Rapid Assessment of Referral Care Systems

A Guide for Program Managers

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Abstract

Rapid Assessment of Referral Care Systems: A Guide for Program Managers is a tool to help national- and district-level managers quickly assess the status of and constraints to referral of severely ill children from first-level care to secondary and tertiary levels of care. The assessment uses a cross-sectional study design that includes a review of medical records, interviews with caretakers of children less than five years of age, interviews with health providers, and focus group discussions with caretakers. Prevalence estimates describe referral care patterns of caretakers and providers, referral and counter-referral relationships, frequency of self-referral to higher levels of care, caretaker barriers to compliance with referral, and provider barriers to compliance with referral guidelines. Assessment results are for use by Ministries of Health and other partners to design national- and district-level interventions to improve the successful referral of severely ill children.

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Web Accessibility

The full document of *Rapid Assessment of Referral Care Systems: A Guide for Program Managers* can be downloaded from the publications section of the BASICS II Website, www.basics.org. All instruments are available in Microsoft Word format for use in field research.

Acronyms

CDC   Centers for Disease Control and Prevention

CHW   Community Health Worker

COMM   Community

FGD   Focus Group Discussion

HC   Health Center

HIS   Health Information System

HO   Hospital

HP   Health Provider

IEC   Information, Education, and Communication

IMCI   Integrated Management of Childhood Illness

IPD   Inpatient Department

MOH   Ministry of Health

NGO   Non-governmental Organization

OPD   Outpatient Department

RRA   Rapid Referral Assessment

THO   Teaching Hospital

UNICEF   United Nations Children's Fund

WHO   World Health Organization

Executive Summary

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.

To help shed light on referral care practices, a Rapid Referral Assessment (RRA) methodology was developed using field experiences in Eritrea and Ghana. The RRA is a tool to assist national- and district-level managers to rapidly assess the status of and constraints to referral of severely ill children from first-level care to secondary and tertiary levels.

The assessment uses a cross-sectional study design that includes a review of medical records, interviews with caretakers of children less than five years of age, interviews with health providers, and focus group discussions (FGDs) with caretakers. Prevalence estimates describe referral care patterns of caretakers and providers, referral and counter-referral relationships, frequency of self-referral to higher levels of care, barriers to compliance with referral by caretakers, and barriers to compliance with referral guidelines by providers. The effects of illness classification and severity of illness, the use of referral slips, caretaker perceptions and constraints, and geographical access can all be considered. The analysis is largely quantitative, although there is some qualitative analysis pertaining to constraints to referral.

RRA results can be used by Ministries of Health and other partners to design national- and district-level interventions to improve the successful referral of severely ill children.
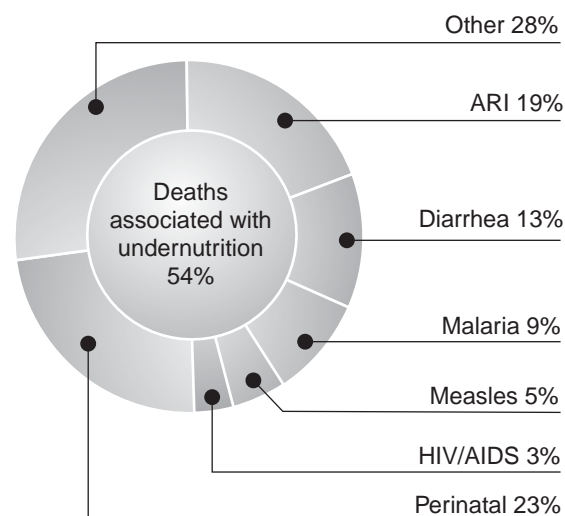
Introduction

E very year almost 11 million children in developing countries die before reaching their fifth birthday, many during the first year of life. Seven in ten of these deaths are due to acute respiratory infections, diarrheal disease, malaria, measles, and malnutrition, and often a combination of these (see Figure 1). In addition to substantial mortality, these conditions account for three out of four sick children seeking care in health facilities.[1] To respond to this situation, in 1995 the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) launched the Integrated Management of Childhood Illness (IMCI) strategy.[2]

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, and have been designed to be highly sensitive to identify severely ill children.[3,4,5,6] 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.[7] In practice, however, health workers often do not refer, and caretakers frequently do not follow referral recommendations. For the IMCI strategy to be successful in reducing child mortality, it is important to understand the behavioral, cultural, and systemic factors that influence compliance with referral.

Figure 1. Major Causes of Death among Children under Five, Global 2001

Deaths associated with undernutrition 54%

Other 28%

ARI 19%

Diarrhea 13%

Malaria 9%

Measles 5%

HIV/AIDS 3%

Perinatal 23%

Sources:

For cause-specific mortality: EIP/WHO.

For malnutrition: Pelletier, D.L., et al. AMJ Public Health 1993, 83: 1130–3.

Caretakers may be faced with a number of barriers before they comply with referral advice. Such barriers can be financial, geographic, and cultural. The relative importance of these barriers is presently unknown to public health planners in most countries implementing IMCI; consequently, interventions to improve caretaker compliance with referral are difficult to develop. Health workers may also have difficulty in complying with guidelines for referral—especially in rural areas where caretakers may be faced with many communication and transportation barriers.

This protocol describes a Rapid Referral Assessment (RRA) methodology, which is a tool for gathering programmatic information on referral care processes at the community and facility levels in

a timely and cost-effective way for the purpose of program design. It follows a "referral pathway" and 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 can also be described. The tool provides useful information to public health planners at the national and district levels and can be used to enhance the referral process.

Background

F or 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, services must be affordable, 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 a referral recommendation. This is often determined by a variety of factors, including the perceived need of a referral (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 care facilities and hospitals. Health care systems are often designed to encourage caretakers to seek care first at the primary level and then be referred, if necessary, to a higher level of care. If this reflects actual care-seeking behavior, then health care costs for the caretaker will be minimized.[8] In many countries, however, caretakers often bypass primary care facilities and seek care directly at referral care hospitals for illnesses that could be easily treated at the primary care facility.[9] This can overburden the referral facility, and is often costlier for the caretaker and the health care system. A recent study from Tanzania where IMCI was being implemented showed that 91% of sick children and 75% of admissions at the referral hospital came from within a 10-kilometer radius. Only 235 out of the 7,989 children (3%) had been referred to the hospital.[10] A referral assessment in Ghana showed a similar finding with only one out of 34 (3%) caretakers interviewed in the OPD at referral sites having been referred. Of the children admitted into the inpatient ward, only 11% had been referred to the hospital.[11]

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 that the referral facility provided 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 they were less costly and better stocked with drugs.[12]

There have been several scientific studies conducted to look at the operations of referral systems, some looking at barriers[13] and others simply describing referral patterns.[14] 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.[15]

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.[16] The timeliness of referral is key to preventing mortality in severely ill children. Caretakers often initially treat their child's illness at home, using either traditional or western remedies. When the child is taken to a health facility, his or her condition may already be very severe. If a severely ill child fails to receive quality medical care immediately, the child may die. A recent study in Tanzania found that of the referrals that arrived at the hospital, almost half (48%) delayed by two or more days.[17] A recent study in Uganda also showed that of those who accessed the referral site, only half did so the same day.[18] In contrast, a positive finding from a referral assessment in Ghana found that of referred cases that arrived at the referral site, 96% arrived within one day of the referral.[19]

In rural Guatemala, "need" factors—including perceived severity, duration of illness, and time missed from work—were the most sensitive for compliance with referral. The availability of health care services, financial resources to purchase services, household educational level, prior experience with the particular illness, and patient characteristics (age, gender, health status) were not strong determinants.[20] In Western India, however, "referrals for further treatment were followed by parents significantly more often in the case of their sons (69.2%) than their daughters (25%)."[21]

Health provider behavior may also vary. During the cholera epidemic in Northern Ghana in 1991, many health providers referred cases unnecessarily to avoid contagion. Of 14 cholera 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.[22] Health workers' referral behavior may also be influenced by their 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.[23] A recent study in Uganda showed that while health workers perceived that a majority (64%) of children referred complied, 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.[24]

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 looked at demographics and socioeconomic status, family dynamics, caregivers' perceived problems, access, and health system-caretaker interaction. This study found that health worker behavior, namely providing a written referral slip and counseling the caretaker to "immediately seek referral care," was the most important factor in predicting accessed referral. In addition, risk factors of needing to stay overnight, and particularly with a child less than two months of age, interacted with each other and were important constraints to compliance with referral. Transportation costs and households in which the mother was not the decision-maker were also important factors.[25]

A referral assessment in Eritrea found that only 38% of referrals found through record review made it to the next level of care.[26] Very little is known about what happens to severely ill children who do not comply with referral. Among a sample of 81 caretakers in Nepal who were told to seek care at the nearest health facility, but who chose not to do so, 77 sought care at alternative sources, primarily medical shops (75%) and hospitals (22%). The majority (53%) felt that better care was available elsewhere, and 65% felt the recommended facility was too far, closed, or would not have medicine available.[27] Using a two-week prospective follow-up of 227 referred children, a study in Uganda found that only 63 (28%) caretakers complied with referral. At the two-week follow-up, 216 out of 227 caretakers reported the child's health status. Of the 185 children who complied with referral the next day or later, or who did not comply with referral at all, 5% had died. There were no deaths reported among the children who complied with referral the same day the recommendation was made.[28] Although common barriers to successful referral are generally known, the relative importance of these constraints should be assessed in each country or region to guide the design of targeted, appropriate interventions to improve referral.

Who Gets Referred?

T able 1 lists the IMCI conditions for which a child less than five years of age should be referred, and whether it is an urgent referral. When designing an RRA study, there should be an understanding about all of the conditions for which children under five need to be referred. This includes not only those conditions considered under the IMCI guidelines, but also other conditions mentioned in the national standards of care (i.e., trauma, or suspicion of tuberculosis or acute flaccid paralysis). For the purposes of this study and for the remainder of this manual, the focus will be on IMCI-related conditions, although in discussions with local health authorities, additional illnesses may be included. The RRA is most interested in capturing referrals for acute conditions, as these are the ones that have the greatest impact on infant and child mortality. Chronic IMCI illnesses are also considered, but referrals may be delayed and as such may not be captured in this study, thus underestimating the actual referral compliance rate.

Table 1. IMCI Conditions for which a Child Less Than Five Years of Age Requires Referral

Illness Classification	Urgent	Non-urgent
Convulsion	✓	
Not able to eat or drink	✓	
Lethargic	✓	
Vomits everything	✓	
Possible serious bacterial infection (1 week–2 months)	✓	
Severe pneumonia/severe disease	✓	
Cough more than 30 days		✓
Severe dehydration*	✓	
Severe persistent diarrhea	✓	
Severe febrile disease	✓	
Fever more than 7 days		✓
Severe complicated measles	✓	
Mastoiditis	✓	
Severe malnutrition	✓	
Severe anemia	✓	

* Depending on local situation, may be treated at first level.

Urgent referral means that a child should be taken to a referral center *immediately*. Within the IMCI guidelines, there are four general danger signs that require urgent referral—convulsions, not eating/drinking, profuse vomiting, and lethargy/unconsciousness. Additionally, the guidelines stipulate that children who are classified in a "red box" should also be referred. Examples of these conditions are severe pneumonia (presence of chest indrawing), severe dehydration, etc.

A second type of referral, non-urgent, includes conditions such as chronic cough, fever of more than seven days, etc. In discussions with Ministry of Health (MOH) staff, a locally appropriate matrix can be prepared that contains all of the conditions requiring referral, as well as a subset of the conditions to be tracked in the study.

Conceptual Models for Studying Referral

T here are two conceptual models that can be used to clarify the referral process. One of these is the Pathway to Survival,[29] developed by the Centers for Disease Control and Prevention (CDC) and the BASICS Project. The Pathway to Survival (Figure 2) offers a framework for tracking the status of an ill child through actions taken inside and outside of the home, and by informal and formal health care providers. The pathway begins with the caretaker's recognition that the child is ill and requires care. The caretaker assesses the level of severity, examines her options, and makes a decision whether to give care in the home or to seek outside care. By definition, severely ill children who are given home care (instead of seeking outside care) are receiving inappropriate care. If the caretaker decides to seek care outside the home, she can use either formal or informal health services. Frequently, caretakers will use more than one provider at the same time or at different times as the illness progresses. The quality of care by the different providers is an important determinant of

Figure 2. The Pathway to Survival
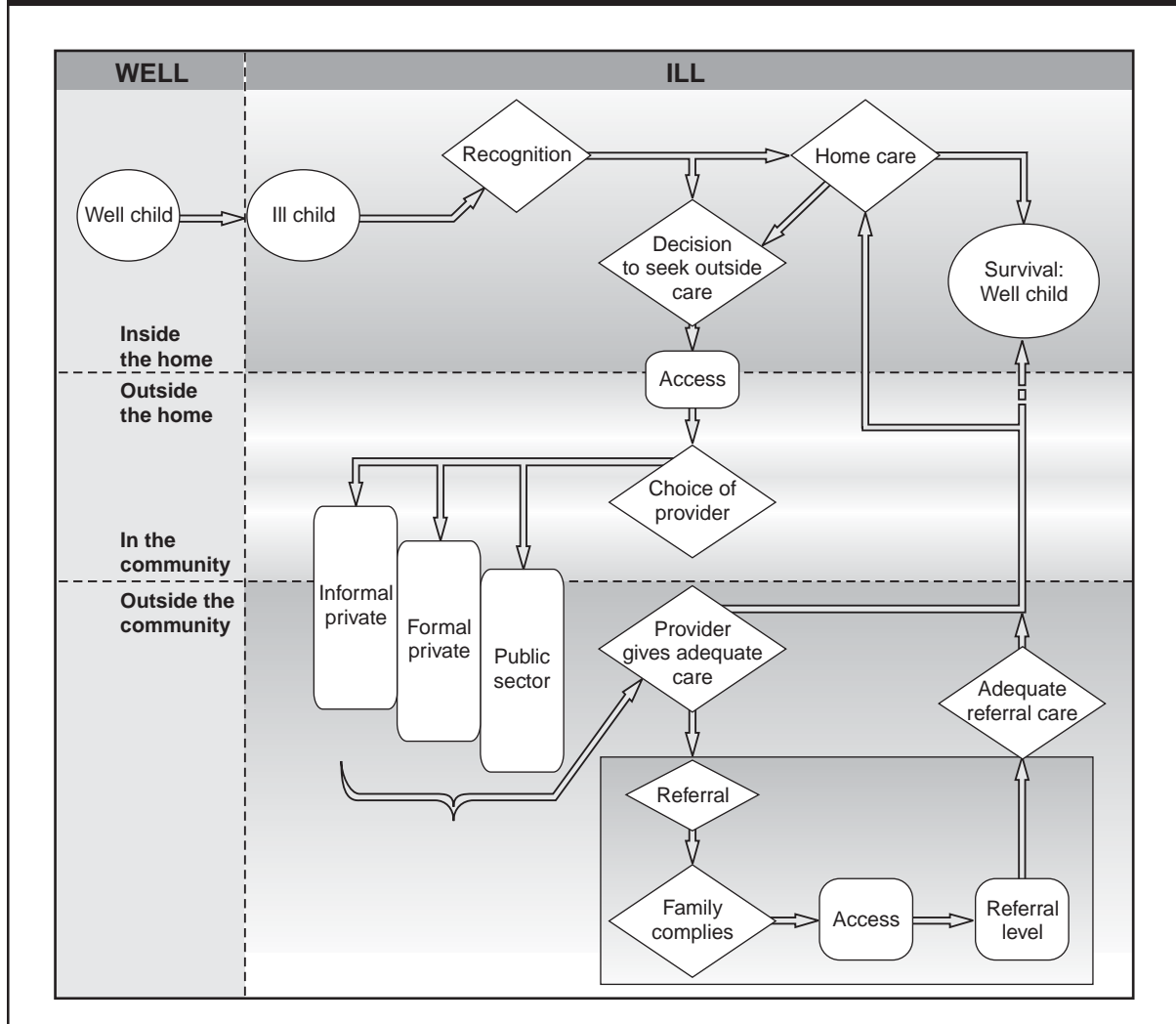
outcome, and includes whether the provider appropriately refers the child to a higher level of care. A child who exhibits signs of severe illness but is not referred is receiving poor quality care. At first-level and referral facilities, compliance with referral guidelines by both the provider and caretaker becomes very important, as does the quality of care at the referral facility. The Pathway to Survival offers a clear and precise way for looking at pathways and impediments to survival in most situations. For the purpose of this assessment, actions related to referral can be examined.

