

Signs of Illness, Treatment, and Support for Young Children in Guinea

A Prospective Community Study



MEASURE DHS+

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GLOSSARY

- antimalarials** – modern medicine for treating malaria (chloroquine, etc.)
- Banko** – village 36 km from Konindou
- basibola** – traditional healer
- bayi** - vomiting
- Camara clan** – one of five founding clans represented in the village of Konindou
- candida** – medicinal plant
- Dabola province** – administrative unit where study was carried out
- Dabola Center** – center of Dabola town
- Dramé clan** – one of five founding clans represented in the village of Konindou
- dembalen** – malaria
- exogamous** – custom of marrying outside one's social group
- fadikalaya** – fever
- gri-gri** - talisman
- IMCI** – Integrated Management of Childhood Illness
- kankomani** – medicinal plant
- karité** – sap from tree used in healing
- Konindou** – Malinké village where study was carried out (30 km from Dabola Center)
- kono** – cerebral malaria
- dibidibi kono** – sickness that occurs when mother or child crosses path of a bird
- konkyen kono** – sickness that occurs when mother steps on an insect
- tulafen kono** – sickness that occurs when the scent of a monkey crosses the path of a child
- konobasi** – medication for treating *kono*
- konobori** – diarrhea
- konodimi** – stomach ache
- kudu** - rash
- labutani** – place where medical care is received (health post, clinic, or hospital)
- maboro** – a curing ritual that involves massaging a sick child's body with medicinal plants soaked in water, while reciting verses.
- Malinké** – ethnic group in that part of Africa
- Maninka** – language spoken by the Malinké of Guinea
- marabout** – traditional healer who provides medicine in the form of a talisman
- matrikin** – relatives on the mother's side
- mojalou** – illness caused by sorcerer
- ORS** – oral rehydration salts (used in solution to treat diarrhea)
- patrikin** – relatives on the father's side
- patrilineage** – group of relatives who trace descent through the father's side of the family
- prospective study** – study in which the investigator observes actions as they occur and reports on the actions. [In this prospective study the investigators focused on young children and observed and reported on the following: illness, perceptions of illness, conversations about illness, and collaboration and conflict related to illness or the ill child.]
- sasa** – cold, flu
- sayi** – liver infection as a sequelae of malaria
- sidasolo** – constitutionally ill, often referring to a condition since birth
- souba** – sorcerer
- soudure** – rainy season

suma – stomach disorder

tonoko - worms

virili – medicinal plant

yalacamban – medicine that “should not be seen by men”

EXECUTIVE SUMMARY

This study examines how people involved in the lives of young children, including parents and other family members, recognize and treat childhood illness. Fieldwork was conducted in the province of Dabola in Upper Guinea (Haute Guinée) where the majority of the population is Malinké. The site for the fieldwork covered in this report was Konindou, a Malinké village located about 30 kilometers from Dabola Center, the capital of Dabola Province.

Rates of childhood morbidity in Upper Guinea differ dramatically between the dry and the rainy season. Relatively few children get sick during the dry season, but in the rainy season children often suffer from diarrhea, fever, acute respiratory infections, malaria, and colds and flu. Data for this study were originally collected during the dry season, but there were too few cases of childhood illness for it to be useful. Instead, this report covers the second phase of the study, which took place during the rainy season, when 62 of the 155 children studied became ill. Because resources to cope with illness are scarcer during the rainy season, the study also examined the response to illness when the child care system was most strained.

The goal of the study was to understand how parents and others in this region of Guinea respond to signs of illness in young children in order to suggest ways that social and medical services might intervene to improve the process of dealing with childhood illness. By following the health status and activities of young children over time, the study was able to document how mothers and others recognize signs of ill health and what actions they take to restore health. Since sick children are mainly treated in the home, any community-based intervention needs to draw on the natural flow of concern for and interaction with sick children by family members and others.

A prospective and qualitative research design sets this study apart from most other applied studies of childhood illness. Five fieldworkers, who were Malinké women, followed 155 children age five years or younger over an eight-week period. The fieldworkers engaged in observation, participation, and open conversations while living in village compounds. They developed in-depth case studies of sick children and mapped relevant social networks in the household, the community, and outside Konindou. The study design called for them to observe the children's behavior, all treatment actions, and related interactions among adults to identify the signs and symptoms that signal illness and to identify local definitions of signs of illness, treatments pursued, and the mix of responses to illness.

By monitoring the state of each child's health over a two-month period, fieldworkers were able to follow children as they became sick, recovered, and sometimes fell ill again. Daily visits to all children and the collection of data from everyone involved with a sick child, not just the mother, also allowed them to capture full accounts of the community's response to childhood illness. By design, the data collection process was open to any and all possibilities; fieldworkers were as interested in body washes performed by village healers as they were in visits to the health clinic. Thus, the study collected information relevant to both local and biomedical responses to childhood illness. The fieldworkers found substantial variation in the recognition of signs of illness, the kinds of persons who help care for sick children, the range of medications used, and the number and sequence of episodes of illness.

FINDINGS AND RECOMMENDATIONS

1. The Difficulty of Treating Childhood Illness in the Rainy Season

Conditions during the rainy season increase opportunities for vector-borne diseases and other microbial infections, which lead to high rates of diarrhea, malaria, respiratory illness, common colds, and flu. When sick children receive less attention, diarrhea may lead to dehydration, malaria may bring convulsions, and flu may become pneumonia.

The rainy season is also the time of year when treatment and day-to-day care for sick children is most difficult. Food is in short supply and little cash is available to most families. Families by this time have most likely used up funds from the sale of the past season's crops, which is their main source of income. This leaves little money available to pay for medicines or provider fees, so people are more inclined to treat illnesses with medicinal plants collected in the bush or obtained from a relative.

Finally, the rainy season is when the heaviest work is done in the fields: families need to plow, plant, and regularly weed fields to grow the crops that feed the population. Both women and men spend long hours in the fields every day for weeks on end. This leaves little time to attend to children, even when they are ill.

Recommendations:

- Child survival programs need to take a different approach to children's situation during the rainy season than during the rest of the year. Programs should work to increase the availability of everyday care and access to medications during this difficult time of year.
- Village leaders should organize the care of young children during the rainy season and should invest in the support and training of elderly persons who can take general responsibility for child care, and can assist in treating sick children when the adults are working in the fields.
- A way must be found to finance medical services during the rainy season, either by extending credit or by creating a revolving fund to pay for fees and medicines.

