

Integrated Community Case Management (iCCM) Survey in Amhara, SNNP, and Tigray Regions

The Last Ten Kilometers: What it takes to Improve Health Outcomes in Rural Ethiopia (L10K) is implemented by JSI Research & Training Institute, Inc., with grants from the Bill & Melinda Gates Foundation, UNICEF and USAID. The program covers about 25 million peoples in 229 woredas (i.e., districts) in Amhara, Oromia, Tigray, and the Southern Nations, Nationalities and Peoples' (SNNP) regions. The program strengthens the bridge between households and the primary health care unit (PHCU)—the basic health service delivery structure of rural Ethiopia—with the aim to increase demand, access and utilization of high impact reproductive, maternal, newborn and child health interventions to contribute towards achieving child and maternal health related Millennium Development Goals 4 and 5. (i.e., decrease child and maternal mortality rates, respectively). The L10K platform supports 12 Civil Society Organizations (i.e., L10K grantees) to implement community-based strategies to enhance the interactions among frontline health workers (i.e., mainly health extension workers [HEWs] and the health development army [HDA] members), households, and communities to achieve more, better, cost-effective and equitable MNCH services provided by the PHCUs.

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Abstract: A cross-sectional survey of 60 health posts and 780 mothers of children aged 0 to 59 months who had an episode of acute respiratory infection (ARI, i.e., cough with or without other respiratory symptoms), fever or diarrhea, during the two weeks preceding the survey) was conducted in December 2012 in the L10K iCCM intervention areas. The objective of the survey was to assess the utilization iCCM services and identify major barriers for accessing the service. The study found that adoption of iCCM within the health extension program at scale substantially increased the care-seeking behaviors for children sick with acute respiratory infection, diarrhea and fever. The improvement in care seeking behaviors for common childhood illnesses were mainly contributed by the increase in utilization of iCCM services from health posts. The major barriers to obtaining iCCM services were: the mother thought that the child will get better (42%), domiciliary responsibilities of the mother (25%), financial reasons (16%), and not a custom to seek care (10%). Significant fraction of the mothers (39%) were also unaware regarding the availability of iCCM services at the health post. The national iCCM program will need special efforts to provide health education to address the barriers to accessing iCCM services.

Contact information:

The Last Ten Kilometers Project
JSI Research & Training Institute, Inc.
PO Box 13898, Addis Ababa, Ethiopia
Phone: +251 11 662 0066; Fax: +251-11-6630919
Email: wbetemariam@jsi-ltenk.org.et; Website: www.l10k.jsi.com

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ACRONYMS

ARI	Acute Respiratory Infection
CIDA	Canadian International Development Agency
HDA	Health Development Army
HEP	Health Extension Program
HEWs	Health Extension Workers
iCCM	integrated Community Case Management of Common Childhood Illness
JSI	JSI Research & Training Institute, Inc.
L10K	Last Ten Kilometers Project
MDG	Millennium Development Goal
ORS	Oral Rehydration Therapy
PRCMM	Performance Review and Clinical Mentoring Meeting
SAM	Sever Acute Malnutrition
SNNP	Southern Nations, Nationalities and Peoples'
UNICEF	United Nations Children's Fund

EXECUTIVE SUMMARY

BACKGROUND

Ethiopia is currently undertaking robust measures towards attaining Millennium Development Goal (MDG) 4—i.e., reducing mortalities among children under-five years of age. One of these important measures by the Federal Ministry of Health of Ethiopia (FMOH) is the Introduction of community-based pneumonia treatment by health extension workers (HEWs) that facilitated the scale-up of integrated Community Case Management of common childhood illnesses (iCCM) throughout the country. The iCCM also incorporates management of diarrhea, malaria, and severe acute malnutrition, which had previously existed in the Health Extension Program (HEP) of Ethiopia.

The Last Ten Kilometers project (L10K) of the JSI Research & Training Institute, Inc., funded by Canadian International Development Agency (CIDA) through UNICEF, has supported the HEP in implementing iCCM in 113 woredas (i.e., administrative districts with about 100,000 peoples, each) of the Amhara, Oromia, SNNP, and Tigray regions since October 2010.

The study aimed at measuring the level of utilization of iCCM services by the community, identifying major reasons for mothers of sick children for not demanding care as well as assessing the perceived quality and awareness of iCCM services in the L10K–iCCM intervention areas.

METHODS

The study design was a cross-sectional multi-stage cluster survey of households (HHs) and health posts. The study domain included 94 rural woredas in Amhara, SNNP, and Tigray regions where L10K supported the HEP to implement iCCM. The health post survey respondents were HEWs; while the HH survey respondents were mothers (or caretakers) of children aged 0 to 59 months (i.e., under five [U5] children) who had an episode of acute respiratory illness (ARI) (i.e., cough with or without other respiratory symptoms), fever, or diarrhea during the two weeks preceding the interview. Most survey questions were adapted from Ethiopian Demographic and Health Survey (EDHS). The questionnaire was then translated into the two major local languages (Amharic and Tigrigna). In SNNP, with 11 more languages, the interviewers translated from Amharic while administering the questionnaires.

The survey collected data from 60 kebeles and from each kebele, one health post and 13 HH survey respondents' information were collected. Information on iCCM case management at the health posts were collected from two iCCM registers (one for sick young infants aged 0 to 2 months, and one for sick children aged 2 to 59 months). All consenting women with sick children were interviewed. However, all U5 children were recorded from every visited HH to measure the prevalence of the childhood illnesses.

The interviewers and supervisors were health professionals from regional health bureaus (RHBs), who received two days of training. Survey supervisors and regional coordinators were trained to monitor and supervise the survey and ensure data quality. Five survey teams, each consisting four interviewers and one supervisor, conducted the field operation in December, 2012.

Selected findings were compared with those from EDHS 2011,¹ L10K midterm survey,² and the baseline survey conducted by Mela and Johns Hopkins University in selected areas of Oromia region.³ The analysis of the study was done using the statistical software Stata version 10.

RESULTS

Awareness of iCCM services

Of the respondents, 61% said they knew that iCCM services were rendered at their respective health posts. Of those who knew that iCCM services existed in their respective kebele, 80% said health posts provide treatment for febrile conditions, 64% of them knew HEWs treat diarrhea, and 55% knew that HEWs treat ARI symptoms. Only 9% of respondents knew that weight loss or malnutrition were treated at the health post. HEWs' home-to-home visits were the major source of information regarding the availability of iCCM services at the health posts, followed by kebele meetings, neighbors, family member or relatives, and Health Development Army (HDA) member.

Availability of health services

All kebeles had at least one HEW; 15% had only one HEW, while 85% had two or more HEWs. With regard to the availability of health facility, 98% of the kebeles have at least one health facility (i.e., a health post or a health center).

Of all respondents, 95% had heard about HEWs, and 87% had been contacted by HEWs at home. Of those contacted, 82% were contacted in the last three months. Only 46% of the respondents had heard of the HDA in their locality; ranging between 70% in Tigray to 32% in

¹ The Last Ten Kilometers Project (L10K). 2012. Changes in maternal, newborn and child health in 115 rural woredas of Amhara, Oromia, SNNP, and Tigray Regions of Ethiopia, 2008–2010: Findings from the L10K baseline and midterm surveys. JSI Research & Training Institute, Inc., Addis Ababa, Ethiopia.

² Central Statistical Agency [Ethiopia] and ICF International. 2012. Ethiopia Demographic and Health Survey 2011. Addis Ababa, Ethiopia and Calverton, Maryland, USA: Central Statistical Agency and ICF International.

