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IMPROVING CHILD HEALTH THROUGH THE ACCREDITED DRUG DISPENSING OUTLET PROGRAM

FEBRUARY 2008



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About USAID/BASICS

USAID/BASICS works with ministries of health and their partners worldwide to increase the use of proven child health and nutrition interventions by families, communities, and health systems to achieve population-level impact; strengthen health systems to improve the quality of care and address inequalities in coverage; expand the reach and effectiveness of health services through community-based and private sector approaches; and operationalize new interventions for improved newborn and child health, based on scientific evidence and best practices for health programming.

About CEEMI

CEEMI is a semi-autonomous institution under the National Institute for Medical Research, Tanzania. It works with the Ministry of Health and Social Welfare and collaborates with several other local and international partners with the aim of promoting the application of effective and appropriate malaria and other health related interventions through advocacy, strengthening and maintaining sufficient capacities at district, national and regional levels, to an extent that malaria is no longer a major public health problem hindering social economic development.

About USAID/RPM Plus

USAID/RPM Plus works in more than 20 developing and transitional countries to provide technical assistance to strengthen pharmaceutical and health commodity management systems. The program offers technical guidance and assists in strategy development and program implementation both in improving the availability of health commodities—pharmaceuticals, vaccines, supplies, and basic medical equipment—of assured quality for maternal and child health, HIV/AIDS, infectious diseases, and family planning and in promoting the appropriate use of health commodities in the public and private sectors.

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ABBREVIATIONS

ADDO	Accredited drug dispensing outlet (also known as <i>Duka la Dawa Muhimu</i> in Swahili)
ARI	Acute respiratory infection
BASICS	Basic Support for Institutionalizing Child Survival
CBO	Community-based organization
CEEMI	Centre for Enhancement of Effective Malaria Interventions
CH	Child health
CHMT	Council health management team
CORPS	Community-owned resource persons
DLDB	Duka la Dawa Baridi (“cold” drug shop; Swahili)
DLDM	Duka la Dawa Muhimu
DMO	District medical officer
DRCHCo	District reproductive and child health coordinator
FGD	Focus group discussion
IDI	In-depth interview
IEC	Information, education, and communication
IMCI	Integrated management of childhood illness
ITN	Insecticide-treated nets
MOHSW	Ministry of Health and Social Welfare
MSH	Management Sciences for Health
NGO	Non-governmental organization
ORS	Oral rehydration solution
PPF	Procaine penicillin fortified
RPM Plus	Rational Pharmaceutical Management Plus
SEAM	Strategies for Enhancing Access to Medicines
SP	Sulfadoxine-pyrimethamine
TBA	Traditional birth attendant
TFDA	Tanzania Food and Drugs Authority
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

This report presents the findings and recommendations from a desk study and formative research on the Accredited Drug Dispenser Outlet (ADDO) program in Tanzania's Ruvuma Region. The purpose of the program is to increase community access to essential drugs and enhance the quality of health services through an accreditation program for private drug sellers, based on standards established with the Tanzanian Food and Drugs Authority and the Ministry of Health and Social Welfare (MOHSW).

The Centre for Enhancement of Effective Malaria Interventions (CEEMI) conducted this study in 2006 at the request of USAID's BASICS project and the Rational Pharmaceutical Management (RPM) Plus Program of Management Sciences for Health (MSH). The overall goal of the assessment was to learn how best to integrate a child health component into the ADDO program. In Tanzania, the child health component is known as "IMCI in the ADDOs."

Prior to beginning the research, the CEEMI assessment team reviewed the available literature on the provision of medicines to children through *Duka la Dawa Baridi* (DLDB)¹ and on care seeking knowledge, attitudes, and practices in Tanzania. BASICS and RPM Plus then designed a qualitative study to fill in gaps.² Objectives were to deepen the understanding of community practices and perceptions on the management of childhood illnesses; gaps in knowledge, practices, and beliefs of ADDO dispensers; and availability and use of drugs for children under five. CEEMI conducted the qualitative research in the Namtumbo, Mbinga, Songea Rural, and Songea Urban districts in the Ruvuma Region where the ADDOs have been operating since 2003. The study results are expected to inform the design of a community mobilization strategy for the ADDOs, including training and job aids for ADDO dispensers, and recommendations for supportive supervision and continuing education.

Survey respondents included parents and other caretakers (mothers, fathers, and grandmothers), formal health care providers, community leaders, ADDO owners, ADDO dispensers, community-owned resource persons (CORPS), non-formal (traditional) health care providers, Council Health Management Team (CHMT) members, and district medical officers.

¹ Duka la Dawa Baridi are private drug shops that are licensed to sell only nonprescription medicines, but typically provide a much broader range of products and services.

² This qualitative study was conducted concurrently with a quantitative baseline survey, also conducted by CEEMI and in collaboration with BASICS and RPM Plus.

The assessment team conducted 63 focus group discussions (FGDs) and 81 in-depth interviews (IDIs) during September and October 2006.

The study uncovered information on the for-profit attitude of ADDO owners, the community orientation of accredited dispensers, and the growing informal referral system between the ADDO dispensers and health facilities. Although ADDO owners establish ADDO outlets for purely business reasons, dispensers are interested in addressing other community needs for health. Most dispensers were found to be knowledgeable of some childhood illnesses, causes, and preventive measures, but expressed interest in being provided with visual aids or other tools to help them educate or talk with clients on child health issues. The study also highlighted the CHMTs' appreciation of the work being done by the ADDOs.

The study found that both mothers and fathers recognized many common symptoms of childhood illnesses, such as diarrhea, malaria, cough and colds, and pneumonia. They also understood the urgency of taking a sick child to a health clinic, and were familiar with treatments used for childhood illnesses, although recognition of danger signs was less clear. Many parents said that they will seek care through a traditional healer because of cost. Often community members will contribute money to a family that does not have the means to get a sick child to a health facility for care. Most respondents during this study said that the health facility was the preferred place to take a young child for treatment when they are ill, although many said that they also go to other places often because of cost, convenience or tradition. In the areas sampled, ADDOs are an important source of medicine for young children under 5 years of age, particularly when the health facility is out of medicine or is located some distance away.

As grandmothers assume a larger role as family caregivers due to a growing number of parents succumbing to HIV/AIDS, they expressed particular interest in learning more about where and how to access medicine for their grandchildren that were frequently ill.

Most non-traditional healers and birth attendants were not familiar with the causes of disease or how to prevent illness. Given the frequency that some parents turn to them for care and advice on caring for children, they may be an important audience for community mobilization or health promotion efforts that address child health.

The assessment team found that across the board, myths and misconceptions in all four districts are influencing how children are being cared for and how illness is being prevented and treated. For example, parents did not have a good understanding of some preventive methods to avoid disease, such as the significance of hand washing with soap, nor did they understand the importance of completing a full course of treatment for illness. People coming from the low socio-economic strata in rural areas like Songea Rural and Namtumbo suffered the most, with poor access to formal health care services and an inability to afford even basic medical care compounding the problem. Findings also revealed that fathers want to be more actively involved in child health programs.

Based on the study's findings, the team presents the following recommendations:

1. Develop a comprehensive communication strategy to disseminate accurate information to communities on how malaria, diarrhea, and pneumonia can be prevented.
2. Provide outreach on child health issues to other family members and community gatekeepers beyond mothers and caretakers.
3. Continue to educate ADDO dispensers on child health care and prevention and promote their role as reliable and locally available resources for information and services. They have potential to be strong supporters of ORT and ORS, regular ITN use by pregnant women and children less than 5 years old, and appropriate care seeking for ARI including referrals.
4. Encourage the involvement of CHMTs in the ADDO program to build public-private partnerships that broaden community access to quality drugs and child health services.
5. Develop and disseminate a comprehensive child health training package for the ADDO program.
6. Formalize the referral system between the ADDOs and the health facilities.

1.0 INTRODUCTION

Public health facilities are the primary source of health care and medicine in Tanzania. National policy is such that children under five years of age receive care free-of-charge in the public health system. Findings from this qualitative assessment confirmed that government health facilities are the first choice for treating many childhood illnesses. However, because accessibility to facilities is limited and stockouts of essential medicines occur frequently, the majority of caretakers seek medical care for children from the private sector, including informal drug medical stores (Duka la Dawa Baridi [DLDB])³ (SEAM Report 2003), kiosks (McCombie 1996) and traditional healers. For a number of years, the Tanzania Food and Drugs Authority (TFDA) has authorized DLDBs to provide nonprescription drugs in the private sector, but there have been serious problems within the DLDBs such as: lack of quality medicines, high prices charged to customers, inappropriate dispensing, and inadequate regulation and supervision (Strategies for Enhancing Access to Medicines [SEAM] Report 2003; Wernsdorfer 1994).