2. The Fluidity of Illness and Its Recognition

At the outset we anticipated identifying specific illnesses, along with their diagnoses and treatments, and then examining how decisions were made about each illness. It proved difficult to recognize a match between the illness category and a course of treatment. Sick children often suffered from several illnesses or many symptoms at the same time, and a series of treatments were given. Alternatively, several treatments were used to treat a single complex of symptoms or a diagnosis. When a study focuses on a one- or two-week period, as survey recall questions do, the framing of the questions is such that respondents tend to answer with a single diagnosis and a single course of treatment.

Generally, the expectation that children suffer from a single illness that can be matched with a particular treatment was not found in this study, although a few common illnesses were widely recognized and elicited consistent responses. *Sasa* (cold and flu) receives little attention unless it is accompanied by fever. *Dembalen* (malaria) has treatments that are well known and quickly sought. *Kono* (cerebral malaria, but thought to be caused by chance encounters with mysterious forces in the bush) is treated by means of ritual.

Finally, when any symptom had a wide range of possible treatments, we found treatment choice was affected not only by perception of symptoms and knowledge of the illness and treatment, but by immediate circumstances such as the weather, the persons present in the household, work schedules, cash available, and medicines at hand. Despite symptoms and apparent illness, mothers and other caregivers recognized the problem and pursued one treatment or varied treatments when a child stopped his or her normal activities, such as eating, playing, talking, or sleeping, but they did not always make a diagnosis.

Recommendations:

- Child survival programs should examine how household members respond when children stop their normal routines, such as eating, sleeping, talking, and breastfeeding.
- Studies of childhood illness should focus on how different family and community members respond when signs of illness or behavioral changes occur.
- Such studies should follow the varied and multiple treatment options that may be used simultaneously, alternatively, or successively.
- Studies should follow children beyond periods of illness to recovery and relapse in order to observe how illnesses and health are diversely interpreted and how the effectiveness of treatments is judged.

3. The Roles of Mothers and Other Family Members

While mothers are generally the first to recognize signs of illness in their children, they are not necessarily in charge of decisions regarding the child's care. Mothers may find themselves in a double bind: while the mother is considered to be ultimately responsible for her child's health, members of the husband's family often make treatment decisions for her. Although fathers often do not participate in the treatment process, male members of his family (including the child's paternal uncles and grandfather) do. This indicates that the patrilineage is a key agent in the response to childhood illness, close in importance to the mother herself.

The social relations of mothers play a major role in the time and resources available to care for sick children. Mothers who have frequent contact with the patrikin (father's family) receive far more support and participation from members of the husband's family in caring for sick children than do mothers who have relatively little contact. Mapping mothers' social contacts also shows the involvement of friends and matrikin (mothers' family) in recognizing and treating childhood illness.

Recommendations:

- Child survival programs should encourage male and female members of the patrikin, not just mothers, to participate in health education. Furthermore, child survival programs should include all adult family members in efforts to integrate clinical and community services.
- Child survival programs should identify and offer special support to women who lack a local social support network.

4. Decisions to Limit Attention to Certain Children

A mother's response to a sick child depends not only on the illness but also on other demands made on her as a provider for her family. To safeguard limited time and resources, mothers consider their other responsibilities when making decisions about the care of their children. Certain children, who are chronically ill and have proven to be a burden on the mother's time and resources, are labeled *sidasolo* or sickly. They receive less attention when they show signs of illness than a child who is otherwise healthy.

Recommendations:

- Child survival projects should improve opportunities for child care in general, rather than focusing only on the care of sick children. Creating collective arrangements for daycare during the busy agricultural seasons would enhance child care generally and, consequently, the care of sick children.
- Child survival projects should identify children considered sickly and provide special assistance to them and to their mothers.

5. The Need for Further Research

The open-ended, long-term, and prospective nature of this study revealed information that cannot be obtained through survey methods because surveys are informed by a limited period of recall and are shaped by the structure of the questions and manner of questioning. The findings from this long-term prospective research study challenge many assumptions. Symptoms and diagnoses were found to overlap and shift over time; there were many different treatment options; and a wide variety of people became involved in the sick child's care.

Recommendations:

- Researchers should design prospective ethnographic or rapid assessment studies capable of recognizing that children can have several illnesses at once, that sick children receive a wide range of treatments, and that people other than mothers and parents may participate in the household-based treatment process.
- Studies of childhood illness, whether ethnographic or survey-based, need to take into consideration the season of the year in which the fieldwork takes place, particularly in countries with pronounced dry and rainy seasons, to show awareness of the full complexity of illnesses and the peak times of morbidity.

CHAPTER 1

INTRODUCTION

1.1 Purpose of the Study

This study examines how family members and other people involved in the welfare of children respond to signs of illness in young children in the Haute Guinée region of Guinea. In the communities of the Haute Guinée, where three-fourths of all cases of illness are treated in the home, careseeking choices at home determine what treatments a child receives. Data were gathered from Konindou, a large village in the region, to identify the treatment options local people use to improve child health.

The specific tasks of the study were to identify terms and concepts related to illness that are meaningful to Malinké speakers (the local language), to describe common patterns of response to illness and to determine how people evaluate the effectiveness of treatments. To accomplish these tasks, researchers examined cases of childhood illness prospectively; fieldworkers visited families every day for two months to inquire about the health status and activities of all children age five years or younger. Notes and observations from these daily visits made it possible to follow events related to a child's illness as they unfolded rather than retrospectively.

The study was designed on the premise that public health interventions seeking to improve the management of childhood illness should consider the perspective of parents and other caregivers: what signs of illness do they deem relevant and what treatment options do they believe are effective? As child survival programs have become more participatory in the past few years, this premise has received more recognition. By following young children's health status and activities over time, the study was able to document how mothers and others recognize the signs of ill health, choose treatment options, and evaluate the effectiveness of those treatments. As the authors of the First Global Forum on Health Research wrote, "Social science research is required to design and evaluate interventions that improve the utilization of existing interventions by influencing health behaviors and careseeking choices in households" (WHO, 1997).

Observing children in their household settings, together with informal conversations and directed interviews about a child's health problems, furnished the raw material to fashion descriptive case studies. The fieldwork and the cases themselves followed the temporal sequence of diagnoses, participation, and interventions as they occurred. It was possible to analyze patterns of response across this community by paying particular attention to the people involved in resolving childhood illnesses and to the physical setting.

