available 1 🔲 Yes	at home today?	?	0 □ No →	if No. 51	in to O	nortion 2	
	10 165			00 100 -9	11 140, 51	up to Q	destion 2	•
23 C	an I please see all of them? Write o	ne medicine ne	er row and use	codes provi	ded in ea	ch colun	m to coll	ect
	formation about each medicine.							
	A	1	в	с	1	•	1	B
	Medicine Obtained from In home Lab				Labe	Label OK		Adage OK
	Write name of medicine.	I - family, friend 5 - private health		became 1-current	Tick Yes if label		Tick Yes	-
	If name is not known write the most detailed	2 – public kospital	eare provider 6- ADDO	treatment	includes	nedicine	packapeia	at attabae
	category given by respondent ("antibiotic", "antimalaria", "for fever")	3 – NGOInizzion kospital	6- ADDO 7- private	2-laft from	name, di expirati		or a cloud and if it co	le container,
		4– public kaalk	pharmacy	past treatment	exporten	on 2212.	one me	
		centeror	8 – drug seller	3-anticipate				
		dispersary	99-otker (specifi)	future read	Othernia		Otherwis	
Med	1						1 Yes	0 No
Med	2				1 Yes	0🗖 No	1 Ves	0🗖 No
Med	3				1 Yes	0 No	1 Yes	0 No
Med	4				1 Ves	0 No	1 Yes	0 No
Med	5				1 TYes	0 No	1 Yes	0 No
Med	6				1 Ves	0 No		0 No
Med	7				1 Ves	0 No	1 Yes	0 No
Med	8				1 TYes	0 No		0 No
Med	9				1 Yes	0 No	10 Yes	0 No
Med 1					10 Yes	0 No		0 No
Med 1	1				1 Ves		1 Yes	0 No
	ss and Use of Medicines - F		•		10Yes	o⊒ № Iedicin	1⊡Yes es	0 No
Acce 24. Ia W	ss and Use of Medicines - F am going to read you a series of opin hether you agree or disagree. Do no.	tions about prid	ce and quality on "Do not kno"	of medicines. w‴. Tick it ij	1 Yes ining M For each the respo	0 № № ledicin opinion	1 Yes es n, please r loss not w	0∎ № tell me
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Acce 24. Is w 25 a. In with b. In me c. With d. It is a. Tw f. Ik	ss and Use of Medicines - F am going to read you a series of opin hether you agree or disagree. Do no unwer or is unable to choose between atement. my public facility, health providers tak ich medicines to prescribe the ADDO, the attendant takes into acc dicines to sell. hen I receive a prescription, I am comfo is easy for me to find out how much me ro identical medicines may be sold at do now where to find medicines at the low	nions about prin t read the optica a "agree" and te into account o yount our ability rtable asking ho dicines cost. ifferent prices rest price in my 1	ee and quality of m "Do not kno" "disagree". Ra ur ability to pay to pay when the w much the med neighborhood.	of medicines. w ^{**} . Tick it ij ead statemen when they de y decide whic	I⊡Yes ining M . For each fthe response to de tick A cide .h st.	In opinion ondent d one box Agree Dj 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I Ves es n, plesse loss nor w for each isagree.D 2 2 2 2 2 2 2 2 2 2 2 2 2	0 No tell me caut to 3 3 3 3 3 3 3 3 3 3 3 3 3 3
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Ac	cess and Use of Medicines - Part Four: Opinions about Obtaining	g Medi	cines	
24.	I am going to read you a series of opinions about price and quality of medicines. For whether you agree or disagree. <i>Do not read the option "Do not know"</i> . <i>Tick it if the r</i> <i>answer or is unable to choose between "agree" and "disagree"</i> . <i>Read statements & statement</i> .	esponder	nt does no	t want to
		Agree	Disagree	Do not know
a.	In my public facility, health providers take into account our ability to pay when they decide which medicines to prescribe.	1	2	3
b.	In the ADDO, the attendant takes into account our ability to pay when they decide which medicines to sell.	1	2	3
c.	When I receive a prescription, I am comfortable asking how much the medicines will cost.	1	2	3
d.	It is easy for me to find out how much medicines cost.	1	2	3
e.	Two identical medicines may be sold at different prices.	1	2	3
f.	I know where to find medicines at the lowest price in my neighborhood.	1	2	3
g.	When I buy a medicine, I ask for the least expensive product.	1	2	3
h.	When the ADDO staff recommends a medicine, I can be sure that it is the best value for money.	1	2	3
i.	When the ADDO staff recommends a medicine, I can be sure that it is of good quality.	1	2	3
j.	Medicines of better quality are more expensive.	1	2	3
k.	There are places in my neighborhood where I would never buy medicines because they sell medicines of poor quality.	1	2	3
1.	My household would obtain medicines at the ADDO if insurance reimbursed their cost.	1	2	3
m.	Different names may be used for the same medicine.	1	2	3
n.	I have heard the word "generic" before to describe a medicine.	1	2	3
	ightarrow If respondent has not heard about generics or does not know, Skip to Question 25	;		
0.	A generic medicine is usually lower in quality than a brand medicine.	1	2	3
p.	A generic medicine is usually lower in price than a brand medicine.	1	2	3
	Draft WHO/ADDO Household Survey on	Access to an	1d Use of Me	dicines