To tackle this problem, in 2003 the TFDA in collaboration with MSH/Strategies for Enhancing Access to Medicines (SEAM) with funding from the Bill & Melinda Gates Foundation initiated a pilot program for the purpose of transforming the Duka la Dawa Baridi into a network of privately owned and accredited drug dispensing outlets (ADDO) beginning in the Ruvuma Region in southwestern Tanzania.

The ADDO strategy seeks to improve private sector pharmaceutical services in Tanzania, focusing on the availability, affordability, and quality of drugs. Currently, ADDOs sell only drugs for which they have TFDA market authorization, and their employees (dispensers) and shop owners have to ensure the ADDO shop fulfils certain structural conditions and complete training courses covering both management and medical/appropriate treatment issues to become accredited. The original ADDO pilot package which included extensive training, marketing, commercial incentives, continuous supervision, and regulation was shown to increase the availability and quality of essential medicines in Ruvuma. On the other hand, implementing partners agreed that the package needed review and modification before national scale-up (MSH 2005).

³ *Duka la dawa baridi* are part II pharmacies that are licensed to sell only nonprescription medicines, but typically they provide a much broader range of products and services.

The Government of Tanzania plans to expand the ADDO program to all other regions in the country, based on successful preliminary results, with the support from donors such as the United States Agency for International Development (USAID). The MOHSW has approved a child health (CH) component, based on the principles of the World Health Organization Integrated Management of Childhood Illness (IMCI) Program, for development and integration into the ADDO package with the goal of increasing the number of children correctly treated for malaria, acute respiratory infection (ARI), and diarrhea. The child health component (referred to in Tanzania as “IMCI in the ADDOs”) consists of a package of key interventions including: training dispensers in rational use of medicines for the key common childhood conditions (malaria, ARI and diarrhea), community demand creation through community mobilization activities, and supervision, monitoring and evaluation.

To inform and guide the planned integration of the CH component into the ADDO program, a baseline (quantitative) assessment and formative (qualitative) research were conducted. This report presents the **formative, qualitative assessment** results that will help to shape the strategy for the community mobilization and CH component, identify needs for training and job aids for ADDO dispensers, and content for advocacy, continuing education and community sensitization in support of the ADDOs. A separate report on the baseline quantitative assessment is available, and results will provide comparison data for evaluating the impact of integrating CH as a core component of the ADDO package.

2.0 STUDY GOAL AND OBJECTIVES

The main goals of the qualitative assessment were to learn more about 1.) child health knowledge, practices, and beliefs of ADDO dispensers; 2.) the availability of drugs; and 3.) parents/caretakers' perceptions about childhood illness, care seeking practices and home based care. Assessment results are expected to inform ways to best integrate CH into the ADDO program including approaches for community mobilization, training modules, job aids and other support materials, including supervision and continuing education. Specific assessment objectives were as follows:

- Identify knowledge, practices, and beliefs of dispensers about recognition, care, and treatment of childhood illnesses
- Identify knowledge, practices, and perceptions of parents/caretakers about recognition, treatment seeking, and management of childhood illnesses
- Assess factors influencing care-seeking and medicine use practices, and protective measures geared towards prevention of illness and promotion of child health
- Identify community myths and misconceptions about care and treatment of childhood illnesses
- Determine the availability, accessibility, and handling of drugs used for the management of childhood illnesses
- Make recommendations for the development of a community mobilization strategy, including monitoring and evaluation.

3.0 METHODOLOGY

3.1 Study areas and population

The study was conducted in the Namtumbo, Mbinga, Songea Rural, and Songea Urban districts in the Ruvuma Region where ADDOs have been operating since 2003.

3.2 Study design

This community-based, cross-sectional study employed qualitative ethnographic techniques. The study team used qualitative methods such as focus group discussions (FGDs) and in-depth interviews (IDIs) with community members, ADDO dispensers and owners, and health care providers.

3.3 Respondent categories

CEEMI organized and conducted FGDs and IDIs with a variety of respondents all of which were purposively selected in the Ruvuma region. Respondents included parents/caretakers (mothers below and above 30 years of age, fathers, and grandmothers), formal health care providers, community leaders, ADDO owners, ADDO dispensers, community-owned resource persons (CORPS), non-formal (traditional) healers, traditional birth attendants (TBAs), council health management team (CHMT) members, and district medical officers.

3.4 Data collection methods

BASICS and MSH RPM Plus developed the data collection tools used in this study (FGD and IDI guides); CEEMI then pretested the tools and customized them for the various types of respondents.

3.5 Respondents

As noted, the study respondents included parents/caretakers, formal health care providers, community leaders, ADDO owners, dispensers, CORPS, non-formal/traditional health care providers, CHMT members, and district medical officers.

3.6 Data analysis

The team recorded and transcribed the responses from focus group discussions and key informant interviews, along with field notes. The team then analyzed the transcripts using standard qualitative methods and used the results to write this report.

4.0 STUDY FINDINGS

The study findings are based on information from 63 FGDs and 81 IDIs in the Ruvuma Region, collected in four out of the five regional districts between September and October, 2006. The distribution of respondents by category is shown in tables 1 and 2.

Table 1: Number of Focus Group Discussions Conducted by Respondent Category

No.	Respondents	Total
1	Fathers with children less than 5 years of age	11
2	Grandmothers with grandchildren less than 5 years of age	14
3	Young mothers (<30 years old) with infant	10
4	Older mothers (>30 years old) with infant	2
5	Young mothers (<30 years old) with children less than 5 years of age	10
6	Older mothers (>30 years old)with children less than 5 years of age	12
7	CHMT members	4
Total		63

Table 2: Number of In-depth Interviews Conducted by Respondent Category

No.	Interviewees	Total
1	District medical officers	3
2	Other CHMT members that are involved in IMCI and training	3
3	District reproductive and child health coordinators	2
4	Health workers/service providers	11
5	Community leaders	17
6	CORPs	5
7	ADDO owners	7
8	ADDO dispensers	15
9	Traditional healers	14
10	Traditional birth attendants	4
Total		81

4.1 Client flow

4.1.1 ADDO owners

Most of the ADDO owners reported that they had established their dispensing units to meet the needs of the surrounding communities. Some noted that their decision to establish an outlet was based on their observation of constant shortages of medicine at nearby health facilities. All agreed that, in addition to providing a much needed service to the community, they had set up an ADDO as a way to supplement their income and make money. One ADDO owner in Songea Rural claimed that there are certain types of medicine that cannot be dispensed by dispensaries, but are allowed to be sold through the ADDOs; he established his shop to be able to offer medicines that the communities wanted.

4.1.2 ADDO dispensers

ADDO dispensers were asked to estimate the number of clients they see each day. Responses seemed to vary both by location (rural versus urban), as well as the economic status of the surrounding communities. The ADDOs located in urban areas and particularly those serving populations with ready access to cash reported to serve more clients of all age groups than those located in rural areas. Moreover, ADDOs located near health facilities reported attracting more clients than those far from health facilities. They noted that drug shortages at health facilities were an important reason for increased numbers of clients going to their shops for medicine. The estimates reported by dispensers help increase the understanding of care-seeking behavior, but may not be accurate.

“Twenty percent are coming with prescriptions from health facilities and 50 percent come to seek advice and medicine.” ADDO dispenser—Songea Rural

ADDO dispensers reported that anywhere from 10 to 60 percent of all their clients come to them to purchase medicine for children aged 0 to 5 years. They also indicated that there was less demand for medicine for children who were older than 5 years.

ADDO dispensers in rural areas estimated that approximately 10 to 40 percent and 20 to 60 percent of all their clients came to buy medicine for a young child aged 0 to 5 years (Songea

Rural and Namtumbo districts, respectively), In urban areas, ADDO dispensers said that about 60 percent of all clients (Songea Municipal) came to them to purchase medicine for young children, whereas in Mbinga Urban, approximately 10 to 60 percent of clients sought medicine for young children.

“I usually serve 100 clients a day . . . [children] less than 5 years are 60 percent and above 5 years are 30 percent.” ADDO dispenser—Namtumbo

“On a daily basis I serve between 50-70 patients whereas 25 percent are children less than 5 years and 15 are children above that age.” ADDO dispenser—Songea Rural

These findings suggest that in many communities the ADDOs are often used to obtain medicine for children that are less than five years of age.

4.1.3 Health facility service providers

Client flow at health facilities, as expected, was reported to be higher than at ADDOs. Service providers at health facilities reported receiving 25 to 500 clients per day, with most of them attending antenatal care and child growth monitoring services. They also said that more than half of their clients visit the health facilities for health problems affecting children aged 0 to 5 years. There were fewer clients visiting health facilities for health problems affecting older children, possibly because medicine is no longer provided free-of-charge to patients older than age 5. In the absence of a price advantage, caretakers tend to forego the long lines at public health facilities in favor of pharmacies and traditional healers.