Findings from this study can be used to better inform household activities for managing childhood illnesses in the local context. Study results also can be used to demonstrate the advantages of a prospective design for studying childhood illness and to suggest alternative formulations for survey questions on child morbidity.

1.2 Location

The research was conducted in the Dabola Préfecture of Upper Guinea (Haute Guinée), among a population of Malinké who speak the Malinké, or Maninka, language. The Malinké, along with the Fulani and Sousou, are one of the four main ethnic groups of Guinea. The Malinké form the majority in Upper Guinea, which is a region of plateaus and savannah. The economic activities of this region include limited farming, cattle raising, trading, and some gold mining.

The population of Upper Guinea has less access to health care facilities than people living in other regions of Guinea. In 1999, for example, only 25 percent of children suffering from cough with rapid breathing in Upper Guinea were taken to a health care facility for treatment, compared with a national average of 39 percent (Direction Nationale de la Statistique and Macro International Inc., 2000). Most cases of childhood illness in Upper Guinea are treated in the home or not at all.

1.3 Research Questions

This study was guided by the following research questions:

- What signs of illness do mothers and others recognize as significant?
- What signs trigger treatment interventions?
- When are treatment strategies changed and treatments combined?
- Who participates in choosing and implementing treatments?
- How do mothers and others judge whether treatments are effective?
- Are there signs and symptoms of illness commonly recognized in the public health community that are ignored locally?
- What is the relationship between the social network of support for the mother and child and the network of support when the child becomes ill?

1.4 Study Design

To answer the research questions, the study employed a prospective design that followed events related to illness as they unfolded over time. The study combined observation, participation, and periodic conversations with people who responded to childhood illness. This approach takes full account of 1) the variety of people who provide care, 2) the diversity of approaches used in any one illness, 3) changes and revisions in health care strategies as an illness proceeds, and 4) constraints on giving care.

The strategy of making daily visits to households to check on the welfare and activities of young children offers the following benefits:

- ***It provides information on the signs and symptoms most relevant to mothers and others who are concerned with caring for ill children.*** This is clearly important both to make health education more effective and to devise questions that detect the existence of illnesses. For example, asking a Malinké population about convulsions (a biomedical indicator of serious cases of malaria) may uncover a locally-recognized illness that they do not associate with malaria.
- ***It provides information on how signs and symptoms are evaluated.*** Relatively little is known about how people interpret signs of illness. Do some signs generally instigate immediate action, while others allow for waiting? How do mothers and others judge the severity of an illness, and how do those judgments enter into the process of taking action? How do mothers and others vary their response to certain signs and symptoms depending on the child's individual health history?
- ***It provides valid information on the full spectrum of home-based treatments.*** Structured questionnaires cannot anticipate and deal with the wide variety of home treatments available in most settings. In addition, respondents may offer responses that they anticipate the interviewer would appreciate hearing. A prospective study that includes observations as well as informal conversations can avoid these biases.

- ***It provides information on the sequence of actions over time and the varied roles of people who take action in times of illness.*** Survey research cannot capture the dimension of time or the local logic of choices made; instead it tends to elicit distillations of complicated processes. It is a common practice in all societies to revise diagnoses and pursue different treatments when symptoms change or the patient does not respond satisfactorily. Studies that are prospective and based on local knowledge can capture details about the timing and sequence of actions taken in response to illness.
- ***It discloses factors that constrain and enable use of health care services as they present themselves.*** Local interpretations of the significance of events are essential to understand the material, social, or psychological factors that may constrain people from taking action or enable them to do so. The richness of prospective data may reveal a variety of limiting factors, for example, lack of support from other people, lack of money, or lack of time to care for the child. Alternatively, the caregiver being overwhelmed or overlooking the illness may prove to be another limiting factor. In contrast to recollections of what happened in the past, ongoing participant observations and interviews can illuminate important perceptions at the moment of illness.

CHAPTER 2 CHILDHOOD MORBIDITY AND CARESEEKING

2.1 Childhood Morbidity in Guinea

The 1999 Demographic and Health Survey (DHS) in Guinea, which was conducted by the National Statistics Office (Direction Nationale de la Statistique), collected information on childhood morbidity from a nationally representative sample of women age 15 to 49 (Direction Nationale de la Statistique and Macro International Inc., 2000). The survey was conducted during May, June, and July. In Upper Guinea, May and June are usually the last months of a dry season, which lasts seven or eight months, with rains beginning in July. Childhood illnesses are less common in May and June than in the subsequent months of the rainy season, which lasts until October.

The picture of childhood morbidity and treatment in Upper Guinea that emerges from the 1999 DHS survey shows that cough and fever are common occurrences in children age five years or younger and that children with these and other symptoms of illness are more likely to be treated at home or not at all than to be taken to a health care facility. Home treatments include herbal medicines of local origin as well as pills and syrups purchased from local vendors or pharmacies.

The DHS survey asked specific questions about the occurrence and treatment of diarrheal disorders, fever, cough, and rapid breathing in the two weeks preceding the survey for each child (up to three children per household) age five years or younger. The combination of cough and rapid breathing is a sign of an acute respiratory infection or even pneumonia. Table 1 shows the frequency of these symptoms in children age five years or younger in Upper Guinea compared with the entire country.

Table 1: Percentage of children age five years or younger who exhibited specific symptoms of illness in the two weeks preceding the survey, Upper Guinea and all regions, 1999					
Region	Cough	Cough with rapid breathing	Fever	Diarrhea	Diarrhea with blood
Upper Guinea	18.4	11.4	38.0	20.2	2.6
All regions	27.3	15.9	41.9	21.2	4.8

Source: Direction Nationale de la Statistique and Macro International Inc., 2000

Public health specialists recommend that all children with cough and rapid breathing be taken to a health center for medical treatment. In Upper Guinea, only 25 percent of children with these symptoms were taken for treatment, the lowest figure for any region of the country. In contrast, 53 percent of children with cough and rapid breathing in Forest Guinea (southeastern region) were taken to a health center, and the figure for the capital city of Conakry was 60 percent. These regional differences are due in part to the lack of health care facilities in Upper Guinea.

Figures on child morbidity in Guinea from the 1999 DHS survey are likely to be lower than the average for an entire calendar year because the survey took place mostly in the dry season. In West African countries there are wide seasonal variations in child morbidity between the rainy and dry seasons, both in the number of episodes and the length of each episode. A study of seasonal variation in nutritional risk among 67 children in central Mali, found large variations in growth velocity and morbidity between the rainy and dry seasons (Adams, 1994). The mean duration of morbidity during the dry season was 0.9 days, compared with 6.9 days for the rainy season, while each child experienced 0.24 episodes during the four-month dry season, compared with 1.69 episodes during the five-month rainy season.