1

Access to and Use of Medicines - Part Five: Experiences about Care and Medicines

I am going to read you a series of opinions about three topics related to care and medicines: access, affordability, and quality. There are no correct answers. For each opinion, please tell me whether you agree or disagree. *Do not read the option "Do not know"*. Tick it if the respondent does not want to answer or is unable to choose between "agree" and "disagree". Read statements, and tick one box for each statement.

25.	The first set of opinions is about access to care and medicines.	Agree	Disagree	Do not know
a.	The waiting time at my public health care facility is too long.	1	2	3
b.	My public health care facility usually has the medicines we need.	1	2	3
c.	The most convenient place to seek care in my neighborhood is the ADDO.	1	2	3
d.	The ADDO closest to my household usually has the medicines my household needs.	1	2	3
26.	The second set of opinions is about affordability of medicines.	Agree	Disagree I	Do not know
a.	My household can get free medicines at the public health care facility.	1	2	3
b.	Medicines are more expensive at ADDOs than at the public health care facility.	1	2	3
c.	My household can usually get credit from the ADDO if we need to.	1	2	3
d.	My household can usually afford to buy the medicines we need.	1	2	3
e.	In the past, my household had to borrow money or sell things to pay for medicines.	1	2	3
27.	The last set of opinions is about quality of care and medicines.	Agree	Disagree I	Do not know
a.	The quality of care and services delivered at ADDOs in my neighborhood is good.	1	2	3
b.	The quality of services delivered by my public health care facility is good.	1	2	3
c.	I trust the ADDO attendant to give the right advice for treatment.	1	2	3
d.	I can always obtain antibiotics at the ADDO when I need them.	1	2	3

Annex 11 Illustrative Data Flow for ADDO Phone Monitoring

First screen:

Generic name, dosage form, strength: (prefilled)

1. Any product available: Y/N

2. Comments (optional): _____ End

Second screen if answer to question 1 on the first screen is "Y":

Generic name, dosage form, strength: (prefilled)

- 1. Most dispensed product during past month³: _____
- 2. Manufacturer:
- 3. Unit⁴ retail price: xxxx/xx TZS
- 4. How many units did you purchase from (**prefilled date**) to (**prefilled date**)⁵:

³ A drop-down menu should be used for entering the name of each tracer. The menu will list all products registered in Tanzania for a given tracer medicine. The menu will also include an option "other". If "other" is selected, the option "Enter name: ______" will be displayed.

⁴ NHIF unit definition will be used for price reporting and analysis. For price data collection, the wording of the question will be tailored to the dosage form of the tracer medicine. The price of non-liquid forms will be displayed as "tab price" or "cap price". For liquid formulations, the question will be split in two parts (i.e., "bottle price" and "bottle volume").

⁵ Dates to cover the past month