

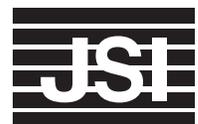
# The Status of Referrals in Three Districts in Ghana

*Analysis of  
Referral Pathways  
for Children  
under Five*

---



Ghana Health Service



John Snow, Inc.  
Center for Child Health

 **BASICS II**

## Abstract

**Background:** Integrated Management of Childhood Illness (IMCI) is a strategy that has been adopted by most African and Latin American countries to reduce infant and child mortality and morbidity. Key to this strategy is the timely and appropriate treatment of severely ill children, which often requires referral to higher levels of care. In many countries and settings culturally specific behavioral and systemic factors determine if a sick child reaches the referral care site. **Objectives:** This research tested a Rapid Referral Assessment (RRA) methodology in three districts in Ghana—Atwima, Gomoa, and Yendi. The RRA provided national- and district-level managers information to rapidly assess the status of and constraints to referral of severely ill children from first-level care to secondary and tertiary levels. **Methods:** Data came from medical record reviews at 39 health facilities and interviews of 161 caretakers and 40 health providers. Prevalence estimates looked at referral care patterns of caretakers and providers, referral and counter-referral relationships, frequency of self-referral to upper levels of care, and barriers to compliance with referral. The effects of illness classification, the use of referral slips, caretaker perceptions and constraints, and geographical access were considered. **Results:** The overall referral rate was 0.9%. Fifty-five percent of referred cases complied with the referral recommendation and arrived at the next level of care. Eighty-six percent of those who complied with referral did so the same day. Only 24% of cases were admitted to the inpatient ward at the referral site. **Conclusions:** National Health Management Information System (NHMIS) data from 2001 cite 1,861,810 outpatient visits for children less than five years of age. If a 10% approximate referral rate is used, there should be approximately 186,181 referrals in a one-year period. This study found a referral rate of 0.9%, which would amount to 16,756 referrals or 169,425 “missed referrals.” This study found a compliance rate of 55%, which would imply 9,215 cases actually arriving at the hospital. If one applies an approximate 5% mortality rate for referrals that don’t arrive at the referral site, potentially thousands of children would not survive. The results of this assessment are being used by the Ghana Health Service (GHS) to design interventions to improve referral care of severely ill children.

## Recommended Citation

BASICS II and the Ghana Health Service. *The Status of Referrals in Three Districts in Ghana: Analysis of Referral Pathways for Children Under Five*. Published by the Basic Support for Institutionalizing Child Survival Project (BASICS II) for the United States Agency for International Development. Arlington, Virginia, November 2003.



This document does not represent the views or opinion of USAID. It may be reproduced if credit is properly given.

## BASICS II

BASICS II is a global child survival project funded by the Office of Health and Nutrition of the Bureau for Global Health of the U.S. Agency for International Development (USAID). BASICS II is conducted by the Partnership for Child Health Care, Inc., under contract no. HRN-C-00-99-00007-00. Partners are the Academy for Educational Development, John Snow, Inc., and Management Sciences for Health. Subcontractors include Emory University, The Johns Hopkins University, The Manoff Group, Inc., the Program for Appropriate Technology in Health, Save the Children Federation, Inc., and TSL.

## BASICS II

1600 Wilson Boulevard, Suite 300  
Arlington, Virginia 22209 USA  
Tel: 703-312-6800  
Fax: 703-312-6900  
E-mail: [infoctr@basics.org](mailto:infoctr@basics.org)  
Website: [www.basics.org](http://www.basics.org)



John Snow, Inc.  
Center for Child Health

1616 N. Fort Myer Drive, 11th Floor  
Arlington, Virginia 22209 USA  
Tel: 703-528-7474  
Fax: 703-528-7480  
E-mail: [jsiinfo@jsi.com](mailto:jsiinfo@jsi.com)  
Website: [www.jsi.com](http://www.jsi.com)

# Table of Contents

<b>Acknowledgments</b> .....	v
<b>Acronyms</b> .....	vii
<b>Executive Summary</b> .....	ix
<b>1. Introduction</b> .....	1
<b>2. Background</b> .....	3
Referral Pathways in Ghana .....	3
Referral Issues .....	5
<b>3. Objectives</b> .....	9
<b>4. Methodology</b> .....	11
Definitions .....	12
Sampling .....	12
Instruments .....	13
Training of Supervisors and Surveyors .....	14
Field Work .....	15
Data Management .....	15
Analysis .....	15
<b>5. Results</b> .....	17
General Descriptive Information .....	17
Medical Record Review .....	17
Outpatient Caretaker Interviews .....	19
Inpatient Caretaker Interviews .....	21
Health Provider Interviews .....	22
Focus Group Discussions .....	24
<b>6. Discussion and Recommendations</b> .....	25
Discussion of Indicators .....	25
Issues with Data Collection .....	26
Recommendations .....	27
<b>Notes</b> .....	<b>29</b>
<b>Figures</b>	
Figure 2–1. Referral Pathways in Ghana .....	5
Figure 5–1. Causes for Referral .....	18
Figure 5–2. Time Elapsed Between Referral and Compliance .....	19
Figure 5–3. Distribution of Referrals by Age and Gender .....	19
Figure 5–4. Referrals by Month and District for 2002 .....	20
Figure 5–5. Place Where Care was Sought Before Coming to this Facility .....	21
Figure 5–6. Reasons for Coming to this Facility .....	21
Figure 5–7. Place Where Care was Sought Before Coming to the Hospital .....	22

Figure 5–8. Provider Opinion about Reasons for Caretaker Non-Compliance with Referrals .....	23
Figure 5–9. Provider Advice for Improving Referral .....	24

**Tables**

Table 4–1. District OPD and IPD Attendance and Causes .....	12
Table 4–2. Target Distribution by District and Type of Facility .....	13
Table 4–3. Description of Instruments .....	13
Table 5–1. Record Review Indicators .....	17
Table 5–2. Referrals Made in Previous Month .....	23

**Annexes**

Annex A. Study Instruments .....	31
Annex B. Training Curriculum for Surveyors .....	49
Annex C. Referral Assessment Surveyor Field Guide .....	51

## Acknowledgments

**T**he study organizers extend their appreciation to the Ghana Health Service (GHS), and to Dr. Isabella Sagoe-Moses, National Child Health Coordinator, in particular, for her leadership role as Principal Investigator of the study. Additional thanks are given for the support received from Dr. Henrietta Odoi Agyarko, Deputy Director, Public Health (Family Health Unit), and Dr. George Amofah, Director, Public Health, Division of the GHS; as well as for that received from the District Directors of Atwima, Gomoa, and Yendi.

Appreciation is also extended to the BASICS II/Ghana staff—Dr. Joseph Somuah and Ms. Selina Esanti—and to the National Coordinating Group: Dr. Cynthia Bannerman, GHS; Drs. Nana Ama Brantuo and Mark Amexo, World Health Organization (WHO); Dr. Jennifer Welbeck, Korle-bu Teaching Hospital; Dr. Yeboah Antwi, Malaria Consortium; Dr. Jan Paehler, United States Agency for International

Development (USAID); Dr. Victor Ankrah, United Nations Children’s Fund (UNICEF); and Dr. Iyeme Efem, Project Concern International (PCI).

The diligent work of the survey team members—Anna Ofori, Edna Addae, Justina Amo, Antwi Blankson, Alex O Frempong, Al-Hassan Umar Razak (Atwima), Edmund Osei Kwakye, Roger Amoako, Charles Anamaan, Helena Ennin, Elizabeth Quainoo, Eben Woode (Gomoa), George Alhassan, Muhammad Adam, Isaac Assani, Maria Ayichuru, and Mutaru Numtima Yassif (Yendi)—is acknowledged with thanks.

The cooperation and participation of the health workers and personnel working in medical records offices in the three districts visited, staff at the referral facilities, and caretakers who participated in interviews and focus groups are recognized with thanks.

Study organizers were Kim Cervantes, Misun Choi, and René Salgado.



# Acronyms

ARI	Acute Respiratory Infection
BASICS	Basic Support for Institutionalizing Child Survival
CHO	Community Health Officer
CHPS	Community Health Planning and Services
DH	District Hospital
DHMT	District Health Management Team
FGD	Focus Group Discussion
GHS	Ghana Health Service
HC	Health Center
HO	Hospital
IMCI	Integrated Management of Childhood Illness
IPD	Inpatient Department
KATH	Komfo Anokye Teaching Hospital
NGO	Non-governmental Organization
NHMIS	National Health Management Information System
OD	Outside District
OPD	Outpatient Department
PCI	Project Concern International
QA	Quality Assurance
RH	Regional Hospital
RRA	Rapid Referral Assessment
TH	Teaching Hospital
UNICEF	United Nations Children's Fund
URTI	Upper Respiratory Tract Infection
USAID	United States Agency for International Development
WHO	World Health Organization



## Executive Summary

**A** Rapid Referral Assessment (RRA) was conducted in three districts in Ghana (Atwima, Gomoa, and Yendi) between January and February 2003. The Assessment describes actual referral rates, assesses the level of compliance of caretakers with referral, identifies the main causes of referral, and describes barriers to compliance with referral. The goal of the Assessment was to use the findings to develop recommendations for improving the referral of severely ill children, within the context of the national Integrated Management of Childhood Illness (IMCI) and Community Health Planning and Services (CHPS) strategies in Ghana.

The RRA is a provider-based study and is dependent on the availability of medical records in health facilities. A census was taken of all Government and Mission facilities in the three districts. Medical records from 39 facilities were reviewed for a one-year period. When a referral was found, the surveyors collected identifying information on the case and then “tracked” the case to the next level of care to determine if the caretaker complied with the referral recommendation. The referral chain was followed to the three teaching hospitals in Accra, Kumasi, and Tamale. In addition to medical record review, interviews were conducted with 161 caretakers in the outpatient department (OPD) and inpatient department (IPD) wards. Forty health providers were interviewed in referring and referral facilities, and focus group discussions were held with 60 mothers. Data available through the National Health Management Information System (NHMIS) were also investigated.

This study produces data around five key areas: (1) referral rates, (2) compliance rates, (3) barriers to compliance, (4) causes of referral, and (5) the use of referral slips.

First and foremost is the referral rate. According to the record review, which

provides the most reliable data, the referral rate is 0.9%. This is less than the 2% referral rate given by health providers when asked about referrals in the past month. When asked about having been referred by another provider, 3% of caretakers in the OPD had been referred, and only 11% of caretakers of children in the IPD had been referred.

NHMIS data from 2001 cite 1,861,810 OPD visits for children less than five years of age. Field research studies using IMCI clinical guidelines have shown a referral rate of 7% to 16%. If an approximate 10% referral rate is applied, there should be approximately 186,000 referrals in a one-year period. This study found a referral rate of 0.9%, which would amount to 16,756 referrals or 169,425 “missed referrals.” This study found a compliance rate of 55%, which would imply 9,215 cases actually arriving at the hospital. A recent study in Uganda found a mortality rate of 5% for referred children who did not access the referral site. If a 5% mortality rate for referrals that don’t arrive at the referral site is applied here, potentially thousands of children would not survive. Conversely, caretakers of severely ill children may be seeking care directly at tertiary hospitals, effectively bypassing lower level facilities. A population-based study would be required to gather this type of information.

The record review showed a 55% compliance rate (although the higher rate in Yendi has skewed the mean percentage). Even so, this rate is lower than the 80% expected compliance rate given by health providers, and is lower than the 80% intended compliance rate given by caretakers.

When asked about barriers to compliance with referral, caretakers cited costs not related to transportation, patient transport costs, and need of permission from family members. Health providers thought the

barriers were primarily cost and fear of the hospital. These constraints were echoed by the mothers in the focus group discussions, with the strong addition of poor treatment received at the hospital.

The principal causes of referral noted in the record review were feeding problems/ malnutrition, anemia, malaria/fever, convulsions, diarrhea, and upper respiratory tract infection (URTI)/acute respiratory infection (ARI). When asked about referrals made in the previous month, health providers gave the causes of referral as severe anemia, anemia, malaria, ARI, and convulsions. Caretakers of admitted children cited the presenting complaints as vomiting, diarrhea, and fever.

According to the record review, 92% of cases that complied with referral arrived with a referral slip. When providers were asked about referrals made in the previous month, they said they gave a referral slip to 83% of cases. Due to the high use of referral slips at one facility in Yendi, the 83% figure is probably more representative of the actual situation. Fifty-eight percent of providers thought that cases with referral slips were given priority at the referral site. This would seem to contradict what the mothers said in the focus group discussions, however, as one of their recommendations was early or immediate treatment for referrals at the hospital. Caretakers interviewed at the hospital spent a median time of two hours waiting to be seen by a health provider.

The following recommendations are made for action at the national level:

1. Develop a national level referral guideline to describe how the referral process should work.
2. Develop a standard format for recording and reporting referrals at health centers and hospitals.

3. Produce a standard format for referral slips. The IMCI referral slip could be adopted nationally and made available for use in all health facilities.
4. Examine patient flow at the hospital level to give priority to referred cases upon arrival, to allow them to bypass the standard OPD waiting time.
5. Strengthen health worker key referral actions and instructions through IMCI or other training.
6. Continue expansion of Quality Assurance (QA) to address the concerns of mothers about hospital care.
7. Re-examine the clinical guidelines for convulsions to minimize unnecessary referrals.

The following recommendations are made for action at the district level:

1. Examine the capacities of district hospitals and health providers in order to minimize further referrals.
2. Re-examine exemption policies/ management to reduce the cost of medical services, which was the principal barrier to compliance with referral.
3. Discuss transport options, involving the community when possible, to help overcome the issue of the availability and cost of transport.
4. Advise hospitals to monitor the number of referrals they receive and from which facilities, and use this information for planning and supervision activities.

Experience in other countries shows that compliance with referral may be increased with effective counseling (more in-depth than what is found in the IMCI guidelines) and the use of referral slips. Counseling could be improved using a checklist or flowchart to discuss with the mother the issues she faces in complying with referral. Based on the mother's responses

in the focus group discussions, health workers' interpersonal communication skills, particularly at the hospital level, need to be strengthened so that health workers more effectively communicate key messages to mothers. Most health workers are already using some kind of

referral slip. With a minimum investment, the use of these slips could be made more effective and standardized. More effectively using referral slips offers one way of giving priority to referred cases once they arrive at the hospital.



## Introduction

**C**urrently, one out of every nine children in Ghana die before reaching their fifth birthday. National-level data show that in 2001 the leading cause of morbidity in children less than five years of age was malaria (47%), followed by upper respiratory track infection (URTI), diarrhea, skin infections/ulcers, and anemia/malnutrition.<sup>1</sup> The Ministry of Health/Ghana Health Service (GHS) introduced the Integrated Management of Childhood Illness (IMCI) strategy in 1998. IMCI is designed to provide health workers at first-level facilities (health centers) with guidelines to treat the major causes of morbidity and mortality in children under five. IMCI implementation has expanded from four initial districts in 1999 to 18 districts in 2002. The GHS aims to expand IMCI into all 110 districts by 2006.

IMCI relies on the detection of cases based on simple clinical signs, without the use of laboratory tests. The IMCI guidelines have been validated for sensitivity and specificity through several field research studies.<sup>2,3,4,5</sup> The guidelines have been designed to be highly sensitive to identifying severely ill children. Using the IMCI guidelines, health workers can easily detect and refer children that need urgent care. The proportion of children referred by health workers using the IMCI guidelines was 7% to 16% in Ethiopia, Kenya, The Gambia, and Uganda.<sup>6</sup> In practice, however, health workers often do not refer and likewise caretakers frequently do not follow referral recommendations. For the IMCI strategy to be successful in reducing infant and child mortality, it is important to understand the behavioral, cultural, and systemic factors that influence compliance with referral.

Little is known about cases that are referred to higher level public health facilities in Ghana. It is not known how many children are referred from one facility to another, how

many arrive at the intended referral site, nor what are the main causes of referral.

As in many other countries, caretakers in Ghana may be faced with a number of barriers that prohibit them from complying with referral. Such barriers can be financial, geographic, and cultural. The relative importance of each type of barrier will differ depending on each country's situation, and will often differ by region within a particular country. Public health planners in Ghana, based on anecdotal evidence, have an idea about the principal barriers that constrain compliance with referral, but barriers have not been documented. Health workers may also have difficulty in complying with guidelines for referral—especially in rural areas where there are communication and transportation barriers.

When IMCI was introduced at the district level, the issue of referral was discussed, and in some districts, local-level solutions were proposed. During IMCI training, emphasis was placed on the use of referral slips and improved counseling.

This report presents the results of an assessment of referral pathways in three districts in Ghana. It clarifies what happens when a severely ill child is referred from a lower level facility to a higher level facility. The principal causes for referral and the general characteristics of children in need of referral are also described. As the study is not population-based, the focus is on the degree

of compliance. It was not possible to identify the barriers to compliance for the referred children who did not comply—although general information was gathered from caretakers and health workers on this subject. This report provides useful national- and district-level information that can be used by public health planners to enhance the referral process in Ghana.