³ Mela Research PLC and Johns Hopkins University. 2011. Baseline coverage survey for the independent prospective evaluation of the integrated community case management (iCCM) in Oromia Region, Ethiopia. Federal Ministry of Health of the Ethiopian Democratic Republic (FMOH), United Nations Children's Fund, and Institute for international Programs (IIP), Addis Ababa

SNNP regions. About 42% of respondents who had heard of the HDA had received information from the HDA in the last six months.

Prevalence of ARI, fever, and diarrhea

A total of 2,961 U5 children were registered to find the desired sample size for sick children. Of those 26% (780) had or had had ARI, fever, or/and diarrhea during the two weeks before the survey; 19% (550) had ARI, 16% (477) had fever, and 10% (304) had diarrhea. Fifteen percent (448) had more than one symptoms.

Care seeking for ARI

Among ARI cases, 37% had sought care while 34% had sought treatment from an appropriate health care provider—i.e., health post, health centers, hospitals, private/NGO clinics or doctors. Seeking care from appropriate source for ARI was reported to be 27% in the EDHS 2011 and also in the Mela & Johns Hopkins study.

Government health posts and health centers take the lead (14% each) as the sources of care for children sick with ARI. The share of health post as major source of care seeking has shown improvement compared with 5% reported by L10K midterm study and 4% reported by the Mela & Johns Hopkins study.

Among children with symptoms of ARI, 27% had received any antibiotic, 4% receive anti-malarial, and 3% received other medications (aspirin and paracetamol).

Care seeking for fever

Among children with fever, 44% had sought care while 40% had sought treatment from an appropriate health care provider. EDHS 2011 estimates for care seeking for fever from an appropriate provider was 24% while it was 22% in the Mela & Johns Hopkins study.

The proportion who sought care for fever from health centers was 19%, from health post it was 15%, and from private clinic it was 5%. The share of health post as major source of care seeking has shown improvement compared with 4% reported by L10K midterm study and 5% reported by the Mela & Johns Hopkins study.

Among children with fever, 10% had received any anti-malarial, 16% received antibiotics, and 4% received other medicines (aspirin and paracetamol).

Care seeking for diarrhea

Fifty-six percent of children with diarrhea sought care while 51% sought treatment from an appropriate health care provider. EDHS 2011 estimates for care seeking for diarrhea from an appropriate provider was 32% while it was 18% in the Mela & Johns Hopkins study.

Health centers and health posts were the major sources for the treatment for diarrhea (25% and 20%, respectively). The share of health post as major source of care seeking has shown

improvement compared with 7% reported by L10K midterm study and 6% reported by the Mela & Johns Hopkins study.

All children with diarrhea were given any kind of oral rehydration therapy, including other homemade fluids. Sixty-three percent of the children with diarrhea were given oral rehydration solution (ORS), followed by sugar and salt solution (37%). Thirty percent had received antibiotics and 5% received zinc.

Quality of care

Virtually all of the sick children under study who visited a health post for treatment received information on how to use the drug. Eighty-three percent of respondents received information on how to feed their sick children. Ninety-six percent of the respondents who visited the health post for iCCM services responded that they were satisfied with the service they received.

Reasons for not seeking care

The major barriers to seeking care reported were "thinking that he/she will get better" (42.2%), followed by multiple responsibility of the caretaker/mother at home (25%); then lack of finance/money (16%). Ten percent said that it was not customary to go to a health facility for seeking care for sick children.

DISCUSSION

The study demonstrates that adoption of iCCM within HEP at scale substantially increased the care-seeking behaviors for children sick with ARI, diarrhea and fever. A significant fraction of the improvements in care seeking behaviors for childhood illness were due to the increase in the utilization of iCCM services from the health posts. Almost all who sought care from the health posts reported that they were satisfied with the service.

The findings regarding the low community awareness of iCCM services and the barriers to accessing iCCM services from the health posts indicate that the national iCCM program will need to design and implement a comprehensive health education strategy to improve the awareness regarding the availability of iCCM services at the health post and address the misconceptions associated with that.

INTRODUCTION

BACKGROUND

Ethiopia is currently undertaking robust measures towards attaining Millennium Development Goal (MDG) 4—i.e., reducing mortalities among children under-five years of age. One of these important measures by Federal Ministry of Health of Ethiopia (FMOH) is the Introduction of community-based pneumonia treatment by HEWs, which facilitated scaling-up the integrated Community Case Management (iCCM) of common childhood illnesses throughout the country. The also iCCM incorporates management of diarrhea, malaria, and severe acute malnutrition (SAM), which had previously been parts of the Health Extension Program (HEP).

Funded by Canadian International Development Agency (CIDA) through UNICEF, the Last Ten Kilometers project (L10K) of JSI Research & Training Institute, Inc., has been supporting the HEP of Ethiopia to implement iCCM in 113 woredas (i.e., administrative districts, each with about 100,000 peoples) of the Amhara, Oromia, SNNP, and Tigray regions since October 2010. The L10K–iCCM project aims at building the skills of health extension workers (HEWs) to manage common childhood illnesses (i.e., mainly pneumonia, malaria, diarrhea, and SAM); build the skills of HEW supervisors and woreda health offices to effectively mentor HEWs; and support regular and continuous follow-up, review progress, conduct refresher training, including the monitoring and evaluation of iCCM.

Table 1: Major activities accomplished

Major activities	Initiated	% of health posts covered			
		25%	50%	75%	100%
Training of HEWs	Feb-2011	Mar-2011	Jul-2011	Oct-2011	Dec-2011
1 st Clinical monitoring visit	Mar-2011	Aug-2011	Oct-2011	Nov-2011	Apr-2012
Performance review and clinical mentoring meeting (PRCMM)	Aug-2011	Nov-2011	Feb-2012	Apr-2012	May-2012

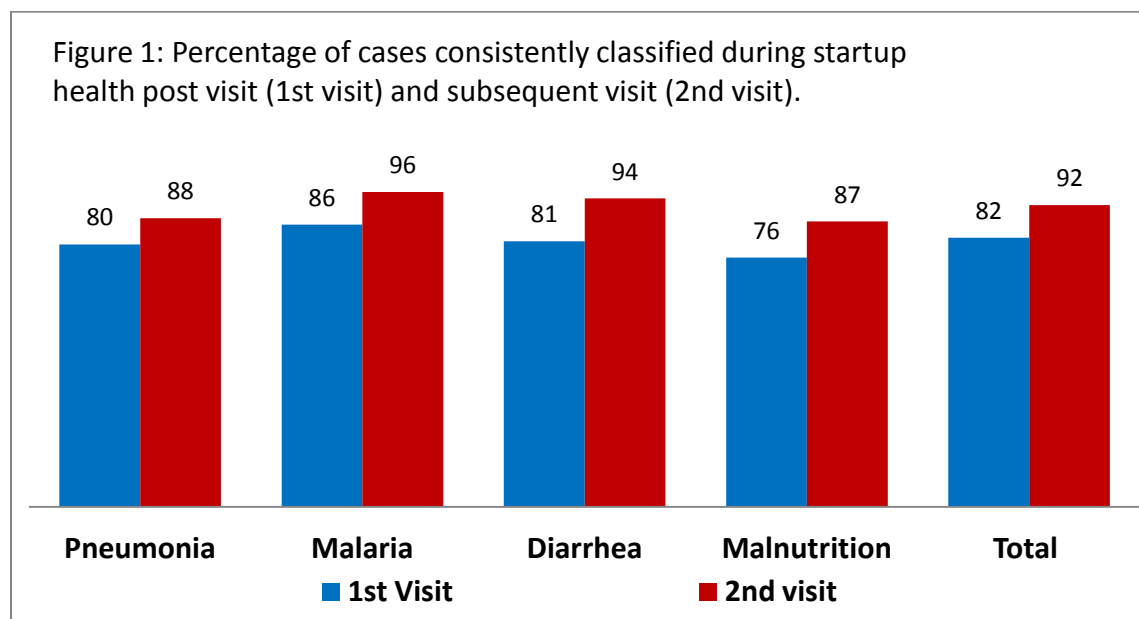
The timeline of the major iCCM activities of the project are summarized in Table 1. Most of the project activities have been implemented according to the planned timeline and desired standard. The standard of iCCM training was ensured by 1) selecting the best trainers during the training of iCCM trainers; 2) selection of health centers with high caseload for common childhood illnesses as training centers to ensure adequate practical clinical lessons; 3) low ratio of trainer to trainee (1:5); 4) post-training clinical mentoring visits to the health posts followed by regular supportive supervision; and 5) performance review and clinical mentoring meeting (PRCMM). Every trained HEW was provided with a training kit including supplies and job aides so that on the culmination of the training they could immediately initiate iCCM services.