4.2 Recognition, care, and treatment of childhood illnesses

4.2.1 ADDO dispensers

Most ADDO dispensers mentioned general weakness, loss of weight, change of hair color and luster, edema, irritability, and constant crying as cues indicating that a child was not in good health. Malaria, cough/colds, diarrhea, weight loss, high fever or convulsion, intestinal worms and skin diseases, pneumonia, anemia, and malnutrition were all described as common problems for children less than 5 years of age. When asked to identify signs that they believed to be the most dangerous, almost all named malaria, diarrhea, pneumonia, convulsions, cough, and dysentery. When probed about measles and meningitis, most said they had never seen children at their shops suffering from those diseases.

Among the many tasks dispensers say they do on a regular basis, dispensing the correct medicine every time, serving clients politely so that they return to their shop the next time they need medicine, and encouraging clients to go first to the health facilities before coming to the ADDO were all mentioned. Although this was not observed in the concurrent quantitative research described earlier, most ADDO dispensers indicated that educating or advising clients on the caring for young children was an important part of their work.

“It is my responsibility to educate clients because I am trained in medicine, advocacy, and communication, particularly for advising clients regarding health issues.” ADDO dispenser—Songea Rural

“It’s my duty to advice clients, otherwise you will keep on treating them; when I educate my clients on preventive measures, these illnesses will reduce.” ADDO dispenser—Mbinga

Most noted that they enjoyed educating or advising clients on health issues since they believed that the information they shared could be of use for a long time. Dispensers report that the main cause for delaying seeking treatment for young children when they are ill is lack of money for transportation and sometimes for treatment. Other reasons dispensers say that mothers prefer

the ADDOs is because when they do not have cash to pay, they allow them to pay in-kind for the medicine they need.

“If a client cannot afford to pay for the treatment, I advise her to bring food crops such as maize, beans, or rice to the ADDO, and then I give her what she needs for the child. I will sell the food to pay for the medicine and any excess money I return to the client.”
ADDO dispenser—Songea Rural

They also believe that even if the family does not have money, if they see that a child is in need of treatment at a health facility, they can convince the parents, and somehow the money can be found. One dispenser told the assessment team a story about a recent situation where a young child was brought to his shop when she was seriously ill. The family had no resources so the community was called on to help out.

“Last week in my area a child had severe malaria, convulsions, and anemia. The family had neither money nor transport, so we had to help the parents raise funds to rescue the sick child.” ADDO dispenser—Songea Rural

Some ADDO dispensers remarked that more parents seemed to visit them to get advice about how to care for their young children when they are ill, than those who come to buy medicine for the same children.⁴ Other reasons dispensers say caretakers came to the ADDO include medicine shortages at the public health facilities, availability of “expert advice,” appropriate services for their problems, and good public relations between the ADDO dispensers and community members. The ADDO dispensers reported that clients often ask many questions about diseases, treatment, and prevention, and that they do their best to provide the right answers. Questions cover a wide range of illnesses including malaria, diarrhea, pneumonia, coughs and colds, as well as nutrition, intestinal worms, loss of weight, loss of appetite, and anemia. ADDO dispensers say they usually advise their clients about how to prevent illness, how to recognize danger signs, how to act promptly when a child becomes very sick, and how to make sure that children receive medicine as instructed. They also tell parents about the importance of good nutrition.

⁴ Apparently in certain areas the dispensers are a trusted source of information on child care and caretakers are going to them for this service. Later in this report older mothers and grandmothers suggest that dispensers are not qualified to provide advice on caring for sick children.

When asked how they remember the dosage for different medicines and for different ages, most reported that they read books and refer to different types of official documents. The ADDO dispensers were asked to name the kinds of medicine they usually prescribe to young children for malaria, diarrhea,⁵ pneumonia, coughs, and colds. When asked why they prescribe the medicines they mentioned, most reported that this was the standard treatment for these diseases as directed by the MOHSW, as they had learned during their training. All said that sometimes caretakers come with a prescription from a health facility for the medicine they need, but many times they do not.

Table 3 summarizes the ADDO dispensers' prescription knowledge for childhood illnesses.

Table 3: ADDO Dispensers' Knowledge of Prescriptions for Childhood Illnesses

No.	Childhood Illness	Prescription
1	Malaria	1. sulfadoxine-pyrimethamine (SP)* 2. amodiaquine 3. quinine*
2	Diarrhea	1. oral rehydration solutions (ORS)* 2. metronidazole 3. co-trimoxazole*
3	Pneumonia	1. amoxicillin 2. co-trimoxazole* 3. erythromycin
4	Coughs and Colds (non-pneumonia ARI)	1. amoxicillin 2. co-trimoxazole 3. cough syrups (eg Bronchcin®, Kofylin® ⁶ , Coldril® ⁷)

*Note: SP was the recommended first line treatment for mild malaria at the time of the study although currently artemisinin-based combination therapy is being introduced. Quinine was the recommended first line treatment for complicated malaria. ORS is the recommended treatment for simple (non-bloody) diarrhea. Co-trimoxazole is the first line recommended treatment for complicated (bloody) diarrhea and also pneumonia. The recommended treatment for non-pneumonia ARI (cough and colds) is an inoffensive remedy such as lemon and honey for children > 6 months and breastmilk for infants.

Some noted that these drugs are dispensed based on prescriptions that the parents received for the child at the health facility. Verbal instructions are normally given to the parents about dosage

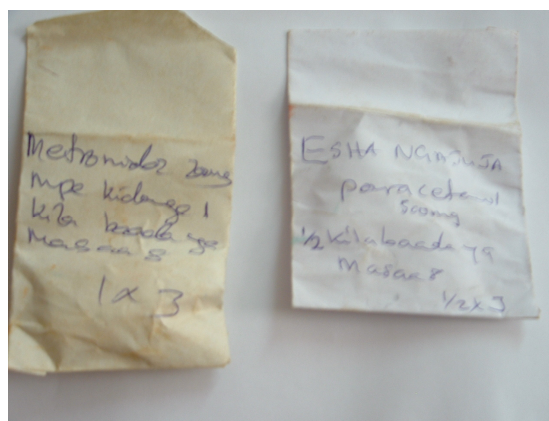
⁵ Note that the ADDO dispensers were not asked to distinguish between bloody and nonbloody diarrhea.

⁶ Kofylin syrup contains chlorpheniramine maleate B.P, ammonium, chloride B.P, sodium Citrate B.P and menthol B.P

⁷ Coldril contains pseudoephedrine hydrochloride B.P, chlorpheniramine maleate B.P, and paracetamol B.P.

and how to give the medicine. The oral instructions are complemented by the written information on the package as well as notes by the dispenser. (See photos below for examples of medicines and written instructions.⁸) ADDO dispensers remarked that most parents in the communities follow their advice on the medicine dosage for a sick child.

Examples of medicines and written instructions



When asked how they give instructions on preparing ORS, most dispensers reported that they instruct caretakers to boil water and then leave it to cool. After cooling, the caretaker should prepare one liter of water by taking two measures of a beer bottle and pouring it into a clean container. After the boiled water has cooled, the caretaker should empty an ORS packet into the measured (one liter) water to dissolve. The dispensers tell the caretakers to give it frequently to the sick child over a 24-hour period.

“I usually instruct them to boil water, cool it, and measure the water into two bottles of beer. The water is then mixed with one ORS sachet. The child should be given this to drink frequently within 24 hours.” ADDO dispenser—Songea Rural

Other advice that dispensers gave to parents or caretakers with dehydrated or very sick children is to continue feeding them and to give them cooled boiled water to drink. The assessment team noted that it is an important challenge for ADDO dispensers to advise caretakers on how to prepare and give ORS to their sick children since instructions on how to prepare the solution must be given verbally by the dispenser and the mother is expected to prepare it at home on her

⁸ These photos were obtained from samples collected during the simulation client component of the baseline survey. For more details, see the ADDO survey report, “Improving Child Health through the Accredited Drug Dispensing Outlet Program: Baseline Survey from Five Districts in Tanzania, September 2006.”

own. This is unlike most other medicines distributed at the ADDO, where the first dose is given on site in the distributor's presence. Similarly, the assessment team observed that there are other medicines being distributed through the ADDOs that need to be prepared at home and require the mother to mix a powder or solution with measured water before giving it to the child.

Example of medicines available at the ADDOs



4.2.3 Council Health Management Teams

Almost all CHMT members had positive things to say about the ADDOs. Many observed that the ADDOs are providing a much-needed service in the areas where they work, since their presence helped to ensure the availability of medicines for young children. A large number of CHMT members started discussions with the assessment team by commending the ADDOs for the contributions that they were making to public health in the communities.