## Background

### Referral Pathways in Ghana

**T**he GHS has a tiered system of health care, which includes three or four levels of care, depending on the district. Certain districts have adopted the national Community Health Planning and Services (CHPS) program, which posts Community Health Officers (CHOs) in remote, underserved areas. Once a CHO is posted, the community itself constructs a community clinic where certain services are offered to a catchment area of communities, usually forming an 8–14 kilometer radius. The CHO, however, spends the majority of her time not in the clinic, but in traveling to the target communities conducting extended outreach. Although CHOs manage all of the health needs of the target communities, they are required to receive training in IMCI in order to improve care for sick children. It is expected that CHOs would refer a significant number of sick children to a higher level of care.

Where CHPS is not yet operating, health centers are the first level of care, and are responsible for managing the majority of the population's health problems. There are different levels of health centers, which can be distinguished by the type of provider in charge of the facility—medical officer, professional nurse, medical assistant, nurse auxiliary, or CHO. Health centers are usually staffed by one or two providers who perform consultation services for children. Some larger health centers have a small number of inpatient department (IPD) beds in addition to outpatient department (OPD) services, and may also have the capacity for basic laboratory tests (e.g., malaria, hemoglobin, etc.). A number of severe cases may be resolved at this level, but often referral to a hospital may be necessary. While health centers can constitute a referral site, they are usually considered to be a primary-level facility. Although health centers should refer

cases to the district hospital, there is discretion to refer to another site (e.g., to a district hospital located in another district, regional hospital, or a teaching hospital) when it is deemed that the severity of the illness or potential for caretaker non-compliance warrants it.

At the secondary level, district hospitals offer basic specialized services—pediatrics, gynecology and obstetrics, medicine, and surgery. They are equipped with more sophisticated equipment and can perform complex procedures and tests. The provider in charge of the facility is most often a medical officer. Many caretakers seek care directly from the district hospital OPD. The hospitals receive cases sent from health centers and may refer cases to regional or teaching hospitals.

Regional hospitals are located in the regional capitals, have a greater number of providers, and a variety of specialty areas. In

some regions, the regional hospital receives cases from districts that do not have a district hospital (i.e., Tolon Kumbungo). Regional hospitals provide a full range of health services and possess sophisticated equipment and facilities to handle a variety of severe conditions. Regional hospitals receive cases from health centers and district hospitals and may refer cases to the teaching hospitals.

Finally, at the tertiary level, there are three teaching hospitals—Korle-Bu located in Accra, Komfo Anokye Teaching Hospital (KATH) in Kumasi, and the new Tamale Teaching Hospital in Tamale. These hospitals have both outpatient and inpatient services. Although the teaching hospitals are meant to receive only referrals, they also see initial cases within Accra, Kumasi, and Tamale. It is not known how many of the patients seen at the teaching hospitals are actually referrals made from lower levels of care.

The GHS has a defined referral pathway, which in practice allows health workers to use their discretion when identifying the appropriate referral site. As can be seen in Figure 2–1, CHPS nurses should refer to health centers. From health centers, health workers are expected to refer to the district hospital. District hospitals may refer to regional hospitals that may then refer to the teaching hospitals. In some situations, however, some smaller health centers may refer to a larger health center, or may choose to refer directly to a regional hospital, a district hospital located outside of the district, or even to a teaching hospital. These decisions are often justified when health workers recognize a condition that they know can only be treated by sending the case directly to a particular hospital. In other situations, health workers recognize that a particular facility (that is not the assigned referral site) is closer and/or easier for the caretaker to access. Finally, health workers often make a judgment call when they think that a caretaker may not go to the recommended facility (i.e., because of a

previous bad experience) and decide to send the case to an alternate facility.

Currently, there are no referral guidelines at the national level in Ghana. Most health facilities are recording information about referral, and some are sending referral slips, although official stationery is often missing. Most often health workers use a blank piece of paper to record the referral information. Although some hospitals are completing counter-referral slips, this is the exception, not the norm. Few facilities have either referral slips or counter-referral slips.

Health centers and higher level facilities are required to keep a monthly tally of all referrals made. They currently do not keep records on the numbers of referrals received from lower levels of care. Additionally, health facilities keep patient records (OPD cards) that may contain information on referral. Tracking referrals of children specifically, however, is more difficult. Children less than five years of age usually have either a Road to Health Card or the new Child Health Records. Caretakers bring these forms with them to the OPD, and information related to the consultation is recorded on these forms, *not* on an OPD card. The caretaker then takes the records home, leaving no consultation information at the health facility, apart from the consulting room register. When a child does have an OPD card, the health facility often sends it along with the caretaker to the referral site, and the card is rarely returned to the referring facility. CHPS nurses generally do not have patient records for children, and are not currently reporting referrals, but they do keep a patient register in which referrals could be noted.

The National Health Management Information System (NHMIS) does not capture referral data (numbers of referrals, referral rates, causes of referral). Data are available on outpatient and inpatient attendance, by age group, and on the causes of outpatient morbidity. Causes of inpatient admission are not readily available, although this information could be gathered. The

NHMIS unit is currently in the process of entering key data into mapping software, but this is not yet available.

## Referral Issues

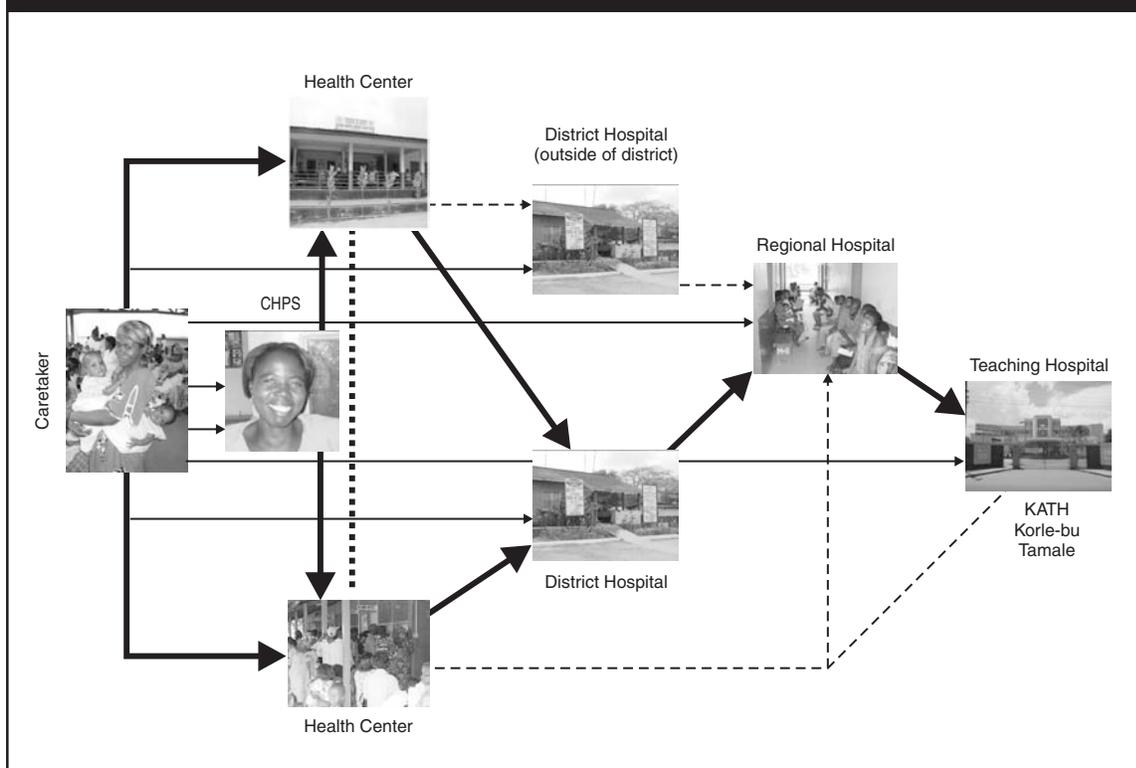
Using the IMCI guidelines, health workers can easily detect and refer children that need urgent care. The proportion of children referred by health workers using the IMCI guidelines was 7%–16% in Ethiopia, Kenya, The Gambia, and Uganda.<sup>7</sup> However, the moderate specificity of the IMCI referral guidelines may result in over-referral,<sup>8</sup> which in turn may impact the health system in ways not yet described in the literature.

For successful referral, there must be first and foremost geographical access to referral care facilities. Provided referral services are accessible, referral staff must be trained to provide quality care, and essential drugs, supplies, and equipment must be available. The most complex aspect of referral care is often the caretaker's acceptance of and

compliance with referral. This is determined by a variety of factors, including the perceived need (disease severity), caretaker/community experience with and impressions of the referral facility (quality), and cost (time and resources).

In most countries there are two major types of health facilities—primary-level facilities and hospitals. Health care systems prefer caretakers to seek care first at the primary level and then be referred, if necessary, to a higher level of care. To the extent that the referral system reflects patient care-seeking behavior, a vertical system is consistent with patient's cost-minimizing behavior in their search for treatment.<sup>9</sup> In many countries, however, caretakers often bypass primary care facilities in favor of seeking care directly at referral care hospitals for illnesses that could be easily treated at the primary care facility.<sup>10</sup> This can overburden the referral facility, and is often costlier for the caretaker and the health care system. A

**Figure 2–1. Referral Pathways in Ghana**



recent study from Tanzania showed that where IMCI was being implemented, only 0.6% of children were referred, and at the referral hospital, 91% of sick children and 75% of admissions came from within a 10-kilometer radius.<sup>11</sup>

There are varying reasons why patients seek care directly from hospitals. Bapna found that in India, 55.7% of caretakers sought care directly at the referral facility because they perceived better quality services. Atkinson and colleagues found differing results in urban Zambia, where people sought care at hospital facilities not for perceived improved quality services, but because they thought hospitals were less costly and better stocked with drugs.<sup>12</sup>

There have been several scientific studies conducted to explore the operations of referral systems, some looking at barriers<sup>13</sup> and others simply describing referral patterns.<sup>14</sup> Although many similar factors influencing referral have been documented, they vary by country and region. For example, in contrast to patients seeking care at referral facilities in India and Zambia, Tulloch found that most mothers in Indonesia refused to accept referral to the hospital because they perceived it as a place where children go to die.<sup>15</sup>

Factors predicting health care utilization also vary, although similar barriers are often found—particularly the cost and lack of transportation, the cost and perceived quality of medical services, unrecognized disease severity, and seasonality.<sup>16</sup> The timeliness of referral is key to preventing mortality in severely ill children. A recent study in Tanzania found that although most of the patients who were referred do arrive at the hospital, almost half delayed by two or more days.<sup>17</sup> A recent study in Uganda also showed that of those who accessed the referral site, only half did so the same day.<sup>18</sup> Although these common barriers are generally known, it is necessary to assess the constraints in each country or region where an intervention to improve referral will be developed.

A referral assessment in Eritrea found that only 38% of referrals found through record review made it to the next level of care.<sup>19</sup> Very little is known about what happens to severely ill children who do not comply with referral. A study in Uganda found that up to 5% of cases eventually died.<sup>20</sup>

Health provider behavior may also vary. During the cholera epidemic in Northern Ghana in 1991, many health providers referred cases unnecessarily to avoid contagion. A study showed that of 14 cases referred to one hospital, three died en route, four died at the hospital, and only seven survived. Due to the long distance to the referral site, the children arrived fatally dehydrated and could probably have been initially treated with oral rehydration therapy at the health center.<sup>21</sup> Health workers may also make referral decisions based on their own assessment of whether the child's caretaker is able to follow their advice and by the quality of communication between the primary and referral levels of the health care system.<sup>22</sup> A recent study in Uganda showed that while health workers perceived that a majority (64%) of children referred went for referral, the reality was that only 28% actually accessed referral care. Health workers also perceived cost and the availability of transport as the main barriers, although in reality the cost of medical care at the referral hospital was the principal constraint for caretakers not accessing referral.<sup>23</sup>

The Johns Hopkins University and the Basic Support for Institutionalizing Child Survival (BASICS II) Project conducted a study in Imbabura, Ecuador from September 1999 to April 2000 looking at barriers and constraints to referral in a province with 100% IMCI coverage. They investigated demographics and socioeconomic status, family dynamics, caregivers' perceived problems, access, and health system-caregiver interaction. This study showed that health worker behavior is the most important factor in predicting accessed referral, namely providing a written referral slip and counseling the caretaker to "immediately seek referral care." In addition, risk factors related to

staying overnight with a child less than three months of age were important constraints to compliance with referral. Transportation costs and households in which the mother was not the decision-maker were also important factors.<sup>24</sup>

Results from the Ghana 1998 Integrated Health Facility Assessment showed that 64%

of providers knew at least three signs requiring referral. Half of them said they had wanted to refer a child in the past but were unable to do so, owing to caretakers not having money for transportation and medical care (67%), caretakers refusing to go (60%), and not having access to transport (42%).<sup>25</sup>



## Objectives

**T**he objectives of this study were to:

- Describe actual referral rates;
- Assess the level of compliance of caretakers with referral;
- Identify the main causes of referral in children less than five years of age in health facilities; and
- Describe barriers to compliance with referral.

The goal of the study was to use the findings to develop recommendations for improving the referral of severely ill children, within the context of the national IMCI and CHPS strategies in Ghana.



## Methodology

**A** study of compliance with referral can be done in at least three ways. All have methodological and cost difficulties that should be considered when interpreting results.

The first method is population-based. A survey is conducted in a sample of clearly defined geographic areas. Caretakers are asked whether their child has been sick in the last few weeks or months (retrospective). Once a sick child is found, the caretaker is asked if she took the child for care to a formal health provider. If so, she is asked whether the child was referred to another site, whether she complied with referral, and, if she was unable to comply with referral, she is asked why not. Depending on the referral rate in facilities, this method can be costly, as the number of caretakers needing to be interviewed to detect referrals can be very high. Also, caretakers may not remember whether they were referred or not, or may choose to hide from the interviewer that the child was referred if she did not comply.

A second method is to select a sample of facilities where referrals have been made, select all or a sample of the referrals made during a specified period of time, and then follow up with caretakers in their respective communities. As with the first method, the cost of deploying surveyors in communities is high. Additionally, obtaining accurate addresses from facility records may be difficult. A variation on this method is to study referrals prospectively and advise health workers to report and clearly identify any referrals they make and then follow them up within a short period of time in their respective communities. In this case, health workers become aware that you are studying referrals and may modify their behavior, which in turn affects the results. Ethical considerations would also demand that something be done to help the family in the cases where the child is

still sick. The costs associated with the prospective methodology can be prohibitive in most cases.

The third method, the one used in this study, is the simplest and least expensive but is probably the least accurate. It is a provider-based study and is dependent on the availability of medical records in health facilities. A team of two individuals visited a number of health facilities and reviewed all medical records for children less than five years of age over a one-year period (retrospective). All possible records and lists were reviewed for notations that a referral was made. When a referral was found, the surveyors collected as much information as possible to identify the case. The team then moved to the health facility to which the current facility “officially” refers. All patient rosters for the day when the referral occurred were then reviewed to try to identify if the referred case arrived at the referral facility. Because not all referred cases make it to the referral facility the same day, records were checked for an additional seven days. If the case was not found, then it was sought at the next level of care.

At this second facility, a record review was conducted to identify additional children seen in the OPD who may have been referred to a higher level of care. The team then traveled to the next level of care and conducted a search for all referred children. The referral chain was followed to its logical conclusion, which in the case of Ghana, was to the three teaching hospitals located in Accra, Kumasi, and Tamale.

In addition to a medical record review, interviews were conducted with caretakers in

the OPD and IPD wards. Health providers were interviewed in referring and referral facilities, and focus group discussions (FGDs) were held with mothers. During this study, data available through the NHMIS was also investigated. Although data on referral was not available, information on OPD attendance, OPD morbidity, and IPD admissions was obtained.

Seasonality is a key element to consider in research related to care-seeking. Difficult climate conditions (e.g., heavy rains, extreme heat, etc.) often impede care-seeking and compliance with referral. Aside from climatic changes, agricultural, cultural, and religious factors may also come into play. By studying a one-year period, it was possible to describe these seasonal patterns.

## Definitions

A case was considered referred when a notation was found either on a provider register or OPD card that the child had been referred to a higher level of care within the public health system. Only children less than five years of age were included in the definition.

## Sampling

In discussions with the GHS, it was decided to conduct the study in three districts that would include the country's three principal geographical zones—forest, coastal, and savannah. The three districts Atwima, Gomoa, and Yendi were then identified based on the presence of two of the country's main child health initiatives: IMCI and CHPS, which is active in both Gomoa and Yendi. Atwima is an IMCI early-implementing district, Gomoa has started district orientations for IMCI implementation, and Yendi has some health workers trained in IMCI.