Post-training start-up follow up was given to all health posts by an experienced health professional who had received training on iCCM and supervisory skill. The visit included clinical mentoring to ensure proper assessing and managing child illness, problem-solving to encourage and motivate HEWs to improve their performance, and data collection for monitoring and evaluation of the program.

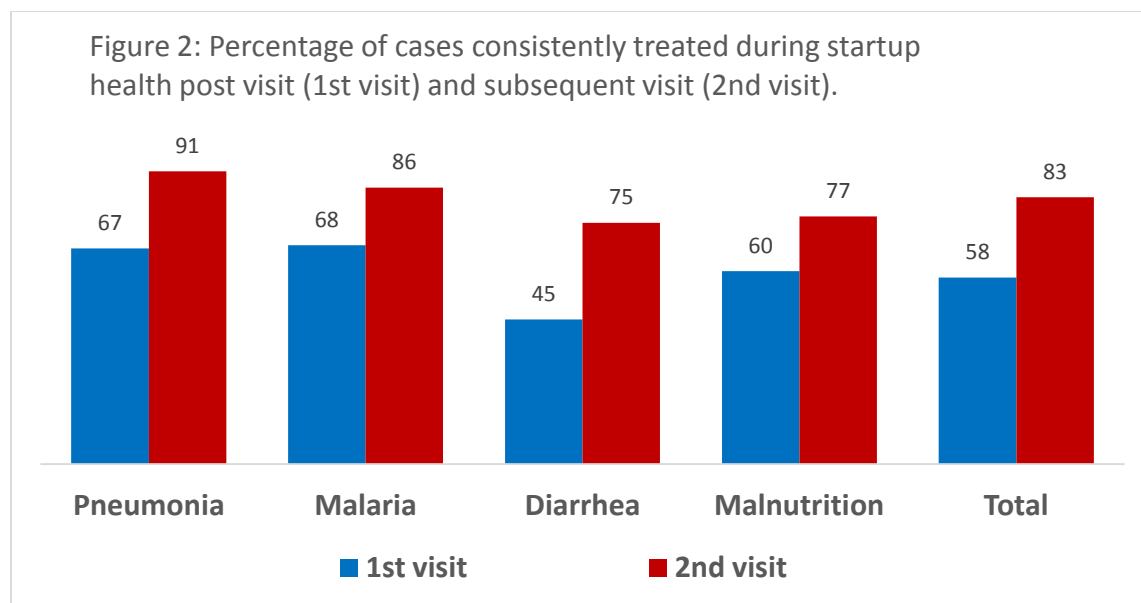
Routine quarterly monitoring data (i.e., the iCCM management information system⁴) indicates that the quality of the iCCM services provided by HEWs have improved between the start-up health post visit for clinical mentoring and the subsequent follow-up visit for the same (Figures 1 & 2).

Nevertheless, little is known on the actual level of utilization of services for common childhood illnesses from health posts and other health facilities because the routine monitoring data estimates are not based on actual prevalence of the illnesses and does not include the services provided by health centers or facilities other than the health posts.

All woredas received 1st and 2nd cycles of PRCMM. The PRCMM was a three-day exercise—consisting of performance review based on the analysis of the data from iCCM registers, and clinical mentoring of the HEWs—conducted by HEW supervisors and woreda health office staff members trained on iCCM.



⁴ Keller, Brett, Agazi Ameha and Ali Karim. Management Information System (MIS) of the Integrated Community Case Management (iCCM) of common childhood illnesses of the L10K Project. The Last Ten Kilometers Project (L10K), JSI Research & Training Institute, Inc., Addis Ababa, Ethiopia.



The rapid assessment of strength of iCCM implementation in Jimma zone of Oromia region conducted by the Johns Hopkins University also showed both significant progress and gaps.⁵ Evidence of the successful scale up of the program included: a high level of training, supervision, and participation in clinical mentoring and performance review meetings; most essential drugs and supplies were in stock; and high quality of care in general have been achieved. The gaps pinpointed included a low level of utilization of iCCM services, especially among young infants (i.e., children aged 0 to 2 months). Thus, further research on non-referral of young infants and the utilization of iCCM services from the health posts is required.

Accordingly, the L10K-iCCM project conducted a survey with the objective to assess the utilization of iCCM services and identify major barriers for accessing the services.

STUDY OBJECTIVES

General objective

To assess the utilization of iCCM services and identify major barriers for accessing the service.

Specific objectives

- Measuring the proportion of children with common childhood illnesses who utilized health care services from health posts, health centers or other appropriate providers in the L10K-iCCM intervention areas.
- Identifying major reasons for mothers of sick children for not seeking iCCM care in the L10K-iCCM intervention areas.

⁵ Miller NP, Amouzou A, Bryce J, Victora C, Hazel E, Black RE. Assessment of iCCM implementation strength and quality of care in Oromia, Ethiopia. Baltimore, USA and Addis Ababa, Ethiopia: Institute for International Programs, Johns Hopkins Bloomberg School of Public Health; 2013.

- Assessing the awareness of mothers with sick children regarding the availability of iCCM services and their perceived quality regarding the available services in the L10K–CCM intervention areas.
- Estimating the prevalence of pneumonia, diarrhea, and fever among children in the study area.

METHODS

STUDY AREA

The L10K–iCCM project is operating in 113 woredas (50 in Amhara, 41 SNNP, 13 in Tigray, and 9 in Oromia). The nine L10K–iCCM woredas of Oromia region which were the Johns Hopkins University iCCM study area were excluded from this study. The study also excluded 10 urban woredas. Hence, the survey domain was 90 woredas (42 woredas from Amhara, 39 woredas from SNNP, and 13 woredas from Tigray).

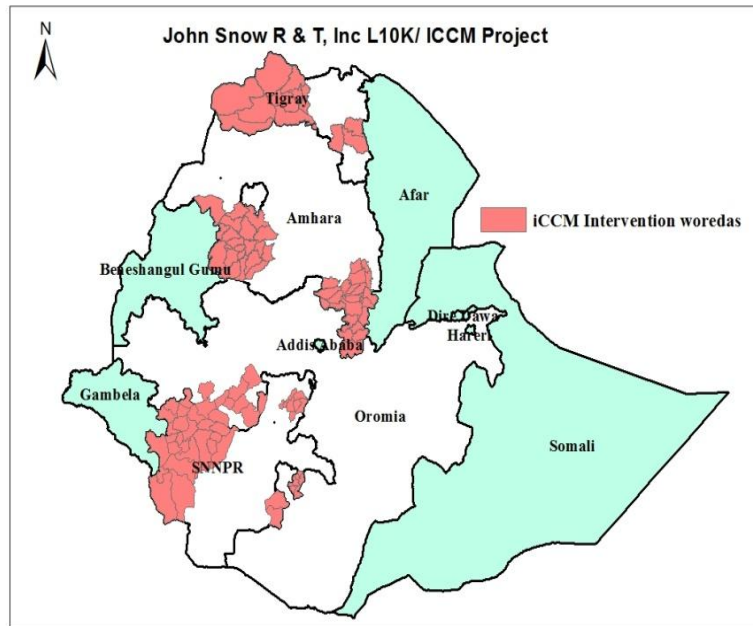


Figure 3: Map of Ethiopia showing the intervention areas of L10K-iCCM project

SURVEY DESIGN

The study design was a cross-sectional two stage-cluster

survey of health posts and three-stage cluster survey of households (HHs). The health post survey respondents were HEWs while the HH survey respondents were mothers (or caretakers) of children aged 0 to 59 months (i.e., under five [U5] children) who had an episode of acute respiratory infection (ARI), fever or diarrhea during the two weeks preceding the interview. ARI was defined as having cough with or without other respiratory symptoms.

