



**USAID**  
FROM THE AMERICAN PEOPLE

## **Report on the Midterm Evaluation of the Busia Child Survival Project (BCSP): Annex 8.1**

**Busia and Samia Districts, Kenya**

October 2005 – September 2010

USAID/HIDN/CSHGP  
Cooperative Agreement Number:  
GHS-A-00-05-00009-00

Date of Submission: December 2008

Cudjoe Bennett, Technical Advisor/Writer  
African Medical and Research Foundation  
4 West 43<sup>rd</sup> Street  
New York, NY 10036  
Tel: 212-768-2440  
Fax: 212-768-4230  
Email: [Bennett@amrefusa.org](mailto:Bennett@amrefusa.org)

David Wamalwa, BCSP Manager  
African Medical and Research Foundation  
Busia District, Kenya  
Tel: +254-55-22-188  
Email: [david\\_wamalwa@yahoo.com](mailto:david_wamalwa@yahoo.com)

## Table of Contents

1	EXECUTIVE SUMMARY .....	3
2	INTRODUCTION .....	4
3	METHODOLOGY .....	5
4	FINDINGS .....	8
5	CONCLUSION.....	14

**MID-TERM EVALUATION  
INTEGRATED HEALTH FACILITY ASSESSMENT  
REPORT  
November 2008**

**1 EXECUTIVE SUMMARY**

**Introduction:** Malaria is the leading cause of mortality amongst children under 5 in BCSP's catchment area. Prevention of the disease using ITNs/LLINS and effective case management in the community and at health facilities are the approaches that this project has and will continue to pursue. Kenya's MOH has adapted IMCI as the approach for management of children with malaria. The approach is founded on three components: (i) Improving case management skills of health care staff; (ii) Improving the overall health system; and (iii) Improving family and community health care practices. BCSP used BASICS IHFA tools (adopted during the baseline) to assess the capacity of health facilities with regard to the first and second components of IMCI. The specific objectives of the IHFA were to: (i) describe current health worker practices with regard to assessment, classification, and treatment of children with diarrhea, fever, and malaria, and acute lower respiratory tract infections at outpatient clinics; (ii) describe adequacy of health workers' communication to caretakers about home treatment for sick children; (iii) describe ability of care takers to provide home treatment for their sick children; (iv) describe the quality of supervision of health workers; and (v) identify barriers to appropriate case management practices.

**Methods:** The IHFA team reviewed and adopted the BASICS tools used during the baseline. The tools included: (i) Observation checklist-Sick Child (ii) Exit interview (iii) Validation checklist (iv) Health worker interview; and (v) equipment and supplies checklist. Data was collected from half of the health facilities in the project area. In each health facility, one health worker was observed managing at least ten sick children, and the health worker later interviewed. Data was analyzed using frequencies in SPSS.

**Findings: Assessment, classification, and treatment of sick children:** 17% of the children were assessed correctly for all the symptoms in line with the IMCI protocol. Only 5% of children had all 6 fever assessment tasks completed. Of the 59 children classified as having malaria, only 28 (47%) were correctly treated with anti-malarial tablets/syrup and paracetamol. Only two (25%) of the health workers assessed and classified the sick children correct but none of the children received correct treatment, implying no health worker assessed, classified and treated sick children as per the IMCI protocol.

**Interpersonal communication for oral medication:** Most caretakers received explanations from health workers on how to administer medications, but little of the other information was given. Only 30% of the health workers mentioned to the caretaker at least 3 signs that should prompt them to bring the child back to the health facility.

***Facility support and challenges:*** about three quarters of the staff with child case management responsibilities are nurses. Most dispensaries lack adequate seating space for clients and half of the dispensaries and one hospital lack ORT corners. Half of the facilities have portable water and IEC materials though not in local languages. Only 2 facilities have megaphones for social mobilization. Most equipment including child weighing scales, bag and mask for resuscitation, suction machines, refrigerator and cup and spoons are available in most facilities. Most facilities had most of the drugs needed for IMCI. Key recording tools lack, including child health and maternal health cards. On average, 19 children are seen in each facility each day. The commonest cause of delay in delivery of supplies is rupture of stock at the central stores. Almost all (8 out of nine) of health workers get visited by a supervisor at least 4 times a year, and feedback is the norm. Two thirds of the health workers had received child health related training in the year prior to the survey. Staff and supplies shortage are currently the most critical barrier to effective service provision.