The second model explains how the referral process actually takes place in a given country. In most countries there are tiered systems of health care, often having three levels. At the primary or first level, one can usually find health stations or posts and health centers. These two types of facilities are usually the main avenues for dealing with the health problems of the population. Often, the smallest facilities (e.g., health stations or posts) are staffed by one or two health assistants, who have at their disposal a minimal number of materials and drugs. These health workers manage a variety of childhood illnesses and are also responsible for the health care needs of adults, maternal and reproductive health, etc. Health stations and posts refer severe or difficult cases to a higher level of care, usually to a health center or mini-hospital located nearby. Often, however, guidelines stipulate that a health station or a health post can refer directly to a district or national hospital when it is deemed that the severity of the illness or the potential for caretaker non-compliance warrants it. Figure 3 shows the referral pathway in Eritrea.

All health centers may not be configured equally. Some health centers in peri-urban areas and in the main cities may not have inpatient services, while facilities farther away from population centers may have a small number of inpatient beds. Health centers are generally staffed with a larger number of personnel, have a wider range of services, and may even have facilities to perform basic laboratory

Figure 3. Eritrea Referral Pathway
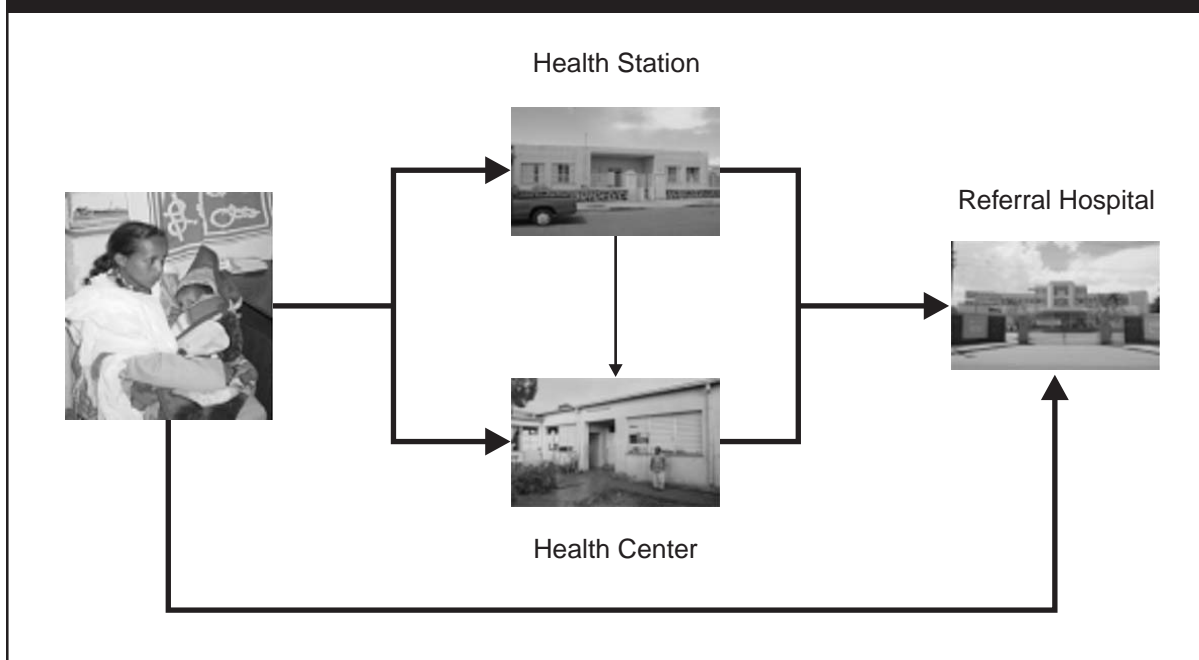
tests (e.g., malaria, hemoglobin, etc.). A number of severe cases may be resolved at this level, but often, referral may be necessary to the district, regional, or national referral hospitals. Although health centers may constitute a referral site, they are usually considered a primary-level facility.

At the secondary level, there are usually district hospitals. These hospitals offer basic specialized services—pediatrics, gynecology and obstetrics, internal medicine, and surgery. They are generally equipped with more sophisticated equipment and can perform surgery and other complex procedures and tests. They receive cases sent from health stations and health centers and may refer cases to regional and national referral hospitals.

Finally, at the tertiary level, there may be regional hospitals or a national referral hospital, often located in the capital city. Most hospitals have both outpatient and inpatient services. They see all referrals made from within the city where the hospital is located, but also receive referrals from regional and district hospitals, or even from primary care facilities. Referral hospitals may also receive high numbers of self-referred patients who bypass the primary and secondary levels of care altogether.

A discrete pathway for referral actions can be constructed for most health systems through consultation with MOH officials. Theoretically, health stations or health posts refer cases to health centers. From health centers, health workers are advised to refer cases to district hospitals. These hospitals are usually identified as secondary care facilities. The last steps of the referral pathway may include regional and possibly national referral hospitals. Although a relatively simple referral pathway can often be constructed, for the purposes of the referral assessment, all possibilities for capturing referred cases should be explored.

In some situations, health stations and health posts may choose to refer directly to the district, regional, or national referral hospitals. Similarly, health workers in health centers may skip the district hospital and refer directly to the national referral hospitals. These skips may be justified by a variety of factors, including:

1. Knowing that certain conditions can only be treated at a specialized level of care;
2. Knowing that there is a closer/more easily accessible facility (that is not their assigned referral site); and
3. Making alternative recommendations in cases where caretakers may not go to the recommended referral facility (e.g., previous bad experience, lack of drugs, etc.).

For example, if a health worker is aware that the provider working at the referral site is at an in-service training course, or if drugs are generally not available, he or she may send a case to a higher level of care than that which is usually recommended. These kinds of situations need to be contemplated when studying referral.

Potential Study Designs and Methods

A study of compliance with referral can be done in at least three ways. All have methodological and cost limitations that should be considered and which are explained below.

Method 1: Population-based

With the population-based option, 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. Once a sick child is found, the caretaker is asked if she took the child for care to a formal health care provider. If so, she is asked whether the child was referred to another site, whether she complied with referral, and, in the cases when 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 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.

Conducting a population-based survey to study referral can be very costly and is not appropriate for most situations. Two conditions should be present when considering this type of survey: (1) high utilization of health facilities by the communities under study and (2) high referral rates. If both of these conditions are met, then sufficient numbers of referrals may be found in the sampled population to be able to make inferences about the general population. Unfortunately, the first condition is often not met—use of services when children are ill can be far less than 50% in developing countries. In this case, in order to find a sufficient number of severely ill children (who are a subset of all ill children) that need referral, a very large number of households would need to be surveyed. This type of study is probably only feasible when large surveys such as the Demographic and Health Survey (DHS) or a national census are carried out. It would be prohibitively expensive in most situations.

Method 2: Facility-based/Community-based

A second method that may be used 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 or otherwise 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 are aware that they are under study and may modify their behavior, which in turn affects the results. Additionally, regular communication is needed between health facilities and surveyors so that notification can be made within a reasonable period of time. Ethical considerations would also demand that something be done to help the family in the cases where the child is still sick. In spite of the methodological difficulties, this method probably provides the most accurate information as it involves direct contact, within a short period of time, with

health providers and caretakers. Again, as with the first method, to obtain a sufficient number of referrals, the period of study may be long—at least several months and often a full year. The longer the study, the more expensive it will be. This type of study is less expensive than the first, and may be useful in situations where resources are available. Finally, an additional benefit of this method is that reasons for non-compliance can also be studied (as caretakers will be interviewed at home and asked about their compliance with referral).

Method 3: Record Review and Interviews

The third method, the one used in this study, is the fastest to execute, the simplest, and the least expensive, but it is probably the least accurate. It is dependent on the availability of medical records in health facilities—something not readily found in some countries. A team of two individuals visits a sample of health facilities to review all records for a specified period of time (the time period varies depending on the number of estimated referrals needed for inclusion in the sample). All records and daily lists or reports are reviewed for notations that a referral was made. If the data are available, diagnoses are also examined to determine whether cases requiring referral were referred or not. When a referral is found, the surveyors collect as much information as possible to identify the case. The team then moves to the site to which the facility "officially" refers. All patient registers for the day the referral was made are reviewed to try to verify if the referred case arrived at the referral facility. Because not all referred cases will make it to the referral facility on the same day, records should be checked for a limited number of days after the referral is made (up to seven days is recommended). If the case is not found, it should be looked for at the next level of care.

At this second facility, a record review is also conducted to identify additional children seen in the OPD that may have been referred to a higher level of care. The team then travels to the next level of care and conducts a search for all referred children. The referral pathway should be followed to a logical dead end—in most countries, to the national referral hospital. Since surveyors will already be present in facilities, it is easy to incorporate caretaker and health worker interviews to further elucidate referral issues and reasons for non-compliance.

At the OPD of each facility, interviews are conducted with caretakers of children less than five years of age. Depending on patient flow, all caretakers can be included, or a sample can be taken. At facilities with inpatient wards, all caretakers of children under five years, admitted with conditions not related to trauma, are also interviewed. Information is gathered on the child's condition, previous caregiving and care-seeking behaviors, quality of care, and referral.

A sample of health workers who regularly see sick children are also interviewed for their history of referrals made and received, their perceptions of caretaker referral practices, and quality of care.

The caretaker and health worker interviews help to further describe referral patterns, but this information is more subjective than that gathered from the medical record reviews. Depending on the number of facilities to be surveyed, this study can be carried out in as little as four weeks—from designing the study to completing a final report. Herein lies its attractiveness. However, it should be clear that this method is a "quick-and-dirty" assessment of the referral situation. Given the financial constraints of most health districts, this method is probably best suited to their needs. The RRA quickly provides information to program managers and serves as a useful management tool for assessment and planning.

An Additional Consideration

Seasonality is a key element to consider in research related to care-seeking. Difficult climate conditions (e.g., heavy rains, extreme heat, etc.) are likely to impede care-seeking and compliance with referral. Therefore, referral studies should take into consideration that compliance will differ during different times of the year and that findings may be affected by such variations. To accommodate these deviations, the study can look at a period of time that straddles the dry and wet seasons, or study referrals over a one-year period. Aside from climate changes, agricultural, cultural, and religious factors may also come into play. For example, a caretaker may be reticent to travel outside the home during a time of religious celebration such as Ramadan, or may be too busy during harvest season. Regardless of what method is chosen, the effects of seasons, culture, and geography should be considered when deciding on the period of time to study.

Study Objectives

1. Describe actual referral rates.
2. Assess the level of compliance with referral.
3. Identify main causes of referral.
4. Describe barriers to compliance with referral.

Methodology

T he method described in this manual is the "quick-and-dirty" approach (Method 3) mentioned above. It is a cross-sectional study design that includes (1) medical record review and (2) interviews with caretakers and health providers. Table 2 contains a list of potential data sources and type of information to be collected. Both data collection activities are carried out in first-level and referral-level facilities. Usually, data collection in facilities can be completed in little over half a day. If certain facilities receive a much greater number of sick children on particular days of the week, efforts should be made to visit these facilities on the busier days. As mentioned before, depending on the sample

Table 2. Potential Data Sources and Type of Information to be Collected		
Data Source	*Type of Information*	*Study Objective(s)*
Patient Register	Date of the consultation, child's name, age, gender, name of the caretaker, cause for consultation, diagnosis (classification), identifying record number, and referral information	– Describe referral rates – Assess the level of compliance with referral – Identify main causes of referral
Patient Records	Cause for consultation, diagnosis (classification), and referral information	– Describe referral rates – Assess the level of compliance with referral – Identify main causes of referral
Summary Reports	Outpatient morbidity, admissions, and referrals made or received	– Describe referral rates – Identify main causes of referral
National Information System	Numbers of cases seen, the causes of outpatient and inpatient morbidity, referrals sent and received in health facilities, patient load, and referral rates	– Describe referral rates – Identify main causes of referral
Referral Slips	Name, age, address, clinical findings, diagnosis (classification), reason for referral, and treatment given	– Describe referral rates – Assess the level of compliance with referral – Identify main causes of referral
Caretaker Interviews	General information on the case (e.g., age, sex, community of origin, etc.), care-seeking and caregiving before coming to the facility, intentions to comply with referral, and recommendations for improved referral	– Assess the level of compliance with referral – Describe barriers to compliance with referral
Health Worker Interviews	Referrals, causes of referral, referral slips, and inventory of drugs and materials necessary for IMCI referral care	– Describe referral rates – Identify main causes of referral – Assess the level of compliance with referral – Describe barriers to compliance with referral
Focus Group Discussions	Childhood illness, care-seeking, treatment options, referral, barriers to compliance with referral, quality of care at the referral site, and recommendations for improved referral	– Describe barriers to compliance with referral

size and study logistics, the assessment can be completed in less than one month. The study is meant to provide a rapid assessment of the state of referral practices in health services and the degree of compliance by caretakers, and may not be representative of the country as a whole.

Medical records for children less than five years of age are reviewed in selected communities and in first-, second-, and tertiary-level health facilities. All records of children attending a particular facility during the study period are reviewed for presenting complaints, physical signs (including nutritional status), illness severity, diagnosis, treatment, and whether referral was indicated and recommended. The quality of available records will determine the extent of potential analysis. Most health facilities are required to keep a patient register of all cases seen and referrals sent or received. This register is critical for the implementation of the study. One of the first things to do when planning the study is locate this type of patient register to see what information is available. The register may vary by type of facility so different levels of care should be visited to see what kinds of records are kept.

Additionally, facilities keep patient records that may contain information on referral (in the smallest facilities a patient register may be the only information available). When studying referral, patient records have two uses. First, a review of the records may provide information on whether the child was referred to a higher level of care. Second, reviewing records at the referral facility can help determine whether a child that was referred from a lower level of care was actually seen in that facility—hence, whether a child complied with referral.