Table 4–1 shows data from district office records on OPD attendance, morbidity, and inpatient cases within the target districts for the year 2002. This study may have captured fewer OPD visits due to the exclusion of certain private facilities.

In this study, it was decided not to sample but instead to take a census of all Government and Mission facilities in the three districts. This decision was made based on the low number of health centers, district hospitals, regional hospitals, and other hospitals that may receive referrals were

**Table 4–1. District OPD and IPD Attendance and Causes**

	<i>Atwima</i>	<i>Gomoa</i>	<i>Yendi</i>
OPD Attendance	19,325	10,257	19,432
Top Causes of Morbidity	Malaria Diarrhea URTI Anemia Pneumonia	Malaria Gastrointestinal disorders Skin diseases Diarrhea Eye infection	Malaria URTI Diarrhea Anemia Pneumonia
IPD Admissions to District Hospitals	522	811	4,936
Top Causes of Admission	Malaria Diarrhea Anemia Pneumonia Measles	Malaria Anemia URTI Pneumonia Diarrhea	Malaria Diarrhea URTI Anemia Pneumonia

**Table 4–2. Target Distribution by District and Type of Facility**

<i>District</i>	<i>Community Clinics</i>	<i>Health Centers</i>	<i>Hospitals</i>	<i>Total</i>
Atwima	0	Saakrom, Abuakwa, Akropong, Barekese, Asuofia, Bayerebon, Gyereso, Ang. T. Odumase, Ntoburoso (9)	Nkawie, Nyinahin, Bibiani, Suntreso, Children’s Welfare Clinic, KATH (6)	<b>15</b>
Gomoa	Ngyresi (1)	Buduatta, Oguaa, Obuasi, Ojobi, Nyanyano, Okyereko, Fete, Potin, Onyadze (9)	Apam Catholic Hospital, Winneba, Swedru, Asikuma, Children’s Hospital, Korle-Bu (6)	<b>16</b>
Yendi	0	Sang, Adibo, Jimle, Bumbon, Ngani, Church of Christ (6)	Yendi Government Hospital, Tamale Regional Hospital (2)	<b>8</b>
Total	1	24	14	<b>39</b>

included. Table 4–2 shows the target distribution by district and type of facility. Additionally, two focus group discussions were held in each district. Private practitioners were excluded due to difficulties with record keeping. Although the data may not be representative nationally, it provides a good estimate of the referral picture in Ghana.

## Instruments

Five instruments were used to capture data from medical records, to conduct interviews,

and to facilitate FGDs. All five collect similar data from slightly different perspectives and allow for the same indicators to be calculated in alternate ways. Table 4–3 describes the instruments and their use. The complete set of instruments can be found in Annex A.

### ***Instrument 1: Medical Record Review***

The design of this instrument allows for the detection and tracking of referrals through the public health system. It was applied at the lowest level facility to collect information from

**Table 4–3. Description of Instruments**

<i>Instrument</i>	<i>Description and Use</i>
Instrument 1: Medical Record Review	For conducting record reviews at all levels in order to detect referrals sent and referrals received
Instrument 2: Outpatient/Inpatient Caretaker Interview	For conducting interviews with caretakers of children attending the OPD or with children hospitalized in the pediatric ward
Instrument 3: OPD Provider Interview (Referring Facility)	For conducting interviews with health providers attending the OPD in facilities making referrals to a higher level of care
Instrument 4: OPD Provider Interview (Referral Facility)	For conducting interviews with health providers in the OPD in facilities receiving referrals from lower level facilities
Instrument 5: Focus Group Discussion Guide	For facilitating focus group discussions with mothers within the community

consulting room registers or patient records for all children who were noted as having been referred. The surveyor then visited the facility to which the referral was made and looked up records to determine whether the child came to the referral facility as instructed. If the child was found, information was collected on whether the child was referred onward or if treatment was given at the facility. If the child was not found or if the child was referred a second time, then the instrument was used to detect children at the higher level of care, usually the regional or teaching hospital. Surveyors reviewed records for the previous 12 months. When a child was identified as having been referred, surveyors looked for the child at the referral facility for up to seven days after the referral was made.

#### ***Instrument 2: Outpatient/Inpatient Caretaker Interview***

This instrument was applied to all caretakers of sick children less than 5 years of age who came to the OPD between 8:00 a.m. and 12:30 p.m., regardless of whether the child was referred or not. It was also used to interview caretakers of hospitalized children. When used in the OPD, the instrument was applied after consultation with the health worker and after the caretaker visited the dispensary. It collected general information on the case (e.g., age, sex, community of origin, etc.) as well as information on care-seeking and caregiving before coming to the facility. Additionally, it registered caretaker intentions of whether he or she would comply with the referral (in cases when a referral was made).

#### ***Instrument 3: OPD Provider Interview (Referring Facility)***

Interviews were conducted using this instrument with all health providers in the OPD of health facilities who were seeing children on a regular basis for at least one month. The instrument was only applied at facilities that made referrals to a higher level of care (e.g., health centers and district hospitals). It collected information on whether

the health worker made any referrals during the last month, what the common referral ailments were, whether referral slips were given, and other information that provides insight about health worker perceptions about referral. An inventory of drugs and materials necessary for IMCI referral care was also gathered.

#### ***Instrument 4: OPD Provider Interview (Referral Facility)***

This instrument was applied to obtain the perspective of health workers in facilities that accept referrals. It is very similar to Instrument 3, but it collected information on referred cases that actually made it to the facility instead of cases that were referred to another level of care. It was used with a health worker that worked in the OPD and received referrals from other facilities in the system.

#### ***Instrument 5: Focus Group Discussion Guide***

This instrument was applied to facilitate two FGDs in each district. Two communities were selected in each district, both located within 20 kilometers of the referral hospital. One community had access to a community clinic; the other did not. Each focus group was comprised of ten mothers of children less than five years of age. Mothers were asked questions about childhood illnesses, care-seeking, treatment options, referral, barriers to compliance with referral, and quality of care at the referral site.

#### **Training of Supervisors and Surveyors**

Three survey teams were organized to conduct the field work in the three districts. Each team had one supervisor and either four or five surveyors. All surveyors were health workers currently employed by the GHS and working in the District Health Management offices.

Training was conducted over the course of five days, on January 13–17, 2003. Annex B

contains the training curriculum. A typical day of training consisted of reviewing the instruments question-by-question, role-plays, and practical work in local health facilities not included in the study. Inter-surveyor reliability was checked during the practical work and was found to be over 90%. In-depth discussions were held with the surveyors, and a considerable number of modifications were made to the instruments according to their suggestions. Rules were developed for questions and items that could be misinterpreted. At the end of the training, the surveyors understood all of the instruments and used them effectively. The survey organizers developed a field guide that clarified how to complete the instruments and incorporated all the rules developed during training (see Annex C). Daily itineraries were drawn up for each team. Suggested routes were described, but health workers were free to follow different routes as long as schedules were kept.

### **Field Work**

Field work was conducted between January 19 and 27, 2003, and lasted between five and six days, depending on the number of facilities in each district. Each team was provided with a vehicle and a driver. Generally, the teams paired up so two surveyors visited each facility. Each pair of surveyors visited one facility per day. The supervisors had letters of introduction from the GHS, which facilitated the introduction of the survey team to the health facility staff. At each facility, one team member completed medical record reviews (Instrument 1) while the second person conducted caretaker interviews (Instrument 2). The person who had more time available after completing their initial task conducted provider interviews (Instruments 3 and/or 4). All teams were able to complete their assignments on time. Staff from Gomoa added one additional day to track referrals to two referral hospitals in Accra.

An experienced consultant was hired to conduct the FGDs, so as not to overburden the survey teams. The consultant traveled to

each of the three districts and applied a standard discussion guide for each group (see Annex A). In Yendi, a local interpreter was hired; in Atwima and Gomoa, the consultant was able to facilitate the groups in the relevant local languages. He then prepared an initial analysis of the findings and brought the analysis to the survey organizers in Accra.

### **Data Management**

The team supervisor for each district team was responsible for ensuring that all procedures were properly followed in the facilities. At the end of each day, surveyors reviewed their instruments and ensured that data had been collected properly. Surveyors were instructed to contact the survey organizers should they run into any problems. The survey organizers visited the survey teams in each district for additional quality control. Once the data collection was completed in each district, the instruments were brought back to Accra for review and data input. Survey organizers reviewed all of the instruments.

Data entry screens and databases were prepared using Epi Info 2002 for Windows. One of the survey organizers input all of the data. A sample of the instruments was selected to verify the accuracy of data input. Additionally, consistency checks were done running frequencies and tables. Once the database was considered clean, indicators were calculated.

### **Analysis**

Before starting with data collection, the survey organizers met with both national authorities and the surveyors to agree on a set of indicators for evaluating the different components of the referral pathway. Univariate analysis was conducted using mean, standard deviation, and range for continuous variables, and percentage in each category for categorical variables. Statistical significance testing was done using Student's t, F-statistic, and chi-square tests. Qualitative data from the FGDs were analyzed manually.

Some information from the NHMIS provided additional context for the findings.

Once initial frequencies were obtained, a set of graphs was produced and discussed with the National Coordinating Group and the surveyors. Their opinions and insight provided much of what is recorded in Chapter 5.

Each of the indicators was calculated overall and by district. A copy of the district-

specific indicators was provided to the District Health Management Teams (DHMTs). The results provided in this report are for the three districts combined, unless there were significant differences between the three districts, in which case the data are presented by district.

## Results

### General Descriptive Information

**A** total of 39 facilities were visited for this study, and 161 caretakers were interviewed by surveyors: 134 (83%) in OPDs and 27 (17%) in inpatient facilities. Additionally, 36 health workers in OPDs and 4 health workers at referral sites were interviewed. The study tracked the outcome of 373 referred cases and included 60 mothers in FGDs.

As mentioned above, data for calculating the same indicators were collected in several different ways. Data obtained from interviews with caretakers and health workers may be subjective. The record review is what provides the most concrete and reliable data; therefore, it will be the focus of the results.

Observations and comments from the interviews will be added as needed.

### Medical Record Review

A total of 41,080 sick child visits were reviewed pertaining to the 12 months prior to the survey (January–December 2002) in health centers and district hospitals. Table 5–1 shows the data by district. Surveyors were able to identify 373 referrals through the record review—which translates into a 0.9% referral rate. If an approximate 10% referral rate is applied, however, about 4,108 referrals would be expected in the one-year time

period; in other words, health workers either missed or inappropriately recorded 3,735 referrals (91%). In interpreting these results, one should consider that IMCI has not yet been introduced in all of the districts, and that variations in caseload and referral can occur across geographic and cultural regions.

It is important to note that the overall data from the medical record review are somewhat skewed by the results seen in Yendi. Yendi had by far the largest number of referrals, and out of the 227 referrals made in Yendi, 194 were from a single facility.

The fundamental, and most important, finding of this survey is that only 55% of the 373 referrals found in the record review made it to a higher level health facility (74% in Yendi, 27% in Atwima, and 19% in Gomoa). There was no statistically significant difference in the compliance rate for male and female children. There was a statistically

**Table 5–1. Record Review Indicators**

	<i>Atwima</i>	<i>Gomoa</i>	<i>Yendi</i>	<i>Total</i>
Number of visits in 2002	19,325	10,257	11,498	41,080
Referral rate	0.5% (n=99)	0.5% (n=47)	2% (n=227)	0.9% (n=373)
Compliance rate	27% (n=27)	19% (n=9)	74% (n=168)	55% (n=204)
Percentage with slip	63% (n=17)	44% (n=4)	99% (n=166)	92% (n=187)
Percentage admitted	70% (n=19)	100% (n=9)	12% (n=20)	24% (n=48)

significant difference in the child's mean age for those who complied (11.55 months) compared to those who did not comply with referral (18.00 months;  $t=4.6233$ ,  $p=.0000$ ). Eighty-nine percent of caretakers of children less than two months of age complied with the referral recommendation.

If the 55% compliance rate is applied to the total number of referrals that, according to the IMCI guidelines, should have been referred, a sobering picture emerges. Out of an expected 4,108 referrals, only 2,259 severe cases would have made it to a higher level of care, leaving 1,849 children not arriving at a referral facility. Further, if we extrapolate the finding from the referral study in Uganda,<sup>26</sup> where the case fatality rate for severely ill children who did not make it to a referral site was 5%, we would find that 92 children would have died because referral care was not accessed. Because this data came from a record review, it was impossible to determine what actually happened to the cases that did not comply with referral. A population-based study would be necessary to obtain this kind of information.

The median time required to access the referral site for those who complied in Atwima and Gomoa was greater than those who did

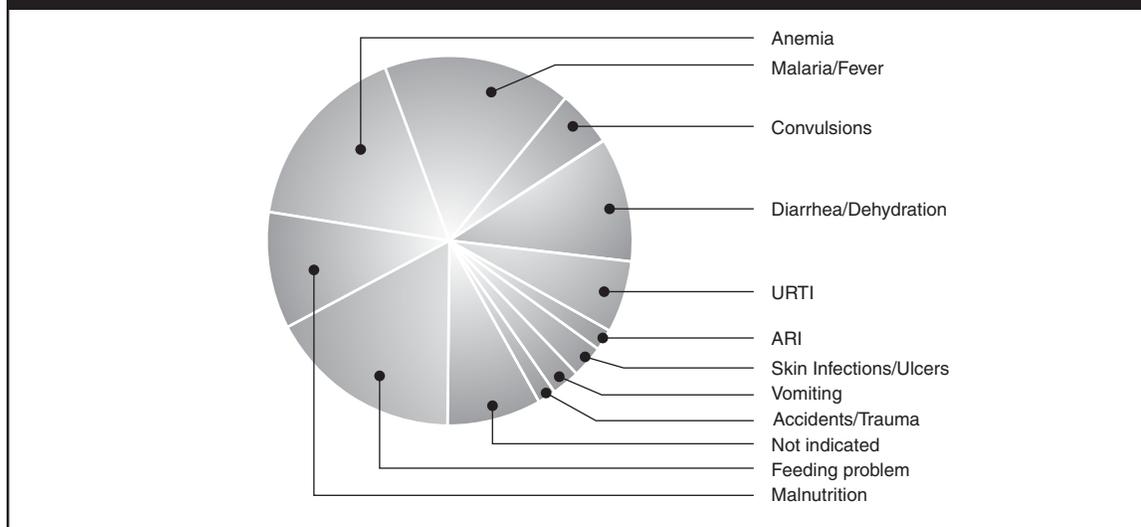
not comply. There was no difference in time for Yendi.

It is encouraging that in Atwima and Gomoa, 70% and 100%, respectively, of the cases that did arrive at the referral facility were ultimately admitted to the hospital. This speaks well of the specificity of the health workers' diagnoses. In Yendi, however, only 12% of the referred cases were admitted, which would imply that unnecessary referrals were made.

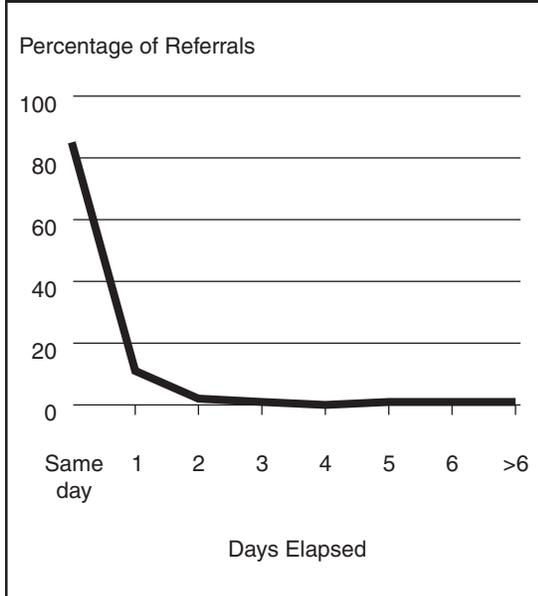
Figure 5–1 shows the causes of referral for the 373 referred cases (the numbers sum to greater than 373 as some children had multiple conditions). Seventy-two cases were referred for a feeding problem (all from Yendi district), and there were an additional 43 cases referred for malnutrition. There were 70 cases with anemia, 69 with malaria/fever, and 21 with convulsions. Forty-six cases were referred for diarrhea and 25 and 9 cases were referred for URTI and ARI, respectively. In 34 cases the cause for referral was not indicated on the patient register, and patient records were not available.

It was not possible in this study to identify whether children had been given a referral slip at the referring facility, because this information was not available in the

**Figure 5–1. Causes for Referral**



**Figure 5–2. Time Elapsed Between Referral and Compliance**



facility records. According to the information at the referral sites, 92% of referred cases (166) arrived with a referral slip. Yendi had a particularly high percentage at 99%. Atwima and Gomoa had lower rates, at 63% and 44%, respectively.

An encouraging finding was that 85% of the referred cases that complied with referral did so on the same day as the initial consultation (Figure 5–2). An additional 11% of cases sought referral care after only one day. A total of 96% of cases that complied with referral did so in one day or less. The time lapse for compliance varied in Atwima (.4815 days), Gomoa (2.11 days), and Yendi (.1667 days), but was not statistically significant.