## **2 INTRODUCTION**

### **Background**

Malaria is the leading cause of morbidity and mortality amongst CU5 in Kenya. The disease has heavy negative impact, especially in malaria endemic and epidemic prone zones of the country. In the project area for BCSP, malaria is endemic, and is the leading cause of death among children. Prevention of the disease using ITNs and effective case management in the community and at health facilities are effective approaches that this project has applied. Kenya's MOH has adapted IMCI as the approach for management of sick children (including those with fever/presumed malaria) aged two weeks to five years in health facilities. Although the MOH has supported implementation of the strategy for about a decade, challenges especially shortage of health staff and high cost of training a critical mass of health workers remain as some of the key impediments.

The IMCI approach is founded on three components: (i) *Improving case management skills of the health care staff:* this calls for training of health workers using IMCI guidelines adapted to local settings, and conducting follow up after training to reinforce skills learned and train health care providers in problem solving in the community; (ii) *Improving the overall health system:* this calls for development of interventions to improve the availability of drugs and supplies, strengthen the service quality and organization at health facilities, reinforce referral services, and ensure equity of access to health care; and (iii) *Improving family and community health care practices:* this calls for development of interventions to strengthen community participation, promote appropriate family response to childhood illness, promote child nutrition, and create safe environments for children.

This assessment focused on the first and second components of IMCI. We set out to assess the capacity of the health facilities in the project area to provide quality medical care for the sick child.

### **Objectives of the Integrated Health Facility Assessment**

The objective of the IHFA was to provide BCSP with mid-term information on quality of care for the sick child. Specifically, the IHFA set out to:

- Describe current health worker practices with regard to assessment, classification, and treatment of children with diarrhea, fever, and malaria, and acute lower respiratory tract infections at outpatient clinics
- Describe adequacy of health workers' communication to caretakers about home treatment for sick children
- Describe how well caretakers are able to provide home treatment for their sick children
- Describe the quality of training and supervision of health workers
- Identify principal barriers to case management practices, including level of gaps in equipment, supplies, and record keeping in health facilities

## **3 METHODOLOGY**

The IHFA was based on a package of 5 structured survey forms: (i) Observation checklist-sick child; (ii) Exit Interview; (iii) Health worker interview; (iv) Validation checklist; and (v) Equipment and supplies checklist. The tools used were the same ones used during the baseline IHFA.

### **A. Sampling design**

The sixteen health facilities in the project area the project identified and supports provided the sample frame. Stratified sampling was used to randomly sample health facilities for the assessment. The health facilities in the project area were stratified into hospitals (2), health centres (4), and dispensaries (10). Half of health facilities (Table 1.3.1) in each stratum were randomly selected.

**Table 1.3.1: Health facilities selected for IHFA**

ID	Facility	Type
1.	Nambuku Dispensary	Dispensary
2.	Nangina Dispensary	Dispensary
3.	Buduta Dispensary	Dispensary
4.	Bujumba Dispensary	Dispensary
5.	Burinda Dispensary	Dispensary
6.	Bumutiru Dispensary	Dispensary
7.	Sio Port Health Centre	Health Centre
8.	Bumala 'B' Health Centre	Health Centre

The sample size for the observation checklist was set at one health worker to be observed managing a minimum of ten children in each selected health facility. The health worker was then observed managing additional children with fever/malaria to ensure that at least 10 of the children had fever/malaria. For example, if the health worker was observed managing 10 sick children in facility X, and the observer realized that only 5 of them had fever or malaria, the health worker was observed managing 5 more children with fever or malaria. Because the child for whom an observation checklist was completed was the same for whom an exit interview was administered to the care taker, and a validation checklist later applied, the sample size for exit interview and validations was the same as that of the observations. In each selected health facility, one equipment and supplies checklist was completed.