“[The] ADDO has helped to decrease morbidity and mortality because they are near to residential areas and often where it is not easy to get to health facilities. Communities depend on the ADDOs for medicine.” CHMT—Songea Urban

“[The] ADDO has helped to decrease the distance [that caretakers need to go to get medicine] . . . clients used to walk for almost 5 km to get treatment or they would divert to traditional healers for treatment. At least now it is easier for them to get the medicines we want our children to have.” CHMT—Songea Rural

“They are doing a great job, and communities are impressed because they also refer clients to health facilities.” CHMT—Songea Rural

CHMT members also remarked that in areas where ADDOs are working, the number of clients and general congestion at health facilities had decreased. They mentioned that most ADDOs have registers that make it easier for CHMTs to monitor their activities. On the other hand, some CHMT members in rural districts were concerned that ADDOs were limited to providing only simple treatments and counseling services for childhood illnesses, the belief being that more was needed to prevent needless deaths.

The CHMTs had a number of suggestions for improving and sustaining the quality of services that the ADDOs provide. Examples included improved follow-up and monitoring, better understanding of danger signs, and more referrals of sick children with special needs to health centers for treatment.

“Because there is no follow up in the home, it is hard to know how the medicine was given and if the child got better. The work could greatly be improved if treatments could be monitored.” CHMT—Namtumbo

“In terms of child illness, [the] ADDO has helped us with first aid treatments. It would be useful if they could receive more training on how to diagnosis childhood illnesses and provide treatment including advising parents how to prepare ORS.” CHMT—Mbinga

Other concerns expressed by CHMT members include that, despite their training, ADDOs continue to be primarily business-oriented and a stronger public health-orientation would be useful.

“Some ADDOs are business-oriented, for clients they exchange what the doctor has prescribed and dispense an alternative medication, which is expensive so that they get more profit.” CHMT—Namtumbo

“In my view, deaths and disease transmission are still high. We see they are based more on business and not service provision. At times dispensers sell incomplete doses because they want money.” CHMT—Namtumbo

Despite these observations, several CHMT members recommended that ADDOs be established in every village as a way to reduce the number of sick children being brought to traditional healers for treatment. CHMT members also suggested that all ADDOs be supplied with referral slips or forms that they can use to refer clients to health facilities. They noted that if a client were given an official referral form they would be encouraged to bring their sick child promptly to a health facility. At the time of this study, all referrals by dispensers were done verbally.

“Right now referrals from ADDOs are being done verbally. If the ADDOs had referral forms it would be quite good. If a mother or caretaker is provided with a referral form, she will also see the importance of getting the sick child to the hospital.” CHMT—Songea Urban

“A referral form would help the nurse or doctor understand what sort of medication had already been given to the sick child and how much.” CHMT—Songea Rural

4.2.4 Community-owned resource persons (CORPS)

Community-owned resource persons (CORPS) are volunteers that the MOHSW has trained to promote community IMCI with emphasis on ways to prevent illness in communities. They do not provide any curative services. When asked about common childhood illnesses, the CORPS named pneumonia, diarrhea, and fever as being prevalent in their communities with malaria, convulsions, pneumonia, and diarrhea being considered the most dangerous. All said they advised parents to seek medical help at health facilities for treatment, check-ups, and general medical care. They noted that money was the main reason that some caretakers avoid taking their children to health facilities when they are ill and resort to traditional treatment.

“I advise caretakers once the child falls sick [that] they should take them to the health facility, but at times, if they don’t have money, they decide to go to traditional healers.” CORPS—Songea Urban

CORPS further explained that giving advice and instructions on IMCI is their principle

responsibility; it gives them an opportunity to make follow-up visits to homes to check on children, particularly those that are underweight. If during a home visit they find that there is a child who is seriously ill, they will provide first aid and then refer the child to the health facility. It was noted that in some localities health facilities are far and not easy to reach. Many areas have only one ADDO where they can get medicine and others have nothing at all. Several said that more ADDOs were needed, especially in communities located far from the health facility, to make sure that medicine for young children was always available to families.

4.3 Recognition, treatment seeking, and management of childhood illnesses

4.3.1 Recognizing childhood illnesses

Young mothers with infants as well as those with older children responded similarly when asked how they would know that a child was not healthy. Fever, weakness, persistent crying, weight loss and refusing to breastfeed were common responses. They also said that the difference between young children and older ones is that when younger ones are ill they will just continue to cry, whereas older ones can tell you where it hurts. They further noted that pneumonia normally occurs during the cold season, malaria during the dry season and diarrhea and vomiting are common during the first few weeks of a baby's life.

Childhood illnesses that they often see in their communities include pneumonia, malaria, diarrhea, and vomiting. For these mothers, the most dangerous diseases for young children are cholera, measles, anemia, and pneumonia, with HIV/AIDS being of particular concern since it could not be cured. When asked how they would know if a child was dangerously ill, the majority said that this could be verified by high fever and then confirmed through tests at a health facility. In general, young mothers knew that malaria is spread by mosquitoes and can be prevented by sleeping under an insecticide-treated net (ITN). They also described environmental cleanliness as a way to prevent malaria. They said that pneumonia is caused by chills and can be prevented by putting on warm clothing, and that drinking boiled water can prevent diarrhea. Young mothers said they get information about childhood illnesses from health facilities and clinics. They also said they liked to discuss this kind of information with fellow mothers.

Similar to the young mothers, grandmothers and older mothers described quietness, weakness, loss of weight, and no appetite as indications that a child was not in good health. They also

mentioned sleepy eyes, no interest in playing, high fever, or “*utosi kuzama*”⁹ as other signs. In addition to the common illnesses mentioned by the younger mothers these older caretakers also described acute respiratory infections, convulsions, anemia and malnutrition as problems. HIV/AIDS and tuberculosis were likewise described as dangerous illnesses for young children, while malaria, diarrhea, vomiting, and pneumonia were singled out as especially bad since they can kill a child within a short time. Malaria and convulsions were reported to be common during the dry season, whereas diarrhea is a problem throughout the year. Conjunctivitis, colds, and cough are often seen when there is a lot of dust in the air. Several said they believed the root cause for many of these illnesses to be HIV/AIDS, although the general public may recognize it as tuberculosis. Older mothers with infants described transmission from mother to child and unclean needles as ways that children can contract the HIV virus. Most say they get this information from health care providers.

“There is sharing of needles for injections here in our village. It is common and a major problem. We should stop taking our children for traditional injections.” Older mother with infant—Namtumbo

“I understand the reason for a child to be HIV positive [because] it’s through the parents. The mother’s blood during pregnancy is infected and during delivery, it’s transmitted to the child. At first the child looks healthy, but after a while the child’s weight doesn’t increase, it becomes weak, then the whole body changes color, and it gets wounds like burns, and the body swells. When you take the child to the health facility and beg for a thorough check[-up], they ask you if you are ready for the results. I accept this because I am tired of treating the child again and again [for illness], so I need to know what exactly is troubling her. And when the results are out, they inform you that the child is HIV positive . . . already the mother has passed away . . . here in the village most of people associate HIV/AIDS with witch craft, and awareness of causes, signs, and symptoms is not well understood compared to urban areas.” Grandmother —Mbinga

Most older mothers and grandmothers said they got their information about caring for children and childhood illnesses from clinics or hospitals. They said that ADDOs did not provide information on child health while others suggested that dispensers were not qualified to give this kind of information. Some also said that traditional healers often share inaccurate information

⁹ *Utosi kuzama* is a Swahili term for “sunken anterior fontanel”

and mislead mothers. Radio stations, such as Radio Maria and Radio Free Africa, were described as trusted sources of information, although many older mothers said they did not own radios.

Although the assessment team concluded that, in general, mothers appear to be knowledgeable about childhood illnesses and recognize basic health problems, awareness of danger signs is still low. As an example, during one FGD the group moderator realized that one of the mothers had an infant that was having difficulty breathing and was snoring loudly. The mother was advised to immediately take the child to the health facility; the assessment team assisted her with transportation money since it appeared to be an emergency and a delay might have been catastrophic. The two-month old infant was diagnosed with pneumonia and was prescribed four crystapen injections at six-hour intervals. It merits noting that crystapen injections are not the most appropriate treatment for pneumonia according to national guidelines.

4.3.2. Caretakers' roles during illness and in health

When children are well, food preparation, child care, and housework are normal tasks for young mothers with infants. Although some noted that husbands provided some help, others said they have no assistance with household chores. When a child is sick, most say they stop whatever they were doing and immediately take the sick child to health facility. Most observed, however, that there is always the issue of money. When asked about transport as an obstacle, most said they would put the child on their back in a cloth and rush to the health center on foot.

Most of the younger mothers observed that some mothers and/or fathers don't pay close attention to sick children who are not their biological offspring. When asked what they would do if they found themselves in such a situation, most claimed they would care for the child irrespective of whether or not it was their own child.