From October 1998 to September 1999, Save the Children, BASICS I, and the Ministry of Health in Guinea conducted a study of child mortality in the Mandiana district of Upper Guinea to identify appropriate interventions to reduce child mortality (Schumacher et al., 2002). This study examined all deaths of children age five years or younger in 30 villages randomly selected from the 73 large villages in the district. One to two months after each death, the research team interviewed the child's caretaker about the illness that led to death. Detailed information about the illness and deaths of 330 children was collected, with a combination of verbal and social autopsies guiding discussions of the cause of death. Only 39 percent of these children were taken to a health center or hospital for the illnesses that led to their death. Thus, even for illnesses serious enough to cause death, the chances of seeing a nurse or physician were small in 1999 in Upper Guinea.

In summary, a large majority of ill children are not taken to a health center for treatment in Upper Guinea, where access to health care facilities is more limited than elsewhere in the country. Most treatment occurs at home. Therefore, any study of the response to childhood illness in this region needs to examine care and treatment that occur outside health centers.

2.2 Integrated Management of Childhood Illnesses

During the 1980s and early 1990s the donor community, including the Pan-American Health Organization (PAHO), the United Nations Children's Fund (UNICEF), the United States Agency for International Development (USAID), and the World Health Organization (WHO), sponsored vertical programs (programs from administration to point of service focused on one issue) to address specific diseases or conditions related to child survival. Countries were encouraged to form units dedicated to specific problems, such as the Expanded Program on Immunizations (EPI), diarrheal disease through a Control of Diarrhea Disease (CDD) program, and respiratory illnesses through a program for acute respiratory illness (ARI). In the mid-1990s the vertical emphasis shifted to a strategy of integrating interventions (horizontal programs combining multiple interventions) for treatment of childhood diseases at health care facilities and, as well, for mobilizing local populations to support improved care seeking. This new strategy was thought to be more efficient, and specialists recognized that most cases of illness were being treated at home anyway (UNICEF, 1998).

In 1995, seeking to build on the efficacy of horizontal programs, UNICEF and WHO promulgated guidelines for the Integrated Management of Childhood Illness (IMCI) in health care facilities. The IMCI approach emphasizes the importance of linking clinic and community resources since most sick children are not brought to health care facilities. In 1997, the Department of Child and Adolescent Health (CAH) at WHO embarked on an evaluation of the IMCI strategy in five countries to measure its impact on outcome, such as mortality rates (WHO, 2002). Results are due in 2005.

IMCI has three components: 1) improving the skills of health care workers in assessing signs and symptoms of illness and providing appropriate treatment, 2) improving the support system for health care delivery in the health center, and 3) teaching "key family practices" for child health and development (Bryce et al., 2004). The first two components are easier to implement and evaluate than the third, because they involve largely technical skills that are external to local situations and that can be monitored through observation and the study of medical records. In contrast, the adoption of key family practices involves persuading mothers and others to change how they treat sick children and to follow biomedical recommendations. Regrettably, this component does not call for acknowledging local knowledge or experience in treating sick children, information that may nourish effective interventions. Assessment is challenging because it involves measuring the impact indicators of morbidity and mortality.

The IMCI approach takes a strictly biomedical view of what factors are relevant to child health

and pays little attention to local treatment practices. For instance, the authors of a WHO text outlining research priorities for 2002-2003 note that counseling mothers “is an integral part of outpatient IMCI” and suggest that studies are needed to assess the adherence of caretakers to the advice offered (WHO, 2001). No mention is made of assessing the suitability of the advice offered to caretakers. Also striking is that, while IMCI envisions providing support for health care workers to improve their performance, no such support is suggested for household members.

A manual designed for use by the large nongovernmental organizations (NGOs) that compete for USAID-funded projects takes the same approach (CORE, 2003). Called a “programming tool” for promoting appropriate case management of malaria in infants and young children, this manual lists ten key behaviors for proper management of malaria that can be used to assess whether a particular caregiver has measured up to the ideal when responding to malaria in a young child.

It would seem logical to build on local knowledge, experience, and social support in seeking to improve the treatment of sick children, rather than simply giving directives on what must be changed. While it is possible that health care personnel in some countries consider local treatment practices when they apply IMCI principles, no mention of local practices is made in WHO and UNICEF directives (UNICEF, 1999).

2.3 Research on Treatment Practices

If data on current knowledge and treatment practice are needed for public health projects, how has that data been collected? Studies of childhood illness in the anthropological and public health literature can be usefully divided into two types, according to their main objectives:

- assessments of the utilization of health care services by local populations; and
- assessments of how household members respond to childhood illness.

2.3.1 Studies of Health Care Utilization

Studies of health care utilization most often employ large sample surveys that ask respondents about the recent occurrence of symptoms of illness or disease and the use of specific services for a particular illness. DHS surveys ask mothers or caretakers whether each of their children has had a fever, diarrhea, or rapid breathing during the preceding two weeks. They also ask about giving extra fluids and ORS packets—commercially prepared packets of oral rehydration salts—for treatment of diarrhea, and about giving antimalarials for fever. Analysis of some survey data has sought to identify barriers to the use of biomedical services by comparing populations according to demographic variables such as age, residence, education, religion, and economic resources (Bicego and Boerma, 1993) while other studies, such as the one by Yoder and Hornik (1996), consider the type of illness and level of severity as judged by the mother to be a determinant of health care utilization.

Household surveys of large populations can provide information about the use of particular services for treating sick children and they are routinely used to measure vaccination coverage, the use of antimalarials and oral rehydration therapy, and the proportion of illness cases taken to a health center. Survey data of this kind are used to measure trends over time in both the prevalence of certain symptoms and the use of health care services. In public health, a household survey is the preferred data collection method for evaluating a program’s impact.

The limitations of survey research are well known. Questionnaires with precoded responses are not effective in collecting information on the variety of home treatments used because the treatments used are usually far more diverse than the precoded responses. Furthermore, surveys are unable to provide

information on the sequence of actions taken or on who takes those actions. Information about a child's health is invariably collected from a single caregiver, while in actuality, many people may be involved in the child's care and treatment.