## **B. Recruitment and Training of Team Leaders and Data Collectors**

Four surveyors and two team leaders were selected from MOH Busia and Samia. Those who were selected had previously been trained as IMCI facilitators, and were familiar with the IMCI follow-up tool used in Kenya. The group was divided into two teams, each having 2 surveyors and 1 team leader.

The surveyors and team leaders participated in a 1 day re-orientation workshop. Objectives for the workshop were: to review the survey forms used during the baseline to reflect current IMCI approach in Kenya; to plan and carry out all survey tasks; to identify solutions to potential problems in conducting the survey; and to reach agreement and consistency with other surveyors (inter- surveyor reliability) in following survey procedures and completing the survey forms.

## **C. Data Collection**

Each team visited one health facility per day over a period of five days. Health facility staff were not informed in advance about the intended survey. Every evening, the teams held a debriefing meeting.

### ***Arrival at Health Facility***

Survey teams arrived at the health facilities before the morning consultation session began. The team leader introduced the survey team to the health worker in charge and explained the purpose of the visit, clarifying that the health workers were not expected to change their routine practice. The following tasks were completed in preparation for the clinic session:

1. ***Identification of the health worker who was scheduled to see sick children on the day of the visit.*** If more than one health worker was responsible for seeing sick children on that day, the health worker who conducts sick child clinics most often was selected. Observations of only one health worker were conducted at each facility.

2. ***Selection of a suitable place where caretakers were to be interviewed after the sick child consultation.*** Two chairs were required. This interview was conducted away from other caretakers so that they could not hear questions or responses in advance.
3. ***Selection of a suitable place where children could be examined by the exit examiner (Validator).*** Two chairs, a table, and an appropriate selection of drugs were set up.
4. ***Decision on which health worker was to assist the surveyor in assessing the equipment, materials, and supplies of the clinic and when this was to be done.*** Most sections of the facility equipment and supplies checklist were completed by the team leader with the assistance of the other surveyors and health facility in charge after enough sick children have been enrolled.

### ***Selection of Children***

All sick children above 2 months and under 5 years of age presenting to the health facility for the initial visit of current illness during the day of the surveyor team's visit to a health facility were included in the sample. Sick children who were making a follow-up visit were excluded.

In each facility, a minimum of ten children were observed, and over sampling done as previously described in the sub-section on sampling design. To be able to recall the number of children with fever or malaria seen (and therefore determine how many children with fever/malaria to over sample), the observer maintained a tally sheet tracking the number of children with fever or malaria observed.

### ***Completion of Survey Questionnaires***

*Roles of team members:* Each member of the survey team consistently administered the same tool at each health facility to improve the reliability of the results. In each team, the person designated as the team leader conducted the observation of the health worker, interviewed the health worker at the end of the consultation session, and later worked with other team members and facility in charge to complete the equipment and supplies checklist. The second team member conducted exit interviews with caretakers of sick children, and the third member completed the validation checklist.

*General instructions to be adhered to:* The following are some of the issues considered during administration of the questionnaire: follow specific instructions for each tool; write legibly; make sure that check marks do not overlap more than one answer; follow the instructions given for each question; if the caretaker or health worker gives a response other than those suggested, check the space "other" and write in the response that is given; adhere to skip rules; courtesy- be polite and respectful to health staff and clients, thank respondents for their cooperation, and answer any questions that they may have.

*Check and Review of Questionnaires:* Surveyors checked and completed each questionnaire after it had been administered. This was particularly important after each observation and exit interview. Immediate review of questionnaires allowed surveyors to ask questions from the health worker or caretaker in order to complete skipped or missed questions. In addition to the self-reviews of each questionnaire, team leaders reviewed questionnaires for completeness at the end of the clinic session.