Figure 5–3 shows the distribution of referrals by age and gender. The majority of referred cases (149) were 2–11 months of age. The median age was 11 months. There was a statistically significant difference in the mean age of referred children by district, ranging from 18.59 months in Atwima, 17.77 months in Gomoa, and 12.01 months in Yendi ( $F_{STAT}=10.1097, p=.0001$ ). Yendi had the largest number of cases less than two months

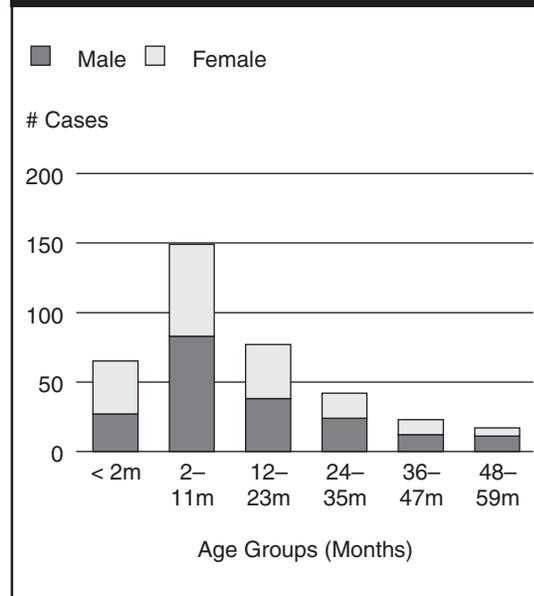
of age (61 cases). Fifty-two percent of all referrals were male, ranging from 61% in Atwima, 45% in Gomoa, and 50% in Yendi (not statistically significant).

Figure 5–4 shows the pattern of referrals over the 12-month period. All of the districts had a higher number of referrals between July and September. This time period coincides with the rainy season and higher malaria transmission. By looking at the causes of referral during this time, Gomoa referred most cases for anemia/malaria, Atwima referred for malaria/convulsions, and Yendi referred for feeding problems/URTI/malnutrition. Yendi also experienced a spike in referrals in February, primarily for feeding problems and malnutrition. There is currently no explanation for this dramatic increase in referred cases during February.

### Outpatient Caretaker Interviews

In addition to the record review, surveyors also interviewed 134 caretakers that were present in the OPD on the day of the survey. Only two of the 134 had been referred to another site (referral rate of 2%). The mother

**Figure 5–3. Distribution of Referrals by Age and Gender**



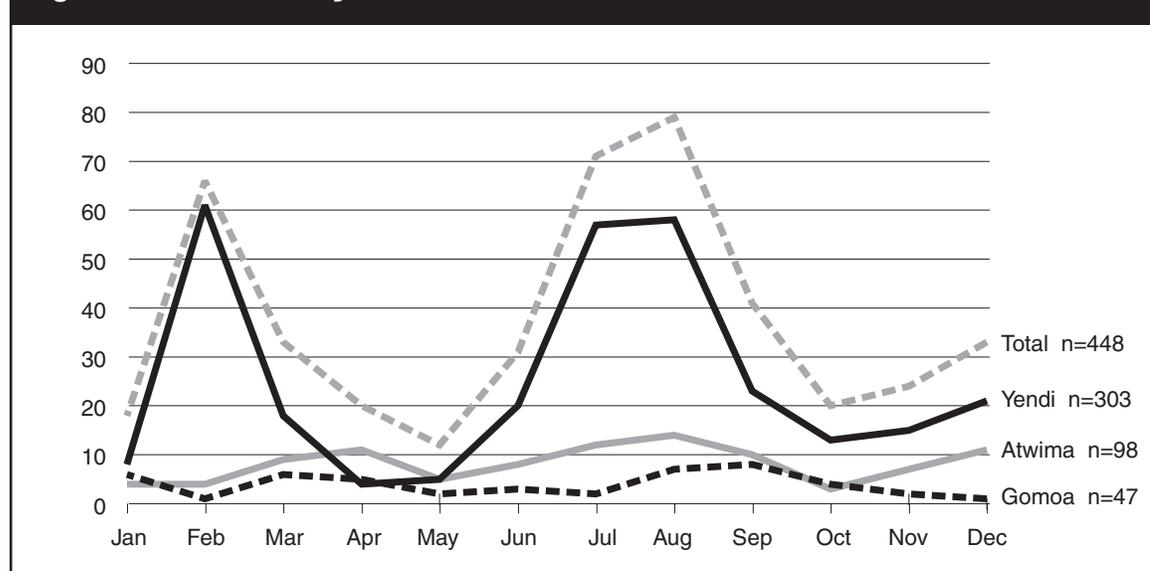
was the principal caretaker in 93% of cases, and the father was present in 6% of cases (10% in Yendi, 7% in Gomoa, and none in Atwima). Both parents were present in 3% of cases. The median age of the child was 11 months (range: less than 1 month to 56 months), and 54% of the children were male. The median time it took caretakers to reach the facility was 45 minutes (range: 2 minutes to 5½ hours). This ranged from a median time of 30 minutes in Atwima and Gomoa to 60 minutes in Yendi (not statistically significant). Half of the caretakers walked; 37% used the bus. The mean cost of transportation to and from the facility was 5,285 cedis (approximately \$0.63). Once they arrived at the facility, caretakers spent a median time of one hour (mean=77.25 minutes) waiting to see a health provider in health centers compared with 2½ hours waiting at hospitals (mean=143.15 minutes,  $t_{STAT}=4.9556$ ,  $p=.0000$ ). There was a statistically significant difference in the mean time spent waiting in the OPD in Atwima (109.65 minutes), Gomoa (71.70 minutes), and Yendi (102.25 minutes) districts ( $F_{STAT}=3.5330$ ,  $p=.0320$ ).

The median time caretakers took from noticing the illness to seeking help at the facility was three days. One-third of

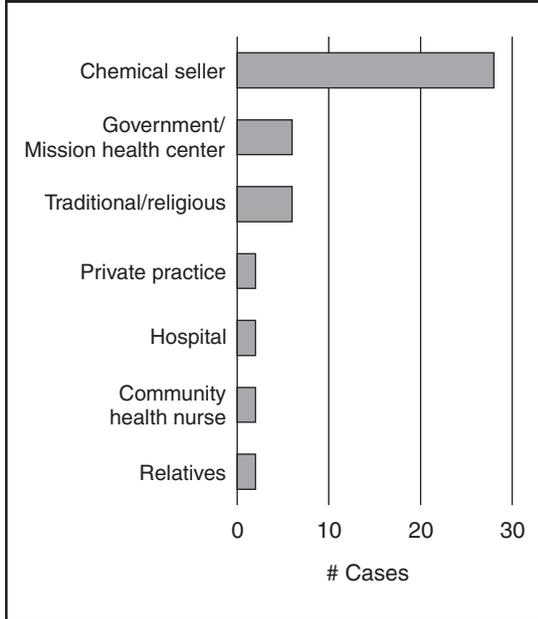
caretakers (34%) sought care from someone else before coming to the facility. There was no statistically significant difference in previous care-seeking by the child's age or sex. Figure 5–5 shows that care was predominantly sought from chemical sellers, followed equally by health centers and religious/traditional providers. Caretakers were asked how easily they were able to gather the money needed to seek care at the health facility. There was no statistically significant association between the ease of gathering funds and previous care-seeking. Only seven out of the 45 cases who sought care previously were referred to the facility (three of the seven cases were referred by chemical sellers). Of the caretakers interviewed at referral sites, only one out of 34 (3%) had been referred. The remaining 33 cases were self-referred to the referral site.

Caretakers were asked whether there were other facilities or providers that were closer to their homes where they could have sought help. Over half (56%) said that another provider was closer. These closer providers were primarily chemical sellers and private practitioners, although a significant number mentioned other health centers and hospitals (28% and 17%, respectively). Figure 5–6

**Figure 5–4: Referrals by Month and District for 2002**



**Figure 5–5. Place Where Care was Sought Before Coming to this Facility**



shows that when asked about their reasons for seeking help at the current facility, caretakers responded that they “always come here” (56%), “better care” (48%), and “proximity” (42%). Ninety percent of caretakers were “satisfied” or “very satisfied” with the quality of care they received. If their child did not improve, 92% of caretakers would return to the same facility.

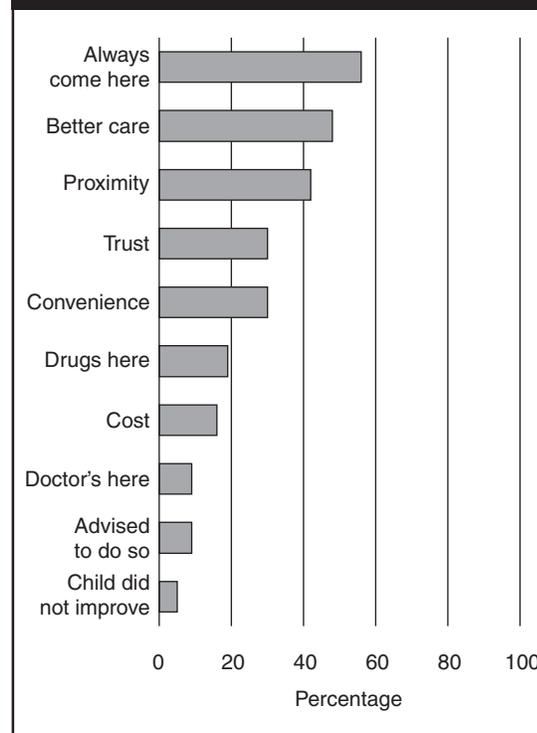
The primary presenting complaints of the children in the OPD were fever (74%), followed by diarrhea (41%), vomiting (35%), fast/difficulty breathing (31%), and not eating or drinking (17%). When asked if their child was referred today, would they be able to comply with the referral, 83% of caretakers said that they would. There was no statistically significant difference by the age or sex of the child. There was a statistically significant difference in caretaker’s ability to comply with referral by district, ranging from 100% in Atwima, 55.6% in Gomoa, and 95.8% in Yendi ( $\chi^2=38.2, p=.0000$ ). Of the 17% (22 cases) who said they would/could not comply, the principal problems mentioned

for non-compliance were costs not related to transportation (19 cases), transport costs (15 cases), and needing permission from family members (7 cases).

### Inpatient Caretaker Interviews

A total of 27 caretakers were interviewed in inpatient departments at four district hospitals. Of these children, 70% were male, which is considerably higher than the percentage referred from medical records, and the percentage obtained from the OPD caretaker interviews (52% and 54%, respectively). There was no statistically significant difference by district. The median age of the child was 10 months (range: 3 to 48 months). The children’s mean age ranged from 7.75 months in Atwima, 22.33 months in Gomoa, and 12.65 months in Yendi (not statistically significant). Ninety-three percent of the caretakers were mothers, and fathers were present in 19% of the cases (as compared with 6% in the OPD). Both parents

**Figure 5–6. Reasons for Coming to this Facility**



were present in 11.1% of cases. Similar to the OPD, the median time to reach the facility was 45 minutes (range: 3 minutes to 3 hours), and the main mode of transport was the bus (44%), followed by walking (37%). The median time of hospitalization was three days (range: 1 to 15 days). The three principal presenting complaints of the children who were in the IPD were vomiting, diarrhea, and fever, although many children had overlapping complaints. The median and mean time spent waiting to see a health provider was 75 and 78.52 minutes, respectively. There was a statistically significant difference in the mean time spent waiting by district, ranging from 51.25 minutes in Atwima, 19.17 minutes in Gomoa, and 105.88 minutes in Yendi ( $F_{STAT}=6.5734$ ,  $p=.0053$ ).

The most important finding in this part of the study is that overall, only 11% of inpatients had been referred. Caretakers waited three days before coming to the hospital, and 41% of inpatients had been seen previously by another provider. There was no statistically significant difference in the mean age or sex of the child for those who previously sought care. Figure 5–7 shows that health centers were the providers of choice. Of those who previously sought care, 27% had been referred to the hospital. Overall,

89% of inpatients had come to the hospital and were subsequently hospitalized without having been referred. When caretakers of children who were admitted were asked why they came to this hospital, the majority cited “better care,” “trust,” and “always come here.”

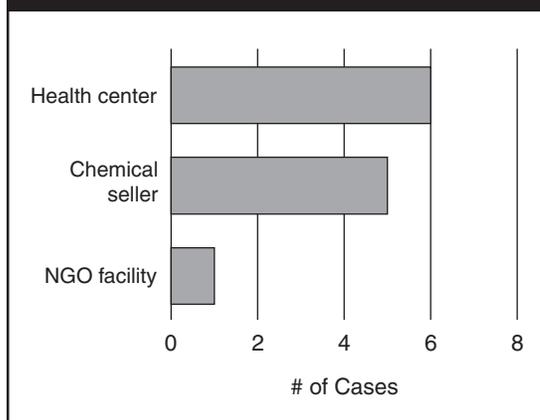
### Health Provider Interviews

Thirty-six providers were interviewed in referring facilities, and an additional four were interviewed in referral sites. Owing to the small number of providers in referral sites, the information contained in this section pertains to providers in referring facilities, unless otherwise specified. Thirty-three percent of the providers, mostly from the Atwima district, were trained in IMCI. Of these, 58% had received an IMCI follow-up visit, and 27% had received a supervisory visit in the past six months. This indicator is considerably lower than that reported in the 1998 Integrated Health Facility Assessment, where 84% of health workers had received a supervisory visit in the previous six months.<sup>27</sup> Providers in hospitals were primarily medical officers and medical assistants, whereas in health centers, the providers were mostly auxiliary nurses, followed by professional nurses, and then medical assistants.

Providers were asked about children they had seen and had referred in the previous month (December 2002). Table 5–2 describes the numbers of children seen, referred, accompanied, and given referral slips by type of facility. The provider referral rate was 2%. The principal causes for referral were severe anemia, anemia, malaria, ARI, and convulsions. Eighty-one percent of providers said that when they recommend referral, they emphasize the urgency of the situation with the caretaker, and 69% told the mother where to go, as well as provided general counseling. However, only 36% initiated treatment, and even fewer advised on feeding and keeping the child warm.

Eighty-three percent of providers thought the quality of care at the referral site was

**Figure 5–7. Place Where Care was Sought Before Coming to the Hospital**



**Table 5–2: Referrals Made in Previous Month**

<i>Indicator</i>	<i>Health Center</i>	<i>Hospital</i>	<i>Total</i>
Total Number of Visits in Previous Month	2,322	801	3,123
Number of Referrals	55	8	63
Number of Slips Given	44	8	52
Number Accompanied	3	3	6

“excellent” or “good.” Fifty-eight percent of providers at referring facilities and all of the providers at the referral hospitals (4) thought that cases with referral slips were given priority at the referral site. Forty-four percent of providers have ever received a feedback slip from the referral site. Only one out of four providers at the referral site regularly complete feedback slips.

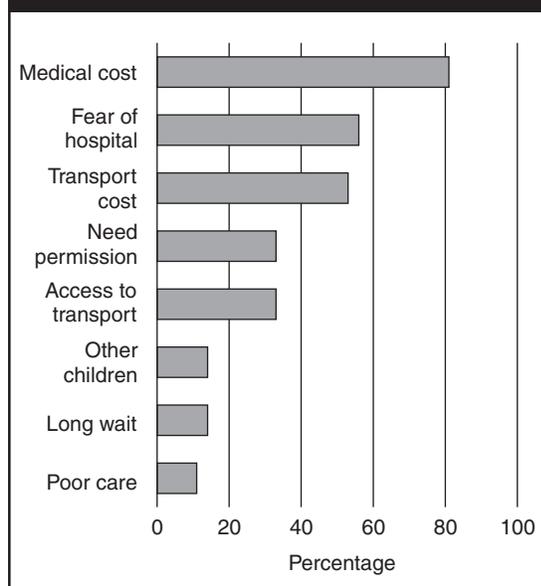
Sixty-seven percent of providers thought that accessing the referral site was “easy” or “possible.” There was a statistically significant difference in Atwima (50%), Gomoa (100%), and Yendi (33.3%) districts ( $\chi^2=15.3731$ ,  $p=.0040$ ). When asked about caretaker

compliance, providers thought that if they referred 10 children, eight of them would arrive at the referral site (compliance rate of 80%). For those caretakers not able to comply, providers thought the main barriers were cost and fear of the hospital (Figure 5–8). If caretakers are unable to comply, 67% of providers thought the child would be taken to a traditional healer, followed by 33% thinking the child would be treated at home.