The sample size was estimated based on the assumption that the coverage of iCCM services for ARI was 50%, desired precision was set at $\pm 10\%$, two-sided alpha error set at 5%, and cluster survey design effect was set at two. Accordingly, the required sample size for children aged 0–59 months who had or had had ARI symptom during the two weeks preceding the survey was 192. From Ethiopian Demographic and Health Survey (EDHS) 2011, it was estimated that 26% of sick children had ARI symptom. As such, 738 women/caregivers ($192 \div 26\%$) of sick children needed to be interviewed to get 192 children with ARI symptoms. It was decided that the required sample would be obtained from 60 kebeles; as such, the required sample size from each kebele was rounded up to 13.

At the first stage, 30 woredas were selected with the probability proportional to their population sizes (PPS). At the second stage, two kebeles (i.e., the smallest administrative units

with about 5,000 peoples) from each of the selected woredas were selected using PPS. Each health post was visited and a HEW from the health post was interviewed to measure kebele characteristics and collect information from the two iCCM registers (one for sick young infants in the ages 0 to 2 months, and one for sick children in the ages 2 to 59 months). At the third stage, 13 respondents from each kebele were selected. In each kebele the first household was randomly selected from its central location followed by the next closest household further from the center. All consenting women with sick children in the household were interviewed. However, all U5 children were recorded from the every visited HHs to measure the prevalence of the childhood illnesses.

Table 2: Distribution of the sampled units by region

Target respondents	Amhara	SNNP	Tigray	Total
Women with sick children aged 0–59 months	390	260	130	780
0–2 months HP register	30	20	10	60
2–59 months HP register	30	20	10	60

SURVEY INSTRUMENTS

Four types of questionnaires were administered to generate the necessary data:

- **HH identification panel:** Recorded information from all households (HHs), mainly to identify the eligible respondents.
- **Questionnaire for mothers/caretakers of sick children in the ages 0–59 months:** The questionnaire included respondent’s socio-economic and demographic background, symptoms of common illnesses of the U5 child in the past two weeks, utilization of services for common childhood illnesses, barriers for not seeking care, and general perception of quality on the iCCM services at the health post. Most of these questions were adapted from EDHS or the L10K baseline and midterm surveys.^{6,7} The questionnaire was translated into the two major local languages (Amharic and Tigreigna). In SNNP, with 11 more languages, the interviewers translated from Amharic while administering the questionnaires.
- **iCCM register data abstraction format.** All iCCM case management records since program inception were obtained from the sick child and sick young infant registers.
- **Woreda mapping questionnaire:** The respondents for this questionnaire were woreda health office staff. This questionnaire collected information regarding the characteristics of the selected woreda and kebele.

⁶ Central Statistical Agency [Ethiopia] and ICF International. 2012. Ethiopia Demographic and Health Survey 2011. Addis Ababa, Ethiopia and Calverton, Maryland, USA: Central Statistical Agency and ICF International.

⁷ The Last Ten Kilometers Project (L10K). 2012. Changes in maternal, newborn and child health in 115 rural woredas of Amhara, Oromia, SNNP, and Tigray Regions of Ethiopia, 2008–2010: Findings from the L10K baseline and midterm surveys. JSI Research & Training Institute, Inc., Addis Ababa, Ethiopia. http://l10k.jsi.com/Docs/L10K_Summary_Midterm_Report.pdf

FIELD OPERATION

Although many of the questions were taken from the EDHS and L10K baseline and midterm surveys, pretesting of the study tools was done prior to training the survey team members to ensure that the questionnaires were appropriate, effective, and efficient for this particular study.

The interviewers and supervisors were health professionals from regional health bureaus, who received two days training. They did not interview in the areas under their supervision. Coordination of the survey teams was conducted by L10K staff members. Survey supervisors and regional coordinators were trained to monitor and supervise the survey and ensure data quality. Five survey teams, each consisting four interviewers and one supervisor, conducted the field operation which took about 21 days in December 2012. About 2% of the HHs were revisited for data quality checks, and all questionnaires were checked for completeness.

DATA MANAGEMENT, PROCESSING, AND ANALYSIS

The data entry format was designed using the statistical software EPI6. Highly experienced data entry personnel who have good experience in entering data made entry. Following data entry, a rigorous cleaning was made by verifying data entry to ensure minimum entry errors.

Selected findings were compared with those from EDHS 2011,⁸ L10K midterm survey,⁹ and the baseline survey conducted by Mela & Johns Hopkins study in selected areas of Oromia region.¹⁰ The analysis of the study was done using the statistical software Stata version 10.

ETHICAL CONSIDERATIONS

Written ethical clearances were obtained from the respective regional health bureaus. Verbal consents were obtained from the respondents prior to administering the questionnaire.

⁸ The Last Ten Kilometers Project (L10K). 2012. Changes in maternal, newborn and child health in 115 rural woredas of Amhara, Oromia, SNNP, and Tigray Regions of Ethiopia, 2008–2010: Findings from the L10K baseline and midterm surveys. JSI Research & Training Institute, Inc., Addis Ababa, Ethiopia.

http://l10k.jsi.com/Docs/L10K_Summary_Midterm_Report.pdf

⁹ Central Statistical Agency [Ethiopia] and ICF International. 2012. Ethiopia Demographic and Health Survey 2011. Addis Ababa, Ethiopia and Calverton, Maryland, USA: Central Statistical Agency and ICF International.

¹⁰ Mela Research PLC and Johns Hopkins University. 2011. Baseline coverage survey for the independent prospective evaluation of the integrated community case management (iCCM) in Oromia Region, Ethiopia. Federal Ministry of Health of the Ethiopian Democratic Republic (FMOH), United Nations Children’s Fund, and Institute for international Programs (IIP), Addis Ababa

RESULTS

SAMPLE CHARACTERISTICS

As Table 3 depicts, 21% of the sick children were infants, while children aged 12–59 months were about 79%. The mean age of sick children was 26 months and the number of sick young infants were only 29 (4%). The sex composition of the sick children was 54% male and 46% female. The distributions of age and sex follow similar patterns across the regions.

Table 3: Distribution of respondents according to selected background characteristics.