### ***Feedback to Facility Staff***

Surveyors gave immediate feedback to health workers on the day of the survey visit. Feedback focused on improving the quality of case-management practices. During feedback, positive findings were emphasized. Survey teams provided feedback in the following areas: strengths and problems in case management; quality of home-care advice and communication between health workers and caretakers; gaps in knowledge identified in the health worker interview; inappropriate use of medications; problems in record keeping; ways to improve clinic organization; and major barriers to effective practice

### ***Management of Completed Tools***

Completed survey tools were returned to AMREF field office in Busia for error checking (completeness and consistency) and data entry each day. Coding of tools was conducted by the project monitoring and evaluation officer in collaboration with data entry clerk.

## **4 FINDINGS**

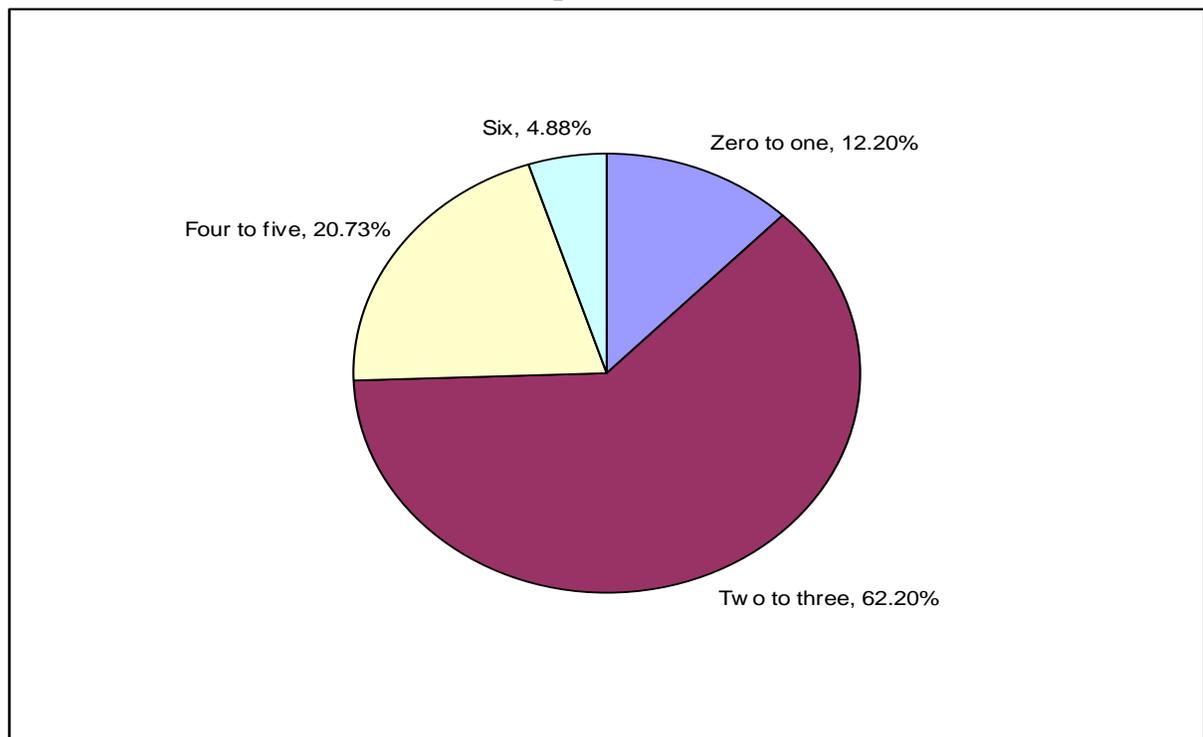
### **A. Assessment of Sick Children**

*Assessment for danger Signs:* only a fifth (17% or 14/82) of the children were examined for danger signs. The health workers did not inquire or examine for danger signs from care takers of sick children for the remaining (83% or 68 children).

Health workers inquired/examined for inability to drink or breastfeed among 23%, vomiting everything among 22%, history of convulsions among 24%, lethargy or unconsciousness among 27%, and whether convulsing during the consultation among 5%.

*Assessment for fever:* Ninety percent of children had their temperature checked, either by touch or with a thermometer. Health workers are expected to perform 6 fever assessment tasks for children in outpatient clinics. Only 5% of children had all fever assessment tasks completed (Figure 1.4.1). Among three quarters of the children (76%), health workers inquired for presence of fever, but only 1% of caretakers asked if the child had measles in the previous 3 months; only 15% of the sick children were examined for stiff neck; and 22% were examined for generalized rash.