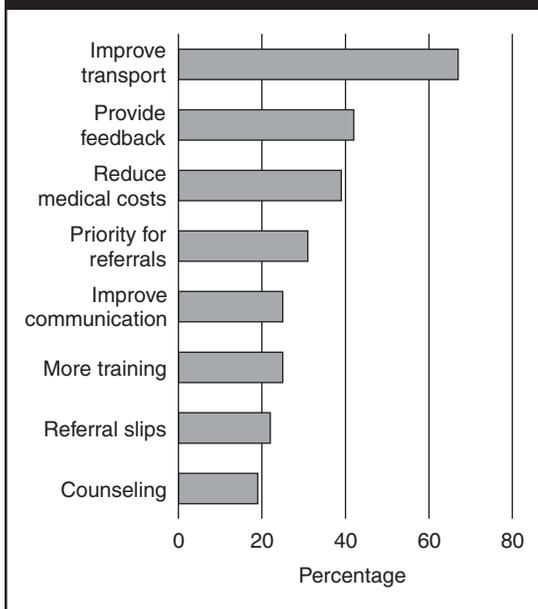
None of the 24 health centers where providers were interviewed or the three hospitals had a functional ambulance. Buses and taxis were available as alternate modes of transportation in over half of the facilities. The mean time to access the referral site was 37 minutes (34 minutes from health centers and 60 minutes from district hospitals). Overall, 56% of facilities had access to a means of communication—primarily telephone and Motorola cell phones. Thirty-seven percent of facilities (33% of health centers and 67% of hospitals) had designed their own referral slips for referring cases to the next level of care.

Figure 5–9 shows health provider recommendations for improving the referral care system. Thirty-six percent of providers at referring facilities thought that some conditions should be treated locally, instead of requiring referral: This varied by district, with 50% in Atwima, 7% in Gomoa, and 67% in Yendi. The principal conditions mentioned by these providers were severe malaria, dehydration, pneumonia, and anemia. One provider at the referral site also suggested that anemia be treated locally instead of being referred.

**Figure 5–8. Provider Opinion about Reasons for Caretaker Non-Compliance with Referrals**



**Figure 5–9. Provider Advice for Improving Referral**



### Focus Group Discussions

The mother’s age ranged between 17 and 53 years, with the majority of mothers in the 20–25 year (32%) and 26–30 year (25%) age groups. Seventeen percent of the mothers had no formal education, 33% had dropped out of school, and 50% had completed nine years of school.

The mothers in the FGDs appreciated the value of hospital services, particularly the use of laboratory and diagnostic services, which they saw as helping doctors with the diagnosis. One mother said, “It is at KATH where every good medicine can be found.”

However, the mothers were very bitter about the treatment received at the hospital. They considered hospitals “unfriendly” and as having “inhuman staff.” One mother said,

“Most of the children’s deaths are due to the doctors and nurses.” Specifically, mothers criticized health staff for collecting illegal fees. “They collect bribe and if you don’t give you don’t go. You will sit there and people will pass you.” Mothers also cited nepotism. “If you don’t know anybody, then you are doomed.” “If they know you, you go fast.” Several mothers mentioned health workers shouting at patients. “Some of them are not friendly. They shout at you and see you as a child.” Several mothers also mentioned discrimination. “Those of us from the village suffer most. If you are not dressed like people they will pass you.” “Some will even ask why you have dressed like you are from the farm.”

Constraints to referral included cost as a major factor. Availability of transport was important, particularly for mothers who live in rural areas. Spousal and familial permission was a greater issue in the north (Yendi), although some mothers dismissed this as no longer important.

The mothers had very concrete suggestions for improving referral. At the referring facility, they suggested that a referral slip be given with all the pertinent information, that someone from the facility accompanies the referred child to help the mother navigate the hospital, and that a vehicle or motorbike be available to help with transport.

At the hospital, mothers recommended that there be:

- Immediate or early attention for referred cases;
- A separate waiting/treatment room and staff for referrals;
- Provision for payment at the end of the stay and not in advance;
- Accommodation for mothers to stay with their child at the hospital; and
- Supportive hospital staff.

## Discussion and Recommendations

### Discussion of Indicators

**T**his study produces data around five key areas: (1) referral rates, (2) compliance rates, (3) barriers to compliance, (4) causes of referral, and (5) the use of referral slips. This section will summarize these areas by type of data collected in the study.

First and foremost is the referral rate. According to the record review, which provides the most reliable data, the referral rate is 0.9%. This is less than the 2% referral rate estimated by health providers when asked about referrals in the past month. When asked about having been referred by another provider, 3% of caretakers in the OPD had been referred, and only 11% of caretakers of children in the IPD had been referred.

NHMIS data from 2001 show 1,861,810 OPD visits nationwide for children less than five years of age. Field research studies using IMCI clinical guidelines have shown a referral rate of 7%–16%. If an approximate 10% referral rate is applied, there should be approximately 186,000 referrals in a one-year period. This study found a referral rate of 0.9%, which would equal 16,756 referrals or 169,425 “missed referrals.” This study found a compliance rate of 55%, which would imply 9,215 cases actually arriving at the hospital. A recent study in Uganda found a mortality rate of 5% for referred children who did not access the referral site. If a 5% mortality rate for referrals that do not arrive at the referral site is applied here, potentially thousands of children would not survive. Alternately, caretakers of severely ill children may be seeking care directly at tertiary hospitals, effectively bypassing lower level facilities. A population-based study would be required to gather this type of information.

The record review showed a 55% compliance rate (although the higher rate in Yendi has skewed the mean percentage). Even so, this rate is lower than the 80%

expected compliance rate estimated by health providers, and is lower than the 80% intended compliance rate given by caretakers.

When asked about barriers to compliance with referral, caretakers cited costs not related to transportation (medical care), transport costs, and need of permission from family members. Health providers thought the barriers were primarily cost and fear of the hospital. These constraints were echoed by the mothers in the FGDs, with the strong addition of poor treatment received at the hospital.

The principal causes of referral noted in the record review were feeding problems/ malnutrition, anemia, malaria/fever, convulsions, diarrhea, and URTI/ARI. When asked about referrals made in the previous month, health providers gave the causes of referral as severe anemia, anemia, malaria, ARI, and convulsions. Caretakers of admitted children cited the presenting complaints as vomiting, diarrhea, and fever.

According to the record review, 92% of cases that complied with referral arrived with a referral slip. When providers were asked about referrals made in the previous month, they said they gave a referral slip to 83% of cases. Due to the high use of referral slips at one facility in Yendi, the 83% figure is probably more representative of the actual situation. Fifty-eight percent of providers thought that cases with referral slips were given priority at the referral site. This would seem to contradict what the mothers said in the FGDs, however, as one of their recommendations was early or immediate

treatment for referrals at the hospital. Additionally, caretakers interviewed at the hospital spent a median time of two hours waiting to be seen by a health provider.

## **Issues with Data Collection**

### ***Lack of Uniformity in Record-Keeping and Reporting***

Records kept at the different levels of the health system varied considerably. The community clinic that was visited did not keep any information on referred cases. Most health centers and district hospitals kept patient registers and noted referrals. Although providers at four facilities visited in this study said they had made referrals, it was impossible to identify which children were referred. Where referrals were noted, it was not done consistently across facilities. Some facilities used a red pen to write “referred” in the OPD register, others used a black pen, and some facilities kept a separate book for information on referred children.

### ***Underestimation of Referrals***

Due to the problems in record-keeping, the referral rate may be underestimated. When providers told the surveyors that they were referring children, it was impossible to identify the children due to insufficient records, and therefore, these children were not captured in the record review.

### ***Underestimation of Compliance***

With the exclusion of private facilities, we may have missed the compliance of some referred cases at follow-up sites. This may have affected the compliance rate, particularly in the Atwima and Gomoa districts, where there are a wide variety of private facilities from which to choose. Additionally, there may have been problems with records at some of the referral sites. If a referred case arrives at the hospital once the OPD is closed, the child goes to the emergency room. If the child is admitted, the case could be traced in the inpatient ward. If,

however, the child was not admitted but released, it was sometimes not possible to track the arrival of the child at the hospital.

### ***External Validity***

Since a census was taken of all health facilities in three districts, the findings are applicable for caretakers seen in public health facilities in these districts. Since the districts were selected to represent the country’s three geographic regions, and encompass many of the country’s prominent ethnic groups, the findings may be generalizable to contingent districts that share these traits.

### ***Reliability of the Questionnaires***

Reliability was improved through observing the surveyors during the practical sessions held during the four-day training program. In addition, several questions were asked using scales with three to five response categories.

### ***Content Validity***

The validity of the questionnaires was improved through detailed review by members of the National Coordinating Group in Ghana, comprised of child health experts from the GHS, the World Health Organization (WHO), the United Nations Children’s Fund (UNICEF), and the Korle-Bu Teaching Hospital. The questionnaires were also reviewed in detail, question-by-question, by the survey teams during training.

### ***Recall Bias***

The recall bias for caretakers is minimal, focusing primarily on the child’s current illness. One set of questions, however, asked about an illness occurring in the previous three-month period, and whether it required referral. There were no affirmative responses to this question. Either the question was poorly understood, respondents could not recall the details of the illness, or there were no illnesses that required referral during this time period. Health providers were asked general questions and about events that occurred in the previous month.

### **Participation Bias**

All caretakers and health providers who were asked to participate in the study agreed to participate. Any clustering effect was minimized by including all caretakers of children less than five years of age seen in the OPD between 8:00 a.m. and 12:30 p.m., and all caretakers of children less than five years of age in the inpatient ward. All health providers at referring facilities who saw children less than five were included. At referral sites (n=4) one provider was selected to be interviewed.

### **Recommendations**

The following recommendations are made for action at the national level:

1. Develop a national level referral guideline to describe how the referral process should work. Most health workers are doing something with referred cases, but it is not standardized or consistent.
2. Develop a standard format for recording and reporting referrals at health centers and hospitals.
3. Produce a standard format for referral slips. Most health workers are completing referral slips of some kind, but they are usually writing varying information on blank pieces of paper. Formal referral slips are not usually available. Health workers should be reminded that although consultation information should be recorded on the Child Health Records, a separate referral slip is still necessary. The IMCI referral slip could be adopted nationally and made available for use in all health facilities.
4. Examine patient flow at the hospital level to give priority to referred cases upon arrival. It was agreed that once a case reaches a consultation room, a referral would be given priority. Something needs to be done to triage the arrival of referred cases to allow them to bypass the standard OPD waiting time (two hours in this study).

5. Strengthen health workers' key referral actions and instructions through IMCI or other training. Only one-third of providers initiated treatment before sending the referred child to the hospital. IMCI introduces clearer recommendations for referral and highlights pre-referral actions and messages. IMCI training should be accelerated.
6. Continue expansion of Quality Assurance (QA). To address the concerns of mothers about hospital care, continue with the QA focus on client satisfaction and district-level coordination and management.
7. Re-examine the clinical guidelines for convulsions. Health providers should be able to treat convulsions locally without needing to refer. The higher-than-expected referral of cases with convulsions needs further examination.

The following recommendations are made for action at the district level:

1. Examine the capacities of district hospitals. In order to minimize further referrals, the capacities of providers and district hospital facilities should be reviewed to promote the local treatment of certain conditions. In this study, 161 of the 194 cases referred from the Church of Christ clinic arrived at the district hospital in Yendi. Of these, only 8.1% were admitted, implying that most of these cases should not have been referred.
2. Re-examine exemption policies/management to reduce the cost of medical services. The principal barrier to compliance with referral was the cost of medical services. The mean cost of medical services paid by caretakers at hospital OPDs was 18,503 cedis (range: 0 to 177,000 cedis), or USD \$2.20. The cost for transport and lodging was negligible. Caretakers of admitted children spent a mean of 26,104 cedis (range: 0 to 71,000 cedis), or USD \$3.11; when added to the cost of transport and lodging, caretakers

spent a mean total of 43,104 cedis (range: 0 to 108,000 cedis), or USD \$5.13. Certain hospitals have exemption policies in place to reduce medical costs, but policies may be enforced to differing degrees.

3. Discuss transport options. To help overcome the issue of the availability and cost of transport, discuss locally available options, involving the community, where possible, and linking with other programs (i.e., Safe Motherhood).
4. Monitor referrals. Advise hospitals to report on the number of referrals they receive and from which facilities. This information can be used in district planning and supervision activities.

Experience in other countries shows that compliance with referral may be increased with effective counseling (more in-depth counseling than what is found in the IMCI guidelines) and the use of referral slips. Counseling could be improved using a checklist or flowchart to discuss with the mother the issues she faces in complying with referral. Based on the mother's responses in the FGDs, health worker interpersonal communication skills, particularly at the hospital level, need to be strengthened for them to more effectively communicate key messages to mothers. Most health workers are already using some kind of referral slip. With a minimum investment, the use of these slips could be made more effective and standardized. More effectively using referral slips also offers one way of giving priority to referred cases once they arrive at the hospital.

## Notes

1. Ghana Ministry of Health. 2003. Summary of outpatient morbidity report for 8 regions—2001. Accra: Ghana Ministry of Health, Health Management Information System.
2. Kalter, H. D., J. A. Schillinger, M. Hossain, G. Burnham, S. Saha, V. deWit, et al. 1997. “Identifying sick children requiring referral to hospital in a developing country.” *Bulletin of the World Health Organization*. 75 Supplement(1):65–75.
3. Weber, M. W., E. K. Mulholland, S. Jaffar, H. Troedsson, S. Gove, and B. M. Greenwood. 1997. “Evaluation of an algorithm for the integrated management of childhood illness in an area with seasonal malaria in the Gambia.” *Bulletin of the World Health Organization*. 75 Supplement(1):25–32.
4. Perkins, B. A., J. R. Zucker, J. Otieno, H. S. Jafari, L. Paxton, S. C. Redd, et al. 1997. “Evaluation of an algorithm for integrated management of childhood illness in an area of Kenya with high malaria transmission.” *Bulletin of the World Health Organization*. 75 Supplement(1):33–42.
5. Simoes, E. A., T. Desta, T. Tessema, T. Gerbresellassie, M. Dagneu, and S. Gove. 1997. “Performance of health workers after training in Integrated Management of Childhood Illness in Gondar, Ethiopia.” *Bulletin of the World Health Organization*. 75 Supplement(1):43–53.
6. World Health Organization. 1997. “World Health Organization/UNICEF Initiative: Integrated Management of Childhood Illness.” *Bulletin of the World Health Organization*. 75 Supplement(1):122.
7. Ibid.
8. Kalter, H. D., et al. 1997. “Identifying sick children requiring referral to hospital in Bangladesh.” *Bulletin of the World Health Organization*. 75 (Supplement 1):65–75.
9. Mwabu, G. 1989. “Referral systems and health care seeking behavior of patients: An economic analysis.” *World Development*. 17(12):85–92.
10. Bapna, J. S., D. Tekur, S. C. Pradham, and C. H. Shashindran. 1991. “Why patients prefer referral hospitals.” *World Health Forum*. 12(3):344–345.
11. Font, F., L. Quinto, H. Masanja, R. Nathan, C. Ascaso, C. Menendez, M. Tanner, J. Armstrong Schellenberg, and P. Alonso. 2002. “Paediatric referrals in rural Tanzania: The Kilombero District Study—A Case Series.” *BMC International Health and Human Rights*. 2:4.
12. Atkinson, S., A. Ngwengwe, M. Macwan’gi, T. J. Ngulube, T. Harpham, and A. O’Connell. 1999. “The referral process and urban care in sub-Saharan Africa: The case of Lusaka, Zambia.” *Social Science and Medicine*. 49(1):27–38.
13. Kloos, H. 1990. “Utilization of selected hospitals, health centres, and health stations in central, southern, and western Ethiopia.” *Social Science and Medicine*. 31(2):101–114.
14. Ohara, K., V. Melendez, N. Vehara, and G. Ohi. 1998. “Study of a patient referral system in the Republic of Honduras.” *Health Policy and Planning*. 13(4):433–445.
15. Tulloch, J. 1997. *Report on a visit to the ARI Impact Demonstration Project, Kidiri sub-district, Lombok, Indonesia, 15–17 October 1987*. Geneva: World Health Organization.
16. Sauerborn, R., I. Ibrango, A. Nougbara, M. Borchert, M. Itien, J. Benzler, E. Koob, and H. J. Diesfeld. 1994. “The economic costs of illness for rural households in Burkina Faso.” *Tropical Medicine and Parasitology*. 46(1):54–60.
17. Font, F., Ibid.
18. Peterson, S., J. Nsungwa-Sabiiti, W. Were, X. Nsabagasani, G. Magumba, J. Namboze, and G. Mukasa. 2003. *Coping with pediatric referral—Ugandan parents’ experience (Draft)*. Kampala: Uganda Ministry of Health.
19. Salgado, R., M. Mehari, D. Wendo, and M. Choi. 2002. *The status of referral in Eritrea: Analysis of referral pathways in children under five*. Arlington, VA: John Snow, Inc.