In some countries, health facilities may be required to submit regular summary reports, which can verify the accuracy of the information in the patient registers and may serve as a starting point in identification of referrals in that reporting period.

Another source of information for the study is the national health information system (HIS), which may be able to establish patient load and referral rates that will assist in determining the study sample. During the study, the national HIS may be "mined" for data pertinent to referral, i.e., numbers of outpatients and inpatients and causes of outpatient and inpatient morbidity that may serve as comparison data for the cases found in the study. Unfortunately, national systems often contain inaccurate data and may need to be interpreted with caution.

According to IMCI guidelines, any referred case should receive counseling, instructions on where to go, and a referral slip. In most countries, guidelines recommend that counter-referral slips be sent to the health workers that originated the referral; unfortunately, this rarely occurs. Supplies of referral and counter-referral slips may vary by health facility. Most often health workers use a blank piece of paper to record referral information. These referral slips constitute an important source of information if they are kept in the health facilities and can help establish how many referrals came with a referral slip, the use of which has been shown to increase the likelihood of compliance.

Personal interviews are conducted with community health workers, health center staff, and emergency center hospital personnel. Health workers are asked to provide estimates of the number of children they have seen and referred to higher levels of care in the previous month. Estimates are also obtained to determine how many of the cases were IMCI-related, how many received referral slips, how many were accompanied to the referral site, and finally, what were the referring diagnoses.

In addition, interviews with mothers are conducted at first-level health facilities and at inpatient and outpatient wards in referral hospitals. Caretakers are asked if they provided home care, if they

sought care elsewhere, if they were referred to the facility by a provider, whether they were given a referral slip, and the reasons for attending that particular facility.

Community-based focus group discussions (FGDs) can also be conducted with caretakers of children less than five years of age. These discussions offer valuable information about perceptions of referral and hospital care from caretakers who have not already sought care from a public health facility. These caretakers may have very different opinions than those who are interviewed at a health facility, this latter group having already exhibited care-seeking behavior.

The study is largely quantitative and descriptive to estimate patterns of referral but includes some open-ended questions on barriers and constraints to referral, which can be used as formative research to assist in program design. A list of indicators can be found in Annex A.

Potential Issues with Data Collection

There are several potential issues with the data collection process. Most of these should be known to the study organizers through preliminary site visits to different facilities and key informant interviews before the start of data collection. If the potential data collection issues are known in advance, adjustments to the methodology can be made more easily.

Lack of Uniformity in Record-keeping and Reporting

Records kept at the different levels of the health system may vary considerably.

Underestimation of Referrals

If there are problems in record-keeping, the referral rate may be underestimated. If it is not possible to find the individual children in the medical registers or patient records, even if providers are referring children, they will not be captured in the record review.

Underestimation of Compliance

By excluding private facilities from areas that have a large number of these facilities, the compliance rate may be underestimated. The role of private providers and the quality of their medical records should be considered before excluding them from the study. Additionally, there may be problems with records at some of the referral sites that would lead to an underestimated compliance rate.

External Validity

External validity is the degree to which the conclusions in the study would hold for other persons in other places and at other times. The more representative the administrative units are to the overall population under study, the greater the external validity.

Reliability of the Questionnaires

Reliability can be improved through observing the surveyors during the practical training sessions. At the end of training, reliability should be over 90%. Reliability is also improved through the use of scales having three to five response categories.

Content Validity

To determine whether the questionnaires are indeed measuring the concepts under study, the validity of the questionnaires can be improved through detailed review by members of the study management group as well as by the survey teams during training.

Recall Bias

The recall bias for caretakers is minimal, as the questions focus primarily on the child's current illness. Health providers are asked general questions and about specific events that occurred in the previous month. This timeframe can be verified during pre-testing of the instruments and during surveyor training.

Participation Bias

Previous experience with this type of study has shown very high participation rates. If participation is a problem, this should be discovered during the practical sessions. Surveyors should discuss and agree on options for minimizing bias in facilities with a high patient load. If participation is less than 90%, the study organizers may need to reconsider the quality of the data. To reduce possible clustering effects, 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 are included in the study. All health providers at referring facilities who see children under five are also included. At referral sites one provider can be interviewed.

Guidelines for Implementation of the Study

Following is a 10-step detailed description of how to carry out the study. Not all of the steps are sequential, and many can be carried out concurrently.

1. Preparatory Work

Deciding to Conduct a Rapid Referral Assessment

Should an RRA be conducted? RRAs provide useful information in preparation for an intervention that relies on compliance with referral for at least part of its potential impact, and if information on referral is unavailable from other sources. For example, the IMCI strategy relies heavily on the detection of severely ill children and their referral for its impact on infant and child mortality. Therefore, if IMCI is being implemented or is being planned, it is a good idea to obtain a "snapshot" of what is happening with referral. Discussions with colleagues in the MOH (Child Health Department; Information, Education and Communication (IEC) unit; Malaria Control Program, Health Service Delivery; etc.) can determine if this type of data would be useful.

Describing the Current Referral System

Efforts should be made to obtain all relevant information about how the referral system is structured, how it is supposed to function, and to the extent possible, some examples of how it functions in theory. This can be done through a series of key informant interviews with health officials at the national, district, and health facility levels. This information can help determine the relative ease of conducting a rapid assessment and can identify peculiarities in the referral system that will need to be accounted for in the design of the assessment.

Obtaining Approval from the Human Subjects Committee

Once a decision has been made to conduct the study, the study protocol and instruments should be submitted to the appropriate authorities or committees that review research with human subjects. Most MOHs will have a department in this vein. Although the study itself does not have major ethical issues, obtaining approval ensures that all ethical concerns have been reviewed and sufficiently addressed.

Securing Funding

Annex B provides a sample table that can be used to start identifying line items for a budget. These are cost categories that may or may not apply for each study. The most expensive parts of the study are the transportation and per diem costs for the field work. Using existing personnel and sharing the cost of transport with partners are two ways to lower the costs of field work.

Selecting the Study Management Group

The study management group should be comprised of interested partners working in child health and may include representatives from the MOH, WHO, UNICEF, donor agencies, cooperating agencies, pediatric society, etc. This group will be responsible for reviewing the study protocol, will participate in

monitoring the implementation of the study, and will assist in data analysis and dissemination of the findings. One person should be designated as principal investigator for the study; the principal investigator will have primary responsibility for all aspects of study design, implementation, analysis, and report writing.

Staffing

The RRA methodology requires visiting at least 30 different facilities and/or communities in rapid succession. A team of two individuals can complete one facility in one day, with sufficient time to spare to travel to the next facility or community, if overnight lodging is required. The number of interviewers will depend on the number of teams and the number of facilities to be visited per team. A team of 12–15 surveyors can usually complete the field work in five days. Surveyors should preferably be IMCI-trained clinicians or other health professionals, because they will need to review records and abstract medical information.

2. Selection of the Study Area and Population

Selecting the study areas and population is a key step in planning the study. A geographic region should be selected that is as representative as possible of the "whole" in which the intervention will be implemented. This should take into account a combination of rural and urban areas. It would be expected that referral practices and compliance might vary by the distance between the community and the referral site. Some areas may be very distant from referral centers and still others very close. The key thing is to include those areas and facilities that have high to moderate patient loads and referrals. Facilities that see only a few children per day and rarely refer are not the best to study. This may mean purposely excluding some of the most distant areas. A compromise would be to stratify the selection by distance (in time). For example, a certain number of areas that are within an hour or two of the referral site, along with a few areas farther away, can be selected. In general, there should be a good mix of close and distant areas. One option would be to select 70% of the areas that are closer to the referral site and 30% of the areas that are distant. The facilities contained within the selected study areas will constitute the *sampling universe*.

The *sampling unit* is the health facility. "Health facility" is defined broadly: it includes any point of contact for health care services that is of interest to the study. This would encompass community health workers, where applicable, health posts and centers, and all levels of hospitals. Within facilities, there are at least three study populations. Children who were attended by a community-based health worker or have gone to a facility within a specified period of time constitute the first study population. This group will provide the most reliable data through medical records. A second study population is caretakers in the outpatient and IPDs at all facilities visited. This group will add nuance to the data and may provide important information about barriers to compliance. The third study population is health workers in OPDs in referring and referral facilities. Because a considerable amount of information obtained from this group is subjective, this information may not be as critical as the first two. Discrete case (population) definitions for each group follows.

Case Definition for Children

Cases are defined as medical records for all children under five years of age that have notations on a patient register (tally) or a patient record that the child had been referred to a higher level of care within

the public health system. Children seen in private clinics or pharmacies or by non-formal providers are usually excluded because of the difficulties in following their trail and differences in record-keeping.

Case Definition for Caretakers

Caretakers who bring a sick child less than five years of age to OPDs of any selected health facility will be considered for interview. Depending on patient load, a time limit can be imposed, for example, interviewing all caretakers who arrive at the OPD between 8:00 a.m. and 12:30 p.m. Additionally, caretakers who are present in the IPDs of referral facilities and have a child hospitalized with an IMCI-related illness will also be considered as meeting the criteria for "caretaker." A review of IMCI-related illness may need to be included in the surveyor training, if the surveyors have not been previously trained in IMCI.

Case Definition for Health Providers

Health providers who are working in the OPD of referring and referral facilities and who see sick children less than five years of age on a regular basis will be considered for interview during the study.

3. Determination of the Sample

Once the general area where the study will be implemented is known, a sample of community-based providers and/or health facilities needs to be selected. The sample is purposive in nature and is not necessarily representative of the sampling universe. If the number of health facilities is few or if the suspected referral rates are low, a census of health facilities can alternatively be taken within the study area.

The first step in obtaining the sample is to select a number of administrative units within the selected general geographic area(s). This may be a district, sub-county, or other appropriate unit. The total number of units will vary depending on the geographic area, size of each unit, and the average number of facilities in each unit. The number of units should be selected to ensure a minimum of 30 facilities total (up to 45 facilities could be surveyed). As when selecting the geographic areas to study, administrative units that represent varying cultural, socioeconomic, and climatic conditions should be selected. If the administrative units are similar, then a simple random sample can be done. Obviously, each administrative unit should have a full array of facilities, from community health workers (if included in the study) to health posts to health centers to a local hospital. Knowing about the referral linkages between the health facilities is very important for the implementation of the study.

Once the administrative units are selected, a list of all facilities available in the unit should be prepared. The following information should be collected for each facility before the sample is drawn:

- Type of facility
- Functional status
- Address and location on map
- Identification as a referring facility
- Identification as a referral site
- Distance to the nearest referral site
- Patient load
- Referral rate

A list of all facilities should be available from the appropriate authorities in the study area or possibly from the national HIS. To determine if a facility is functional or not, interviews with health authorities and health workers may be needed. At the very least, an address for each facility should be obtained; preferably, however, the facility's location on a map should be established. The facility's location on a map may be the only way to know how distant it is from its next referral site. Local authorities should be able to identify where each facility would logically refer cases. Finally, patient load per unit of time (i.e., day, week, month, or year) is used to determine if there are enough cases to make it worthwhile to visit the facility. It is unlikely that an official referral rate will be available per facility. If not, other data sources on referral should be searched, either at the national level, at the district office, or from previous research.

Once this information is available, some facilities may need to be eliminated from the final sampling universe. For example:

■ Health facilities that are closed on a regular basis or that do not offer child health services should be eliminated from the list.

■ Health facilities that are located four or more hours away from a central point in the administrative unit should not be considered for sampling. Very distant facilities may be relatively small and may not be important contributors to the overall referral situation. Additionally, it would be logistically difficult to travel more than four hours in one day to get the surveyors in place. Another type of study may be necessary to clarify the referral issues with facilities that are very distant.

■ Health facilities that see only a few children regularly. Obviously, if a facility sees only a few children per month, then the probability of referrals is low. What constitutes a low number of referrals will vary. However, if a facility makes less than 2–3 referrals per month, it should be eliminated from the sampling universe.

A word of caution—Some facilities with high patient loads make only a few referrals. These facilities may be able to address severe illnesses effectively and not need to make referrals. Others may be using inappropriate protocols and, as a consequence, may miss many referrals. Whatever the reason, the link between patient load and referrals may need to be explored. Table 3 shows the

**Table 3. Expected Number of Referrals per Month per Varying Patient Loads and Referral Rates per Month**

Patient Load/Month	Referral Rates						
	1%	5%	10%	15%	20%	30%	40%
10	.1	.5	1	1.5	2	3	4
20	.2	1	2	3	4	6	8
30	.3	1.5	3	4.5	6	9	12
40	.4	2	4	6	8	12	16
50	.5	2.5	5	7.5	10	15	20
60	.6	3	6	9	12	18	24
70	.7	3.5	7	10.5	14	21	28
80	.8	4	8	12	16	24	32
90	.9	4.5	9	13.5	18	27	36
100	1	5	10	15	20	30	50

relationship between different patient loads and referral rates. Generally, facilities that fall in the shaded areas should be excluded.

A clean list of the facilities from which to sample is now ready. Because children are followed through the health care system, the selected facilities need to be linked to one another. This means that only the facilities at the start of the referral pathway are selected randomly. For example, if health post A is selected, then the health center or hospital to which it refers must be included in the sample. Some facilities will refer cases to more than one place. *All possible* referral sites need to be included in the sample. As a first step, randomly select a number of health posts (or whichever health facilities are at the start of the referral pathway). The number of health posts will vary by the number of administrative units, but there will usually be 12–15 initial-level facilities. Once the initial number is selected, the facilities (usually health centers or hospitals) to which the selected facilities refer need to be identified. This will add at least 12–15 more facilities to the sample. If the initial health facilities refer to more than one site, there may be double this number of secondary facilities. In most situations there will be another tier in the referral pathway that involves a district, regional, and perhaps a national referral hospital. If this is the case, all hospitals to which the health posts and health centers refer need to be included in the sample. The final sample should be at least 30 facilities that start with the initial source of care and end with the ultimate source of care (see Figure 4).