Sample characteristics	Total (N=780)	Amhara (N=390)	SNNP (N=260)	Tigray (N=130)
Age of sick children				
Under 12 months	20.5	16.4	25.8	22.3
12–59 months	79.5	83.6	74.2	77.7
Sex of sick child				
Male	53.5	55.6	50.4	53.1
Female	46.5	44.4	49.6	46.9
Age of respondents				
15–19	4.5	4.1	5.0	4.6
20–24	16.5	15.1	19.6	14.6
25–29	32.7	33.3	32.7	30.8
30–34	22.4	20.0	25.4	23.9
35–39	17.3	19.5	12.3	20.8
40–44	3.5	4.4	1.9	3.9
45–49	1.7	1.8	1.9	0.8
50–55	0.6	1.0	0.0	0.8
Marital Status				
Currently married	94.6	91.5	96.9	99.2
Living together	0.8	1.5	0.0	0.0
Not in union	4.4	6.7	3.1	0.0
Schooling				
No schooling	82.4	83.1	84.2	76.9
Primary	14.0	13.6	14.2	14.6
Secondary or higher	3.2	3.3	1.5	6.2
Religion				
Orthodox	73.7	97.2	24.7	99.2
Catholic	0.4	0.0	1.2	0.0
Protestant	14.8	0.0	45.1	0.0
Muslim	10.6	2.8	27.8	0.0
Traditional	0.4	0.0	1.2	0.0
Other	0.1	0.0	0.0	0.8

With regards to age of respondents, the largest fraction were in the 25–29 year age group (33%) followed by 30–34 (22%), 35–39 (17%), 20–24 (17%), 15–19 (5%), 40–44 (4%), and 45–49 (2%). The mean age of the respondents was 29 years. The same pattern of age distribution of the respondents were observed across the regions as well.

Almost all the respondents (95%) were currently married or living with a partner (i.e., in union). Only 4% of the respondents were not in a union. The educational background of the majority of respondents was having not attended any formal school (83%), followed by respondents who had finished primary school (14%). Only very small proportion (3%) of the respondents had secondary or higher education.

The majority of respondents were followers of Orthodox Christian (74%) followed by Protestants (15%), Muslims (10.6%) and Catholics (0.4%). In terms of regional variation, while the majority of followers in Amhara and Tigray were Orthodox, in SNNP, the main religion was Protestantism.

AVAILABILITY AND AWARENESS OF HEALTH SERVICES

Table 4 shows that all of the 60 selected kebeles for this study have at least one HEW in their kebele; 15% have only one HEW in their kebele, 60% of the kebeles have two HEWs, 20% of them have three HEWs, and only 5% have four HEWs in their kebele.

With regard to the availability of a health facility, 98% of the kebeles have at least one health facility. Ninety five percent have at least a health post, 15% have at least a health center, and less than 2% of the kebeles do not have any health facility.

Table 4: Percentage distribution of kebeles according to the number of HEWs and availability of health facility.

	Total (N=60)	Amhara (N=30)	SNNP (N=20)	Tigray (N=10)
Number of HEWs in the kebele				
% with one	15.0	3.3	25.0	30.0
% with two	60.0	53.3	70.0	60.0
% with three	20.0	33.0	5.0	10.0
% with four	5.0	10.0	0.0	0.0
Health Facility in the kebele				
% with none	2.0	0.0	0.0	9.1
% with only health post	83.0	79.3	90.0	81.8
% with health post and health center	12.0	17.2	10.0	0.0
% with no health facility	3.0	3.4	0.0	9.1

Another important indicator on the awareness of the availability of health services is the respondents' awareness of and contact by HEWs. When respondents were asked if they have heard of HEWs, 95% of respondents reported that they had heard about HEWs, and 87% had

been contacted by HEWs at home during the past three months (Table 5). The majority of them (62%) had been contacted in the last month; 20% had been contacted in the last 2 to 3 months, and 18% had been contacted before three months.

Table 5: Respondents' awareness on HEWs and the percentage distribution of the respondents according to when the last time was they were contacted by the HEW.

Indicator	Total	Amhara	SNNP	Tigray
% of respondents who had heard of HEWs (N)	95.4 (778)	92.8 (389)	97.7 (258)	98.5 (130)
% of respondents ever contacted by HEWs (N)	86.8 (740)	93.9 (334)	75.2 (252)	89.8 (110)
The last HEW home visit (N)	(640)	(320)	(195)	(105)
in the last one month	61.9	61.5	58.6	68.4
in last 2 to 3 months	19.9	17.8	21.5	23.7
before three months	18.2	20.7	19.9	7.9

Similarly, respondents were also asked another set of questions on the awareness of HDA and contact made by HDA. When respondent were asked if they have heard of HDA in their locality, only 46% said they heard of HDA (Table 6); the figure is highest for Tigray region, where 70% had heard of HDA, and the lowest in SNNP (32%). About 42% of respondents who had heard of HDA had received information from HDA in the last six months.

Table 6: Respondents' awareness of HDA and HH visits made by HDA.

Indicator	Total	Amhara	SNNP	Tigray
% of respondents heard of HDA (N)	46.4 (778)	48.5 (388)	31.9 (260)	69.2 (130)
% who received information from HDA in last six months (N)	41.6 (361)	33.0 (188)	37.4 (83)	63.3 (90)

COMMUNITY AWARENESS OF SERVICES FOR CHILDHOOD ILLNESSES

When the respondents were asked if they were aware of the availability of iCCM services at the health post in their kebele, 60% of them knew that iCCM services were provided at their respective health post (Table 7). The awareness of the availability of iCCM services was the highest in Tigray (85%), followed by Amhara (60%) and then SNNP (49%).

In an effort to get more detailed information, respondents were also asked about the symptoms that were treated at the health post. Of those who knew that iCCM services existed in their respective kebele, 80% of them knew that health posts provide treatment for febrile conditions, 64% of them knew HEWs treated diarrhea, and 55% knew HEWs treated ARI symptoms. Only 9% and 2.3% of respondents knew that weight loss and skin rash conditions, respectively, were treated at the health post.

HEWs' home-to-home visits were the major source of information regarding the availability of iCCM services at the health post. About 76% said HEWs' home-to-home visits were the source of knowledge of the availability of iCCM services; 29% reported it was from the kebele meeting; 23% said from neighbors, family members, or relatives; 15% from HDA members; 13% while visiting the health post for other services; and 2% from Women's Association meeting. While the source of information regarding the availability of iCCM services is more or less the similar for Amhara and SNNP, respondents from Tigray region indicated that the HDA members were the second major source of information (40%), after HEWs' home-to-home visits (88%).

Table 7: Respondents' awareness of iCCM services at health post and sources of information

List of indicators	Total	Amhara	SNNP	Tigray
% of respondents who knows iCCM services are available at health post (N)	60.5 (777)	60.2 (389)	48.8 (258)	84.6 (130)
% of respondents who know health posts treat: (N)	(471)	(235)	(126)	(110)
Diarrhea	63.9	66.0	50.8	74.6
Cough	55.0	54.0	54.0	58.2
Fever	80.7	79.2	74.6	90.9
Skin rash	2.3	0.4	4.8	3.6
Weight loss	9.1	4.3	15.1	12.7
Ear infection	0.0	0.0	0.0	0.0
Source of information in percentage: (N)	(470)	(234)	(126)	(110)
Kebele meeting	28.7	32.1	27.0	23.6
HDA member	15.3	9.4	4.0	40.9
HEWs' home to home visit	76.2	70.5	76.2	88.2
From neighbors, family member or relatives	23.2	28.6	18.3	17.3
When visiting Health Post for other services	13.4	18.4	6.4	10.9
Women Association meeting	1.5	1.7	0.8	1.8

ARI

Prevalence

A total of 2,961 children less than five years of age were registered to find the desired sample size for sick children. From the total U5 children, 19% of the children had had ARI symptoms in the preceding two weeks. Among 780 sick children in the study, 71% (550) of them were children with ARI (Table 8). Among the children with ARI symptoms, 64% of those with cough had symptoms of pneumonia (i.e., breathed faster than usual, or with short, rapid breaths, or have difficulty breathing).

Table 8: Severity of ARI among children with cough.