20. Peterson, S., Ibid.
21. Djokoto, E. 1998. Effect of referral on deaths from cholera. *World Health Forum*. 19(2):158.
22. Nordberg, E., S. Holmberg, and S. Liugu. 1996. "Exploring the interface between first and second level of care: Referrals in rural Africa." *Tropical Medicine and International Health*. 1(1):107–111.
23. Peterson, S., Ibid.
24. Kalter, H., L. Moulton, R. Black, R. Salgado, A. Contreras, P. Nieto, and M. L. Egas. 2001. *Referral constraining factors: Imbabura, Ecuador*. (Draft.) Arlington, VA: BASICS II.
25. Murray, J, Bannerman, C, Sagoe-Moses, I, Kamphorst, M. "Integrated Health Facility Assessment Using Local Data to Improve the Quality of Child Care at Health Facilities in Ghana." *Ghana Ministry of Health/BASICS Project*, 1998.
26. Peterson, S., Ibid.
27. Murray, J., Ibid.

Facility code: \_\_\_\_\_

# Annex A Study Instruments Instrument 1 Record Review (All Facilities)

Surveyor no. \_\_\_\_ Today's date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Type of facility: (1) Health Center (2) District Hospital (3) Regional Hospital  
 DD MM YY

Name of facility: \_\_\_\_\_  
 Type of person in charge of facility: \_\_\_\_\_ (medical officer, professional nurse, medical assistant, nurse auxiliary, community health officer)

District: \_\_\_\_\_ Sub-district: \_\_\_\_\_ Estimated **whole** population served by the facility: \_\_\_\_\_

Nearest referral facility: \_\_\_\_\_ (outside district) Estimate of distance : \_\_\_\_\_  
 Estimate of time: (minutes) \_\_\_\_\_ (**circle**) vehicle, motorbike, bicycle, walking, other

Data source (**circle**): monthly statement of outpatients/ consulting room register/ OPD card/ administrative register/ referral book/ other

# of <5s seen in last 12 months: J \_\_\_\_ F \_\_\_\_ M \_\_\_\_ A \_\_\_\_ M \_\_\_\_ J \_\_\_\_ J \_\_\_\_ A \_\_\_\_ S \_\_\_\_ O \_\_\_\_ N \_\_\_\_ D \_\_\_\_ TOTAL: \_\_\_\_\_

# referred: J \_\_\_\_ F \_\_\_\_ M \_\_\_\_ A \_\_\_\_ M \_\_\_\_ J \_\_\_\_ J \_\_\_\_ A \_\_\_\_ S \_\_\_\_ O \_\_\_\_ N \_\_\_\_ D \_\_\_\_ TOTAL: \_\_\_\_\_

#	Child's name	Card no.	Age Months Days	Sex M/F	Village	Date of ref	Causes of referral (from record)	Ref to HC/HO (name)
						____ / ____ / ____ DD MM YY	1. 2. 3.	
	Comply Y/N and Date	Arrive with referral slip Y/N	Diagnosis	Adm Y/N	2 <sup>nd</sup> referral Y/N	Causes of 2 <sup>nd</sup> referral	Refer to HO (name)	Comply Y/N and Date Slip Y/N
	____ / ____ / ____ DD MM YY					1. 2. 3.		____ / ____ / ____ DD MM YY Slip Y/N

Facility code: \_\_\_\_\_

#	Child's name	Card no.	Age Months Days	Sex M/F	Village	Date of ref DD / MM / YY	Causes of referral (from record) 1. 2. 3.	Ref to HC/HO (name)
	Comply Y/N and Date DD / MM / YY	Arrive with referral slip Y/N	Diagnosis	Adm Y/N	2 <sup>nd</sup> referral Y/N	Causes of 2 <sup>nd</sup> referral 1. 2. 3.	Refer to HO (name)	Comply Y/N and Date Slip Y/N DD / MM / YY

#	Child's name	Card no.	Age Months Days	Sex M/F	Village	Date of ref DD / MM / YY	Causes of referral (from record) 1. 2. 3.	Ref to HC/HO (name)
	Comply Y/N and Date DD / MM / YY	Arrive with referral slip Y/N	Diagnosis	Adm Y/N	2 <sup>nd</sup> referral Y/N	Causes of 2 <sup>nd</sup> referral 1. 2. 3.	Refer to HO (name)	Comply Y/N and Date Slip Y/N DD / MM / YY

## Instrument 2 Caretaker Interview (Outpatient/Inpatient)

Surveyor no. \_\_\_ Today's date: \_\_\_ / \_\_\_ / \_\_\_  
DD MM YY

Type of facility: (1) Health Center (2) District Hospital (3) Regional Hospital

Facility code: \_\_\_ Name of facility: \_\_\_\_\_ District: \_\_\_\_\_

Sub-district: \_\_\_\_\_

Child's name: \_\_\_\_\_ Age: (months/days) \_\_\_\_\_ Sex: (1) M (2) F

Caretaker's address: Village: \_\_\_\_\_ District: \_\_\_\_\_

Sub-district: \_\_\_\_\_

- A. Caretaker Name \_\_\_\_\_
- B. Relationship: **(Circle)** a. Mother b. Father c. Relative d. Other: \_\_\_\_\_
- C. Record the child's presenting complaint: **(Circle all that apply.)**
- |   |                          |
|---|--------------------------|
| a. Diarrhea/dehydration                     | h. Vomiting              |
| b. Bloody stool                             | i. Vomiting everything   |
| c. Fever/malaria                            | j. Anemia/malnutrition   |
| d. Convulsions                              | k. Measles               |
| e. Fast/difficult breathing/cough/pneumonia | l. Ear problem           |
| f. Lethargy                                 | m. Other, specify: _____ |
| g. Not eating/drinking anything             |                          |
- D. Is the child hospitalized? (1) Yes. How many days? \_\_\_\_\_ (2) Not hospitalized

- 
1. "How far back did you first notice that <<CHILD>> was sick?" Days \_\_\_\_\_
2. "Have you sought help for <<CHILD>> from **somewhere else** for the current problem?"
1. Yes
  2. No **—————> (IF "NO"—GO TO 3)**

2.1 If “Yes,” ask: “Where was the child seen?” (**Mark all that apply.**)

WHERE	How many days back?
a. Hospital	
b. Health Center–MOH	
c. Community health nurse	
d. Private practitioner	
e. Community-based agent	
f. NGO facility	
g. Drug vendor/chemical seller/pharmacy	
h. Religious leader	
i. Traditional healer	
j. Other, specify:	

2.2 “Did **any** provider tell you to bring the child here to this facility?”

1. Yes \_\_\_\_\_ Which provider? (**INSERT LETTER FROM 2.1**) \_\_\_\_\_  
 2. No **—————>** (**IF “NO”—GO TO 3**)

2.2.1 “When did the health provider tell you to bring the child here?”

**(Prompt the caretaker.)**

- a. Immediately or same day  
 b. If the child gets sicker  
 c. Didn’t specify  
 d. Don’t remember

2.3 “Were you given a referral slip by the health provider?”

1. Yes  
 2. No **—————>** (**IF “NO”—GO TO 3**)  
 88. Don’t know **—————>** (**IF “DON’T KNOW”—GO TO 3**)

2.3.1 “Did you give the referral slip to the health worker?”

1. Yes  
 2. No, “Why not?” \_\_\_\_\_

3. “What transport did you use to get here?” (**Circle all that apply.**)

- a. Bus/mini-bus                      f. Walked  
 b. Ambulance/facility vehicle    g. Animal/cart  
 c. Taxi                                    h. Boat  
 d. Private car                         i. Bicycle  
 e. Motorbike                          j. Other, specify:

4. “How long did it take you to get here from your home?”                      Minutes \_\_\_\_\_

5. “How much money will you have spent to come here and return to your home on:

**(Prompt the caretaker.)**

- a. transportation                      Cedis \_\_\_\_\_  
 b. lodging/food                         Cedis \_\_\_\_\_  
 c. medical services (consultation, admission, drugs, etc.)?                      Cedis \_\_\_\_\_

**TOTAL: Cedis** \_\_\_\_\_

Questionnaire code: \_\_\_ / \_\_\_

5.1 "How were you able to gather this money?" (*Prompt the caretaker.*)

- a. Very easily
- b. Easily
- c. Somewhat easily
- d. With difficulty
- e. With a lot of difficulty

6. "How much time did you spend waiting before being seen by the health worker?"

Minutes \_\_\_\_\_

7. "Why did you choose to come to this facility (provider) at this time?"

(*Circle all that apply. PROBE: Is there another reason?*)

- a. Convenience
- b. Trust
- c. Cost
- d. Better care
- e. Always come here
- f. Closest facility
- g. Doctors are here
- h. Instructed to do so
- i. Child did not improve
- j. Drugs are here
- k. Other, specify: \_\_\_\_\_

8. "Are there other health providers/facilities that you could use that are closer to your community?"

- 1. Yes
- 2. No  $\longrightarrow$  (*IF "NO"—GO TO 9*)
- 88. Don't know  $\longrightarrow$  (*IF "DON'T KNOW"—GO TO 9*)

8.1 "What type of providers are closer to your community?"

(*Circle all that apply. PROBE: Is there anything else?*)

- a. Hospital
- b. Health center
- c. NGO facility
- d. Private practitioner
- e. Community-based health worker
- f. Traditional healer
- g. Drug seller/pharmacy/chemical seller
- h. Religious leader
- i. Other, specify: \_\_\_\_\_

8.2 "Of those providers, how much time does it take you to reach the closest provider?"

Minutes \_\_\_\_\_

9. "Has your child been referred to another facility today?"

- 1. Yes
- 2. No  $\longrightarrow$  (*IF "NO"—GO TO 10*)
- 3. Already hospitalized—Yes  $\longrightarrow$  (*IF "ALREADY HOSPITALIZED"—GO TO 10*)

9.1 "What was the diagnosis?" (*Circle all that apply.*)

- a. Diarrhea/dehydration
- b. Vomiting
- c. Fever/malaria
- d. Pneumonia
- e. Convulsions
- f. Lethargy
- g. Vomiting everything
- h. Not eating/drinking anything
- i. Anemia/malnutrition
- j. Measles
- k. Ear problem
- l. Other, specify: \_\_\_\_\_
- m. Wasn't told diagnosis
- n. Can't remember

9.2 “Where were you referred to?”

- a. Health center
- b. District hospital
- c. Regional hospital
- d. Private clinic
- e. Teaching hospital
- f. Other: \_\_\_\_\_

9.3 “Will going to the referral site be: (**Prompt the caretaker.**)

- a. Easy
- b. Possible
- c. Difficult
- d. Impossible?”

9.4 “Do you think referral is necessary for <<CHILD>>?”

- 1. Yes
- 2. No
- 88. Don’t know

9.5 “Will you be able to take the child to the referral site today?”

- 1. Yes → (**IF “YES”—GO TO 11**)
- 2. No
- 88. Don’t know

9.5.1 “What prevents you from taking the child to hospital today?”

- a. Non-transport costs
- b. Transport costs
- c. Distance
- d. Lack of transport
- e. Weather
- f. No drugs at referral site
- g. Other children to take care of
- h. Need permission from husband
- i. Bad experience there before
- j. Long waiting times
- k. Other, specify: \_\_\_\_\_

→ (**GO TO 11**)

10. “If you are told now to take your child to <<NAME OF NEAREST REFERRAL FACILITY>>, would you be able to do so?”

- 1. Yes → (**IF “YES”—GO TO 11**)
- 2. No
- 88. Don’t know

10.1 “What would be the reasons for not taking your child to

<<NAME OF NEAREST FACILITY>>?” (**PROBE: IS THERE ANY OTHER REASON?**)

- a. Non-transport costs
- b. Transport costs
- c. Distance
- d. Lack of transport
- e. Weather
- f. No drugs at referral site
- g. Other children to take care of
- h. Need permission from husband
- i. Bad experience there before
- j. Long waiting times
- k. Other, specify: \_\_\_\_\_

11. "In the last three months have you had a child under five years of age referred to another facility (provider)?"

1. Yes

2. No → (IF "NO"—GO TO 12)

88. Don't remember → (IF "DON'T REMEMBER"—GO TO 12)

11.1 "At that time were you able to take your child to that facility (provider)?"

1. Yes → (IF "YES"—GO TO 12)

2. No

88. Don't remember → (IF "DON'T REMEMBER"—GO TO 12)

11.2 "Why were you not able to take the child to the facility (provider) at that time?"

**(Circle all that apply.)**

a. Non-transport costs

g. Other children to take care of

b. Transport costs

h. Need permission from husband

c. Distance

i. Bad experience there before

d. Lack of transport

j. Long waiting times

e. Weather

k. Other, specify: \_\_\_\_\_

f. No drugs at referral site

12. "How do you feel about the care/treatment <<CHILD>> received today?"

**(Prompt the caretaker.)**

a. Very satisfied

b. Satisfied

c. Somewhat satisfied

d. Not satisfied at all

e. No opinion

13. "What improvements would you like to see or what else can be done for <<CHILD>>?"

---

---

**ASK ONLY OF OUTPATIENT**

14. "If <<CHILD>> does not get better, what will you do?" **(Circle all that apply.)**

a. Return to this facility

b. Go to another facility/provider

c. Go to a private clinic/private practitioner

d. Go to a traditional healer

e. Self-medicate

f. Don't know

g. Other, specify:

**Thank you for your cooperation and for your time. Your participation will help the Ghana Health Services to improve care for children in your community.**

## Instrument 3 Health Provider Interview (Outpatient–Referring Facility)

Surveyor no. ___ Today's date: ___ / ___ / ___ <div style="text-align: center; margin-left: 100px;">                     DD    MM    YY                 </div>
Type of facility: (1) Health Center    (2) District Health    (3) Regional Hospital
Name of facility : _____ District: _____
Sub-district: _____

**Instructions: Check that the health worker has worked in this facility over the last month.**

- A. Record type of health worker:
- a. Medical officer
  - b. Professional nurse
  - c. Medical assistant
  - d. Auxiliary nurse
  - e. Community health officer (CHO)
  - f. Other, specify: \_\_\_\_\_

1. "Are you trained in IMCI?"
  1. Yes
  2. No **→ (IF "NO"—GO TO 2)**
    - 1.1 If "Yes," ask: "How far back were you trained?"                      Months \_\_\_\_\_
    - 1.2 "Did someone (trainer, supervisor) provide specific follow-up for your IMCI training?"
      1. Yes
      2. No
      88. Don't remember
2. "How long have you worked here with children <5?"                      Months \_\_\_\_\_  
**(IF LESS THAN 6 MONTHS—GO TO 3)**
  - 2.1 "In the last six months has someone supervised your care of sick children (other than an IMCI follow-up visit)?"
    1. Yes
    2. No
    88. Don't remember
3. "In December 2002 how many sick children <5 years of age have you seen?"  
**Check register for that health worker, if possible.**

First visits \_\_\_\_\_  
 Re-visits    \_\_\_\_\_  
**Total**                      \_\_\_\_\_  
**(IF "0"—GO TO 4)**

Questionnaire code: \_\_\_ / \_\_\_

3.1 "How many of these sick children did you refer?"

(IF "0"—GOTO 4)

3.1.1 "Why did you refer these children?" (**Record ALL responses.**)

- Referred child 1: \_\_\_\_\_
- Referred child 2: \_\_\_\_\_
- Referred child 3: \_\_\_\_\_
- Referred child 4: \_\_\_\_\_
- Referred child 5: \_\_\_\_\_
- Referred child 6: \_\_\_\_\_
- Referred child 7: \_\_\_\_\_
- Referred child 8: \_\_\_\_\_
- Referred child 9: \_\_\_\_\_
- Referred child 10: \_\_\_\_\_

3.1.2 "Of the children that you referred how many did you give a referral slip to?" \_\_\_\_\_

3.1.3 "Of the children you referred, how many did you or someone from here accompany?" (number) \_\_\_\_\_

3.1.4 "Were there situations when the caretaker told you s/he could not go?"

- 1. Yes "HOW MANY?" \_\_\_\_\_
- 2. No  $\longrightarrow$  (IF "NO"—GOTO 4)
- 3. Don't remember  $\longrightarrow$  (IF "DON'T REMEMBER"—GOTO 4)

3.1.4.1 "What did you do in those situations?" \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. "To what facility do you usually refer cases?" \_\_\_\_\_

5. "What is your opinion of the care provided at the referral site?" (**Prompt the health provider.**)

- a. Excellent
- b. Good
- c. Poor
- d. Very poor
- e. No opinion

6. "Does this facility have its own functional ambulance available for referral cases?"