Another method used in surveys is the calendar method. It elicits recall of symptoms and associated treatments for each day during a recall period of 14 days. Respondents are asked about what happened each day, one day after another. In a study conducted in rural Guatemala, researchers inquired about a list of eight symptoms demonstrated by other studies to have high specificity and sensitivity to the local context (Goldman et al., 1998). Information about treatment actions was also collected, making it possible to check for statistical associations between symptoms (and groups of symptoms) and treatment actions. While this approach yields richer detail about symptoms than other survey methods, it fails to provide the information yielded by a prospective design that captures the full spectrum of information about the array of actors and negotiations typical of household illness management. Prospective designs also disclose flexibility in the care system that is common in social relations relating to how diagnoses and treatments change over time, and finding out how the effects of treatments are evaluated.

2.3.2 Studies of Local Response to Childhood Illness

Studies of the local responses to childhood illness, especially the sequence of treatments sought by caregivers, have captured some of the complexity of the response to illness. In the 1970s an anthropologist introduced the term “hierarchy of resort” in studies that examined patterns in the sequence of treatments sought (Romanucci, 1969). This was ultimately replaced by the term “healthseeking behavior” to refer to studies that followed events during the entire course of an illness, for example, noting the participants involved, shifting symptoms, and medicines given (Janzen, 1978). In recent years, ethnographic studies have examined how local knowledge and practice affect healthseeking behaviors and the household management of illness (Agyepong and Manderson, 1994; Coreil and Mull, 1990). Most studies of household management of illness combine observations with interviews and participation in daily life in order to follow events as they occur over time.

Studies of household management of illness conducted by anthropologists—who stress belief and knowledge regarding illness—seek to understand how decisions are made regarding diagnosis and treatment. Efforts to formulate models for making decisions about illness and treatment have a long history in cognitive anthropology, beginning with the research of Fabrega and Silver (1973) and Young (1981) in Mexico in the 1970s. Fabrega and Silver emphasized how family members managed episodes of illness, while Young sought to develop models for decisionmaking about treatments. Just as with studies of healthseeking behavior, these approaches relied on ethnographic research that drew upon observation, interviews, and participation to follow events over time.

Some studies have tried to create decisionmaking models that express patterns of response to illness based on large numbers of illness cases (Garro, 1998; Mathews and Hill, 1990; Ryan and Martinez, 1996). In these studies what matters most is the sequence of actions and their relationship to recognized symptoms. The goal is to identify the elements people use to decide what actions are appropriate.

Weller and colleagues (1997) in Guatemala and Ryan (1998) in Cameroon have pursued a more quantitative approach to decisionmaking models. They tested outcomes of treatment choices through multidimensional scaling and regressions. These efforts seek statistical correlations between symptoms recognized and treatment choices. Unlike health care utilization approaches, decision models provide an appreciation of the cognitive process in which three or four variables are factors in making a decision. Decision models are able to statistically weigh the relative importance of several variables in taking action to treat an illness.

Finally, researchers have used informal, open-ended questioning to collect information about the response to illness, which they then use to construct narratives of specific episodes of illness (Baume, 1999; Price, 1987). When conducted carefully, narratives about recent events contain detailed information about the sequence of actions taken and the persons involved. Many people seem able to recall how one event followed another in recent time. In studies with large numbers of narratives, the analysis can discover patterns in the choice of treatments as they are linked to symptoms recalled. However, only someone skilled in eliciting stories from others can do this well. While accounts can be collected rapidly, their assemblage into complete narratives and the examination of themes and internal logic requires a lengthy period of analysis.

Each of the approaches described above has some merit and can answer certain types of questions. Yet none displays the openness to local knowledge and experience that we sought in this study. None of these approaches seek to discover what signs mothers and other caregivers use to recognize illness by following social interactions over time. In addition, none of these approaches focuses sufficiently on the process of caring for sick children and treating childhood illnesses to answer our research questions.

The research strategy employed by this study differs from the approaches described above because it examines the transition from good to poor health—exactly how and when children cross the line from a state of good health and normal activity to a state of sickness that limits their activities. In addition, the research strategy examines all kinds of child care, not just the treatment of certain diseases. The study findings reflect this initial openness of method and strategy.

2.4 Contributions of a Prospective Design

This study differs from most studies of childhood illness and treatment in three major ways. First, the researchers accepted at face value whatever mothers and other family members considered relevant to the transition from good to poor health, at least initially. Whatever indicators they pointed out became factors of interest to the study. Thus, the study relied on locally defined criteria rather than public health criteria to determine what factors were relevant to the recognition and treatment of childhood illness, and it sought to identify terms, concepts, and treatment options for illness in the local language, as they were experienced by local people.

Second, this study combined daily observations of children with conversations about what had happened recently to the children—on the same day or the preceding day. This combination of observation and conversation as events unfolded eliminated the recall bias of respondents thinking about events that took place one or two weeks before. It also made it possible to identify the people who helped find or give medicines and other treatments to sick children, and it allowed fieldworkers to witness discussions about whether treatments were working and how changes in diagnosis and/or treatments were made.

Third, this study produced information about what occurred each day just as the calendar method does but with several additional features. The study included observations of the children as well as the social interactions within families. Friends or family members involved in the response to illness were also interviewed, and respondents were asked about what happened each day while it was still fresh in their mind.

Because a prospective research design of this kind is labor intensive, it does not usually produce enough cases to permit the use of statistical methods, which could estimate the strength of associations between symptoms and treatments, as decisionmaking modeling does. However, this approach fully

examines what happens in each case observed. Attention to the full scope of the action yields a greater number of participants in the treatment-selection process and greater variety in the range of treatments to chose from, than do other studies of decisionmaking. The prospective research design also considers the social context of responses to illness. It may be that the usual presumptions about what counts as relevant information (such as medicine, specialist, and mother) in the process of treating childhood illness introduces a bias toward recording certain treatments and not others. This is less likely to occur when a prospective research design is used.

CHAPTER 3 METHODOLOGY

3.1 Research Context

Child health programs need better information if they are to find ways to improve the treatment of illness within the household. In the public health literature, family response to childhood illness has been known variously as household management of childhood illness, healthseeking behavior, and most recently (WHO, 1997) careseeking behavior. Public health and primary health care specialists have focused on ways to help mothers and others adopt preventive and treatment behaviors that will enhance children's health.