List of indicators	Total	Amhara	SNNP	Tigray
% of children with ARI among the sick children (N)	70.5 (780)	68.2 (390)	80.8 (260)	56.9 (130)
% of children with ARI who had pneumonia—i.e., breathing faster than usual, or with short, rapid breaths, or having difficulty breathing (N)	63.7 (545)	63.3 (264)	80.3 (280)	17.8 (73)

Care seeking behavior

Care seeking behavior of the mothers of with sick children was assessed using the question “Did you seek advice or treatment for the illness from any source?” If the respondent replied yes, she was also asked “if so, where did you seek the service?”

The findings reveal that among mothers with children sick with ARI in the preceding two weeks, 37% sought care; while 34% sought treatment from an appropriate health care provider (i.e., from health post, health centers, hospitals, private/NGO clinics or doctor). Seeking care from appropriate source for ARI was reported to be 27% in the EDHS 2011, and 27% in the Mela & Johns Hopkins study conducted in December 2010 – February 2011.

As shown in Table 9, health posts and health centers are most common (14% each) as the source of care for children sick with ARI. Private clinic (4.2%) is the third most used source of treatment, though much lower than the top two. Private pharmacies, though not an appropriate source of treatment, were reported as a source of ARI treatment for 3% of the cases. All the rest (Government hospital, NGO health facility, shop, and traditional healer) had less than 1% share each.

Table 9: Sources of treatment for children with ARI.

Care seeking behavior	Total (N=550)	Amhara (N=249)	SNNP (N=210)	Tigray (N=274)
Seeking any care	37.1	30.1	47.1	33.8
Care seeking from appropriate health care provider	33.6	28.9	39.5	33.8
Govt. hospital	0.2	0.0	0.0	1.4
Govt. health center	13.8	10.5	19.1	10.8
Govt. health post	13.8	13.5	13.3	16.2
Govt. outreach center	0.6	0.0	0.0	4.1
NGO health facility	0.6	0.0	1.4	0.0
private clinic	4.7	4.9	5.7	1.4
Care seeking from inappropriate provider	3.5	1.2	7.6	0.0
Private pharmacy	2.6	0.4	6.2	0.0
Shop	0.7	0.8	1.0	0.0
Traditional healer	0.2	0.0	0.5	0.0

As expected, the share of health post as major source of care seeking has shown substantial improvement compared with levels reported in studies conducted before the implementation of the iCCM program. The L10K midterm study conducted in December 2010 showed that only 5% of mothers of children sick with ARI sought care from health posts and 23% sought care from health centers. The result from the Mela & Johns Hopkins study reported that only 4% of mothers with children sick with ARI sought care from health posts and 10% sought care from health centers.

Treatment

In an effort to determine the treatment received, respondents were also asked “what was given to treat the illness?” Among children with symptom of ARI, 27% had received any antibiotic, 4% had received an anti-malarial, and 3% had received something else (Table 10). Bacterium (14%) and amoxicillin (10%) were the most commonly prescribed antibiotics for ARI symptoms.

Table 10: Treatment practice for children with ARI.

% with ARI received:	Total (N=550)	Amhara (N=249)	SNNP (N=210)	Tigray (N=74)
Anti-malarial				
Chloroquine	1.6	1.1	2.9	0.0
Coartem	2.4	3.0	2.4	0.0
Antibiotic				
Bactiriem	14.2	13.2	15.7	13.5
Ampicillin	1.5	1.1	2.4	0.0
Amoxicillin	10.4	5.6	16.7	9.5
Chloramphenicol	0.7	0.4	1.4	0.0
Others				
Aspirin	0.4	0	1.0	0.0
Paracetamol	2.7	1.5	2.9	6.8

FEVER

Prevalence

The prevalence of fever among U5 children during the two weeks preceding the survey was 16% (477). Among 780 sick children in the study, 61% of them were children with fever. The proportion of sick children with fever was 61% in Amhara, 74% in SNNP, and 37% in Tigray regions.

Care seeking behavior

Table 11 depicts that among mothers with children sick with fever, 44% sought care while 40% sought treatment from an appropriate health care provider. EDHS 2011 estimates for care seeking for fever from an appropriate provider was 24%. The Mela & Johns Hopkins study in Oromia region reported it to be 22%.

In the source of care figures, 19% sought care from health centers, followed by 15% at health posts, and then private clinics (5%). Inappropriate care from private pharmacy was the source of treatment for 3% of fever cases. All the rest (Government [Govt.] hospital, NGO health facility, shop, and traditional healer) have less than 1% share each.

Table 11: Source of treatment for children with fever.

Care seeking behavior	Total (N=477)	Amhara (N=237)	SNNP (N=193)	Tigray (N=47)
Any Care seeking	44.0	39.6	50.7	38.3
Care seeking from appropriate health provider	40.0	38.0	43.0	36.1
Govt. hospital	0.2	0.0	0.0	2.1
Govt. health center	18.8	16.8	21.2	19.2
Govt. health post	15.0	16.8	13.9	10.6
Govt. outreach center	0.2	0.0	0.0	2.1
NGO health facility	0.4	0.0	1.0	0.0
Care seeking from inappropriate provider	4.0	1.6	6.3	2.2
Private clinic	5.2	4.6	6.7	2.1
Private pharmacy	3.1	0.8	6.2	2.1
Shop	0.4	0.4	0.5	0.0
Friend/relative	0.2	0.0	0.5	0.0
Traditional healer	0.2	0.0	0.5	0.0

Similar to the case of ARI, the share of health posts as major sources of care-seeking have shown improvement compared with studies conducted before the implementation of iCCM program. The L10K midterm study showed that only 4% of mothers of children sick with fever sought care from health posts and 24% sought care from health centers. The result from the Mela & Johns Hopkins was that only 5% of mothers of children sick with fever sought care from health posts and 9% sought care from health centers.

Treatment

Among children with symptom of fever, 10% received any anti-malarial, 16% received antibiotics, and 4% others (Aspirin and paracetamol). Chloroquine (3%) and Coartem (7%) are the most commonly prescribed medicines for fever symptoms (Table 12).

Table 12: Treatment practices for children with fever.

List of indicators	Total (N=477)	Amhara (N=237)	SNNP (N=193)	Tigray (N=47)
Anti-malarial				
Chloroquine	3.4	3.4	3.1	4.3
Coartem	6.9	8.0	5.2	8.5
Antibiotic				
Bacterium	13.2	13.9	12.4	12.8
Ampicillin	1.7	1.3	2.6	0.0
Amoxicillin	10.5	5.1	18.1	6.4
Chloramphenicol	0.8	0.4	1.6	0.0
Tetracycline	0.2	0.4	0.0	0.0
Others				
Aspirin	0.6	0.0	1.6	0.0
Paracetamol	3.4	3.0	3.1	6.4

DIARRHEA

Prevalence

The prevalence of diarrhea among U5 children during the two weeks before the survey was 10% (304). Among 780 sick children in the study, 39% of them were children with diarrhea (Table 13). About 15% of the diarrhea cases were dysentery.

Table 13: Children with diarrhea and dysentery.

List of indicators	Total	Amhara	SNNP	Tigray
% of children with diarrhea among the sick children (N)	39.2 (776)	34.3 (388)	44.6 (260)	43.0 (128)
% of children with dysentery among diarrhea cases (N)	15.4 (305)	15.8 (133)	12.1 (116)	21.4 (56)

Care seeking behavior

Table 14 indicates that 56% of respondents have sought care, while 51% have sought treatment from an appropriate health care provider. The EDHS 2011 estimate for seeking care for diarrhea from an appropriate provider was 32%; similarly, the result from the Mela & Johns Hopkins study was 18%. Specifically, health center (25%) and health posts (20%) account for the most common source for diarrhea treatment. Private clinics (4%) are the third most used source of treatment for diarrhea. Inappropriate care from private pharmacy is the fourth most used (4%). All the rest (Govt. hospital, NGO health facility, shop, and traditional healer) had less than 2% of the share each.