Primary household responsibilities for older mothers with infants were described as breastfeeding the baby, preparing nutritious food, caring for the young child from morning to evening, and attending to the household. When the child is sick, however, most say they spend most of their time nursing the child and will often get help from grandmothers. They also reported that they try to get the infant as quickly as they can to a health facility, but sometimes

relatives and friends may advise against it or they lack money. Mothers admitted that children that are not their biological offspring may not get the same level of attention as their own, although most said they would still give them care and treatment if they could. Many said that in these kinds of situations, a lot would depend on the attitude of the husband or the child's father.

A number of young mothers also said they believed that grandmothers and older women in the house were the most reliable caretakers because they always made sure the children were well attended even if there were other things going on. Similar comments were made by older mothers. Several mothers said that at times the child's grandmother will take the child for an entire day and at times, even to the farm so they can watch and care for them.

4.3.3 Treatment seeking and management of illness

When a child becomes ill, all groups said that the immediate reaction is to send the sick child to a health facility. Both grandmothers and parents are involved in making this decision. Many said that grandmothers would do anything to make sure that the child gets the care they need.

“When the child gets sick, we know that the first thing to do is to go to the hospital.”
Grandmother—Songea Rural

“We prefer going first to hospital because we get advice, treatment, and drugs.” Older mother with infant—Songea Urban

Although treatment at public health facilities is free for children under five years of age in Tanzania, before seeking treatment the mother will first go to the father for money, since she knows that it will be needed for transport, food, or possibly prescription medicine that must be purchased. Many said that they would do this for any child in their care regardless of whether or not they were the biological mother. When probed if they ever go first to the ADDOs before going to the health facility, most mothers said they go straight to the health facility and only go to ADDOs if the prescribed medicine is not available at the health facility. Almost all mothers said that money was a major problem when seeking treatment when their young children are ill.

Some young mothers shared additional information with the interviewers about what would happen in the event that a young child or infant died at home. They explained that travelling to

a health facility to obtain a death certificate was not considered necessary. Once close relatives confirm the death, as per the religious rites of the parents, death certificates are generally not obtained before burying the child and are not looked upon as a priority.

4.3.4 Fathers

Similar to the mothers and grandmothers, the assessment team organized focus group discussions with fathers to explore what they knew about childhood illnesses, treatment and management of disease, and household behaviors. The fathers said that they could recognize that a child was sick when they were weak, the hair was loose, and the eyes were sleepy and yellowish. Some recognize growth faltering as a problem that indicates that the child may be sick. Such children were described as unhappy and that they were rarely seen playing with other children.

“The child is weak, hair doesn’t grow well, it’s like *mlenda*¹⁰, eyes turn yellow, and after visiting [the] clinic, if the weight mark in the clinic card does not fall in the green shade, then I know my child’s health is not good.” Father—Songea Urban

When asked about common childhood illnesses in their communities, most men mentioned that anemia, and convulsions as common problems during the rainy season and diarrhea and colds during the dry season. Fathers also described malaria as a problem during the rainy period, although mothers and grandmothers said they saw more malaria when things were drier. Most of the men singled out malaria, cholera, anemia, and meningitis as the most dangerous illnesses. High fever and frequent vomiting were described as signs that a child was seriously ill. Most of the men highlighted that diarrhea is caused by drinking contaminated water or food, whereas anemia is caused by malnutrition. Almost all men complained they don’t get any information on childhood illnesses since health education is often for women who attend antenatal clinics. They also noted that because ADDOs are mainly interested in making a profit, they rarely provide any information on childhood illnesses. They pleaded for inclusion of men in programs that address childhood illnesses and health. It was noted that, in most communities, there is minimal involvement of men in reproductive and child health programs.

¹⁰ *Mlenda* is a local term for a soft slippery meal prepared from okra.

Fathers described their roles at home as maintaining household security and harmony and ensuring that all of their children are clothed and eat well. They also described one of their roles as “listening to their problems.” When a child gets sick, most said they immediately mobilize resources (mostly borrowing money) through relatives and friends to make sure that the child is sent to the health facility as soon as possible. If a child falls ill and the husband is away, mothers know to take the child immediately to a health facility for care, and neighbors will sometimes assist by lending or giving money to the wife. If there are older children, they can escort their mother to hospital. Most men observed that women don’t like to take care of sick children who are not their own. They went on to conclude that, in their opinion, men are more caring with sick children even if they are stepchildren.

4.4 Care-seeking behaviors, preferred treatments, and preventive practices

4.4.1 ADDO dispensers

ADDO dispensers were asked to name the causes and preventive measures for malaria, diarrhea, pneumonia, coughs, and colds. For each disease, they gave a number of reasons and corresponding preventive measures as summarized in table 4.

Table 4: ADDO Dispensers' Knowledge of Childhood Illnesses by Causes and Preventive Measures

No.	Childhood Illness	Causes	Preventive measures
1	Malaria	<ol style="list-style-type: none"> 1. Living in swampy areas 2. Not using an ITN 	<ol style="list-style-type: none"> 1. Cleaning the environment, i.e., house cleaning inside and outside, cutting grasses, clearing the bushes around the house, and removing stagnant water 2. Putting mosquito gauze on windows 3. Sleeping under ITNs
2	Diarrhea	<ol style="list-style-type: none"> 1. Drinking contaminated water. 2. Eating soil 3. Eating fruits without washing them 	<ol style="list-style-type: none"> 1. Households must boil drinking water 2. Treating drinking water with <i>Water-guard, a household water purifier</i> 3. Washing hands (with or without soap) after visiting the latrine 4. Washing fruits before eating 5. Using latrines
3	Pneumonia	<ol style="list-style-type: none"> 1. Not wearing warm clothing during cold seasons 2. Dust 3. Giving child a cold bath 	<ol style="list-style-type: none"> 1. Children must wear warm clothing during cold seasons. 2. Dusting windows and furniture in the households. 3. Making sure that children don't play in dusty areas 4. Always giving a warm bath to children
4	Coughs and Colds	<ol style="list-style-type: none"> 1. Dust 2. Cold weather 3. Not wearing warm clothing during cold seasons 	<ol style="list-style-type: none"> 1. Children must wear warm clothing during cold seasons. 2. Dusting windows and furniture in the households 3. Sweeping the floor and house surroundings 4. Making sure that children don't play in dusty areas

During discussions with the assessment team, many dispensers reported that, from time to time, they wondered why there were so many problems caring for young children. Examples of questions they would ask themselves included:

- Why don't some young children improve despite being provided with the right medicine in the right dosage?
- Why don't community members follow their advice for preventing illness?

- Why do some children get malaria during the dry season when there are no mosquitoes in the area?

To get answers to these questions and similar ones, the ADDO dispensers consult other dispensers, talk to service providers at nearby health facilities, or read books. When asked if information, education, and communication/behavior change communication (IEC/BCC) materials would be useful for helping them talk with parents about preventing illness and caring for children, many thought that this would be helpful. Materials they thought would be beneficial to parents and caretakers as well as themselves were ones that described how to prevent and treat common childhood illnesses and recognize danger signs in young children.

“Brochures with detailed information on signs and symptoms of diseases, treatment, and preventive measures would be useful and would help us when we advise parents on how to care for their children.” ADDO dispenser—Songea Rural

“We need instructions in Kiswahili on how to identify danger signs and caring for sick children.” ADDO dispenser—Namtumbo and Songea Rural

4.4.2 Mothers and caretakers

Most young mothers with infants said that in their homes they are responsible for deciding where to go and the type of treatment that should be given to their child if they fall ill “since they are always with the baby”. They noted further, however, that grandmothers are also responsible for influencing decisions about the type of treatment and medicines needed when a child is ill. Most older mothers with infants said that they decide on the type of treatment and medicines, although many observed that both parents participate in making these kinds of decisions. Almost all mothers irrespective of their age and the age of their youngest child said that when one of their children was ill, they preferred to go to the health facility or doctors¹¹ for treatment. Most parents or caretakers reported to trust the medicine they got from ADDOs, although there are some who were also confident in traditional medicine or treatments.

¹¹ In most areas within the country, a *doctor* refers to health workers in health facilities.

When asked to name the best treatments for children when they have diarrhea, malaria, coughs and colds, or pneumonia, mothers suggested a variety of medicines including traditional treatments.