Research in medical anthropology has shown that each society has its own ways of diagnosing and classifying the illnesses that cause morbidity in children. Although the ways different communities recognize and classify illnesses may not correspond to biomedical approaches, many or most signs of illness are likely to be similar, for example, fever, cough, and watery stools. We know relatively little, however, about what signs of illness are recognized by different societies and how they are interpreted. Do some signs prompt people to take immediate action while others allow for waiting?

The methodological challenge for studies of household management of childhood illness is to find ways to understand how individuals and groups interpret signs of illness, reflect on them, and consider treatment options. Studies also must find a way to collect information that reflects recent events rather than normative recitations. The prospective study design used here, which includes observations as well as informal conversations, avoids some of the normative biases created by recall situations.

Data collection relied on daily visits to households, during which fieldworkers inquired about the activities and general state of each child age five years or younger. Fieldworkers noted when a child's illness first came to someone's attention and all subsequent responses and events related to that illness. Fieldworkers paid particular attention to the signs of illness as locally defined in the Maninka language, remarks made about those signs, and the overall response to signs of illness. The study sought to identify exactly who was involved in the response to a child's illness and what they offered: advice, opinions, assessments, material support, medicines, labor, assistance obtaining treatment, and/or some kind of therapy. The most likely sources of treatment were thought to be local healers, market vendors, *marabouts* (people who create talismans that protect against illness), drug vendors, and nurses.

3.2 Field Sites

The study was designed for implementation among the Malinké-speaking (or Maninka-speaking) peoples because they are one of the main ethnic groups in Upper Guinea. These findings would have relevance for other groups sharing the same language family and ethnic group in neighboring countries such as Burkina Faso, Côte d'Ivoire, Mali, Senegal, and Sierra Leone. The province of Dabola was selected as a field site because of its central location in Upper Guinea and the predominance of Malinké peoples and cultures in the area. The Malinké in and around Dabola embody the core cultural traditions of the Malinké language and ethnic group in Upper Guinea, and bear many commonalities with the Mandingo or Mande, especially in Mali among the Bambara.

The original research plan was to collect data from both urban and village settings, on the presumption that patterns of health care seeking would differ because of greater access to hospitals, clinic care, and medical doctors in urban areas. The urban study site was in Dabola Center, the capital of Dabola Province. To choose an outlying community, visits were made to villages in the sub-prefectures of

Dogomet, Konindou, and Ndema. Konindou was eventually selected for its large size (more than 6,000 inhabitants), its accessibility to Dabola, and its relatively homogeneous ethnic composition. Because Konindou has a health post staffed by a health assistant (Aide Technique de Santé) medical consultation is often available.

The village of Konindou has two principal parts, one on each side of the river Konindou,¹ as well as five outlying hamlets. It was founded 115 years ago by residents of a village located between Mamou and Dabola after they fled from French efforts to conscript laborers to build a railway. The study was based in Konindou 2, which has a population of 442 people according to official records. We were assured that official records were a substantial undercount because many residents choose not to register in order to avoid taxes. The village is divided into five sectors named after the five founding clans. For example, the Draméla sector is named after the Dramé clan, while the Camaralá sector is named after the Camara clan.

The population of Konindou grows a wide variety of crops for a living, including manioc, maize, peanuts, potatoes, okra, and beans. People supplement these vegetables with milk from local cows. The population is Muslim, and there are two mosques: one in Konindou 1 and one in Konindou 2. The village has two elementary schools with about 460 pupils enrolled. The health post was established in 1988, so access to modern health services is quite recent. The village is situated 30 kilometers from Dabola on a road that is passable year-round.

Observations and discussions with local leaders suggest that Konindou is typical of Malinké villages in Upper Guinea that are not impoverished and have a reasonable amount of social and economic resources.

3.3 Training of Fieldworkers

Women who spoke Malinké as their first language were recruited as fieldworkers. Training took place in Dabola and Konindou and lasted for one week. Trainers introduced fieldworkers to the study and its conceptual underpinnings. Training emphasized these points:

- Care of childhood illness is an ongoing process and not an event;
- Care of childhood illness is a collective process, involving mothers and perhaps others;
- Childhood illnesses are often a succession of symptoms and diagnoses rather than discrete events; and
- Caregiving may take multiple forms with a variety of techniques and personnel.

Training included daily practice in the field, with trainees visiting families, making observations, and conducting interviews about what actions were taken on behalf of sick children. Fieldworkers were encouraged to follow these guidelines during conversations with family members and other caregivers:

- Ask open-ended questions to elicit the maximum response;
- Ask for an illustration when respondents make generalizations—if a respondent says someone is always kind to his neighbors, the fieldworker should ask how he is kind and request an example; and

¹ In the Malinké language, Konindou means deep little river. *Ko* means river, *nin* is a diminutive, and *dou* means deep.

- Ask about the details of who did what, to whom, and at what time when respondents talk about treatments.

After one week the fieldworkers became accustomed to the routine of data collection through a succession of home visits, write-ups, and subsequent group discussions with coworkers and the investigators supervising the study (Andrew Gordon and Mamadou Camara).

3.4 Data Collection

Mamadou Camara (linguistics professor at the University of Conakry) oversaw the fieldwork, took care of logistics, paid the fieldworkers, supervised the data collection process, and provided social support to fieldworkers as needed. Data were collected during March and April and then again in June, July, and August of 2001. The study design called for two rounds of data collection in order to compare illnesses in the dry and rainy seasons. Four fieldworkers collected data during the first round and five did so during the second round. After the first round, changes were made in the study's methodology and overall approach to accommodate local conditions and to facilitate data collection.

During each round of data collection, the fieldworkers:

- resided in the neighborhood where data were collected for seven to eight weeks;
- conducted a census of nearby households;
- constructed a social network with the child and mother at the center;
- followed 20 to 30 children in the sector where they lived;
- observed the children daily and noted when they were identified as ill;
- noted if the children had signs or symptoms suggesting illness, such as diarrhea or respiratory discomfort, even if they were not yet labeled as ill by their families;
- conducted observations and informal conversations regarding responses to children identified as sick by the household;
- recorded conversations about the health status of children held with family members;
- mapped household memberships and extended family relationships; and
- interviewed individuals involved in responses to childhood illness.

Fieldworkers collected data on all aspects of the response to illness, beginning from the first indication that someone noticed that something was different in a child, to conversations about what had changed and what might be done, to what was actually done, by whom, and when. Researchers were especially interested in learning how household members participated in the care of sick children, whether this meant offering social or material support, providing actual treatments, or assessing the results of therapy. Special attention was paid to the role of the mother, for it was assumed that she would most often play the key role in recognizing illness and finding an appropriate treatment.