- 1. Yes  $\longrightarrow$  (IF "YES"—GOTO 7)
- 2. No

6.1. "What other types of transportation are available for referral?" (**Circle all that apply.**)

- a. Bus/minibus
- b. Facility vehicle
- c. Taxi
- d. Private car
- e. Motorbike
- f. Boat
- g. Bicycle
- h. Other, specify: \_\_\_\_\_

7. "In your opinion, how is it to get to the referral facility from here?"  
**(Prompt the health provider.)**
- Easy
  - Possible
  - Difficult
  - Impossible
8. "Does this facility have a means of communication?"
- Yes
  - No **—————▶ (IF "NO"—GO TO 9)**
- 8.1 *If "Yes,"* What type of communication is available? **(Circle all that apply.)**
- Phone
  - Motorola
  - Fax
  - Other, specify: \_\_\_\_\_
9. If you were to refer 10 children, how many of them do you think will actually go to the referral facility?"
- (number) \_\_\_\_\_
10. "What instructions do you give the caretaker when the child is referred to assure that s/he will go to the referral facility?"  
**(Circle all that apply. PROBE: Is there anything more?)**
- |  |                                     |
|--|-------------------------------------|
| a. Name and location of facility           | f. Tell mother to keep child warm   |
| b. Who to contact at the referral facility | g. Start treatment                  |
| c. When to go                              | h. Continue feeding (breastfeeding) |
| d. Emphasize the urgency of the referral   | i. Other, specify: _____            |
| e. General counseling                      |                                     |
11. "In your opinion, what are the reasons why referred cases sometimes do not make it to the facility?" **(Circle all that apply. PROBE: Are there any other reasons? If "Cost," ask about type of costs.)**
- |  |                                   |
|--|-----------------------------------|
| a. Cost of transport                         | f. Weather                        |
| b. Cost of medical care at the referral site | g. Other children to take care of |
| c. Long waiting lines at referral site       | h. Need permission from husband   |
| d. Perceived poor care at referral site      | i. No opinion                     |
| e. Problems with transportation              | j. Other, specify: _____          |
12. "When a caretaker cannot comply with the referral, what do you think the caretaker will do?"
- Child is treated in same facility
  - Child is taken to a private clinic/private practitioner
  - Child is taken to a traditional healer
  - Child is taken to a religious leader
  - Caretaker treats at home
  - Don't know
  - Other: \_\_\_\_\_

13. "Are there conditions that currently require referral that you think should be handled in this facility?"
1. Yes, "Which ones": \_\_\_\_\_
  2. No
  88. Don't know
14. "How frequently do you receive counter-referral/feedback slips for the children you refer?" **(Prompt the health provider.)**
- a. Always
  - b. Often
  - c. Sometimes
  - d. Never
15. "To your knowledge, are children who arrive with a referral slip at the referral facility given priority in the OPD?"
1. Yes
  2. No
  88. Don't know
16. "In your opinion, what needs to be done to improve referral?" **(Circle all that apply.)**
- |  |                                   |
|--|-----------------------------------|
| a. Provide feedback to referring facility  | f. Priority for referral patients |
| b. More training                           | g. Use of referral slips          |
| c. Improved transportation                 | h. Improved counseling            |
| d. Improved communication                  | i. Other, specify: _____          |
| e. Reduced medical costs at referral sites |                                   |
17. "Which of the following functions do you or someone else in this health facility **have the ability** to perform?" **(Check all.)**
- |  |         |        |
|--|---------|--------|
| 17.1 Prescribe and administer quinine                    | (1) Yes | (2) No |
| 17.2 Prescribe and administer diazepam                   | (1) Yes | (2) No |
| 17.3 Prescribe and administer injectable chloramphenicol | (1) Yes | (2) No |
| 17.4 Administer IM injections                            | (1) Yes | (2) No |
| 17.5 Administer IV injections                            | (1) Yes | (2) No |
| 17.6 Administer IV fluids                                | (1) Yes | (2) No |
| 17.7 Read a blood slide for malarial parasites           | (1) Yes | (2) No |
| 17.8 Perform a lumbar puncture                           | (1) Yes | (2) No |
| 17.9 Administer nasal suction                            | (1) Yes | (2) No |
| 17.10 Administer oxygen                                  | (1) Yes | (2) No |
| 17.11 Transfuse blood                                    | (1) Yes | (2) No |
| 17.12 Give intraosseous fluids (IV in bone)              | (1) Yes | (2) No |
| 17.13 Pass a nasogastric tube                            | (1) Yes | (2) No |
| 17.14 Give food or fluids by nasogastric tube            | (1) Yes | (2) No |
| 17.15 Incise abscesses                                   | (1) Yes | (2) No |

18. "Which of the following materials are available in the facility?"

***(Check all yourself! —Should be pediatric size.***

***One ampule/vial = "Yes." Check for drugs at dispensary.)***

18.1	Salter scale	(1) Yes	(2) No
18.2	Infantometer (toddler scale)	(1) Yes	(2) No
18.3	Thermometer	(1) Yes	(2) No
18.4	Suction pump	(1) Yes	(2) No
18.5	Oxygen cylinders	(1) Yes	(2) No
18.6	Refrigerator for the clinic	(1) Yes	(2) No
18.7	Refrigerator for EPI	(1) Yes	(2) No
18.8	Suction catheters	(1) Yes	(2) No
18.9	IV administration sets	(1) Yes	(2) No
18.10	IV canulas	(1) Yes	(2) No
18.11	Blood bank	(1) Yes	(2) No
18.12	Blood administration sets	(1) Yes	(2) No
18.13	Microscope	(1) Yes	(2) No
18.14	Slides for blood smears	(1) Yes	(2) No
18.15	Syringes (2 cc)	(1) Yes	(2) No
18.16	Needles	(1) Yes	(2) No
18.17	Lumbar puncture needle	(1) Yes	(2) No
18.18	Stains for blood film (giemsa, gram)	(1) Yes	(2) No
18.19	Steam inhalation machine	(1) Yes	(2) No
18.20	Nasal canulas	(1) Yes	(2) No
18.21	NG tube	(1) Yes	(2) No
18.22	Ambu bag	(1) Yes	(2) No
18.23	IV fluids	(1) Yes	(2) No
18.24	50% glucose	(1) Yes	(2) No
18.25	IV diazepam	(1) Yes	(2) No
18.26	IV chloramphenicol	(1) Yes	(2) No
18.27	IM benzatin penicillin	(1) Yes	(2) No
18.28	Crystalline penicillin	(1) Yes	(2) No
18.29	IV gentamicin	(1) Yes	(2) No
18.30	IV quinine	(1) Yes	(2) No
18.31	HIV test kit (A and B)	(1) Yes	(2) No
18.32	Referral slips	(1) Yes	(2) No



3.1 "How many of these children were referred by an outside provider?" \_\_\_\_\_  
(IF "0"—GO TO 4)

3.1.1 "How many of the children were referred by: (**Prompt the caretaker.**)

- a. An MOH facility \_\_\_\_\_
- b. NGO facility \_\_\_\_\_
- c. Private practitioner \_\_\_\_\_
- d. Community-based provider \_\_\_\_\_
- e. Traditional healer \_\_\_\_\_
- f. Don't know \_\_\_\_\_
- g. Other, specify: \_\_\_\_\_

3.1.2 "How many of the referred children were brought with a referral slip?" \_\_\_\_\_

3.1.3 "How many of the referred children were accompanied here by a health provider?" \_\_\_\_\_ (number) \_\_\_\_\_

3.1.4 "What were the classifications/diagnosis of all the referred children?"  
(**classification by current provider**)

- Referred Child 1: \_\_\_\_\_
- Referred Child 2: \_\_\_\_\_
- Referred Child 3: \_\_\_\_\_
- Referred Child 4: \_\_\_\_\_
- Referred Child 5: \_\_\_\_\_
- Referred Child 6: \_\_\_\_\_
- Referred Child 7: \_\_\_\_\_
- Referred Child 8: \_\_\_\_\_
- Referred Child 9: \_\_\_\_\_
- Referred Child 10: \_\_\_\_\_

3.1.5 "How many of the referred children you saw (with an IMCI classification) were eventually admitted here?" \_\_\_\_\_ (number) \_\_\_\_\_  
(**Emergency or ward = Admission**)

4. "In your opinion, what are the reasons why referred cases sometimes do not make it to this facility?" (**Circle all that apply. PROBE: Is there any other reason?**)

- a. Costs
- b. Problems with transportation
- c. Weather
- d. Other children to take care of
- e. Need permission from husband
- f. No opinion
- g. Other, specify: \_\_\_\_\_

Questionnaire code: \_\_\_ / \_\_\_

5. "In your opinion, the referrals of children under five you receive from health centers or other hospitals are mostly: (**Prompt the health worker.**) (**according to classification/ diagnosis**)
- Correctly referred
  - Sometimes correct/incorrect
  - Incorrectly referred
  - No opinion."
6. "Do you usually fill out counter-referral/feedback slips for children that are referred to you?"
- Yes
  - No
7. "To your knowledge, are referrals of children under five from HO/HC given priority in the OPD?"
- Yes
  - No
  88. Don't know
8. "Are there referral classifications that you think don't need to be referred and could be treated locally?"
- Yes "Which ones and why?" \_\_\_\_\_
  - No
  88. Don't know
9. "In your opinion, what needs to be done to improve referral?"
- 
10. "Which of the following functions do you or someone in this health facility **have the ability** to perform?"
- |  |         |        |
|--|---------|--------|
| 10.1 Prescribe and administer quinine                    | (1) Yes | (2) No |
| 10.2 Prescribe and administer diazepam                   | (1) Yes | (2) No |
| 10.3 Prescribe and administer injectable chloramphenicol | (1) Yes | (2) No |
| 10.4 Administer IM injections                            | (1) Yes | (2) No |
| 10.5 Administer IV injections                            | (1) Yes | (2) No |
| 10.6 Administer IV fluids                                | (1) Yes | (2) No |
| 10.7 Read a blood slide for malarial parasites           | (1) Yes | (2) No |
| 10.8 Perform a lumbar puncture                           | (1) Yes | (2) No |
| 10.9 Administer nasal suction                            | (1) Yes | (2) No |
| 10.10 Administer oxygen                                  | (1) Yes | (2) No |
| 10.11 Transfuse blood                                    | (1) Yes | (2) No |
| 10.12 Give intraosseous fluids                           | (1) Yes | (2) No |
| 10.13 Pass a nasogastric tube                            | (1) Yes | (2) No |
| 10.14 Give food or fluids by nasogastric tube            | (1) Yes | (2) No |
| 10.15 Incise abscesses                                   | (1) Yes | (2) No |

## 11. "Which of the following materials are available in the facility?"

**(Check all—Should be pediatric size. Note: one ampule/vial = Yes.)**

- |       |                                      |         |        |
|-------|--------------------------------------|---------|--------|
| 11.1  | Salter scale                         | (1) Yes | (2) No |
| 11.2  | Infantometer (toddler scale)         | (1) Yes | (2) No |
| 11.3  | Thermometer                          | (1) Yes | (2) No |
| 11.4  | Suction pump                         | (1) Yes | (2) No |
| 11.5  | Oxygen cylinders                     | (1) Yes | (2) No |
| 11.6  | Refrigerator for the hospital        | (1) Yes | (2) No |
| 11.7  | Refrigerator for EPI                 | (1) Yes | (2) No |
| 11.8  | Suction catheters                    | (1) Yes | (2) No |
| 11.9  | IV administration sets               | (1) Yes | (2) No |
| 11.10 | IV canulas                           | (1) Yes | (2) No |
| 11.11 | Blood bank                           | (1) Yes | (2) No |
| 11.12 | Blood administration sets            | (1) Yes | (2) No |
| 11.13 | Microscope                           | (1) Yes | (2) No |
| 11.14 | Slides for blood smears              | (1) Yes | (2) No |
| 11.15 | Syringes (2 cc)                      | (1) Yes | (2) No |
| 11.16 | Needles                              | (1) Yes | (2) No |
| 11.17 | Lumbar puncture needle               | (1) Yes | (2) No |
| 11.18 | Stains for blood film (giemsa, gram) | (1) Yes | (2) No |
| 11.19 | Steam inhalation machine             | (1) Yes | (2) No |
| 11.20 | Nasal canulas                        | (1) Yes | (2) No |
| 11.21 | NG tube                              | (1) Yes | (2) No |
| 11.22 | Ambu bag                             | (1) Yes | (2) No |
| 11.23 | IV fluids                            | (1) Yes | (2) No |
| 11.24 | 50% glucose                          | (1) Yes | (2) No |
| 11.25 | IV diazepam                          | (1) Yes | (2) No |
| 11.26 | IV chloramphenicol                   | (1) Yes | (2) No |
| 11.27 | IM benzatin penicillin               | (1) Yes | (2) No |
| 11.28 | Crystalline penicillin               | (1) Yes | (2) No |
| 11.29 | IV gentamicin                        | (1) Yes | (2) No |
| 11.30 | IV quinine                           | (1) Yes | (2) No |
| 11.31 | HIV test kit (A and B)               | (1) Yes | (2) No |
| 11.32 | Referral slips                       | (1) Yes | (2) No |

**Thank you for your participation!**

# Instrument 5

## Focus Group Discussion Guide

### Factors Constraining Adherence to Referral Advice for Severely Ill Children

What are the common illnesses that affect children (under 5yrs) in this community?

How do you determine that your child (under 5 years of age) is ill? What signs do you look for?

What do you do when your child (under 5 years of age) is ill?

Where in this community do you take your child (under 5 years of age) when s/he becomes ill?  
Where do you seek treatment?

What happens if the child does not get better after the first treatment?

How do you determine the child's illness is getting worse?

Where will your sick child be referred? Name the facility, hospital, or clinic. Any experiences to share?

What will deter you from taking your child to the hospital (call the name)?

- Staff behavior (be specific)

- Distance

- Cost of treatment

- Transport fare

- Spousal influence

- Family's and friends' influence

- Beliefs

When you finally get to the referred hospital, what do you expect from the hospital?

Generally, how do you want a severely ill child (under 5 years of age) to be handled at a hospital or clinic?



## Annex B

### Training Curriculum For Surveyors

<i>Day</i>		<i>Activities</i>	<i>Materials and Supplies</i>
1	Morning	<p><b>Opening</b></p> <ul style="list-style-type: none"> <li>■ Opening remarks</li> <li>■ Introduction of participants</li> <li>■ Administrative information</li> </ul> <p><b>General information</b></p> <ul style="list-style-type: none"> <li>■ Purpose of the study</li> <li>■ Training objectives</li> <li>■ Referral primer</li> <li>■ Study protocol and techniques</li> </ul> <p><b>The IMCI strategy</b></p> <ul style="list-style-type: none"> <li>■ What is IMCI</li> <li>■ Global review</li> <li>■ The IMCI guidelines: Causes for referral</li> </ul> <p><b>Where are we?</b></p>	<p><b>AV equipment</b></p> <ul style="list-style-type: none"> <li>Overhead projector (1)</li> <li>Transparencies (1 box)</li> <li>PowerPoint projector (1)</li> <li>Electrical connections for projector</li> <li>Small printer (1)</li> <li>Printer paper (1 ream)</li> <li>IMCI video (1)</li> <li>TV (1)</li> <li>VCR (1)</li> <li>Flipcharts (1)</li> <li>Masking tape (1)</li> <li>Color markers (1 set)</li> </ul> <p><b>Surveyor materials</b></p> <ul style="list-style-type: none"> <li>Clipboards</li> <li>Copies of instruments</li> <li>Pencils</li> <li>Pencil sharpener</li> <li>Notebook</li> <li>Erasers</li> <li>IMCI chart booklet</li> <li>OPD/Child health card</li> <li>Registers</li> <li>Informed consent card</li> <li>Surveyor guidelines</li> <li>Letter of introduction</li> <li>List of diagnostic codes</li> <li>Schedule of activities and logistical plan</li> <li>Bag for carrying surveys</li> <li>Box for storing surveys</li> <li>Envelopes for surveys</li> </ul>
	Afternoon	<p><b>Instrument 1: Record Review (All Facilities)</b></p> <ul style="list-style-type: none"> <li>■ Establishment of rules</li> <li>■ Review</li> <li>■ Reliability-checking</li> </ul> <p><b>Instrument 2: Caretaker Interview (Outpatient/Inpatient)</b></p> <ul style="list-style-type: none"> <li>■ Review</li> <li>■ Role play</li> <li>■ Translation</li> </ul> <p><b>Preparation for practice</b></p> <ul style="list-style-type: none"> <li>■ Work in clinic</li> <li>■ Informed consent</li> <li>■ Enrollment card</li> </ul> <p><b>Where are we?</b></p>	

<b>Training Curriculum For Surveyors (cont'd)</b>			
<b>Day</b>		<b>Activities</b>	<b>Materials and Supplies</b>
2	Morning	Morning practice in health center	<b>Other materials</b> Reliability forms IMCI wall charts Supplies for two tea breaks a day List of facilities to be surveyed
	Afternoon	<b>Debrief on morning practice</b> <b>Instrument 3: Health Provider Interview (Outpatient–Referring Facility)</b> <ul style="list-style-type: none"> <li>■ Review</li> <li>■ Role play</li> <li>■ Reliability-checking</li> </ul> <b>Instrument 4: Health Provider Interview (Outpatient at Referral Site)</b> <ul style="list-style-type: none"> <li>■ Review</li> <li>■ Role play</li> </ul> <b>Reliability-checking</b> <b>Preparation for practice</b> <b>Where are we?</b>	
3	Morning	Morning practice in health center	
	Afternoon	<b>Review of morning practice</b> <b>Review Instrument 1 (translation)</b> <b>Review Instruments 1, 2, 3, and 4</b> <b>Role play</b>	
4	Morning	Morning practice in health center	
	Afternoon	<b>Debrief on morning practice</b> <b>Team practice</b> <b>Final list of rules</b> <b>Administrative and logistical arrangements</b> <b>Team supervisors' meeting</b> <b>Planning of the logistics</b> <b>Where are we?</b> <b>Closing remarks</b>	

## Annex C

# Referral Assessment Surveyor Field Guide

### A. Summary

#### **Timeframe:**

- All caretaker interviews in the OPD should be between 8:00 a.m. and 12:30 p.m. every day; inpatient interviews can be done at any time during the day.
- Health provider interviews should be conducted at the end of their workday, not during consultation times.
- Compliance record review should be for only seven days after the referral was made.
- Health centers should be visited first (smaller/rural health centers initially)
- District hospitals should be visited next (within the same district first).
- Regional hospitals, if applicable, follow district hospitals.
- Teaching hospitals should be visited last.