“When the child has diarrhea you take *gamba la mwembe*¹² from the right side of a mango tree and you give it to the child twice. For coughs and cold you boil the *miti ubani*¹³ and give the solution to the child thrice.” Young mother with infant—Songea Rural

“At home if a child has diarrhea I give him Flaygl® [metronidazole].” Young mother with infant —Songea Urban

Favorite treatments for diarrhea that were named included metronidazole (an inappropriate, treatment for non bloody diarrhea) and ORS (the appropriate treatment for diarrhea.) SP, quinine, and amodiaquine were all described as preferred medicines for malaria. (At the time of this survey SP was the recommended first-line treatment for malaria.) For coughs and colds there were major differences among mothers for preferred treatments. Some mothers described various brand names of cough syrups while others talked about procaine penicillin fortified (PPF) injection, neither of which are the recommended first-line treatments for coughs and colds. (IMCI guidelines recommend treating coughs and colds with lemon and honey or paracetamol.) Although the recommended first-line treatment for pneumonia is oral cotrimoxazole, most mothers agreed that crystapen injection was the preferred treatment for children. Table 5 shows the details of preferred treatments reported by mothers. It is important to note that many of the preferred treatments do not correspond to the national standard treatment policies for these childhood conditions.

¹² *Gamba la Mwembe* is a local term that refers to the bark from a mango tree.

¹³ *Miti ubani* means essence.

Table 5: Reported Best Treatment for Childhood Illnesses by Category of Mothers

Category of Mothers	Childhood Illness			
	Diarrhea	Malaria	Cough & Colds	Pneumonia
Younger mothers with infants	metronidazole, ORS* Septrin® (co-trimoxazole)* Note: It was not clear from respondents whether co-trimoxazole was considered the best treatment for all types of diarrhea or just bloody diarrhea	SP*, Panadol® (acetaminophen), quinine*, amodiaquine	Piriton® (chlorphenamine maleate), Mucollyn®, Kofylin®, Mist Expect Sed ¹⁴ (M.E.S), ampicillin	amoxicillin, crystapen injection
Older mothers with infants	metronidazole, injection, clean water	ITN, SP*, amodiaquine, quinine*,	Janton®, amoxicillin PEN-V (Phenoxymethylpenicilin suspension), Kofylin®, Septrin® (co-trimoxazole)	crystapen injection
Younger mothers with a child < five	ORS*	quinine*, SP, amodiaquine	Kofylin®, PPF (penicillin procaine + benzyl) injection, amoxicillin	crystapen injection
Older mothers with a child < five	metronidazole, ORS*, fruit juice	amodiaquine, quinine syrup*, SP* (Fansidar®)	PPF powder (penicillin procaine + benzyl), Piriton®, Koflyn®, amoxicillin syrup, PEN-V® (phenoxymethylpenicilin suspension)	crystapen injection

* the asterix by particular medicines denotes that they are the appropriate treatment according to the national guidelines.

When asked if they had ever saved medicine that they have purchased for use at a later time when a child is sick, several mothers reported to have done this at one time or another. Some explained that the reason they had medicine to save was because they stopped giving treatment when it appeared to them that the child was better.

¹⁴ M.E.S: ammonium chloride, chloroform, morphine, and ammonium bicarbonate.

“Malaria medicine . . . Yes, I save it . . . it happens when you find the child is playing well and active and you stop giving the dose knowing that he is better.” Older mother with child under five—Songea Urban

“I save the medicine for diarrhea because I live far away from ADDO.” Older mother with child under five—Namtumbo

“I saved cough syrup in case another child gets cough.” Older mother with infant—Mbinga

Medicines that were usually saved included those for diarrhea, malaria, coughs, and colds. Most are stored in boxes, cupboards, or pots. A major reason mothers say they save medicine is that they live too far from the nearest health facility and needed to have something at home in case one of their children became ill. Most mothers said that because an injection is used to treat pneumonia that sort of medicine is never saved at home.

“It’s impossible to save crystapen injection at home because injections are given at the hospital. How could you store it at home?” Young mother with infant—Songea Rural

“When a child suffers from pneumonia, the doctor prescribes crystapen injections and these are given for several hours. You cannot save it.” Older mother with infant—Namtumbo

Mothers who don’t store children’s medicine at home say that they go back to the health facilities when children are sick.

These findings suggest that mothers tend to save leftover medicine when they are in tablet or syrup form. This poses a problem particularly for syrups that are prepared by mixing dry powder with a specific amount of water and that must be used within 5 to 7 days suggesting that more attention needs to be focused on helping caretakers understand why and how medicine should be given to children when they are ill. The findings also highlight the importance of advising communities on the inappropriate use of antibiotics and injections as this is potentially dangerous and inappropriate as standard treatment for many illnesses.

4.4.3 Fathers

In contrast to what was reported by many mothers, most men (fathers of children aged less than 5 years) noted that the husband is the person responsible for deciding on what treatments or medicines to give to a child. Some explained that when a child is ill, it is important for both the father and mother to discuss the best type of treatment and medicine that the child should be given. They further noted that, if neither of the parents is present when the child gets sick, then the elder child (son or daughter) or grandparents are responsible for deciding what treatments or medicines are best for the child. Most fathers explained that either the father or mother is normally responsible for administering medicine, although if neither parent is present, any adult at home could give the sick child medicine. When asked if they had ever given medicine differently from how they were told, most said no. They said every parent wants his/her child to complete the medicine that they have been prescribed as directed by doctors. However, it is possible to give a child only a quarter or a half dose because that is all the family can afford. In some instances medicine that has been left over from a previous illness and stored is used for treatment.

“If the medicine is expensive and I cannot afford the full dose, I buy a half dose to save my child’s life and struggle by all means to secure the remaining medicine.” Father—Songea Urban

“When my children get sick and I don’t have money, I use the stored medicine that we save in a secure place.” Father—Songea Urban

“I save amoxicillin syrup because once I see that the child is well, we stop giving it. Also I don’t have money, so why should I throw it away?” Father—Mbinga

The men were asked to name the best treatments for diarrhea, malaria, cough and colds, and pneumonia in children. Most noted that metronidazole and some local medicines given by traditional healers were the best treatments for diarrhea. When probed if they had ever prepared ORS for one of their children, only a few confirmed to have done so. The men noted that to prepare ORS for a sick child, one should use one or two liters of previously boiled water, cool it,

and then use it to dissolve one ORS packet. They explained that the solution needed to be given to the sick child on demand.

For malaria, fathers described quinine, Fansidar® (SP), SP, and amodiaquine as preferred treatments for children. Although mothers and some fathers indicated that inappropriate treatments such as antibiotics were good for coughs and colds, most fathers (accurately) did not mention these kinds of medicines, but rather talked about various types of syrups and Tiger Rub liniment as treatment favorites.

For pneumonia, fathers mentioned treatments such as PEN V and crystapen injection, which are not the recommended treatments according to the national guidelines, as preferred treatments for young children. Amoxicillin was also mentioned, which is a good second-line treatment for acute respiratory infections and had not been mentioned by the mothers.

See table 6 below for a summary of responses by fathers.

Table 6: Reported Best Treatment for Childhood Illnesses by Fathers

Childhood Illness			
Diarrhea	Malaria	Cough and Colds	Pneumonia
metronidazole, ORS*, Septrin®(co-trimoxazole), dipheadine, lipadin capsules	SP*, Malariaquine® (CQ), Metakelfine® (SP), quinine* amodiaquine, Homaquine® (CQ) Note: Respondents mentioned several forms of quinine including syrups, capsules and injections. At the time of this assessment quinine was a recommended treatment for severe malaria. CQ = Chloriquine, SP= Sulfadoxine Pyrimethamine	Piriton® (chlorpheniramine: an antihistamine), Mucollyn®, Kofylin®, Cofta® capsules, Cofta® syrup, Vicks® kingo, Junior Care, amoxicilin (antibiotic), Congexyl®, Good Morning®, Shelydol ® (paracetamol), Vicks Vaporub®, erythromycin (antibiotic)	crystapen injection, quinine injection, amoxicillin syrup, PEN-V® (phenoxymethyl-penicilin suspension) ampicillin, chlorophenical syrup, chloramphenical capsules, PPF injection (penicillin procaine + benzyl), erythromycin

* the asterix by particular medicines denotes that they are the appropriate treatment according to the national guidelines.

Although as noted previously many fathers acknowledged saving medicine or giving as much medicine as they can afford, others noted that, except in special circumstances, medicine is always given according to the advice they are given by the medical personnel (doctor, nurse, or pharmacist).

“Even if the child’s health improves, in order to attack the fever completely, you finish the dose.” Father—Namtumbo

“The only situation when I would stop following the instructions given for medicine would be if I were given a five days’ dose and if on the third day the child hadn’t improved, I would stop giving the medicine and return with my child to the doctor for more checkups.” Father—Namtumbo

4.5 Community myths and misconceptions about care and treatment of childhood illnesses

In all four districts, myths and misconceptions about the causes and cures for disease in children less than 5 years of age have a fundamental influence on treatment. Misinformation about breastfeeding, pre-lactal feeds, and appropriate nutrition for young children was noted among interviewed caretakers. Interestingly, despite the fact that fathers reported having less access to health information and less contact with health workers, the information they do have appears to be more accurate than that of mothers and grandmothers.