It may be decided to add a number of FGDs, perhaps two per administrative unit. The exact number will vary by how different the administrative units are. If certain administrative units share similar geographical, ethnic, and cultural characteristics, it may not be necessary to conduct focus groups in each area. The communities to be selected should be located within 20 kilometers of the referral hospital, but not have a health facility within the community. Caretakers who have not already sought health care services may bring very different perspectives from those interviewed in health

Figure 4. Sample Selection for Each Administrative Unit
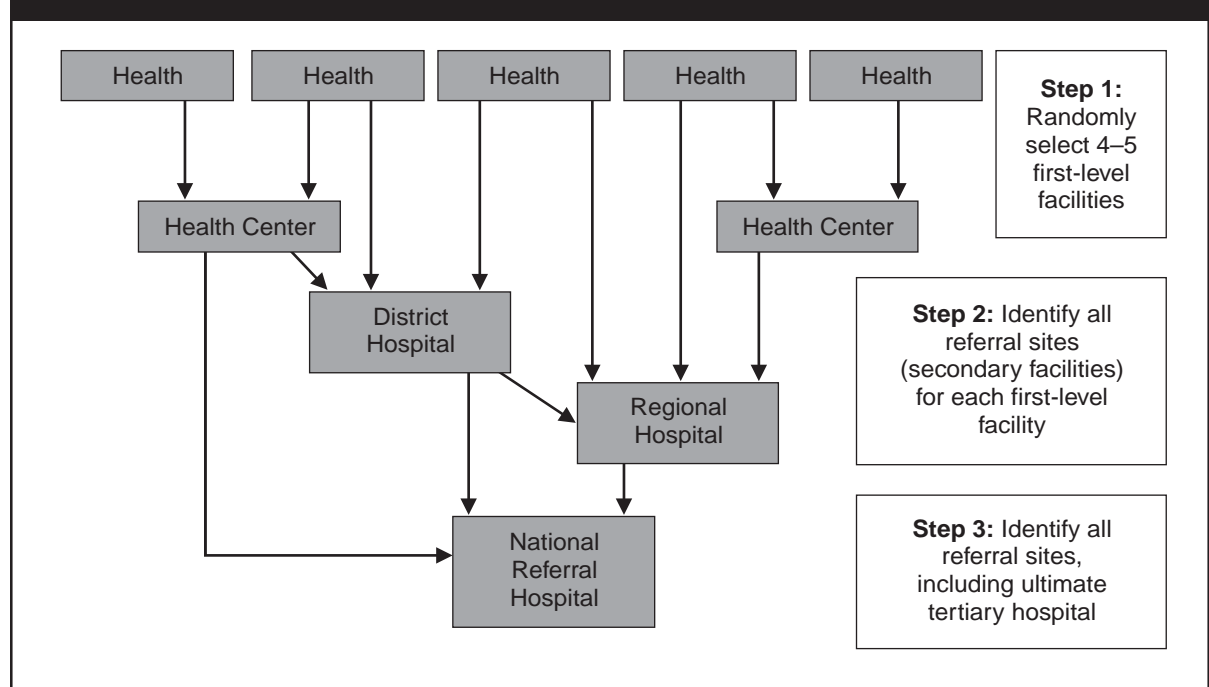
facilities. The purpose of including FGDs in communities without direct access to health services is to capture these perspectives.

4. Data Collection Plan and Instrument Adaptation

Study Instruments

Five instruments are 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 describes the instruments and their use. Quantitative data questions have been pre-coded on the study instruments. The complete set of instruments can be found in Annex C.

Table 4. Description of Instruments	
Instrument	*Description and Use*
Instrument 1: Medical Record Review	For conducting record reviews at all levels in order to track referrals sent and referrals received
Instrument 2: Outpatient/Inpatient Caretaker Interview	For conducting interviews with caretakers of children attending 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 FGDs with mothers within the community

Instrument 1: Medical Record Review

The design of this instrument allows for the detection and tracking of referrals through the public health system. It is applied at the lowest level facility first to collect information from patient registers or patient records for all children who are noted as having been referred. The surveyor then visits the facility to which the referral was made and looks up records to determine whether the child came to the referral facility as instructed. If the child is found, information is collected on whether the child was referred onward or if treatment was given at the facility. If the child is not found or if the child was referred a second time, then the instrument is used to detect children at the next higher level of care, usually the district, regional, or national hospital. Depending on patient load, surveyors should review records for at least the previous six months, and ideally for the previous 12 months. When a child is identified as having been referred, surveyors should look for the child (through review of medical records) at the referral facility for up to seven days after the referral was made. Reviewing the patient registers or summary reports can provide a referral rate for each facility, as well as the causes of referral. At referral sites, if information on referral is kept for all OPD visits and inpatient admissions, it is possible to determine the percentage of severely ill children that is referred from another provider and the percentage that is self-referred.

Instrument 2: Outpatient/Inpatient Caretaker Interview

This instrument is applied to all caretakers of sick children less than five years of age that come to the OPD, regardless of whether the child was referred or not. It is also used to interview caretakers of hospitalized children. When used in the OPD, the instrument is applied after consultation with the health worker and after the caretaker visits the dispensary. It collects 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 registers caretaker intentions of whether he or she will comply with the referral (in cases when a referral was made) and recommendations for improved referral.

Instrument 3: OPD Provider Interview (Referring Facility)

Using this instrument, interviews are conducted with one health provider who works in the OPD of health facilities and who has been seeing children on a regular basis for at least one month. The instrument is only applied at facilities that make referrals to a higher level of care (e.g., communities, health posts, health centers, and district hospitals). It collects information on whether the health worker has made any referrals during the last month, what the common referral ailments are, whether referral slips were given, and other information that will provide insight about health workers' perceptions about referral. An inventory of drugs and materials necessary for IMCI referral care is also gathered.

Instrument 4: OPD Provider Interview (Referral Facility)

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

It is important to note that Instruments 3 and 4 may be applied in the same facility. For example, if the district hospital both accepts and makes referrals, both instruments would be used.

Instrument 5: Focus Group Discussion Guide

This instrument can be adapted to facilitate FGDs with caretakers in the community. Caretakers are asked questions about childhood illnesses, care-seeking, treatment options, referral, barriers to compliance with referral, quality of care at the referral site, and their recommendations for improved referral.

Instrument Adaptation

The draft instruments should be reviewed and adapted for each study setting. Existing qualitative data on patterns of care-seeking, and on local terms and concepts for illness and disease signs and symptoms, should be reviewed and incorporated into the instruments. For example, if previous research has shown that in a particular setting "difficulty breathing" has been described locally as "growling like a cat," this terminology could be included in the caretaker interview questionnaires to aid with comprehension. Depending on the local situation, the interview questionnaires may need to be translated into one or more local languages using these local terminologies. The medical record review instrument may need revision based on the type of data available in communities and health facilities.

During training, each instrument should be reviewed and modified question-by-question with the survey teams. Each instrument is applied in practical sessions during the training, and additional modifications are made based on these practice sessions.

The medical record review instrument should be pre-tested by two surveyors independently using the same sample of medical records to compare consistency of the data collection. For Instruments 2, 3, and 4, reliability testing should be performed with teams of surveyors during the practical sessions to ensure at least 90% inter-interviewer reliability.

Once all of the instruments are revised, they should be back-translated into English to verify the content and tone.

5. Survey Teams and Training

Composition of the Survey Teams

A study coordinator should be contracted to manage the study and to hire and supervise the surveyors. The number of survey teams will vary depending on the number of administrative units and their geographical proximity to each other. If the units are not located in the same part of the country, one team will be needed for each unit. If they are close, one team may be able to cover two units. The composition of the surveyor team depends on the number of administrative units, their location vis-à-vis each other, and the total number of facilities per administrative unit. Data collection should be completed in 5–6 days. Generally, two surveyors should visit each facility, with some of the larger facilities requiring an additional surveyor. Each team should have a supervisor, who can also serve as a surveyor.

For example, if the study is being conducted in three districts that are not located in close proximity to one another, three survey teams will be needed. Suppose that in each district a total of 12 facilities will be surveyed. Data collection can be completed in six days if two facilities are visited per day. Allowing for two surveyors per facility, plus an additional supervisor, each district team would have one supervisor and four surveyors for a total of five persons per district x three districts = 15 people total.

As surveyors will be reviewing medical records for referral information, they should be preferably health workers or other health professionals currently employed by the MOH. It is recognized, however, that using health workers may bias the responses by caretakers in the caretaker interviews, but the need for clinical expertise is critical. To reduce the potential for observer bias, surveyors can be organized so as not to survey their own areas. This will, however, greatly increase the cost for lodging and per diem and should be considered during the planning of the study. Surveyors should be trained in IMCI and recognize the importance of referral.

Training

A four- to five-day training program is recommended for the surveyors to become familiar with the study instruments, to suggest modifications in language or context, and to practice their administration. Annex D contains a training curriculum used in Ghana. A typical day of training consists of reviewing the instruments question-by-question, role-plays, and practical work in local

health facilities not selected in the sample. Inter-surveyor reliability is checked during the practical sessions and should be over 90% by the end of the training. In-depth discussions should be held with the surveyors and modifications made to the instruments based on their suggestions. "Rules" should be developed for questions and items that could be misinterpreted. At the end of the training, all surveyors should understand all of the instruments and use them effectively. The study organizers should develop a field manual that clarifies how to fill in the instruments and that incorporates all of the rules developed during the training. Daily itineraries should be prepared for each survey team using any maps and lists of facilities available. Routes for the surveyors should be suggested, but surveyors should also be allowed to follow different routes as long as schedules are kept.

6. Field Work

Field work conducted at the health facilities (Instruments 1–4) should last 5–6 days, depending on the number of facilities to visit. Each survey team needs to be provided with a vehicle and a driver. Generally, the teams will pair up so two surveyors visit each facility. Each team can visit 1–2 facilities per day. Supervisors should have letters of introduction for the survey teams prepared by the MOH to facilitate the introduction of the survey team to the health facility staff. They should also have all of the stationery, supplies, etc., which the teams will need.

Work in the health facilities begins when the facility opens, usually at 8:00 a.m. The first task for the team is to present themselves to the health provider and explain the nature of the study, what the surveyors will do over the next few hours, and how the data will ultimately be beneficial to his or her work. Interviews with caretakers in the OPD can be limited to the hours between 8:00 a.m. and 12:30 p.m. Medical record review is done simultaneously. In the afternoon interviews can be conducted with caretakers in the inpatient ward and with health providers.

Although the mode of working can be decided jointly with the survey teams, one approach used in Ghana was that one team member completes Instrument 1 while the second person completes Instrument 2. The person who has more time available after completing his or her initial task then completes Instruments 3 and/or 4.

Following is an example of how the mode of work can be operationalized at the health facility using a two-person team (see Figure 5).

Surveyor One is primarily responsible for conducting the medical record review. He or she will ask the health worker to see the health records that are kept in the facility. Then, she or he will conduct a thorough review of the lists or records to try to determine how many children were referred over the given time period (preferably the previous 12 months). For cases that are referred, all the pertinent information is input on the medical record review instrument so the case can be followed up at the referral facility. The record review may involve the use of several documents, the nature of which should be clarified during the surveyor training.

In situations where the facility being visited is both a referring and a referral facility, Surveyor One has an additional task. In addition to the record review looking for referrals (as is mentioned above), Surveyor One also looks for the children that have been referred from other facilities. Instrument 1 is used for both collecting information on cases that were referred and collecting information on cases that made it to the referral site.

Figure 5. Division of Labor at the Health Facility

```
        ┌──────────────┐              ┌──────────────┐
        │  Surveyor 1  │              │  Surveyor 2  │
        └──────┬───────┘              └──────┬───────┘
               ▼                             ▼
        ┌──────────────┐              ┌──────────────┐
        │Medical record│              │  Caretaker   │
        │    review    │              │  interviews  │
        └──────┬───────┘              └──────┬───────┘
               │                             │
               │    ┌──────────────┐         ▼
               ├───▶│Identification│   ┌──────────────┐
   Morning     │    │of new        │   │  Outpatient  │
               │    │referral cases│   │  caretaker   │
               │    └──────────────┘   │  interviews  │
               │    ┌──────────────┐   └──────┬───────┘
               └───▶│Follow-up for │          │
                    │cases referred│          │
                    │to this       │          │
                    │facility      │          │
                    └──────────────┘          │
               ▼                             ▼
        ┌──────────────┐              ┌──────────────┐
 Afternoon│Health worker │              │  Inpatient   │
        │  interviews  │              │  caretaker   │
        └──────────────┘              │  interviews  │
                                      └──────────────┘
```
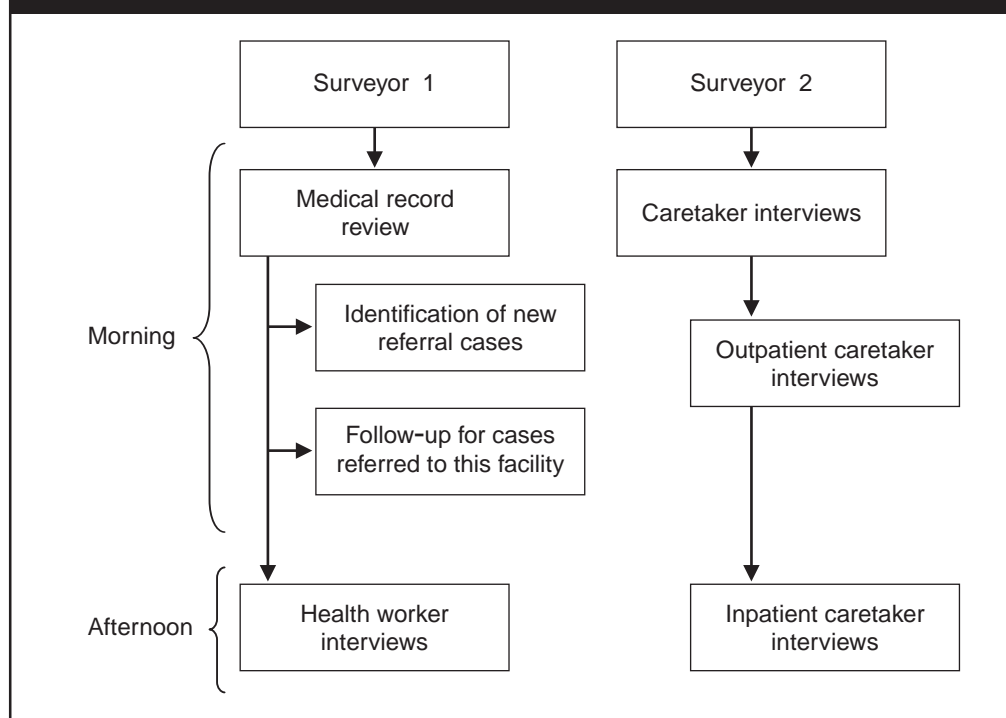
Depending on the facility's patient load, and whether it is also a referral site, this task will take a varying amount of time, but will most likely take all morning.

Surveyor Two is primarily responsible for interviewing caretakers in the outpatient and inpatient wards. Upon arrival at the health facility, she or he will go to the waiting room of the OPD and identify all sick children less than five years of age. She or he will then explain to the caretakers the purpose of the study and obtain their informed consent for participation in the study. Informed consent must be sought for each potential interviewee before the interview can start. If consent is not granted, that caretaker would be excluded from the sample. An example of an informed consent form can be found in Annex E. Once consent has been obtained, the child has been seen by the health worker, and the caretaker has visited the dispensary, the surveyor will interview the caretaker using Instrument 2. All of the caretakers of sick children present in the waiting room in a specified time window will be interviewed. This is usually between 8:00 a.m. and 12:30 p.m. Caretakers with children that meet the case definition but arrive outside the time window should not be interviewed.

In facilities without inpatient services, the surveyors can decide, based on who completes the initial task first, who should interview the health workers. In facilities with an inpatient ward, however, Surveyor Two would also interview the caretakers in the ward (using Instrument 2) while Surveyor One interviews the health workers using Instruments 3 and/or 4.

For most facilities, all of the caretaker cases in the inpatient wards should be interviewed. However, it is possible, especially in large concentration hospitals, that there may be too many cases in the wards. In such situations only a sample of 10 caretakers should be interviewed.