Table 14: Source of treatment for children with diarrhea.

List of indicators	Total (N=304)	Amhara (N=133)	SNNP (N=116)	Tigray (N=55)
Any care seeking	55.6	49.6	56.0	69.1
Care seeking from appropriate provider	50.7	47.4	48.3	63.6
Govt. hospital	0.3	0.0	0.0	1.8
Govt. health center	24.7	22.6	23.3	32.7
Govt. health post	19.7	19.6	18.1	23.6
Govt. outreach center	0.7	0.0	0.0	3.6
NGO health facility	1.3	0.8	1.7	1.8
Private clinic	4.0	4.5	5.2	0.0
Care seeking from inappropriate provider	4.9	2.2	7.7	5.5
Private pharmacy	3.6	1.5	6.0	3.6
Shop	0.7	0.8	0.0	1.8
Friend/relative	0.3	0.0	0.9	0.0
Traditional healer	0.3	0.0	0.9	0.0

The L10K midterm study showed that only 7% of mothers of children sick with diarrhea sought care from health posts, and 25% sought care from health centers. The results from the Mela & Johns Hopkins study indicated that only 6% of mothers of children sick with diarrhea sought care from health posts and 5% sought care from health centers.

Table 15: Treatment practices for children with diarrhea.

List of indicators	Total (N=304)	Amhara (N=133)	SNNP (N=116)	Tigray (N=55)
Oral rehydration therapy (ORT)				
ORS	62.5	68.4	67.2	38.2
Sugar and salt solution	37.2	30.8	32.8	61.8
Other homemade fluids	0.3	0.8	0.0	0.0
Pill/ syrup				
Antibiotic	29.9	23.3	37.1	30.9
Zinc	4.3	3.8	1.7	10.9
Other	3.3	1.5	0.9	12.7
Unknown pill/syrup	3.0	3.0	4.3	0.0
Injection				
Antibiotic	1.6	2.3	1.7	0.0
Unknown injection	0.3	0.8	0.0	0.0
IV(intravenous) fluid	0.3	0.8	0.0	0.0

Treatment

Among children with symptoms of diarrhea, 100% of them used any kind of oral rehydration therapy to treat diarrhea, including other homemade fluids. Sixty-three percent had used oral

rehydration solution (ORS) to treat diarrhea followed by sugar and salt solution (37%). Thirty percent had received antibiotics, and 4% zinc (Table 15).

PERCEIVED QUALITY OF CARE

Ninety-eight percent of the sick children under study who visited a health post were treated at the health post with drugs. Regional estimates for treating with drugs at the health post were 100%, 91%, and 90% for SNNP, Tigray, and Amhara regions, respectively (Table 16).

Virtually all of the sick children under study who visited a health post for treatment and received drugs also received information on how to use the drug.

Table 16: Components of iCCM services among those who received health care for sick children from a health post.

List of indicators	Total	Amhara	SNNP	Tigray
Among the sick children who visited the health post for treatment the percentage received drugs (N)	98.2 (112)	89.8 (49)	100.0 (31)	90.6 (32)
Among the sick children who received drugs for treatment from the health post the percentage received information on how to use the drug (N)	100.0 (108)	97.7 (44)	100.0 (31)	100.0 (32)
Among the sick children who visited the health post for treatment the percentage received information on how to feed the child (N)	83.0 (112)	83.7 (49)	71.0 (31)	93.8 (32)

With regard to provision of advices on feeding practices, 83% of respondents received information on how to feed their sick children. The results across regions were 94%, 83%, and 71% for Tigray, Amhara, and SNNP, respectively.

Table 17 presents the level of satisfaction of the respondents who utilized the health post for treating their sick children. Ninety-six percent of the respondents who visited the health post for iCCM responded that they were satisfied with the service they received.

Table 17: Level of satisfaction of the respondents who visited the health post for treating their sick child.

	Total (N=112)	Amhara (N=49)	SNNP (N=31)	Tigray (N=32)
In general how could you rate the service you received from the facility?				
% not satisfied	4.4	2.0	12.9	0.0
% satisfied	38.1	34.0	51.6	31.3
% very satisfied	57.5	64.0	35.9	68.8

REPORTED BARRIERS FOR NOT SEEKING CARE FROM HEALTH POST

In an effort to single out reasons for not seeking care from health posts, the question “What were the reasons you did not seek medical services for treatment?” was asked. The major reason responded was “thinking that he/she will get better” (42%), followed by multiple responsibility of the caregiver/mother at home (25%), and lack of finance/money (16%). Ten percent also said it is not customary to go to health facilities.

Table 18: Reasons for not seeking medical treatment for sick child from a health facility.

	Total	Amhara	SNNP	Tigray
Number of respondents who did not seek care for their sick child	372	200	119	56
Reasons for not seeking care in percentage				
Thinking the child will get better	42.2	56.4	25.2	28.6
Multiple responsibilities at home	24.5	22.3	19.3	42.9
Do not have finance/money	15.6	7.6	33.6	5.4
Is not a custom	9.9	12.7	8.4	3.6
Inappropriate health provider at the health facility	5.4	3.6	8.4	5.4
Do not know where to go	3.5	0.0	10.1	1.8
Poor quality of service at the health facility	3.0	4.1	0.8	3.6
Do not have health facility in a nearby locality	1.1	1.5	0.0	1.8
Transportation problem	1.3	1.0	0.8	3.6
Do not want to go alone	0.3	0.0	0.0	1.8

PERFORMANCES OF HEALTH POST IN MANAGING ICCM CASES

Using disease specific caseloads from the sick child and sick young child registers of the 60 health posts visited during the survey and the expected disease frequency in those kebele, estimation was done to access iCCM coverage. Expected disease frequency was 27% of U5 children for pneumonia, 3 episodes on average per U5 child for diarrhea, 3% of U5 children for malaria, and 2% of U5 children for sever acute malnutrition (SAM).

Table 19: Coverage of iCCM services in the 2nd PRCMM and the L10K-iCCM utilization survey (based on caseload and expected disease frequency)