4.5.1 Mothers

In addition to the ADDOs, mothers were asked if they know any other places in their communities where they can purchase medicine or receive treatment for their children when they are ill. Most young mothers with children less than five years old said they would first go to the health facility to purchase medicine or receive treatment for a child that was ill. A number stressed that care and treatment received at health facilities could be trusted.

“I trust the dispensary because I receive advice from the doctor on whatever my child is suffering from. I am also advised to go back for further checkups after I complete the dose.” Younger mother with infant—Mbinga

In general, older mothers said they purchase medicine or receive treatment for diarrhea and malaria from health facilities, but for cough and colds they preferred to go to traditional healers. They also said that they purchase medicine or receive treatment for childhood diseases from health facilities as well as from retired health workers living in their areas.

Mothers were then asked if they give liquids and food to sick children. Most young mothers with infants reported that very young children (less than six months of age) should not be given water to drink as they are supposed to take only breast milk. However, when children older than six months of age are sick, the mothers understand that they should be given ORS or a solution of salt and sugar that they can make at home. Most younger mothers also noted that in addition to ORS, sick children need to be given solid food. For the older children with diarrhea, favorite foods or foods requested by the sick child are offered to encourage him/her to eat. Older mothers also mentioned that children with malaria, cough, and colds should be given solid food and it should be soft/mashed and given warm and that sugar cane and cooked rice should be avoided. Other food taboos for sick children include millet, rice, sardines, and peanuts. In some areas, when a child is ill, breastfeeding mothers avoid eating certain vegetables. Older mothers with infants also observed that a child with diarrhea needs to be breastfed regularly.

Discussants were then asked about the role of the community when a child falls sick with diarrhea, malaria, pneumonia, or a cough and cold. Many younger mothers of both infants and young children observed that most community members would advise them to take the child for treatment at the hospital and would provide some help with costs. Family members, on the other hand, particularly the husband and grandmothers, were understood to have primary responsibility for making sure that the mother had what she needed to care for the child including treatment. Older mothers of both infants and young children noted, however, that if the child is not seriously ill, community members usually don't offer help, and it is only when there is a serious problem that they will contribute money for the child's care. Several noted that the community is always there to support the family and attend a funeral in the event that the sick child dies.

Mothers were also asked about preventive methods for children regarding diarrhea, malaria, pneumonia, or a cough and colds. To prevent diarrhea, mothers with children under five years of age recommended washing their hands before breastfeeding and after visiting the toilet, putting on shoes when visiting the toilet, and giving boiled and cooled water to children to drink. To prevent malaria, they said children should sleep under ITNs. To prevent coughs and colds, the mothers said they should make sure there is no dust in the house and children should wear warm clothing. Warm clothing was also cited as a way to prevent pneumonia.

“Most of us we wash our hands in one dish before meals and after visiting the toilet. If your income is good, we use soap and water, otherwise we only wash with water. If you are at home you can wash your hands before breastfeeding, but away from home we don’t wash our hands. You see some of us here are breastfeeding . . . We also wash our hands after helping a child who has visited a toilet, and if we remember before preparing a meal we wash our hands.” Young mother with infant—Mbinga

4.5.2 Fathers

Fathers were asked if they knew any other places in their communities besides ADDOs, where they can go to purchase medicine or receive treatment for a child that is sick. Most fathers with children less than 5 years of age said that they only go to health facilities. Fathers from Mfaranyaki-Songea Urban and Lilambo–Songea Rural reported that sometimes they also go to commercial shops when they want a particular kind of medicine.

“Another place where we are able to get medicine is from local shops, for example, Flagyl®) (metronidazole) and Panadol®)¹⁵.” Father —Songea Urban

As for feeding and drinking practices with young children, most fathers said children with diarrhea as well as coughs and colds are given plain water or fruit juices to drink. Those with malaria, pneumonia, coughs, and colds are often offered soft or mashed foodstuffs and fruit juices. Most fathers said they encouraged the mother to continue breastfeeding sick children. When probed if there were any food restrictions or taboos when children are ill, most fathers said there were none.

¹⁵ acetaminophen

Most men observed that when a child is sick, community members will often offer advice and sometimes financial help. Often neighbors visit the child's family or parents to find out how the child is doing. When asked if there were ways to help children from getting sick in the first place, many were concerned about preventing diarrhea.

“When parents are around, the children wash their hands, but when we aren't there, they don't do it.” Father—Songea Urban

“I advise my children to put on shoes when they visit the toilet and to wash their hands when they are finished.” Fathers—Songea Rural

Although many said that before eating, the whole family washes hands in the same bowl, dish, or pot, others said that family members did not wash their hands before eating. There was no mention of using soap by any of the respondents. Still others were concerned that mothers did not take time to wash their breasts before breastfeeding. (It merits noting here that this is not a recommended practice for optimal breastfeeding of children.)

“I advise my wife to wash her hands and nipples before she breastfeeds.” Father—Songea Urban

As for malaria, most men said they protect their children from malaria by making sure they sleep under ITNs. On the other hand, many people report that it is often the man or head of household that sleeps under the ITN. Warm clothing was believed to be a way to prevent pneumonia, coughs and colds.

“We buy and use mosquito nets to protect our children from malaria. We try to have them sleep in clean beddings that are not dusty and to have them wear heavy warm clothes so that they don't catch colds, cough, and pneumonia.” Father—Songea Urban

The assessment team noted that people from the poorer rural areas like Songea Rural and Namtumbo often turn to traditional treatments for their young children when they are ill because access to health facilities is difficult due to distance and cost. Moreover, regardless of issues surrounding the accessibility of health facilities, traditional treatments are consistently preferred

for treating "certain problems". Malaria, pneumonia, and convulsions were childhood illnesses mentioned in particular by fathers that could be treated with traditional medicine. On the other hand, some fathers said that although they will first seek out Western medicine through a public health facility when their child is ill, if they find that the child is not responding to care, they will go to a traditional healer.

"If a child gets pneumonia or convulsions I go straight to traditional healer. If that fails, then I proceed to the hospital." Father —Mbinga

"If the hospital fails to cure the malaria or pneumonia, then I take my child to the traditional healer for treatment and my child is cured." Father—Songea Rural

4.5.3 Traditional Healers and Birth Attendants

Traditional healers and birth attendants appear to have very low awareness about the causes of disease and how to prevent illness. Because many parents in areas with limited access to formal health care turn to them for treatment and advice, this is especially disconcerting and merits attention. (See table 7 below.)

Table 7: Statements by Traditional Healers and Birth Attendants on Causes of Childhood Illnesses

Illness	Causes of Childhood Illnesses from Traditional Healers and TBAs
Convulsions	“Malaria or headache and hot body cause problems with the brain for the child.”
Malaria	“God gave it to us and we human beings have no way to prevent it.”
Severe diarrhea	“For a child of less than 2 months, it is because the mother has wounds on her private parts, which occurred 40 days after delivery.”
Stomach upset	“The food that the child has taken didn’t settle well in the stomach resulting in stomach upset and vomiting.”
Pneumonia	<p>“The young child was taken outside on his mother’s back for a long time and [became chilled].”</p> <p>“For pneumonia you give a child a strong syrup to drink [made] from wild leaves very bitter like chloroquine. Then you take another wild plant that has sharp ends like needles, and you press it lightly on a child’s body that will cause pains. With these needles you make sure they are getting inside where the child has been vaccinated (<i>alipochanjwa</i>).”</p>

4.6 Availability, accessibility, and handling of drugs by ADDOs and public health facilities

4.6.1 ADDO dispensers

ADDO dispensers were asked if at any one time they had ever run short of medicine at their outlets. Most reported that occasionally the ADDO outlets run short of some medicines, although details were not provided. The reasons given for shortages included lack of funds and distance from the outlets to the pharmacy in town. When they had stockouts of medicine, most dispensers reported that they refer clients to a nearby ADDO. One item that ADDO dispensers said they never run short of is ORS sachets. This was complemented by remarks from ADDO owners (not dispensers) that there were not many diarrhea cases in their areas and that, in

general, parents do not buy much ORS. It was further observed that because of low demand for ORS, a lot of the stock expires before it can be sold.

4.6.2 Health facility service providers

At the health facilities, service providers noted that they periodically change their prescription behavior to go along with changes in the medical field. Despite the existence of such regulations, there are some clients who persistently prefer to be prescribed certain types of medicine for themselves or their children. Service providers noted that preventive health care and treatment for children aged 5 years or less is free at both private and public health facilities. Despite this, caretakers are sometimes obliged to purchase some medicines. Some service providers noted that when parents and caretakers have no money to pay for medicine, they can be treated and pay later. They are aware that some parents decide to purchase only a half dose of a prescribed medicine since that is all that they can afford.