During the first round of data collection, each fieldworker monitored the activities of 20 children on the assumption that tracking more than 20 children would require too much time. Fieldworkers lived in the same section of the town or village where they worked and observed children who lived in the immediate vicinity. To determine which children to follow, they first identified all children age five or younger who lived in the nearest compounds. Then they expanded outwards to more compounds until they reached a number close to 20. All of the children observed lived no more than 30 to 50 meters from the sleeping space of the fieldworker.

One aim of the study was to gather data on all of the people who naturally and collectively respond to childhood illness. This meant sampling contiguous living compounds because the proximity of

people's living spaces matches their kinship connections in Malinké society. As members of a patrilineal family, in which inheritance and affiliation pass through the males, an elderly man and his wife (or wives) commonly live alongside their sons, together with the sons' wives and children. There were some cases, however, where individuals had settled within compounds without any lines of kinship or marriage connecting them to their neighbors. By studying children in contiguous compounds, fieldworkers maximized their opportunity to observe and gain insight into all of the contributions and attention given to sick children.

During the first round of data collection, two fieldworkers collected data in a neighborhood in Dabola Center, and two fieldworkers collected data in a section of Konindou village. Results showed insufficient differences between the two sites to merit an urban-rural comparison. Families in both settings used formal health care institutions far less than parallel markets where traveling vendors sell pharmaceuticals. Therefore, fieldworkers collected data only in Konindou village during the second round of the study.

The first round of fieldwork revealed which approaches to data collection worked and which did not. Village residents did not object to participating in household censuses or discussing personal information even when conversations were recorded. Fieldworkers also had no problem making daily visits to each household since they lived in village compounds. Visits and observations were consistent with everyday life; the fieldworkers simply moved about the living spaces, inquiring about the children, and observing children at play, at rest, and when they were sick.

However, data collected during the first round were not as rich as desired for three reasons. First, there were few cases of illness during March and April, which is the dry season in central Guinea. In fact, the researchers were surprised at how healthy and well-fed villagers seemed to be. Second, fieldworkers often failed to take the initiative to follow up on events related to a child's illness and to discover how episodes of illness unfolded. Third, while it was easy to observe and participate in daily life in the compounds, fieldworkers had difficulty persuading people to take time to discuss issues of health and family life with them.

To address these problems, the data collection process was changed during the second round of fieldwork. First, the fieldwork took place during the rainy season, which meant that there were many more cases of childhood illness to pursue. Second, all five fieldworkers lived in Konindou, where they could have regular contact with one another and could be more easily supervised. Third, each fieldworker was given a small sum of money to share with informants they saw regularly—although they were instructed not to make an interview a *quid pro quo* for a gift to ensure that informants did not fabricate information or a crisis purely for compensation. Fourth, the number of children they followed was increased to about 30.

In a society disposed to gift giving and remuneration, giving informants gifts for their generosity with their time and information proved to be essential—not just to be able to collect data but also to be accepted as a full participant in community life. Indeed, not giving gifts for information would be contrary to the norms of the community. Since gift giving for favors is a normal part of life in Konindou, we feel sure that it did not introduce artificial relationships in the community.

Despite the changes made in the second round of fieldwork, problems remained. Fieldworkers found living conditions difficult, given the undernutrition, fatigue, and illness that were part of everyone's life. Protein sources during the rainy season are scarce, and this contributed to fatigue. Also, the production of data from observations and casual conversations varied greatly from one person to the next.

Overall, the five fieldworkers followed a total of 155 children age five years or younger (79 girls and 76 boys) during the second round of data collection. Table 2 gives their age distribution. Of the 155 children observed, 62 had some level of illness. Our description and analysis focused on 30 of those 62 cases, concentrating on children who were substantially ill and whose cases showed the range of illness and responses to illness that we found in Konindou.

The study collected data in the form of observations of social interactions between children and others, observations of adults responding to signs of illness, casual remarks and conversations, semistructured interviews, and accounts of very recent events (occurring the same day or on the previous day).

Table 2: Age distribution of children observed in the study, Guinea 2001

Age in years	Number of children observed
< 1	29
1	23
2	27
3	19
4	30
5	28
Total	155

3.5 Data Analysis

Data analysis sought to:

- identify the signs of illness and their association with specific diseases or categories of disease;
- describe the relationship between signs, disease categories, and treatment options;
- identify the relationship of each person involved in a child's illness to that child;
- establish the degree to which the health center is used compared with other sources of care, such as family members, healers, market vendors, marabouts, or no treatment at all; and
- discover the sequential patterns of treatment over time, incorporating different elements in the community.

CHAPTER 4 FINDINGS

The findings from this study are based on the observation of 30 children in Konindou who were ill during a two-month study period during the rainy season, along with interviews with their mothers and other people involved in their care. By following the day-to-day evolution of their illnesses, a picture emerges of how family members and others do and do not respond to signs of illness in young children.

The inhabitants of Konindou possess a great deal of knowledge about childhood illness and its treatment, as well as considerable human resources to provide care and seek treatments. Considered broadly, those resources include local knowledge and experience with illness, social relations within the fabric of kin and community, material resources such as money and food, and time to care for children. This chapter presents the most important dimensions of the community's response to childhood illness and the factors that enable and promote this response. It focuses on:

- How the shifting nature of illness and its symptoms complicates diagnoses,
- The variety of human resources that can be mobilized to deal with a child's illness and the treatment options they offer,
- Social, economic, and public health constraints on the care of sick children that are unique to the rainy season, and
- The relationship between the organization of Malinké society and the way that care itself is organized.

4.1 Shifting Nature of Illness and Its Symptoms

Fieldworkers found that sick children typically did not always receive a single, specific diagnosis and prescribed course of treatment. Instead, the symptoms recognized and diagnoses expressed shifted throughout the course of the illness, as did treatments.

There is an inherent ambiguity in the discussion of these cases. Over time, the distinction between separate illnesses blurs as children display different symptoms, and one set of symptoms fades into another. Children become sick with a variety of illnesses, sometimes with two or three at once, and often one illness is followed by another. Observing childhood illness prospectively, over a period of months, taught us that there are many manifestations of illness and responses to that illness. Thus, the analytic category of "discrete illness" did not prove as useful as expected.