**Figure 1.4.1: Proportions of sick children among whom various numbers of fever assessment tasks were completed**



*Assessment for cough and difficult in breathing:* the average number of cough assessment tasks completed for the sick children observed was 2 (total cough assessment tasks=6), with about a third (28%) having none or only one assessment (table 1.4.2). None of the children had the six cough assessment tasks completed as per the IMCI protocol. The health workers did inquire for cough or difficult breathing in almost all the children (93%),; asked for how long the cough had existed (70%); raised the cloth 40%; counted breaths per minute (16%); looked for chest withdrawing (16%) and looked and listened for stridor or wheezing (78%).

**Table 1.4.2: Cough assessment tasks completed**

Number of Cough Assessment tasks completed	Frequency	Percent
0	11	13.4
1	12	14.6
2	29	35.4
3	19	23.2
4	4	4.9
5	7	8.5
Total	82	100.0

*Assessment for Diarrhoea:* Only 4% of children had all diarrhoea assessment tasks completed (total diarrhoea assessments=7), with almost half (44%) having no assessment (table 1.4.3). the average diarrhea assessment tasks completed was one. Health workers

inquired for diarrhoea in slightly more than half (55%) of the children; inquired for how long (27%); inquired for presence of blood in stool among 20% of children; and only 2% were offered fluids to determine thirst; were looked for sunken eyes (11%); skin on abdomen pinched (7%).

**Table 1.4.3: Diarrhoea assessment tasks completed**

<b>Number of diarrhoea assessment tasks completed</b>	<b>Frequency</b>	<b>Percent</b>
0	36	43.9
1	17	20.7
2	11	13.4
3	8	9.8
4	6	7.3
5	1	1.2
6	3	3.7
Total	82	100.0

*Assessment for Ear Problems:* Health workers hardly ever asked for or examined for ear problems. The only inquiry done for ear problems was asking about ear problems, of which only a quarter (24%) of the children were assessed.

*Assessment for Malnutrition and Anemia:* Nutritional status was correctly assessed in only 11% of children. Health workers looked for wasting among about a fifth (11%) of the children, and only a third (30%) of children were checked for palmar pallor and only 10% were checked for edema of both feet. The weight was compared with the road to health chart among 29% of the children.

*Immunization and Screening:* Health workers asked for the immunization card among 73% of children in outpatient clinics.

***Summary on assessment: only 17% of the children had all the main symptoms assessed that is: asked for cough or difficult breathing; diarrhea; presence of fever and; ear problems.***

***Only 4 (5%) children from two health facilities; a dispensary (3) and a health centre (1) were assessed correctly for fever (the six fever assessment tasks were completed) in line with the IMCI protocol. Only two (25%) of the health workers assessed any sick child correctly, and those workers did so in only four of the 19 cases they saw (21%).***

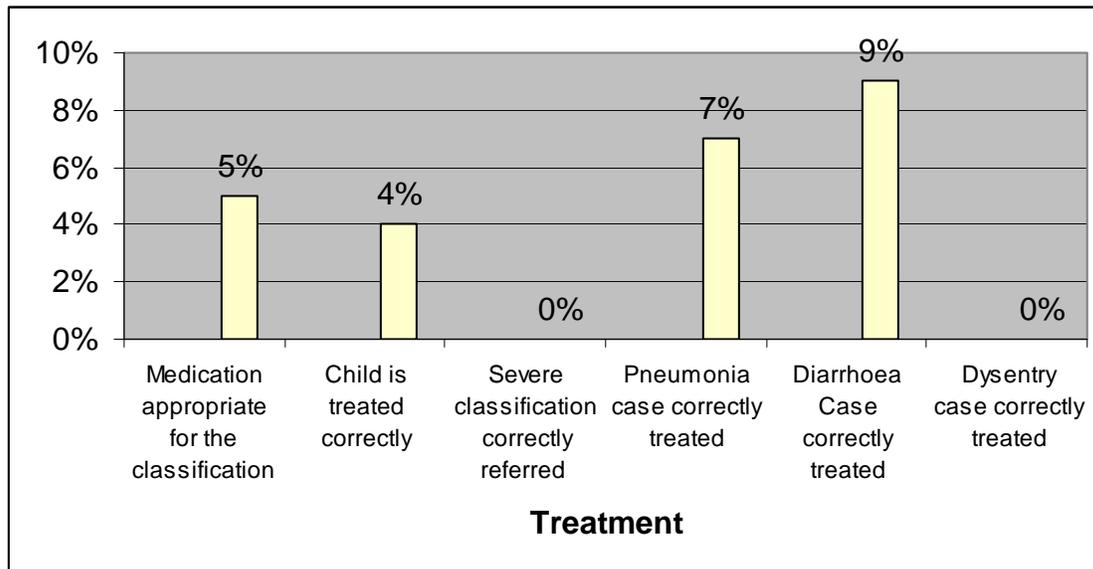
## **B. Classification of Sick Children**