All primary health facilities are referred to as health centers. To distinguish between health centers of differing complexities, information will be collected on the type of provider in charge of the facility (the one attending to sick children). Types of providers are:

- Physician;
- Professional nurse;
- Medical assistant;
- Midwife;
- Community health officer (CHO); and
- Nurse auxiliary.

#### **Health Center:**

At health centers you should do the following:

- 12-month record review—Instrument 1
- Caretaker interviews (outpatient)—Instrument 2
- Caretaker interviews (inpatient)—Instrument 2 (if the health center has inpatient)
- Health provider interviews—Instrument 3 (referring)

#### **District Hospital:**

At district hospitals (within the same district) you should do the following:

- 12-month compliance review—Instrument 1 (with information from health center)  
*To locate the children:*
  - Ask responsible person how to find the children
  - Check registration
  - Check inpatient registration
- 12-month record review—Instrument 1
- Caretaker interviews (outpatient)—Instrument 2
- Caretaker interviews (inpatient)—Instrument 2
- Health provider interviews in OPD—Instrument 3 (referring)
- Health provider interviews in OPD—Instrument 4 (referral)

#### **District Hospital (outside district, regional, and national teaching hospital):**

At these hospitals you should do the following:

- 12-month compliance review—Instrument 1 (with information from health center and district hospital)  
*To locate the children:*
  - Ask responsible person how to find the children
  - Check registration
  - Check inpatient registration

#### **Surveyor Packets:**

You should have the following in your packet (per team):

- Instrument 1 (X copies)
- Instrument 2 (X copies)
- Instrument 3 (X copies)
- Instrument 4 (X copies)
- Informed Consent Form
- Total list of facilities (1 copy)
- Chart of total list of referred children to be followed (1 copy—optional)

### **Role of the Supervisor:**

The supervisor is a member of the district team. His/her role is to:

1. Support the team throughout each stage of the field work;
2. Ensure completed (signed) informed consent forms are available for each caretaker interview;
3. Check all of the questionnaires daily to ensure they are complete;
4. Manage any changes in logistics to ensure that referral facilities are surveyed **AFTER** referring facilities;
5. Maintain contact with <<STUDY ORGANIZERS>> (daily, when possible); and
6. Collect all of the questionnaires and informed consent forms and deliver them to <<DESIGNATED LOCATION>>.

## **B. When You Arrive at the Facility**

1. **Introduce yourselves to the authorities, explain what you are doing, present your letters of introduction, and ask permission to proceed.** You may say something like this:

“We are with the Ghana Health Services, and we are conducting a study of what happens when children under five are referred. We will be visiting health facilities and hospitals here in this district. We will collect information on the number of referrals that are made from facilities, and we will also interview health workers and mothers who come to this facility. This is not an evaluation of your services. Rather, we are trying to understand how to improve compliance with referral by providers and caretakers.”

2. **Before you interview any caretaker or health provider, you should ask for her/his permission.** Remember, they have a right to refuse to participate. Make sure, especially with caretakers, that they understand what their participation means.

Before interviewing caretakers, you need to read the enclosed informed consent form to her/him. The form will describe the purpose of the study, as well as the potential risks and benefits for the caretaker to consider before deciding to participate. Once the caretaker’s questions have been answered and s/he agrees to participate, **you and a witness must sign the informed consent form, affirming that the caretaker has provided her/his consent.** You must read the entire form to the caretaker!

Before interviewing a health provider, you may say something like this:

“We are working with the Ghana Health Services, and we are conducting a study to improve the health services for children. The study involves that we ask you a few questions about the health services here. The interview will take only about 10 minutes. May we count on your participation?”

3. **Plan how you will proceed with the survey.** Normally, there will be a two-person team in each facility, occasionally accompanied by the team supervisor. Surveyor #1 will complete Instrument 1 (record review). Surveyor #2 will complete Instrument 2 (caretaker interview). The surveying team should decide which team member will apply Instruments 3 and 4 (health provider interviews), depending on who has more time available.

**Instrument Coding:** There are two codes that are essential for the questionnaires. These codes will be used in the analysis.

1. **Questionnaire code**—This is a four-digit code on Instruments 2, 3, and 4. The first two digits are always the facility code. The last two digits are either a child code (Instrument 2) or a provider code (Instruments 3 and 4).
2. **Facility code**—This code is a two-digit number located on the Total Facilities to be Surveyed form (see attached). This

code should be entered on Instruments 2, 3, and 4 in the upper right corner where it says “Questionnaire Code.” It is also entered on Instrument 1 in the upper right corner where it says “Facility Code.”

3. Child code—This is a two-digit code used to separate outpatient and inpatient children during the caretaker interviews. For caretakers of children in the outpatient department, the child code should be assigned in each facility between 01 and 20. Children in the inpatient department should be coded 21 to 40.
4. Provider code—This is a two-digit code used to identify the number of providers in each facility. In each facility, number the providers between 01 and 05.

*For example, if a surveyor is interviewing a caretaker in Sang health center OPD in Yendi district, the facility code would be 01. If this is the third caretaker interviewed this day, the child code would be 03. The questionnaire code, therefore, would be 01/03.*

### **C. Instrument 1: Record Review (All Facilities)**

REMEMBER: This is the most important instrument of all, so it should be filled out very carefully. This instrument is filled out in all facilities, including health centers and district, regional, and national hospitals. Each of the facilities you visit may have a different way of keeping the information of children that are seen there. You should ask the health workers in the facilities how they keep the records and ask their advice for the best way to obtain the necessary information. You need to obtain **ALL** of the referrals that occurred in the last 12 months.

In most health facilities, you should start with the monthly statement of outpatients for the total number of <5s seen each month. If this sheet is not available or if the information is confusing, you will need to count the number of <5s from the consulting room register. The monthly tally sheets should be checked for the number of

referrals of children <5. Then, the consulting room register needs to be checked to verify the information captured in the monthly tally sheet and to identify the individual children who were referred. If any information is missing, or if the entry looks doubtful, individual OPD records should be checked (for example, to provide the diagnosis). If there is a discrepancy between the number of referrals in the monthly tally sheet and those in the register, use the number in the register.

When checking at the hospital for children who were referred from a health center, in addition to looking at the OPD consulting room register, you will need to look for them in the records office register (in case they arrived to the inpatient department).

Before arriving at the facility, using available data, complete:

1. The estimation of the total population served by the facility;
2. Identification of the nearest referral facility (whether it is inside the district or not). If the nearest referral facility is outside of the district, circle “OD” for “outside district”; and
3. The facility code (from the Total Facilities to be Surveyed form).

In health centers you need to locate all the children that were referred to another level. At hospitals, and perhaps in certain health centers, you need to look for new children who were referred, as well as for children who were referred to that facility from another health facility that you previously visited. You will complete the information about compliance, presence of referral slip, diagnosis, and whether the child was admitted or not. In some cases, when the child is referred to a second facility, you will need to complete that section, too (second referral). At hospitals outside of the originating district, you only need to complete the last section of Instrument 1 for children who were sent from health centers or other hospitals.

**TYPE OF FACILITY:** When you arrive at a facility, you should ask the person in charge about his/her role, and if the person is a nurse, ask what kind of nursing training the person has had and classify the person either as a Professional Nurse or a Nurse Auxiliary. Professional nurses are defined as registered nurses. Auxiliary nurses are defined as enrolled nurses and community health nurses.

**DISTANCE TO REFERRAL FACILITY:** Distance to referral facility should be described in kilometers, only in .5 increments, for example: 1 km, 1.5 km, 2 km, etc.

**TIME TO REFERRAL FACILITY:** The estimated time to the referral facility should be gathered using the “most common mode of transportation.” Note the time in minutes and circle the appropriate category for the most common mode of transportation.

**CHILD’S NAME:** Write the child’s name as it appears on the patient register.

**AGE:** If the child is less than one month old, circle “Days” and write age in days. If the child is older than one month of age, circle “Mos” and write the age of the child in months.

**CARD NUMBER:** Mark down the child’s identification number recorded in the consulting room register.

**CAUSES OF REFERRAL:** Causes can usually be found on the consulting room register. If in doubt, you can consult the OPD card. If the cause is not known, mark “Unknown” on the recording form. The “causes of referral” should be written exactly as they are described in the form you are looking for. If you have any doubts, ask the health worker to explain.

**REFERRED TO:** Unless specific information is available, use the “nearest referral facility” as the default.

**COMPLY:** If YES, insert date, otherwise, circle “N.”

**ARRIVE WITH SLIP:** Ask at the facility what would be the best way to check for a referral slip. This may be located either in the child’s record, a referral file, or other location, depending on the facility.

**ADMITTED:** To check admission status, look at the inpatient register or the patient register.

**2<sup>ND</sup> REFERRAL COMPLY:** Enter date of compliance with second referral (from third facility). Circle Y or N if they arrived or didn’t arrive, respectively, with a referral slip.

## **D. Instrument 2: Caretaker Interview (Outpatient/ Inpatient)**

**REMEMBER:** This instrument is the same for outpatient and inpatient. It should be applied to all caretakers in all health centers and district hospital OPDs **between the hours of 8:00 a.m. and 12:30 p.m.** Given the amount of time needed for each interview, you will probably be able to complete no more than 10 per day. Interviews should be conducted with all caretakers of hospitalized children (inpatient) with any condition other than trauma/accident. If there are no caretakers that day, proceed with the rest of the survey (e.g., interview of provider, record review, etc.). Interviews should not be conducted with caretakers at regional hospitals, district hospitals outside of the original district, or at teaching hospitals. Where local language is more appropriate, ask the caretaker the questions in the local language, but record the answers in English. If necessary, hire a local interpreter.

Mothers should ideally be approached before they enter the consulting room, and the informed consent form should be read to them, and consent obtained. A witness must sign the informed consent form, affirming that the form was explained to the caretaker and that the caretaker provided consent. Once the

witness has signed, either ask the witness politely to leave, or pull the mother aside to speak to her privately. The interview should not be given with the witness listening. Before the caretaker enters the consulting room, besides the informed consent form, Instrument 2 can be completed through letter “D.” The rest of the interview should be completed after the caretaker leaves the consulting room and after s/he purchases medication from the dispensary.

For questions with no answer, you should write a line across like this: (—).

**CHILD’S AGE:** If the age of the child is less than one month, circle “days” and write the age in days. If the child is older than one month of age, circle “months” and write the age in months.

**RELATIONSHIP OF CARETAKER:** If more than one caretaker has accompanied the child, circle all that apply.

**D:** If the child is seen in the OPD, circle “Not hospitalized.” If the child is in the inpatient department, circle “Yes” and ask “how many days.”

**QUESTION 1:** If the caretaker noticed that the child was sick “today” and came to the facility “today,” enter “0.” If the caretaker noticed that the child was sick “yesterday” and came to the facility “yesterday,” enter “1,” etc.

**QUESTION 2.1:** If the answer is YES, you should always ask “which provider” and ask “how many days.” Community-based agents are agents working in the community, including disease surveillance volunteers, traditional birth attendants, growth promoters, community-based distributors, etc. Circle the letter of each provider and note the number of days back.

**QUESTION 6:** Try to verify the time spent waiting by asking the caretaker what time s/he arrived at the facility (as compared to the

time of the interview) and/or what time s/he left the house (as compared to the time spent traveling to the health facility).

**QUESTION 9:** If the child is referred today, at the end of the interview, counsel the caretaker on the importance of her/his going to the referral site. If necessary, assist with transportation for her/him to go.

**QUESTION 10.1:** If the caretaker mentions “cost,” probe to find out if the costs are related to transport or non-transport.

**QUESTION 11.2:** See comment for question 10.1.

### **E. Instrument 3: Health Provider Interview (Outpatient-Referring Facility)**

**REMEMBER:** This instrument is applied to all health workers seeing sick children in the outpatient service of each health center and district hospital. The interview will take 20–30 minutes, so you should interview the providers at the end of the consultation. Community health officers (part of CHPS) should also be interviewed to capture sick children seen and referrals made during outreach.

**QUESTION 1.2 and 2.1:** Question 1.2 refers specifically to follow-up for IMCI and should not be confused with a supervisory visit. Follow-up visits are only for health workers trained in IMCI and involve direct feedback to the health worker. A supervisory visit is defined as one in which the supervisor **observed** actual case management.

**QUESTION 3:** Make sure the health worker understands that you want to know how many were “first visits” and how many “re-visits.”

**QUESTION 3.1.1:** Record the diagnoses or classifications of all the children that were referred by the health worker you are

interviewing. **Do not interpret** the diagnosis; simply write it in the space provided the same way that the health worker mentions it.

QUESTION 3.1.2: A “referral slip” can be any paper with instructions given to the caretaker; it does not need to be a formal referral slip.

QUESTION 17: If the health worker says “No,” ask her/him if there is someone else at the facility who is able to perform the task.

QUESTION 18: If the health provider says “Yes,” ask to see each item to check if the equipment is present and functioning, and to ensure it is a pediatric device. You should ask about the medications at the dispensary, not with the health provider.

## **F. Instrument 4: Health Provider Interview (Outpatient At Referral Site)**

REMEMBER: This instrument is applied to one health provider who works in the facilities that receive referrals. At health centers and district hospitals you will need to ask if they receive referrals. In some health facilities, you may have to interview the provider with Instrument 3 and also with Instrument 4. Many of the questions in this instrument are similar to those in Instrument 3.

QUESTION 3: Make sure the health worker understands that the question refers to the last complete eight-hour shift (from 8:00 a.m. to 4:00 p.m.). This shift may have occurred the day before or three days ago, or even a month before. You are trying to get an estimate of his/her experience, so **you should not use the register**. The register will have information from many other health workers and that will be confusing.

## **G. Contact Information**

In case of any problems, contact <<STUDY ORGANIZERS>>.

If the field work is delayed, or if the return of the instruments is delayed for any reason, contact <<STUDY ORGANIZERS>> as soon as you know!

## **H. Returning the Instruments**

Each district team leader is responsible for ensuring that all of the completed questionnaires are returned to <<DESIGNATED LOCATION>>. Once they are complete, please call <<STUDY ORGANIZERS>> to confirm the transfer of the instruments, as per the instructions following each district.

Organize the instruments by facility, and then by instrument. For each facility, organize all of the Instrument 1s, then Instrument 2s, then Instrument 3s, then Instrument 4s.

<b>Total Facilities to be Surveyed</b>			
<i>District</i>	<i>Facility Code</i>	<i>Name of Facility</i>	<i>Type of Facility</i>
Yendi			
	01	Sang	Health center
	02	Adibo	Health center
	03	Jimle	Health center
	04	Bumbon	Health center
	05	Ngani	Health center
	06	Church of Christ	Health center
	07	Yendi Government Hospital	District hospital
	08	Tamale District Hospital	Teaching hospital
Atwima			
	09	Saakrom	Health center
	10	Abuakwa	Health center
	11	Akropong	Health center
	12	Barekese	Health center
	13	Asuofia	Health center
	14	Bayerebon	Health center
	15	Gyereso	Health center
	16	Ang. T. Dumase	Health center
	17	Ntuburo	Health center
	18	Nkawie	District hospital
	19	Nyinahin	District hospital
	20	Bibiani	Other hospital
	21	Suntreso	Other hospital
	22	KATH	Teaching hospital
	23	Children's Welfare Clinic	Other hospital
Gomoa			
	24	Buduatta	Health center
	25	Oguaa	Health center
	26	Obuasi	Health center
	27	Ojobi	Health center
	28	Nyanyano	Health center
	29	Okyyereko	Health center
	30	Ngyresi	Health center
	31	Fete	Health center
	32	Potin	Health center
	33	Onyadze	Health center
	34	Catholic Hospital	District hospital
	35	Winneba	Other hospital
	36	Swedru	Other hospital
	37	Asikumo	Other hospital
National			
	38	Children's Hospital	Other hospital
	39	Korle-bu	Teaching hospital