Once work in a facility is completed, surveyors thank the health worker, and either go to the next facility to be surveyed to find accommodations or return to their homes. The next day they begin the process again.

If communities are selected as the first-level facilities, the surveyors will only review records and conduct interviews with the community health workers. No caretakers will be interviewed. For this group, one surveyor per community per day may be sufficient, or perhaps using a team of two surveyors, two communities per day could be covered, depending on their geographic proximity.

An experienced researcher should be hired to conduct the FGDs, so as not to over-burden the survey teams. A standard discussion guide should be applied for each group. Local interpreters may be required for some areas. The researcher should prepare an initial analysis of the findings and submit this to the study organizers for final analysis and interpretation.

7. Data Management

Each team supervisor is responsible for ensuring that all procedures are properly followed in the health facilities. At the end of each day, surveyors should review their instruments and ensure that data is collected properly. Surveyors should be instructed to contact the study organizers should they run into any problems. The study organizers should visit the data collection sites for additional quality control. Once the data collection is completed by each team, the instruments should be brought back to a central place for review and data input. The study organizers should review all instruments with the surveyors and ensure that they are "clean."

Data entry screens and databases may be prepared using Epi Info 2002 for Windows or another comparable statistical software package. A sample of the data entry screens used in Ghana is shown in Annex F. A dedicated data entry clerk is the best option for inputting data. However, when resources are insufficient, a specially trained surveyor or supervisor can do the data input. A sample of the filled instruments should be selected to verify the accuracy of data input. Additionally, consistency checks should be done running frequencies and tables. A good procedure to use for ensuring that the databases are clean is to sample 10% of the survey forms and check the data input screens to ensure that all data have been correctly entered. Once the database is considered clean, the indicators can be calculated.

8. Analysis

The indicators in Annex A should be calculated by at least two different individuals to ensure accuracy. Most indicators can be produced doing simple frequencies, means, and 2 x 2 tables using Epi Info. Certain indicators can be analyzed using Chi-square and Student's t-tests, as well as by determining confidence intervals. Qualitative data from the FGDs requires separate analysis. Additionally, the HIS may have data to provide additional context for the study findings.

Once initial frequencies are obtained, a set of graphs should be produced and discussed with the research team, including the surveyors and selected national authorities. Their opinions and insight are invaluable to explain certain occurrences or patterns and can formulate the policy-level recommendations to be incorporated into the final study report. Annex G contains sample tables and graphs for presentations.

Each of the indicators should be calculated overall and by administrative unit, so that a copy of each unit's data can be left with it.

The FGDs should be manually recorded and tape-recorded, and later transcribed. Considering that the total number of FGDs should be less than 10, analysis can be done manually for content and themes.

9. Report Writing

Once the data are tabulated and reviewed with the study management group and research team, a draft report should be produced. Annex H contains a suggested outline for the final report. It is suggested that the draft report be shared with the study management group and with key partners before being finalized.

10. Dissemination of Results

When the document is completed, the results should be disseminated in a working meeting with national-level partners, stakeholders, and donors who have an interest in child health and improvement of referral. It is also important to include district-level representatives and community partners, if community-based referral was addressed in the assessment. The document can serve as a basis for discussion, particularly related to ways in which the referral situation can be improved. Existing programs to improve referral can be discussed, as well as new ideas for introducing local- and national-level improvements. Some of these ideas can be added to the final document under discussion and recommendations.

References

1. World Health Organization. 1999. *IMCI information package: Management of childhood illness in developing countries: Rationale for an integrated strategy*. Geneva: WHO.
2. World Health Organization. 1995. *Bulletin of the World Health Organization*. 73(6):735–740.
3. 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.
4. 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.
5. 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.
6. Simoes, E. A., T. Desta, T. Tessema, T. Gerbresellassie, M. Dagnew, 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.
7. World Health Organization. 1997. World Health Organization/UNICEF Initiative: Integrated Management of Childhood Illness. *Bulletin of the World Health Organization*. 75 Supplement(1):122.
8. Mwabu, G. 1989. Referral systems and health care seeking behavior of patients: An economic analysis. *World Development*. 17(12):85–92.
9. 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.
10. 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.
11. BASICS II and the Ghana Health Service. 2003. *The status of referrals in three districts in Ghana: Analysis of referral pathways for children under five: Atwima, Gomoa, and Yendi districts*. Arlington, VA: BASICS, for USAID.
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. Nougtara, 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. BASICS II and the Ghana Health Service, Ibid.
20. Weller, S., T. Ruebush, and R. Klein. 1997. Predicting treatment seeking behavior in Guatemala: A comparison of the health services research and decision-theoretic approaches. *Medical Anthropology Quarterly*. 11(2):224–245.
21. Ghanatra, B., and S. Hirve. 1994. Male bias in health care utilization for underfives in a rural community in western India. *Bulletin of the World Health Organization*. 72(1):101–104.

22. Djokoto, E. 1998. Effect of referral on deaths from cholera. *World Health Forum*. 19(2):158.
23. 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.
24. Peterson, S., et al., Ibid.
25. Kalter, H. D., R. Salgado, L. H. Moulton, P. Nieto, A. Contreras, M. L. Egas, and R. E. Black. 2003. Factors constraining adherence to referral advice for severely ill children managed by the Integrated Management of Childhood Illness approach in Imbabura province, Ecuador. *Acta Pediatrica*. 92(1):103–110.
26. 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.
27. John Snow, Inc. 1997. *A study of referral non-compliance in the ARI Strengthening Program, JSI/Nepal, in collaboration with CDD/ARI Section, MOH, HMG, Nepal*. Washington, D.C.: JSI.
28. Peterson, S., et al., Ibid.
29. Waldman, R., A. Bartlett, C. Campbell, and R. Steketee. 1996. *Overcoming remaining barriers: The pathway to survival*. Arlington, VA: BASICS.

Study Indicators

Instrument 1: Record Review (All Facilities)

1. The number of children less than five years of age seen, by facility and by month
2. Percentage of children seen who were referred to a higher level of care, by type of facility
3. Percentage of referred children found at next level of care, by type of facility
4. Percentage of referred children who were given a referral slip by the health provider
5. Percentage of referred children who arrived at the referral site with a referral slip
6. Causes for referral, by location and over time
7. Median time from referring facility to referral site
8. Median time elapsed between referral and compliance
9. Median time to referral site, comparing those who complied and those who did not comply
10. Diagnosis made at referral site
11. Percentage of children referred a second time
12. Distribution of referrals by age
13. Distribution of referrals by sex

Instrument 2: Caretaker Interview (Outpatient/Inpatient)

14. Percentage of children who were self-referred
15. Reasons given by caretakers for going directly to referral site (if referral site)
16. Percentage of caretakers who sought care somewhere else previously
17. Source of previous care
18. Options for closer health care
19. Percentage of children referred from another facility
20. Median time hospitalized (inpatient only)
21. Distribution of presenting complaints
22. Median time elapsed before seeking care at the facility, by type of facility
23. Median time between caretaker's home and referral site by most commonly used transport
24. Distribution of mode of transportation
25. Mean cost of transportation, lodging, and medical services
26. Opinion of health services received, by type of facility
27. Distribution of health facilities
28. Distribution of cases by age and gender
29. Relationship of caretakers (mothers, fathers, both parents) to child

30. Percentage of children referred to another facility

31. Caretaker ability to comply with referral

32. Reasons for non-compliance with referral

33. Caretaker's actions if the child does not get better

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

34. Number of children less than five years of age seen in previous month

35. Percentage of children referred in previous month

36. Causes of referral in previous month

37. Percentage of referred children given referral slip in previous month

38. Percentage of referred children who were accompanied to referral site in previous month

39. Median time from referring facility to referral site

40. Health worker opinion about caretaker non-compliance

41. Health worker opinion on how easy it is to arrive at the referral site

42. Health worker opinion about whether referred cases are given priority at referral site

43. Instructions given/actions taken when making a referral

44. Health worker opinion about illnesses that should be treated locally

45. Health worker receipt of feedback slips

46. Health worker recommendations to improve referral

47. Distribution of type of health personnel by type of facility

48. Percentage of health workers trained in IMCI, by type of facility

49. Percentage of facilities with access to transportation

50. Percentage of facilities with access to means of communication

51. Distribution of advanced health provider skills and facility materials for managing severe illness

52. Percentage of facilities with referral slips

Instrument 4: Health Provider Interview (Outpatient–Referral Site)

53. Number of children less than five years of age seen in previous eight-hour shift

54. Percentage of children seen in previous eight-hour shift who were referred by another provider

55. Percentage of referred cases in previous eight-hour shift who arrived with a referral slip

56. Diagnoses of referred cases in previous eight-hour shift

57. Percentage of referred cases in previous eight-hour shift who were accompanied to the referral site

58. Percentage of referred cases who were admitted to the hospital

59. Health worker opinion of caretaker non-compliance

60. Health worker opinion about appropriateness of referrals

61. Health worker opinion about whether referred cases are given priority

62. Health worker opinion about illnesses that should be treated locally

63. Health worker completion of feedback slips

64. Health worker recommendations to improve referral

65. Distribution of type of health personnel, by type of facility

66. Percentage of health workers trained in IMCI, by type of facility

67. Distribution of advanced health provider skills and facility materials for managing severe illness

68. Percentage of facilities with referral slips

Sample Study Budget

Activity*	Line Item	Number of Units	Unit Price	Total Cost
Preparatory meetings	Travel/per diem Meeting refreshments Stationery	6 days 3 mtgs 3 mtgs	$.00	$.00
Surveyor training	Meeting costs (room, refreshments) Participant travel Participant per diem Facilitator travel Facilitator per diem Facilitator fee Driver's travel Driver's per diem Stationery Photocopying Supplies (bags, calculators, etc.)	5 days 15 people 90 days 2 people 12 days 12 days 3 people 18 days 1 unit 1 unit 1 unit		
Data collection	Surveyor per diem Surveyor fee Facilitator fee Facilitator travel Facilitator per diem Vehicle rental Fuel Supplies Photocopying	80 days 80 days 8 days 8 days 8 days 18 days 18 days 3 units 3 units		
Dissemination	Participant travel Participant per diem Facilitator fee Facilitator travel Facilitator per diem Meeting costs (room, refreshments) Stationery Printing document	20 people 40 days 3 days 3 days 3 days 1 day 1 unit 150 units		
TOTAL COST				**$.00**

* External technical assistance, if required, is not included in the above table.

Study Instruments

Instrument 1
Record Review (All Facilities)

Facility code: _____

Surveyor no. ___ ___   Today's date: ___ ___ / ___ ___ / ___ ___   Facility type: (1) Community (2) Health provider (3) Health center   (4) Hospital
DD   MM   YY

Facility name: _____

Type of person in charge of facility: _____ *(medical officer, professional nurse, medical assistant, nurse auxiliary, CHW)*

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

Nearest referral facility: _____   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	Causes of referral (from record)	Ref to HC/HO (name)	Left with referral slip Y/N
						1. 2. 3.		

Arrive with referral slip Y/N	Diagnosis	Adm Y/N	2nd referral Y/N	Date of ref	Causes of 2nd referral	Refer to HO (name)	Left with referral slip Y/N
				___/___/___ DD MM YY	1. 2. 3.		

Comply Y/N and Date	Comply Y/N and Date Slip Y/N
___/___/___ DD MM YY	___/___/___ DD MM YY Slip Y/N

Facility code: _____

#	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)	Left with referral slip Y/N
						$\_\_/\_\_/\_\_$ DD MM YY	1. 2. 3.		

Comply Y/N and Date	Arrive with referral slip Y/N	Diagnosis	Adm Y/N	2nd referral Y/N	Causes of 2nd referral	Refer to HO (name)	Left with referral slip Y/N	Comply Y/N and Date Slip Y/N
$\_\_/\_\_/\_\_$ DD MM YY					1. 2. 3.			$\_\_/\_\_/\_\_$ DD MM YY Slip Y/N

#	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)	Left with referral slip Y/N
						$\_\_/\_\_/\_\_$ DD MM YY	1. 2. 3.		

Comply Y/N and Date	Arrive with referral slip Y/N	Diagnosis	Adm Y/N	2nd referral Y/N	Causes of 2nd referral	Refer to HO (name)	Left with referral slip Y/N	Comply Y/N and Date Slip Y/N
$\_\_/\_\_/\_\_$ DD MM YY					1. 2. 3.			$\_\_/\_\_/\_\_$ DD MM YY Slip Y/N

Instrument 2
Caretaker Interview (Outpatient/Inpatient)

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

Type of facility: (1) Health Provider (2) Health Center (3) 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
- b. Bloody stool
- c. Fever/malaria
- d. Convulsions
- e. Fast/difficult breathing/cough/pneumonia
- f. Lethargy
- g. Not eating/drinking anything
- h. Vomiting
- i. Vomiting everything
- j. Anemia/malnutrition
- k. Measles
- l. Ear problem
- m. Other, specify: _____

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)*

Questionnaire code: __ __ /__ __

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. Private practitioner	
d. NGO facility	
e. Community health nurse	
f. Community health worker	
g. Drug vendor/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/minibus   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 _____

Questionnaire code: __ __ /__ __

5. "How much money will you have spent to come here and return to your home on:
   (Prompt the caretaker.)
   a. Transportation   *(Local Currency)* _____
   b. Lodging/food   _____
   c. Medical services (consultation, admission, drugs, etc.)?"   _____
                                                  TOTAL: _____

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

8. "Are there other health providers/facilities that you could use that are **closer** to your home?"
   1. Yes
   2. No   ⟶   *(IF "NO"—GO TO 9)*
   88. Don't know ⟶   *(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   f. Traditional healer
      b. MOH Health center   g. Drug seller/pharmacy
      c. NGO facility   h. Religious leader
      d. Private practitioner   i. Other, specify: _____
      e. Community health worker

   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   ⟶   *(IF "NO"—GO TO 10)*
   3. Already hospitalized—Yes ⟶   *(IF "ALREADY HOSPITALIZED"—GO TO 10)*

Questionnaire code: __ __ / __ __

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

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

9.2 "Where were you referred?"

   a. Health center   d. Private clinic
   b. District hospital   e. Teaching hospital
   c. Regional hospital   f. Other, specify: _____

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 the hospital today?"

      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

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

Questionnaire code: __ __ /__ __

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
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: _____

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>>?"

_____

_____

14. "If your child were referred to another facility, what could be done to make it
easier for you to go?"

_____

_____

Questionnaire code: __ __ / __ __

15. "When you arrive at a hospital with a referral slip, are you usually given priority when you arrive/are you seen sooner?"
1. Yes
2. No
88. Don't know

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 <<COUNTRY>> Ministry of Health to improve care for children in your community.