Only 21% percent of children were correctly classified (health worker classification agrees with validator), and only 1.3% (or 1/14) children who were severely ill were correctly classified.

## **C. Treatment of Sick Children**

Medication given by health workers is appropriate for the classification in only 5% of the children and only 4% of the children being treated correctly (i.e. treatment appropriate for the condition as determined by the validator) (Figure 1.4.4)

**Figure 1.4.4: Proportions of children who received appropriate/correct treatment**



*Of the 59 children classified as having malaria, only 28 (47%) were correctly treated with anti-malarial tablets/syrup and paracetamol.*

#### **D. Assessment, Classification and treatment of Sick Children**

Out of the four sick children who were correctly assessed for fever (the six fever assessment tasks completed), only two of them had correct classification for malaria (the health workers classification agrees with validator) though none of them was correctly treated (anti-malarial tablets/syrup and paracetamol treatment), this implies that no health worker correctly assessed, classified and treated malaria as per the IMCI protocol.

#### **E. Interpersonal Communication for Oral Medication**

Most (93%) caretakers of children received explanations from health workers on how to administer medications. However, performance in other communication tasks was poor (Table 1.4.5)

**Table 1.4.5: Proportions of caretakers of sick children who received various communications from health workers**

Communication task	Proportion of caretakers
The health worker explained how to administer medications/ORS	98%
The health worker demonstrated how to administer medication/ORS	24%

The health worker allowed the caregiver to practice doing the task	18%
The health worker asked open-ended questions to verify the comprehension	18%
The health worker explained when to return for follow-up	67%
The health worker explained the need to give the more fluids at home	37%
The health worker explained the need to continue feeding or breast-feeding	42%
The health worker told the caretaker to bring the child back immediately if the develop any of the following: not able to drink or drinking poorly; not able to breastfeed /eat; when the child becomes more sick; develops fast or difficult in breathing; develops blood in the stool; develops repeated vomiting.	70%

Almost a third (30%) of the health workers mentioned to the caretaker at least 3 signs that should prompt them to bring the child back to the health facility. Additionally, only 38% of caretakers received advice on nutrition.

### E. Facility Supports and Challenges

*Staffing:* Each of the MOH and Mission Health facilities in the project area has on average 5 health workers with child case management responsibilities. Majority (77%) of staff with child case management responsibilities are nurses and the rest are clinical officers.

*General facility support:* Most dispensaries did not have adequate seating space for clients. Almost all IEC materials displayed in the health facilities were written in languages other than the local language. The ORT corners were in half of the dispensaries, all of the health centres and the only hospital had none. Slightly more than half of the facilities (56%) have onsite portable water. The two main sources of drinking water are boreholes and rain water which account to 33% each, tap water and well account for 22% and 11% respectively.