Most service providers said their facilities rarely run out of medicine for treating childhood illnesses. (This is in contrast to caretaker reports on availability of medicine.) They also added that if a stock out were to happen, they would advise clients to buy any prescribed medicines at an ADDO.

5.0 FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Findings

The following is a summary of the assessment team's principal findings:

General observations with implications for program planning:

1. As is the case in many countries, caretakers often delay seeking treatment for children for a number of reasons. These include a lack of money, long travel distances to service delivery points, personal experience and beliefs, and a preference for traditional medicine.
2. Some caretakers discontinue treatment before completing the fully prescribed course, believing that a child who resumes playing is cured.
3. In many households, grandmothers and fathers have an important influence on where young children are taken for treatment when they are ill, as well as the type of care they receive at home. Currently, most health promotion efforts do not take these important audiences into account for improving home-based care and care seeking practices for ill children.
4. There is an important, unmet need to help caretakers of children who may be infected with HIV. Grandmothers are especially vocal about their interest in obtaining services and learning more about how to care for children in their care that may be HIV positive, including where to go for testing.
5. ADDOs need to be established as a credible source of information on child health in communities, going beyond their traditional role of selling medicine. They have the potential to be strong supporters of ORT and ORS, regular ITN use by pregnant women and children under 5 years of age, and prompt care-seeking for ARI, including referrals.

General Observations on diarrhea case management and prevention:

1. Metronidazole (Flagyl®) and antibiotics were consistently mentioned as preferred treatments for diarrhea by many caretakers, though the recommended treatment is ORS.

2. Prescription practices for diarrhea treatment by both dispensers and health professionals may be influenced by community expectations. For example, some caretakers are looking for antibiotics when they seek care for a young child with diarrhea.
3. ADDO owners report that ORS is not a big seller.
4. When ORS is purchased, ADDO dispensers explain to the caretaker how to prepare it and administer it to the child once they get home. By comparison, most other medicines are given immediately on-site at the ADDO.
5. Hand washing and boiling water are understood as ways to help prevent diarrhea, but are not generally practiced. Hand washing with soap is often considered somewhat of a luxury and reserved for “those who have the means.”

General Observations on Acute Respiratory Infections:

1. High fever is generally recognized as a dangerous condition for young children. Recognition of rapid or difficult breathing as another sign that a young child is dangerously ill and should be taken for appropriate medical care as quickly as possible needs increased emphasis in all health communication efforts.
2. Cotrimoxazole (the appropriate first line treatment for ARI) was mentioned only by fathers as a preferred treatment for ARI. On the other hand, some reported that traditional medicine is also an important treatment option.
3. For the most part, mothers preferred injectables for the treatment of ARI. Although caretakers said that this was a preferred treatment, it may also be due to the fact that this is often prescribed by health professionals for young children diagnosed with ARI.

General Observations on Malaria:

1. Knowledge about ITNs is high. However, some people report that, in households with only one ITN, sleeping under the net is reserved for the man or head of the household.
2. Delays in seeking treatment and giving only partial treatment for malaria are critical issues.

3. Both caretakers and fathers believe that traditional medicine is a good way to treat convulsions

5.2 Conclusions

1. There are a number of variables influencing caretaker preferences for child health care and care-seeking practices, although it appears that cost and/or the ability to access cash (for travel, purchase of prescribed medicine, and other miscellaneous expenses) are most often the primary deciding factors. Parents and caretakers say that their first choice for treating a sick child is the health facility, although traditional medicine is still preferred for certain illnesses, particularly convulsions, pneumonia, and certain types of diarrhea.
2. Because some ADDO dispensers accept in-kind payments for medicine, dispensers say that some parents will go directly to them for treatment. They also report that, when medicine is not available at the health facility, parents can go to the ADDO with a prescription and get the medicine they need for a sick child. Older mothers reported that they also go to retired health workers in their areas to purchase medicine or receive treatment for an ill child.
3. Many caretakers and fathers report that children are not always given a full course of treatment when they are ill and that it is not unusual to save medicine. Though cost is clearly the main factor behind this practice, a variety of other reasons were identified, including insufficient awareness about the importance of completing treatment and why storing medicine is not recommended. Many parents admitted that, if they had difficulties finding money, they would purchase and give the child at least half the prescribed dose, since a little medicine was better than nothing at all and more medicine could be given once money became available.

4. Awareness appears high that young children and pregnant women should sleep under an ITN to prevent malaria, although actual practice may be variable. Some respondents indicated that, in certain households, men are usually the ones to sleep under the bed net. Knowledge regarding seeking timely care and completing a full course of treatment for malaria when there is fever—particularly for children under five years of age—is also low. For diarrhea prevention, many mothers indicated that drinking only water that has been boiled was helpful, although it was not clear whether they were able to do this on a regular basis. Although respondents talked about hand washing as a way to prevent diarrhea, many described using a communal bowl for this purpose and soap use for hand washing is not commonly practiced.
5. Many respondents report that it is easy to recognize when a child is ill, but they are not as familiar with common “danger signs,” such as difficult breathing (pneumonia). Traditional healers and birth attendants are often turned to for treatment when a child is ill because they are convenient and less costly. On the other hand, these individuals appear to have very little knowledge about the causes or prevention of malaria, pneumonia, and diarrhea. At a minimum and as a community service, these individuals should be trained to recognize danger signs in young children and to refer clients to health facilities, as appropriate.
6. The study generally showed that educational materials are needed for use by both ADDO dispensers and health facility service providers to update their knowledge on childhood illnesses, causes, prevention, and prescriptions. Materials or tools are also needed to help dispensers and service providers provide accurate information to clients on better child health practices, including recognizing danger signs in sick children and encouraging prompt treatment.
7. HIV/AIDS and its effects on the health of young children appear to be a growing concern. When parents pass away, grandmothers often assume responsibility for the care of any children left behind. The assessment team met a number of grandmothers who were concerned about their grandchildren’s health, particularly those that were caring for children who were constantly ill. Many knew that children could be tested for HIV/AIDS and knew that there was medicine available that could help. Some came to the focus group discussion meetings hoping that the assessment team could provide them with guidance on where they could get the new medicine and care for these children.

5.3 Recommendations

Based on the study's findings, the team recommends the following:

1. A comprehensive communication strategy featuring “do-able actions” for avoiding childhood illness and the importance of seeking prompt treatment for malaria, diarrhea and ARI is needed. The necessity of completing medicine as instructed, and why and how these actions can save lives and money should be core elements of the strategy. Recognition of danger signs, including appropriate feeding and offering fluids during illness are other topics that merit greater public awareness. Possible channels to disseminate messages and encourage action include local radio, simple print materials, and mobilization activities that promote enhanced community commitment and action for improved child health and IMCI.
2. In addition to mothers and caretakers, provide outreach to other family members —such as grandmothers and fathers— so that they can positively influence how sick children are cared for in the home. To be effective, community mobilization and awareness activities to promote child health should look toward actively engaging the help of these household gatekeepers and other community members so that children quickly get the medical attention they need. Ways to involve traditional healers, particularly with referring young children to health facilities when they are dangerously ill, should also be explored.
3. Continue to educate ADDO dispensers and promote their role as a reliable, locally available and trustworthy community resource for child health information. Currently, the ADDO dispensers are more commonly associated with being involved in making profits for their shops. On the other hand, and possibly because of their recent certification training and health backgrounds, they appear to be sincere in their willingness to actively contribute to reducing childhood illness in their communities. Community leaders, the CHMTs, and health facility staff should promote the role of ADDO dispensers as reliable and locally available resource people who can help parents with their questions on preventing and treating common child health problems. To be effective, they will need basic tools and training to help them in this new role and to gain community confidence.
4. Encourage the involvement of CHMTs in ADDOs to build public–private partnerships. The CHMTs in Ruvuma have a favorable impression of the ADDO work. They recognize the important contribution that the ADDOs are making toward facilitating community access to essential medicines. The quality, expansion, and even sustainability of these private–public

partnerships could be greatly enhanced by more involvement of the CHMTs in ADDO activities including formalizing the referral system, on-site training, regular supervision, etc.

5. Build stronger referral links between ADDOs and health facilities. Referral links could be greatly improved by formalizing the mechanisms for this system, beginning with the development of referral slips. CHMTs should be involved in planning this work. It will probably include an official announcement of the referral arrangement with the ADDOs and working with the various health facilities in the area so that they are familiar with the system and know how the referral slips are to be used. It is anticipated that the written referrals may encourage better compliance by caretakers so that they take their sick children promptly to get the treatment they need at the health facility. Another advantage of an official referral mechanism is that it may enhance links between the private ADDOs and the public health facilities.

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