Questionnaire code: __ __ / __ __

Instrument 3
Health Provider Interview (Outpatient–Referring Facility)

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

Type of facility: (1) Community   (2) Health Provider   (3) Health Center   (4) Hospital

Facility name:_____ 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 nurse
  e. Community health worker
  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

Questionnaire code: __ __ /__ __

3. "In <<PREVIOUS MONTH>> 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)

    3.1 "How many of these sick children did you refer?"   _____
                                                                (IF "0"—GO TO 4)

        3.1.1 "Why did you refer these children?" ***(Record <u>ALL</u> 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 ⟶ ***(IF "NO"—GO TO 4)***
            3. Don't remember ⟶ ***(IF "DON'T REMEMBER"—GO TO 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 <u>opinion</u> 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 ⟶ ***(IF "YES"—GO TO 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.)*
   a. Easy
   b. Possible
   c. Difficult
   d. Impossible

8. "Does this facility have a means of communication?"
   1. Yes
   2. No ⟶ *(IF "NO"—GO TO 9)*

   8.1 *If "Yes,"* What type of communication is available? *(Circle all that apply.)*
   - a. Phone
   - b. Motorola
   - c. Fax
   - d. Other, specify: _____

   8.2 "Do you routinely use this means of communication to alert the next level of care when a referral is made?"
   1. Yes
   2. No
   88. Don't know

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
    - b. Who to contact at the referral facility
    - c. When to go
    - d. Emphasize the urgency of the referral
    - e. General counseling
    - f. Tell mother to keep child warm
    - g. Start treatment
    - h. Continue feeding (breastfeeding)
    - i. Other, specify:_____

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
    - b. Cost of medical care at the referral site
    - c. Long waiting lines at referral site
    - d. Perceived poor care at referral site
    - e. Problems with transportation
    - f. Poor treatment by health workers
    - g. Weather
    - h. Other children to take care of
    - i. Need permission from husband
    - j. No opinion
    - k. Fear of the hospital
    - l. Other, specify:_____

Questionnaire code: __ __ /__ __

12. "When a caretaker cannot comply with the referral, what do you think s/he will do?"
   a. Child is treated in same facility
   b. Child is taken to a private clinic/private practitioner
   c. Child is taken to a traditional healer
   d. Child is taken to a religious leader
   e. Caretaker treats at home
   f. Don't know
   g. 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
   b. More training
   c. Improved transportation
   d. Improved communication
   e. Reduced medical costs at referral sites
   f. Priority for referral patients
   g. Use of referral slips
   h. Improved counseling
   i. Other, specify: _____

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

Questionnaire code: __ __ /__ __

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

Questionnaire code: __ __ /__ __

Instrument 4
Health Provider Interview
(Outpatient–Referral Site)

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

Type of facility: (1) Health Center   (2) Hospital   (3) Teaching hospital

Name of facility:_____ District:_____

Sub-district:_____

A. Record type of worker:
   a. Medical officer
   b. Professional nurse
   c. Nurse auxiliary
   d. Medical assistant
   e. Community health officer
   f. Other, specify: _____

1. "Are you trained in IMCI?"
    1. Yes
    2. No ⟶ **(IF "NO"—GO TO 2)**

    1.1 *If "Yes," ask:* "How long ago were you trained?"   months

    1.2 "Did someone visit you to provide follow-up after 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 your last 8-hour shift, how many sick children <5 years of age did you see in the OPD?"

                                        Number _____

    (8:00–4:00 shift —DO NOT use Register–Just <u>oral</u> answer)   (IF "0"—GO TO 4)

Questionnaire code: __ __ /__ __

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:
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. Cost of transport   g. Weather
b. Cost of medical care at the referral site   h. Other children to take care of
c. Long waiting lines at referral site   i.   Need permission from husband
d. Perceived poor care at referral site   j.   No opinion
e. Problems with transportation   k. Fear of the hospital
f. Poor treatment by health workers   i.   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)*
   a. Correctly referred
   b. Sometimes correct/incorrect
   c. Incorrectly referred
   d. No opinion."

6. "Do you usually fill out counter-referral/feedback slips for children that are referred to you?"
   1. Yes
   2. No

7. "To your knowledge, are referrals of children under five from HP/HC given priority in the OPD?"
   1. Yes
   2. No
   88. Don't know

8. "Are there referral classifications that you think don't need to be referred and could be treated locally?"
   1. Yes "Which ones and why?" _____
   2. 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 nasograstric tube	(1) Yes	(2) No
10.14	Give food or fluids by nasogastric tube	(1) Yes	(2) No

Questionnaire code: __ __ /__ __

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

<u>*(Check all*</u>—*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	Oxygen concentrators	(1) Yes	(2) No
11.7	Refrigerator for the hospital	(1) Yes	(2) No
11.8	Refrigerator for EPI	(1) Yes	(2) No
11.9	Suction catheters	(1) Yes	(2) No
11.10	IV administration sets	(1) Yes	(2) No
11.11	IV canulas	(1) Yes	(2) No
11.12	Blood bank	(1) Yes	(2) No
11.13	Blood administration sets	(1) Yes	(2) No
11.14	Microscope	(1) Yes	(2) No
11.15	Slides for blood smears	(1) Yes	(2) No
11.16	Syringes (2 cc)	(1) Yes	(2) No
11.17	Needles	(1) Yes	(2) No
11.18	Lumbar puncture needle	(1) Yes	(2) No
11.19	Stains for blood film (giemsa, gram)	(1) Yes	(2) No
11.20	Steam inhalation machine	(1) Yes	(2) No
11.21	Nasal canulas	(1) Yes	(2) No
11.22	NG tube	(1) Yes	(2) No
11.23	Ambu bag	(1) Yes	(2) No
11.24	IV fluids	(1) Yes	(2) No
11.25	50% glucose	(1) Yes	(2) No
11.26	IV diazepam	(1) Yes	(2) No
11.27	IV paraldehyde	(1) Yes	(2) No
11.28	IV chloramphenicol	(1) Yes	(2) No
11.29	IM benzatin penicillin	(1) Yes	(2) No
11.30	Crystalline penicillin	(1) Yes	(2) No
11.31	IV gentamicin	(1) Yes	(2) No
11.32	IV quinine	(1) Yes	(2) No
11.33	HIV test kit (A and B)	(1) Yes	(2) No
11.34	Referral slips	(1) Yes	(2) No

Thank you for your participation!

Instrument 5
Focus Group Discussion Guide

1. "What are the common illnesses that affect children (under 5 years) in this community? Which ones are the most dangerous for young children?"

2. "How do you determine that your child (under 5 years) is seriously ill? What signs do you look for?"

3. "What do you do when your child (under 5 years) is seriously ill?" If care-seeking is mentioned, ask, "Where do you usually seek treatment?"

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

5. "If your sick child is referred by a health worker to another facility, where would this normally be *(name the facility, hospital, or clinic)*? Do you have any experiences at this facility to share?"

6. "What would deter you from taking your child to the hospital *(state the name)*?"

    Staff behavior (be specific)
    Quality of facility (long lines, availability of drugs, etc.)
    Distance (time, availability of transport)
    Cost of treatment
    Cost of transport
    Influence of spouse, family members, friends
    Beliefs

7. "If you need to take your sick child to the hospital *(state name)*, what could be done to make this easier for you?" Ask about what can be done at the referring facility, as well as at the referral site.

Ghana Training Curriculum for Surveyors

Day		Activities	Materials and Supplies
1	Morning	**Opening** ■ Opening remarks ■ Introduction of participants ■ Administrative information **General information** ■ Purpose of the study ■ Training objectives ■ Referral primer ■ Study protocol and techniques **The IMCI strategy** ■ What is IMCI ■ Global review ■ The IMCI guidelines: Causes for referral **Where are we?**	**Audiovisual equipment** Overhead projector (1) Transparencies (1 box) PowerPoint projector (1) Electrical connections for projector Small printer (1) Printer paper (1 ream) IMCI video (1) TV (1) VCR (1) Flipchart (1) Masking tape (1) Color markers (1 set) **Surveyor materials** Clipboards Pocket calculators Copies of instruments Pencils Pencil sharpener Notebook Erasers IMCI chart booklet OPD/Child health card Registers Informed consent card Surveyor guidelines Letter of introduction List of diagnostic codes Schedule of activities and logistical plan Bag for carrying surveys Box for storing surveys Envelopes for surveys **Other materials** Reliability forms IMCI wall charts Supplies for two tea breaks a day List of facilities to be surveyed
	Afternoon	**Instrument 1: Record Review (All Facilities)** ■ Establishment of rules ■ Review ■ Reliability-checking **Preparation for practice** ■ Work in clinic ■ Informed consent **Where are we?**	
2	Morning	**Morning practice in health center**	

Training Curriculum for Surveyors (cont'd)			
Day		*Activities*	*Materials and Supplies*
2	Afternoon	**Debrief on morning practice** **Instrument 2: Caretaker Interview (Outpatient/Inpatient)** ■ Review ■ Role play ■ Translation **Reliability-checking** **Preparation for practice** **Where are we?**	
3	Morning	**Morning practice in health center**	
	Afternoon	**Debrief on morning practice** **Instrument 3: Health Provider Interview (Outpatient–Referring Facility)** ■ Review ■ Role play ■ Reliability-checking **Instrument 4: Health Provider Interview (Outpatient–Referral Site)** ■ Review ■ Role play **Role play** **Where are we?**	
4	Morning	**Morning practice in health center**	
	Afternoon	**Debrief on morning practice** **Review Instrument 2 translation** **Review Instruments 1, 2, 3, and 4** **Team practice** **Final list of rules** **Planning the logistics** **Team supervisors' meeting** **Where are we?**	
5	Morning	**Teams pick-up field materials and instruments**	

Sample Informed Consent Letter

Researcher: <<COUNTRY>> Ministry of Health and <<PROJECT NAME>>

Local Contact Information: <<INSERT NAME>>
Address: <<INSERT>>
Phone: <<INSERT>>

Introduction: You are invited to take part in a research study. Before you decide to be a part of the study, I will explain the purpose and the benefits. I will answer any questions you may have. Your decision to participate is your choice.

Purpose: The Ministry of Health and the <<INSERT>> project are carrying out a research study to look at health care issues for children. The results of the study will be used to improve health services in your community.

Procedures: We would like to ask you some questions about your child's illness and how you are caring for your child. These questions shouldn't take more than 20 minutes of your time.

Risks and Benefits: Answering these questions should not be overly upsetting, but you are free to not answer any of the questions. Although your child will not benefit now, your participation will help improve health care services in your community. There is no payment to you or cost for you to participate. You may choose to stop this study at any time.

Confidentiality: No personal information will appear in any study reports. The summary report will be shared with the Ministry of Health and others. Your individual answers will not be shared outside of the research team.

You may ask questions at any time about the study. Your concerns are important to me; please contact me at any time at the address/phone number listed above.

Now that I have explained the purpose of the study to you, and your questions have been answered, if you agree to participate, I will sign the bottom of this form to confirm your participation.

Investigator Statement: I certify that I have explained the research study to the above individual, including the purpose, the procedures, the possible risks, and the potential benefits associated with participation in this research study. Any questions raised have been answered to the individual's satisfaction.

Surveyor (print name) _____

Signature _____ Date _____

Witness (print name) _____

Signature _____ Date _____

Ghana Data Entry Screens

Ghana Health Service (GHS)
Referral Study
January 2003

Instrument 1 - Record Review

Form 1 General Info

Facility Code   Surveyor No.   Date   Facility Type   Facility Name

Person in charge   District   Sub-district

Population   Nearest Referral Facility   OD   Estimate Distance

Estimate Time   Mode of Transport 1   Mode of Transport 2

Data Source and Records

Data Source 1   Data Source 2   Data Source 3

No. <5 seen in Jan   Feb   March   April   May   June

July   Aug   Sept   Oct   Nov   Dec   Total seen

No. Referred in Jan   Ref Feb   Ref March   Ref April   Ref May

Ref June   Ref July   Ref Aug   Ref Sept   Ref Oct   Ref Nov

Ref Dec   Ref Total

Cases

Child No.   Age months   Age Days   Child sex   Referral date

Ref Cause 1   Ref Cause 2   Ref Cause 3

Ref facility type   Ref Facility Name   Comply Y/N   Comply Date

Arrive with Slip   Diagnosis 1   Diagnosis 2   Admitted

Second Referral   Sec Ref Cause 1   Sec Ref Cause 2

Sec Ref Cause 3   Second Ref to   Sec Ref Comply Y/N

Sec Ref Date   Sec Ref Slip

No. Days Passed

Instrument 2 - Caretaker Interview

Form 2 General Info

Questionnaire No. [ ]   Surveyor No. [ ]   Date [ ]   Facility Type [ ]

Facility Code [ ]   Facility Name [ ]   District [▼]   Sub-district [ ]

Child Info

Child's Name [ ]   Child Age Months [ ]   Child Age Days [ ]   Child Sex [ ]

Village [ ]   District address [ ]   Sub-district address [ ]

Caretaker Info

Caretaker name [ ]   Mother [ ]   Father [ ]   Relative [ ]   Other [ ]

Other specify [ ]   Both parents [ ]

Presenting Complaint

a. Diarrhoea/dehydration [ ]   b. Bloody stool [ ]   c. Fever [ ]   d. Convulsions [ ]   e. Fast breathing [ ]

f. Lethargy [ ]   g. Not eating/drinking [ ]   h. Vomiting [ ]   i. Vomiting everything [ ]   j. Anemia [ ]

k. Measles [ ]   l. ear problem [ ]   Other complaint [ ]   Other complaint specify [ ]

Child hospitalized? [ ]   How many days? [ ]

C1 - 2.1 Where and Days

C1. How far back? [ ]   C2. Somewhere else? [ ]   C2.1a. Hospital [ ]   C2.1a. Days back [ ]

C2.1b. Health Center-MOH [ ]   C2.1b. Days [ ]   C2.1c. Community Health Nurse [ ]   C2.1c. Days [ ]

C2.1d. Private practitioner [ ]   C2.1d. Days [ ]   C2.1e. Community agent [ ]   C2.1e. Days [ ]

C2.1f. NGO [ ]   C2.1f. Days [ ]   C2.1g. Drug vendor [ ]   C2.1g. Days [ ]

C2.1h. Religious leader [ ]   C2.1h. Days [ ]   C2.1i. Traditional healer [ ]   C2.1i. Days [ ]

C2.1j. Other [ ]   C2.1j. Other specify [ ]   C2.1j. Days [ ]

C2.2 - 2.3 Provider Referral

C2.2 Any provider refer here? [ ]   C2.2 Which provider? [ ]   C2.2.1 When? [▼]

C2.3 Given referral slip? [ ]   C2.3.1 Give slip to HW? [ ]   C2.3.1 Why hot? [ ]

C3-5 Transportation

C3a. Bus/mini-bus [ ]   C3b. Ambulance [ ]   C3c. Taxi [ ]   C3d. Private car [ ]   C3e. Motorbike [ ]

C3f. Walked [ ]   C3g. Animal/cart [ ]   C3h. Boat [ ]   C3i. Bicycle [ ]   C3j. Other [ ]

C3j. Other specify [ ]   C4. How long? [ ]   C5a. transportation [ ]

C5b. Lodging/food [ ]   C5c. Services [ ]   C5. Total Cedis [ ]

C5.1 How money gathered? [▼]

C6 - 7 Reason to Choose Facility

C6. How much time waiting? ☐ C7a. Convenience ☐ C7b. Trust ☐ C7c. Cost ☐

C7d. Better care ☐ C7e. Always come here ☐ C7f. Closest facility ☐ C7g. Doctors here ☐