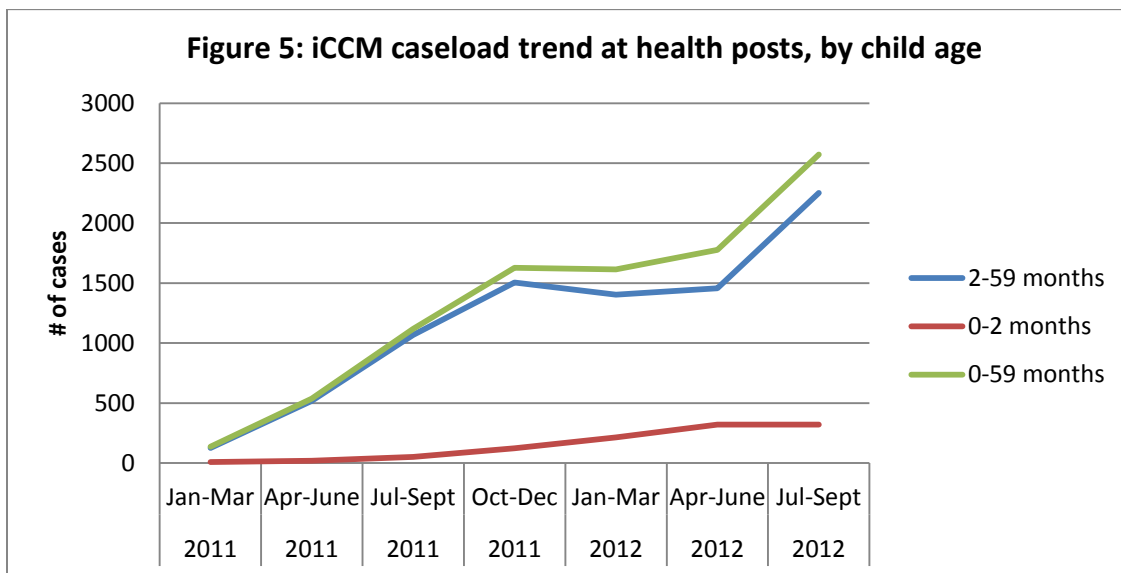
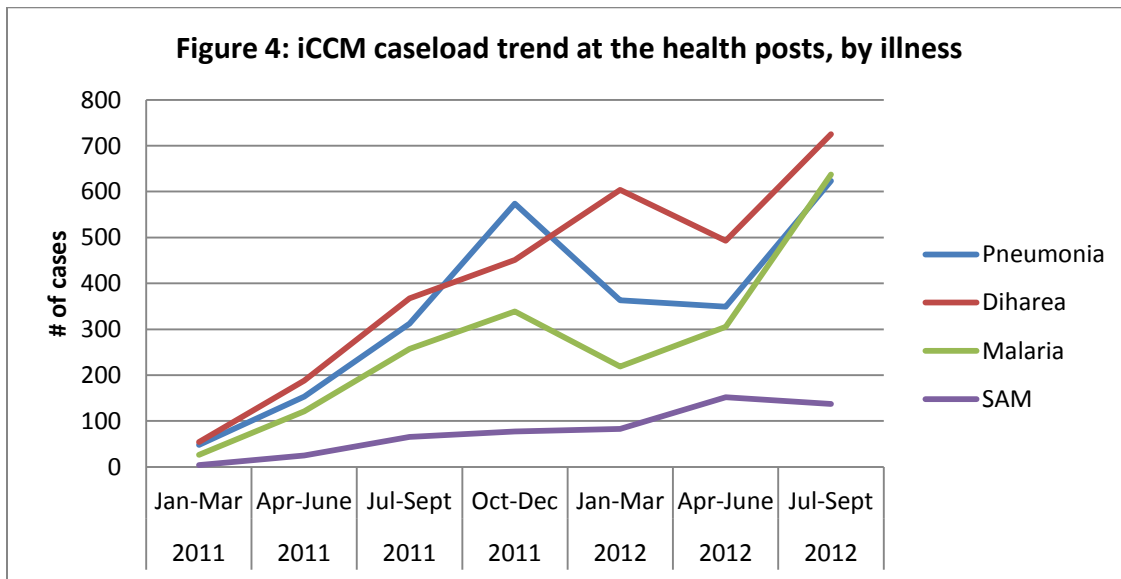
Coverage for ...	PRCMM	iCCM survey	
	%	%	(95% conf. interval)
Pneumonia	17.6	16.9	(9.8 – 24.1)
Diarrhea	2.1	0.2	(0.1 – 0.3)
Malaria	94.0	132.2	(54.6 – 209.9)
SAM	91.1	198.4	(81.9 – 314.9)

The findings show that 17% of the expected pneumonia cases in the kebele was being managed at the health post (Table 19). The same indicator from the program routine monitoring system was similar (18%). For diarrhea, the percentage of cases managed was 0.2%, which is very low.

The finding for diarrhea case management in the routine reporting system was not very different (2%). However, the low coverage diarrhea could also be explained by the possibility that the expected frequency is an overestimate.

About 94% and 91% of malaria and SAM cases, respectively, are managed at health posts according to the routine reporting system data. The coverage of iCCM services for all the four common childhood illnesses were similar between this study and the routine monitoring system of the program—thus indicating that the quality of the data of the routine reporting system is satisfactory.

Figures 4 and 5 reveal that iCCM case management has been improving over time.



DISCUSSION

The study demonstrates that adoption of iCCM within the HEP at scale substantially increased the care-seeking behaviors for children sick with ARI, diarrhea and fever. A significant fraction of the improvements in care seeking behaviors for childhood illness were contributed to by the improvement in the utilization of iCCM services from the health posts. Almost all who sought care from the health posts reported that they were satisfied with the service.

The findings were consistent with those reported by Miller et al. (2013).¹¹ The performance of the health posts in providing iCCM services was also consistent with those from the routine program monitoring reports—thus indicating that the validity and reliability of the routine monitoring system of the iCCM program is adequate.

The estimated coverage of iCCM services from health service statistics was only consistent with the population based iCCM coverage estimates for pneumonia. For diarrhea and malaria (i.e., fever) the iCCM coverage estimates from the two sources were very different. As such, the assumptions of the national iCCM program on the expected disease frequency for diarrhea and malaria should be revised.

The findings regarding the low community awareness of iCCM services and the barriers to accessing iCCM service from the health posts have programmatic implications. The national iCCM program needs to develop and implement a comprehensive health education strategy that will increase the awareness regarding the availability of iCCM services at their kebele.

The reported barriers for not seeking care for common childhood illnesses from health posts—such as thinking that the child will get better, do not have money, seeking care is not customary, perception that there are no appropriate provider at the health post, and do not know where to seek services—are mostly misconceptions that should be addressed through the health education campaign. There is a significant fraction of caretakers who do not seek services for common childhood illnesses because of their household responsibilities. As such, the health education campaign should emphasize the importance of seeking care for childhood illnesses.

¹¹ Miller NP, Amouzou A, Bryce J, Victora C, Hazel E, Black RE. Assessment of iCCM implementation strength and quality of care in Oromia, Ethiopia. Baltimore, USA and Addis Ababa, Ethiopia: Institute for International Programs, Johns Hopkins Bloomberg School of Public Health; 2013.

ANNEX

Sampled kebeles by woreda, zone, and region

Region	Zone	Woreda	Kebeles
Amhara	North Shewa	Ensaro	Gezawashana Dalota
			Karambana Miltamba
		Gishe	Girar Amiba
			Asinafit
		Tarma Ber	Armaina
			Mafud
		Asagirt	Seka
			Soten
		Minjarna Shenkora	Agirat
			Kombolcha
	West Gojjam	Semen Achefer	Qilaje
			Guge Ensuyi
		Yilmana Densa	Angar
			Gobe
		Mecha	Enamirt
			Tatek Lesira
		Quarit	Borez Besekos
			Girarma Yeshel
		Dembecha	Lejat
			Gedeb Kenidamo
Bure	Wondiye		
	Fetam Sontom		
Debub Achefer	Durbete-Town		
	Ahuri Qeltafa		
AWI	Ankasha Guagusa	Chibachibasa	
		Kupor	
	Guangua	Tiru Birihan	
Guagusa Shikuda	Jomora		
	Zagira		
Wombri Fekere Yohannes			
SNNP	Kafa	Gesha Dekka	Bat Ganeti
			Haeti
		Telo	Yema
	Chena	Chama	
		Shishinida Geter	
	Wara Doniga		
	Bench Maji	Shay Bench	Shonga Dosha
			Maha
	Semen Bench	Tushu	
Kosokol			
Segen Zone	Burji Special	Billa	

Region	Zone	Woreda	Kebeles
	Gedeo	Yirga Chefe	Wardia Tulase Hafarsawerabea
		Dilazuria	Shigedo Wechema
	Silte	Siltie	Danech Mukere Totu Zegare
		Sankura	Getem Zico Bercho
Tigray	North Western	Lelay Adiyabo	Hebret Zelazle
		Asegede Tsimbila	May Seye Debir Abay
	South Eastern	Degua Temben	Emni Ankelalu Debre Naziret
		Hintalo Wajirat	Hagere Selam Mesanu
	Western	Welkayit	Belamba Micheal Adigaba