**Table 1.4.6: Availability of space and worker accommodation**

Availability of.....	Number of facilities	Percent
Availability of adequate seating for patients on a busy day	3	33%
Availability of covered waiting area	9	100%
Availability of functional toilet or latrine	9	100%
Availability of a functional waste disposal area/incinerator	8	90%
Display of health information posters	9	100%
Total	9	100%

*Equipment:* All the facilities had functional child weighing scales, only one facility did not have an ambu bag and mask for resuscitation. One facility did not have functional suction machines. Even when suction machines were available and in working order, they were sometimes not used- in this survey, 7 health facilities had suction machines in working order, but it is only in 3 that the equipment was in use. Equipment for ear

examination (otoscope/torch) lacked in most dispensaries and health centres, 33% of the facilities had the equipment. Basic equipment needed for IMCI such as cup and spoon also lacked in a third of health centres and dispensaries. Only 2 out of the 9 health facilities surveyed had megaphones for social mobilization. All the 9 facilities surveyed, had were vaccine refrigerators in working order, temperature monitoring was effectively carried out using temperature charts, and icepacks for transportation of vaccines were available.

*Drugs:* few of the surveyed facilities did not have most of the drugs and vaccines needed for IMCI.

*Record keeping:* About half (45%) of the health facilities have a shortage of child health and maternal health cards. The essential monthly reporting forms lacked in the surveyed hospital, were available in both the health centre and only available in half of the dispensaries. The patient and the under five registers are kept in all the health facilities. the patient registers are up-to-date in all the health facilities while the under five registers are not up-to-date for the hospital and one of the dispensaries.

*Patient attendance:* Close to 5200 children under 5 years were managed in the surveyed health facilities during the month prior to the survey. This translates to 19 children in each facility every day.

*Causes of delay in delivery of supplies:* The commonest cause of delay in delivery of supplies to health facilities is the rupture of stock at central stores (cited by three out of nine health workers).

*Supervision:* Eight out of nine health workers interviewed indicated they have a regular supervisor and they have a schedule for supervisory visits. All the nine health workers had at least four visits from an external supervisor in the year prior to the survey. More than half (56%) of the health workers reported having received feedback from supervisors most of the time, either in the form of written reports (38%) or oral reports (50%).

*Challenges encountered at work:* Seven out of nine health workers cited staff shortage as a barrier to effective service provision, and six cited shortage of supplies. Inadequate transport, poor communication and poor working environment were cited by two health workers each, while lack of time and supervision were cited by one health worker each.

*Child health Trainings received:* Six out of nine health workers had received at least one child health related training in the year prior to the survey.

*Knowledge on vaccination and vitamin A:* All the nine health workers knew the correct EPI vaccination schedule for children and that vitamin A is administered to children once every six months. However, only six out of nine health workers knew that all women of reproductive age are eligible for tetanus toxoid injection (unless they have completed the course).

*Knowledge on signs for referral:* Seven out of nine health workers knew at least 3 signs that would prompt them to refer a child to the next level of health care.

#### **F. Caretakers' knowledge on Care of the Sick Child**

Less than half (38%) of caretakers whose children were prescribed medications did not know how to administer those medicine correctly by the time they were exiting from the health facility. Additionally, 41% of caretakers did not know at least 2 aspects of home care for the sick child. Aspects of home care include: continue feeding or breastfeeding baby; give same quantity/ more fluids to the child; complete the course of medications; bring the child back to health facility if he/she does not get better. Regarding the last aspect, 33% of caretakers knew at least two signs that should prompt then to return the child to health facility immediately.

### **5 CONCLUSION**

The IMCI case management among health workers in the project area did not change significantly at baseline (0%) and midterm (0%). None of the cases seen by health worker were correctly assessed, classified and treated as per the IMCI protocol. The project trained 24 and 8 health workers as IMCI providers and facilitators respectively in 2007 and conducted IMCI follow-up training and follow-up, the project facilitated printing of IMCI protocols for all the 16 health facilities. There are plans to conduct quarterly IMCI supervision. Despite all the efforts malaria case management among children of 2 months and 5 years has not improved.

Complying with malaria case management using the IMCI protocol is difficult due to staff shortage, irregular supply of drugs and other relevant supplies. The project needs to shift strategy and concentrating on implementing the C-IMCI to realize significant changes in management of malaria.