C7h. Instructed ☐ C7i. Child not improved ☐ C7j. Drugs here ☐ C7k. Other ☐

C7k. Other specify ☐

C8 Other Providers or Facilities

C8. Closer providers? ☐ C8.1a. Hospital ☐ C8.1b. Health Center ☐ C8.1c. NGO ☐

C8.1d. Private practitioner ☐ C8.1e. Community HW ☐ C8.1f. Traditional healer ☐

C8.1g. Drug seller ☐ C8.1h. Religious leader ☐ C8.1i. Other ☐ C8.1i. Other specify ☐

C8.2 Time to closest provider ☐

C9 Diagnosis

C9. Referred today? ☐ C9.1a. Diarrhoea ☐ C9.1b. Vomiting ☐ C9.1c. Fever ☐ C9.1d. Pneumonia ☐

C9.1e. Convulsions ☐ C9.1f. Lethargy ☐ C9.1g. Vomit everything ☐ C9.1h. Not eating/drinking ☐

C9.1i. Anemia ☐ C9.1j. Measles ☐ C9.1k. Ear problem ☐ C9.1l. Other ☐ C9.1l. Other specify ☐

C9.1m. Wasn't told ☐ C9.1n. Can't remember ☐

C9.2 Where referred

C9.2a. Health center ☐ C9.2b. District hospital ☐ C9.2c. Regional hospital ☐ C9.2d. Private clinic ☐

C9.2e. Teaching hospital ☐ C9.2f. Other ☐ C9.2f. Other specify ☐

C9.3-C9.5

C9.3 Going to referral site? ☐ C9.4 Is referral necessary? ☐ C9.5 Able to take today? ☐

C9.5.1a. Non-transport costs ☐ C9.5.1b. Transport costs ☐ C9.5.1c. Distance ☐

C9.5.1d. Lack of transport ☐ C9.5.1e. Weather ☐ C9.5.1f. No drugs at site ☐ C9.5.1g. Other children ☐

C9.5.1h. Need permission ☐ C9.5.1i. Bad experience ☐ C9.5.1j. Long waiting ☐

C9.5.1k. Other ☐ C9.5.1k. Other specify ☐ C9end ☐

C10

C10. Able to take child now? ☐ C10.1a. Non-transport costs ☐ C10.1b. Transport costs ☐

C10.1c. Distance ☐ C10.1d. Lack of transport ☐ C10.1e. Weather ☐ C10.1f. No drugs ☐

C10.1g. Other children ☐ C10.1h. Need permission ☐ C10.1i. Bad experience ☐ C10.1j. Long wait ☐

C10.1k. Other ☐ C10.1k. Other specify ☐

C11

C11. Last three months? ☐ C11.1 Able to take ☐ C11.2a. Non-transport costs ☐

C11.2b. Transport costs ☐ C11.2c. Distance ☐ C11.2d. Lack of transport ☐ C11.2e. Weather ☐

C11.2f. No drugs ☐ C11.2g. Other children ☐ C11.2h. Need permission ☐ C11.2i. Bad experience ☐

C11.2j. Long wait ☐ C11.2k. Other ☐ C11.2k. Other specify ☐

C12-13

C12. Feel about care today? [▾]   C13. Improvements 1 [   ]

C13. Improvements 2 [   ]   C13. Improvements 3 [   ]   C13. Improvements 4 [   ]

C13. Improvements 5 [   ]

C14

C14a. Return to this facility [ ]   C14b. Another facility [ ]   C14c. Private clinic [ ]

C14d. Traditional healer [ ]   C14e. Self-medicate [ ]   C14f. Don't know [ ]

C14g. Other [ ]   C14g. Other specify [   ]

Instrument 3 - Health Provider Interview (Outpatient - Referring Facility)

Form 3 Gen Info

Questionnaire code [ ]   Surveyor No. [ ]   Date [ ]   Facility type [ ]   Facility code [ ]

Facility Name [ ]   District [▾]   Sub-district [ ]

HW type

a. Medical Officer [ ]   b. Professional nurse [ ]   c. Medical assistant [ ]

d. Auxiliary nurse [ ]   e. CHO [ ]   f. Other [ ]   ff. Other specify [ ]

HP1 - HP3

HP1. IMCI trained? [ ]   HP1.1 How far back trained? [ ]   HP1.2 Follow-up? [ ]

HP2. How long here with <5? [ ]   HP2.1 Supervision in 6 months? [ ]   HP3. First visits [ ]

HP3. Re-visits [ ]   HP3. Total visists [ ]   HP3.1 How many referred? [ ]

HP3.1.2 Referral slip no. [ ]   HP3.1.3 Accompany? [ ]   HP3.1.4 Could not go? [ ]

HP3.1.4 How many? [ ]   HP3.1.4.1 What did you do? [ ]

HP4-HP7

HP4. Referral facility [ ]   HP5. Opinion of care at ref site? [▾]

HP6. Ambulance available? [ ]   HP6.1a. Bus/minibus [ ]   HP6.1b Facility vehicle [ ]   HP6.1c Taxi [ ]

HP6.1d. Private car [ ]   HP6.1e. Motorbike [ ]   HP6.1f. Boat [ ]   HP6.1g. Bicycle [ ]

HP6.1h. Other [ ]   HP6.1h. Other specify [ ]   HP7. How is it to get to referral site? [▾]

HP8 Communication Means

HP8. Communication means? [ ]   HP8.1a. phone [ ]   HP8.1b. Motorola [ ]   HP8.1c. fax [ ]

HP8.1d. Other [ ]   HP8.1d. Other specify [ ]

HP9 - HP10

HP9. Refer 10 children [ ]   HP10a. Name and location [ ]   HP10b. Who to contact [ ]

HP10c. When to go [ ]   HP10d. Emphasize urgency [ ]   HP10e. Counseling [ ]

HP10f. Keep warm [ ]   HP10g. Start treatment [ ]   HP10h. Continue Feeding [ ]   HP10i. Other [ ]

HP10i. Other specify [ ]

HP11

HP11a. Transport cost [ ]   HP11b. Cost of Medical Care [ ]   HP11c. Long wait [ ]   HP11d. Poor care [ ]

HP11e. Transportation problems [ ]   HP11f. Weather [ ]   HP11g. Other children [ ]   HP11h. Need permission [ ]

HP11i. No opinion [ ]   HP11j. Other [ ]   HP11j. Other specify [ ]

HP12

HP12a. Treated in same facility ☐   HP12b. Private clinic ☐   HP12c. Traditional healer ☐

HP12d. Religious leader ☐   HP12e. Treat at home ☐   HP12f. Don't know ☐   HP12g. Other ☐

HP12g. Other specify ▭

HP13-HP15

HP13. Conditions Req Ref ☐   HP13. Which ones 1? ▭   HP13. Which ones 2? ▭

HP13. Which ones 3? ▭   HP14. Feedback slips? ▭   HP15. Priority given? ☐

HP16

HP16a. Provide feedback ☐   HP16b. More training ☐   HP16c. Improve Transportation ☐

HP16d. Improve communication ☐   HP16e. Reduce Medical Costs ☐   HP16f. Priority for ref ☐

HP16g. Referral slips ☐   HP16h. Improved counseling ☐   HP16i. Other ☐   HP16i. Other specify ▭

HP17 Have Ability

HP17.1 Quinine ☐   HP17.2 Diazepam ☐   HP17.3 Chloramphenicol ☐   HP17.4 IM injections ☐

HP17.5 IV Injections ☐   HP17.6 IV Fluids ☐   HP17.7 Blood slide ☐   HP17.8 Lumbar puncture ☐

HP17.9 Nasal suction ☐   HP17.10 Oxygen ☐   HP17.11 Transfuse blood ☐

HP17.12 Intraosseous fluids ☐   HP17.13 Nasogastric tube ☐   HP17.14 Give food by NG tube ☐

HP17.15 Incise abscesses ☐

HP18 Materials

HP18.1 Salter scale ☐   HP18.2 Infantometer ☐   HP18.3 Thermometer ☐   HP18.4 Suction pump ☐

HP18.5 Oxygen cylinders ☐   HP18.6 Clinic Refrigerator ☐   HP18.7 EPI Refrigerator ☐

HP18.8 Suction catheters ☐   HP18.9 IV Admin sets ☐   HP18.10 IV Canulas ☐

HP18.11 Blood bank ☐   HP18.12 Blood Admin Sets ☐   HP18.13 Microscope ☐   HP18.14 Slides ☐

HP18.15 Syringes ☐   HP18.16 Needles ☐   HP18.17 Lumbar needle ☐   HP18.18 Stains ☐

HP18.19 Steam Inhalation ☐   HP18.20 Nasal Canulas ☐   HP18.21 NG tube ☐

HP18.22 Ambu bag ☐   HP18.23 IV Fluids ☐   HP18.24 Glucose 50% ☐   HP18.25 IV Diazepam ☐

HP18.26 IV Chloramphenicol ☐   HP18.27 IM Benz Penicillin ☐   HP18.28 Crystalline Penicillin ☐

HP18.29 IV Gentamicin ☐   HP18.30 IV Quinine ☐   HP18.31 HIV test kit ☐   HP18.32 Referral slips ☐

HP3.1.1 Child Number ☐   Form3 facility type ☐   Form3 Qno ☐

HP3.1.1a. Diarrhea ☐   HP3.1.1b. Pneumonia ☐   HP3.1.1c. Dehydration ☐

HP3.1.1d. Severe cough ☐   HP3.1.1e. Bloody stool ☐   HP3.1.1f. Convulsions ☐

HP3.1.1g. Fever ☐   HP3.1.1h. Malaria ☐   HP3.1.1i. Lethargy ☐   HP3.1.1j. Vomiting ☐

HP3.1.1k. Measles ☐   HP3.1.1l. Anemia ☐   HP3.1.1m. Severe Anemia ☐

HP3.1.1n. Malnutrition ☐   HP3.1.1o. Ear problem ☐   HP3.1.1p. Sepsis ☐

HP3.1.1q. Physical injury ☐   HP3.1.1r. Infection in urethra ☐

Instrument 4 - Health Provider Interview (Outpatient at Referral Site)

Form 4 General Info

Questionnaire code [ ]   Facility Code [ ]   Surveyor No. [ ]   Date [   ]

Facility type [ ]   Facility name [   ]   District [▼]   Sub-district [   ]

HW type

a. Medical Officer [ ]   b. Professional nurse [ ]   c. Nurse auxiliary [ ]   d. Medical assistant [ ]

e. CHO [ ]   f. Other [ ]   f. Other specify [   ]

RS1-RS3

RS1. IMCI trained? [ ]   RS1.1 How long ago? [ ]   RS1.2 Follow-up [ ]   iS2. How long with <5? [ ]

RS2.1 Supervision last 6 months? [ ]   RS3. How many children seen? [ ]

RS3.1 How many referred? [ ]   RS3.1.1a. MOH facility [ ]   RS3.1.1b. NGO facility [ ]

RS3.1.1c. Private practitioner [ ]   RS3.1.1d. Community provider [ ]   RS3.1.1e. Traditional healer [ ]

RS3.1.1f. Don't know [ ]   RS3.1.1g. Other [ ]   RS3.1.1g. Other specify [   ]

RS3.1.2 Referral slip no. [ ]   RS3.1.3 Accompanied [ ]   RS3.1.5 How many admitted? [ ]

RS4

RS4a. Costs [ ]   RS4b. Transportation problems [ ]   RS4c. Weather [ ]   RS4d. Other children [ ]

RS4e. Need Permission [ ]   RS4f. No opinion [ ]   RS4g. Other [ ]   RS4g. Other specify [   ]

RS5-RS9

RS5. Opinion on referred [▼]   RS6. Feedback slips [ ]   RS7. Priority given [ ]

RS8. Any don't need to be referred? [ ]   RS9. Improve 1 [   ]   RS9. Improve 2 [   ]

RS9. Improve 3 [   ]   RS9. Improve 4 [   ]   RS9. Improve 5 [   ]

RS10 Ability

RS10.1 Quinine [ ]   RS10.2 Diazepam [ ]   RS10.3 Chloramphenicol [ ]   RS10.4 IM Injections [ ]

RS10.5 IV Injections [ ]   RS10.6 IV Fluids [ ]   RS10.7 Blood slide [ ]   RS10.8 Lumbar puncture [ ]

RS10.9 Nasal suction [ ]   RS10.10 Oxygen [ ]   RS10.11 Transfuse blood [ ]

RS10.12 Intraosseous fluids [ ]   RS10.13 Pass NG tube [ ]   RS10.14 Give food by NG tube [ ]

RS10.15 Incise abscesses [ ]

RS11 Materials

RS11.1 Salter scale RS11.2 Infantometer RS11.3 Thermometer RS11.4 Suction pump

RS11.5 Oxygen cylinders RS11.6 Hospital Refrigerator RS11.7 EPI Refrigerator

RS11.8 Suction catheters RS11.9 IV Admin Sets RS11.10 IV Canulas

RS11.11 Blood bank RS11.12 Blood Admin Sets RS11.13 Microscope

RS11.14 Slides RS11.15 Syringes RS11.16 Needles RS11.17 Lumbar needle

RS11.18 Stains RS11.19 Steam Inhalation RS11.20 Nasal canulas RS11.21 NG Tube

RS11.22 Ambu bag RS11.23 IV Fluids RS11.24 Glucose 50%

RS11.25 IV Diazepam RS11.26 IV Chloramphenicol RS11.27 IM Benz Penicillin

RS11.28 Crystalline Penicillin RS11.29 IV Gentamicin RS11.30 IV Quinine
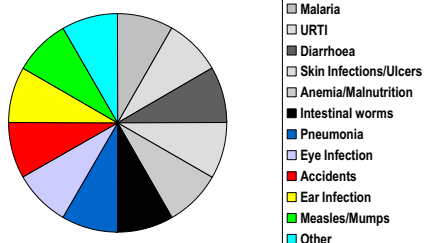
RS11.31 HIV test kit RS11.32 Referral slips

RS3.1.4 Child Number Form4 Facility Type Form4 QNo.

RS3.1.4a. Pneumonia RS3.1.4b. Diarrhea RS3.1.4c. Dehydration

RS3.1.4d. Malaria RS3.1.4e. Anemia RS3.1.4f. Severe Anemia

RS3.1.4g. Sepsis RS3.1.4h. Physical Injury RS3.1.4i. Vomiting
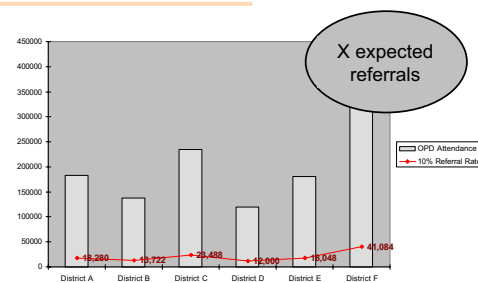
Annex G

Sample Tables and Graphs

Causes for Referral

n=

- ☐ Malnutrition
- ☐ Anemia
- ☐ Malaria/Fever
- ☐ Convulsions
- ☐ Diarrhoea/Dehydration
- ■ ARI
- ■ Skin Infections/Ulcers
- ☐ Vomiting
- ■ Accidents/Trauma
- ■ Not indicated

7

Distribution of Referrals by Age and Sex

 # Cases (y-axis: 0, 20, 40, 60, 80, 100, 120, 140, 160)

Age Groups (Months): < 2m, 2-11m, 12-23m, 24-35m, 36-47m, 48-59m

■ Male ☐ Female

8

Time Elapsed Between Referral and Compliance

n=

X% complied the same day

Percentage of Referrals (y-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90)

Days Elapsed: Same day, 1, 2, 3, 4, 5, 6, >6

9

Caretaker OPD Interview Results: General Information

Mode of Transport n=

Walked, Bus, Taxi, Bicycle, Motorbike

Percentage (0, 20, 40, 60, 80, 100)
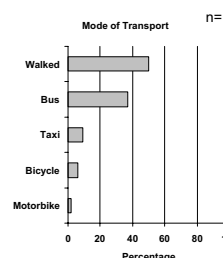
- X% children are male; X% female
- Median age X months (R: X-X months)
- Mother was present in X% of cases; father was present in X% of cases
- Median time from home to facility was X minutes (R: X-X minutes)
- Preferred mode of transport was X
- Mean cost of transportation to referral site was X
- Caretakers spent a median time of X hours waiting to see a provider in hospital

Caretaker OPD Results: Careseeking

n=X

Places Where Care Was Sought Before Coming to this Facility

Drug Seller, Gov't/Mission HC, Traditional/Religious, Private Practitioner, Hospital, CHW, Relatives

Cases (0, 5, 10, 15, 20, 25, 30)
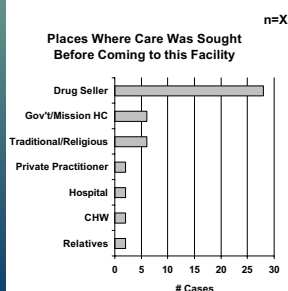
- Median of X days wait before seeking help in health facility
- Only X% sought help somewhere else
- Only X% of cases seen by other providers were referred

Only X% of caretakers at referral sites were referred

11

Caretaker OPD Results: Use of Providers

n=

Options for Care that were Closer

Drug Seller, Private Practitioner, Health Center, Traditional, Hospital, Religious, CHW

Percentage (0, 10, 20, 30, 40)
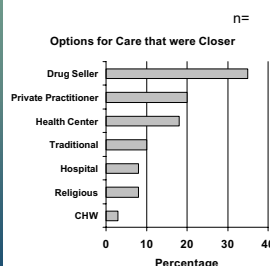
- X% of users had a provider closer to their community than the one that was used
- X and X were the most frequently mentioned

12

Caretaker OPD Results: Reasons for Coming to Facility

n=

- Always come here
- Better care
- Proximity
- Trust
- Convenience
- Drugs here
- Cost
- Doctor's here
- Advised to do so
- Child did not improve

0 20 40 60 80 100
Percentage

If child does not improve, X% of caretakers will return to the same facility

13

Caretaker OPD Results: Presenting Complaints

n=

- Fever
- Diarrhea
- Vomiting
- Fast/difficult Breathing
- Not eating/drinking
- Excessive crying
- Skin rashes/ulcers
- Convulsions
- Stomach pain
- Ear problem
- Bloody stool

0 10 20 30 40 50 60 70 80
Percentage
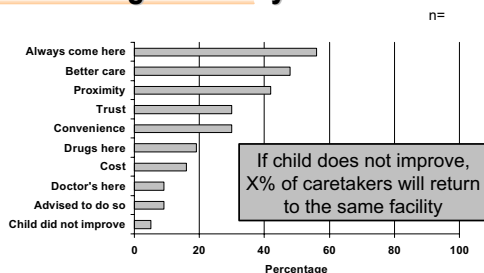
14

Caretaker OPD Results: Opinion of Health Services Received

X% were "satisfied" or "very satisfied" with the care provided

Percentage

80
70
60
50
40
30
20
10
0

Somewhat Satisfied   Satisfied   Very Satisfied

- District A
- District B
- District C
- Overall

15

Caretaker OPD Results: Referral Intentions

n=

Reasons for Not Complying With Referral

- Non-transport costs
- Transport costs
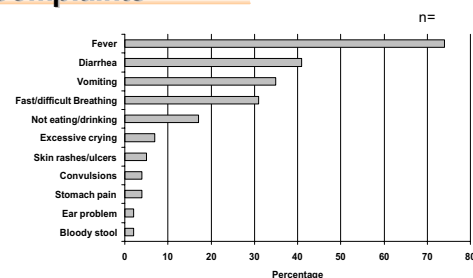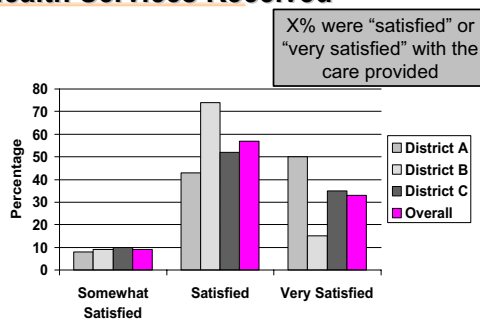- Need Permission
- Long waiting times
- Other children to care for

0 5 10 15 20
Cases

- Only X% of cases were referred today; Only X mothers said they would be able to take the child to hospital

- **If caretakers were asked to take child to the nearest referral site today--X% said they would**
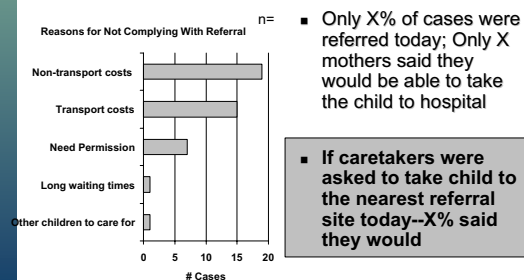
16

Caretaker IPD Results: General Information

n=X

Mode of Transport

- Bus
- Walked
- Taxi
- Bicycle
- Motorbike

0 20 40 60
Percentage

- X% males; X% females
- Median age X months; range X-X months
- X% of caretakers were mothers; X% fathers
- Median time from home to hospital was X minutes; range X-X minutes
- Main mode of transport is X
- Median time hospitalized X days (R: X-X)
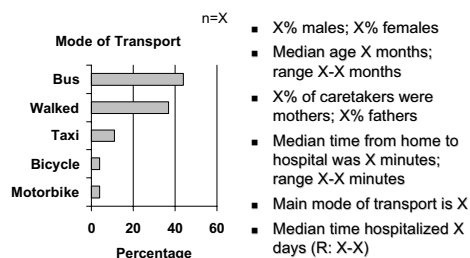
17

Caretaker IPD Results: Careseeking

n=

Places Where Care Was Sought Before Coming to Hospital

- Health Center
- Drug Seller
- NGO Facility

0 2 4 6 8
# of Cases

- Caretakers waited X days before coming to hospital
- X% of inpatients were taken somewhere before coming to hospital
- X% of those taken somewhere were referred
- **Only X% of inpatients were referred**
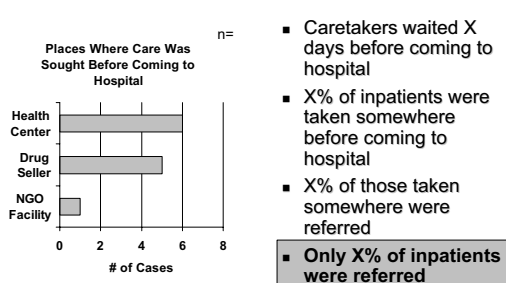
18

Caretaker IPD Results: Reasons for Coming to Facility

Reasons for Seeking Care at Hospital

n=

Categories (top to bottom): Better Care, Trust, Always Come, Convenience, Drugs here, Doctors, Advised to do so, Proximity, Child not improved, Cost

X-axis: # Cases (0, 2, 4, 6, 8, 10, 12, 14, 16)
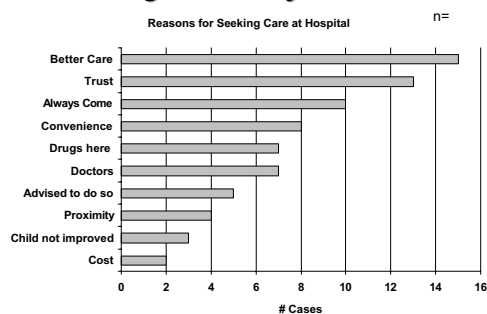
19

Caretaker IPD Results: Presenting Complaints

Percentage

n=

Categories (top to bottom): Vomiting, Diarrhea, Fever, Difficult Breathing, Convulsions, Not Eating, Anemia/Malnutrition, Lethargy, Ear problem, Bloody Stool

X-axis: 0, 10, 20, 30, 40, 50, 60, 70
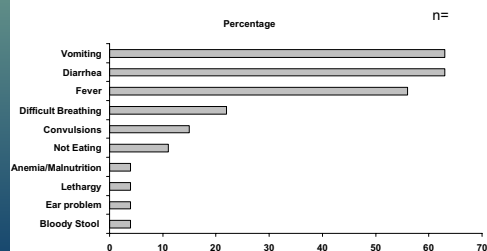
20

Provider Interview (Referring): Provider Information

Type of Provider

n=
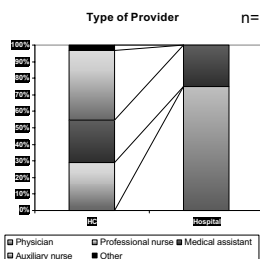
- X% trained in IMCI
- X% received follow-up to IMCI
- X% received supervisory visit in past 6 months

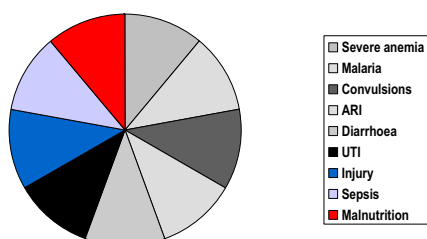Legend: Physician, Professional nurse, Medical assistant, Auxiliary nurse, Other

21

Provider Interview (Referring): Referrals Made in Previous Month

Indicator	HC	Hospital	Total
Number of First Visits in last month			XX
Number of Revisits in last month			XX
Total Number of Visits			XX
Number of Referrals			XX
Slips Given			XX
Accompanied			XX

22

Provider Interview (Referring): Causes of Referral in Previous Month

n=

Legend: Severe anemia, Malaria, Convulsions, ARI, Diarrhoea, UTI, Injury, Sepsis, Malnutrition

23

Provider Interview (Referring): Instructions/Actions Given for Referral
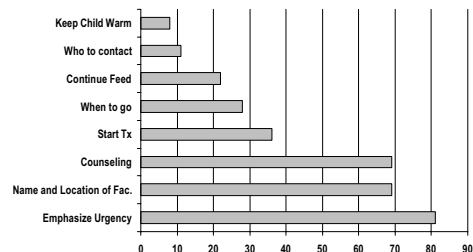
Categories (top to bottom): Keep Child Warm, Who to contact, Continue Feed, When to go, Start Tx, Counseling, Name and Location of Fac., Emphasize Urgency

X-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90

24

Provider Interview (Referring): Opinion about Caretaker Non-Compliance

n=

Reasons for Non-Compliance

- Medical cost
- Fear of hospital
- Transport cost
- Need permission
- Access to transport
- Other children
- Long wait
- Poor care

0   20   40   60   80   100
Percentage
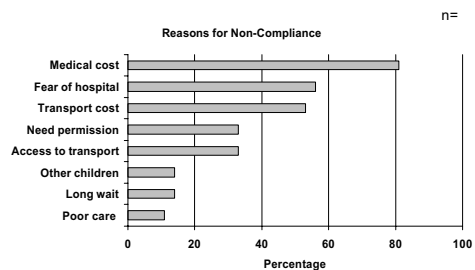
Of 10 children referred, median # expected to arrive is X

25

Provider Interview (Referring): Opinion about Non-Compliance Outcome

n=

What Happens with the Child

- Traditional healer
- Home treatment
- Treated same facility
- Private clinic
- Religious leader

0   20   40   60   80   100
Percentage
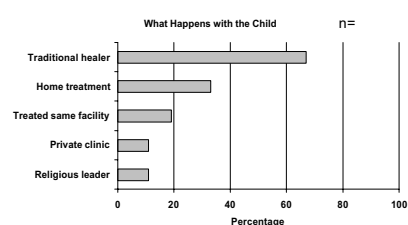
X% thought it was "easy" or "possible" to get to the referral site

26

Provider Interview (Referring): Facility Information

Indicator	HC n=	Hospital n=	Total
Access to ambulance	X% n=	X% n=	X%
Alternate transport	X% n=	X% n=	X%
Access to communication	X% n=	X% n=	X%
Main means of communication	X% n=	X% n=	X%
Referral slips	X% n=	X% n=	X%
Mean time to access referral site	X minutes	X minutes	X min

27

Provider Interview (Referring): Advice for Improving Referral

n=

- Improve Transport
- Provide Feedback
- Reduce medical costs
- Priority for referrals
- Improve Comm.
- More Training
- Referral slips
- Counseling

0   10   20
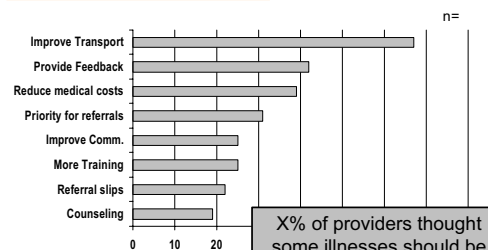
X% of providers thought some illnesses should be treated locally instead of being referred:

28

Sample Outline of Final Report

Abstract
Acronyms
Acknowledgments
Executive Summary

1. Introduction: Overview of IMCI implementation; national policies for child health and referral; purpose of study

2. Background
    2.1. Referral Pathways in <<COUNTRY>>: Overview of health system and levels (tiers) of health care services; policy on referral from each level; available data on national- and local-level referrals
    2.2. Referral Issues: Bibliographic data on provider and caretaker constraints to appropriate referral

3. Objectives: Listing of study objectives

4. Methodology: Description of study methods based on referral pathway
    4.1 Definitions: Study variables
    4.2 Sampling: Description of sample calculation and matrix of final sample
    4.3 Instruments: Description of instruments and how they were used
    4.4 Training: Description of training program for surveyors
    4.5 Field Work: Description of how the field work was organized
    4.6 Data Management: Overview of data management, persons responsible for quality control
    4.7 Analysis: Overview of analysis plan, types of tabulations

5. Results (see Annex G for sample tables and graphs)
    5.1 General descriptive information
    5.2 Medical record review
    5.3 Outpatient caretaker interviews
    5.4 Inpatient caretaker interviews
    5.5 Health provider interviews
    5.6 Focus group discussions

6. Discussion and Recommendations
    6.1 Discussion of key indicators: Comparison of key indicators calculated in various ways
    6.2 Issues with data collection: Constraints and biases encountered with survey implementation
    6.3 Recommendations: 8–10 key recommendations to address and improve referral

Endnotes
Annexes