The ambiguity that surrounds symptoms and illness is expressed in Malinké terms that occurred repeatedly in the observations and interviews. The glossary of common complaints sometimes refers to symptoms, at other times it refers to specific illnesses:

<i>bayi</i> = vomiting	<i>kudu</i> = rash
<i>dembalen</i> = malaria	<i>sasa</i> = cold or flu
<i>fadikalaya</i> = fever	<i>suma</i> = stomach disorder
<i>konobori</i> = diarrhea	<i>tonoko</i> = worms
<i>konodimi</i> = stomach ache	

4.1.1 Sasa and Kono

People do not often make clear diagnoses based on a collection of symptoms, although malaria is an example of a clear diagnosis made and treatment readily prescribed. Two commonly identified illnesses, *sasa* and *kono*, cover a variety of symptoms. These illnesses are interrelated and linked to a larger constellation of knowledge. They stem not from ideas of contagion from one person to another but instead from the environmental context.

Sasa, like its counterpart in the English language (“cold”), is sometimes a symptom, sometimes an illness, and usually does not elicit any special care or concern. *Sasa* is known to be caused by the humidity and cold of the rainy season and is specifically marked by a cold and cough. These symptoms came to our attention from fieldworkers’ observations and not from mothers’ comments, since mothers did not consider them to be serious. In fact, fieldworkers were sometimes surprised by mothers’ indifference to *sasa*. Once a child developed a fever, however, mothers became concerned. People other than the mother frequently treated *sasa*, either with plant medications or sudrex, a pseudo-ephedrine decongestant in pill form.

Kono is a complex of illnesses thought to come from chance encounters with mysterious forces in the bush. Individuals are vulnerable when they go fishing, hunting, to their fields, or otherwise pass through the bush. *Kono* is recognized by a whitening of the palms, convulsions, and a change in the color of the stools. A physician would diagnose *kono*, with its convulsions and high fevers, as cerebral malaria. While convulsions are always a cause for great concern, the people of Konindou do not usually connect them with malaria.

People distinguish three types of *kono* according to its symptoms and cause. *Dibidibi kono* occurs when a mother or child crosses the path of a bird. Its symptoms include stools that are black or the color of green leaves, yellowing of the skin, and reddened eyes. *Konkyen kono* may occur when the mother steps on an insect. Its symptoms include yellowing of the skin, reddened eyes, convulsions, drooling, and trembling. This illness also acts on the nerves, causing breathing difficulties, rash, and red stools. *Tulafen kono* may occur when the scent of a monkey crosses the path of a child. Its symptoms include reddened eyes, sticky stools, loss of appetite, eyes that become white, fever, and stools the color of pus.

Sasa and Kono: The Case of Sekouba Condé

Sasa is often thought to be a prelude to other maladies, most often *kono*. The mother of a 15-month-old boy, Sekouba, was not worried when he had *sasa* since it did not disturb his playing. One evening he had a fever that increased until dawn and then subsided. The boy’s illness was not a cause for concern until he went into convulsions while being hitched to his mother’s back.

Sekouba’s mother thought she knew what to do, but first she asked her mother and her father’s father. She said she did not know what plants she should use for *sasa*. When others realized that she was unsure how to respond, they warned her that a child with *sasa* is vulnerable to *kono* or, as they expressed it, *kono* can take advantage of a child. She was further told something that our field researchers heard over and over again, that *kono* is known by a whitening of the palms, convulsions, and through a change in the color of the stools. When a child has these symptoms, the mother is referred to an elder who knows how to do a *maboro*

In contrast to *sasa*, there appears to be a clear diagnosis for *kono* which calls for special treatments. All three types of *kono* are treated with a *maboro*, that is, by massaging the body of the sick child with medicinal plants soaked in water while reciting verses—some from the Koran, some not—that are infused with local poetic invention. The practice of massage with medicinal plants is common in societies in West African countries, and the plants chosen are in some way related to the symptoms of the illness and to the verses chosen for recitation. In addition to easing a child’s suffering and curing illness, the *maboro* can prevent the onset of *kono*. This is important because children who are sick or experiencing the developmental challenge of diarrhea associated with weaning are considered to be more susceptible to contracting *kono* (see the case of Sekouba).

4.1.2 Diagnosing Illnesses

The inhabitants of Konindou rely on their own knowledge and experience to diagnose and treat childhood illnesses. However, a period of poor health may include a variety of symptoms, diagnoses, and treatments. Constellations of symptoms often do not add up to a single diagnosis, in part because children may have several illnesses at the same time. In making a diagnosis, an individual takes into account the age of the child and his or her own experience as well as the symptoms displayed.

A series of symptoms does not always point to the same treatment, and the same treatments are sometimes applied after different diagnoses. Symptoms also may be dealt with as problems in and of themselves. The six short histories presented below illustrate the immense fluidity of illnesses as they are recognized and diagnosed by residents of Konindou.

Fluidity of Illness: Six Short Histories

Amara. This five-month-old girl was ill for 23 days with an eye infection, vomiting, stomach ache, fever, and *sasa* (cold and flu). The illness began with an eye infection, and on the fourth day she had wheezing, vomiting, and a fever. At the end of 23 days she still had *sasa*.

Amina. This five-month-old girl was ill off and on for 35 days with a rash, a fever, and *sasa*. The illness began with a rash and fever that lasted a few days. After two weeks the fever returned for ten days, and the family decided that she had *sasa*. The fever subsided but returned again for one week. Then the fever left, and she was well again.

Karfala. This six-month-old boy was ill for a month with a fever, vomiting, diarrhea, a rash, and teething problems. The illness began with vomiting and diarrhea, followed by a rash and boils. These symptoms continued for about three weeks off and on. After that, his mother reported that she was not treating him anymore because “she’s had enough of it, and he doesn’t get well anyway.” Yet he was still treated and recovered after another week.

Brahma. This two-year-old boy was sick off and on for 44 days. The illness was described at times as worms, malaria, or *kono*, then rash, fever, vomiting, and diarrhea. The illness began with vomiting and fever. An older woman, a healer, thought it was *kono*. After two weeks he had a rash around the ears, which the family thought was a relapse of an earlier rash on his back dating back to the previous month. A few days later the boy still had a fever with vomiting, but the symptoms abated in a few days. A week later Brahma became ill again with diarrhea and more vomiting, but he recovered completely one week later.

Continued ...

Continued from page 19

Kiya. This girl, age two and a half years, suffered from vomiting, stomach ache, malaria, teething, and sore gums over a period of 25 days. The illness began with vomiting. Two days later the family thought she had malaria, but a healer thought she had *kono*. After two weeks her gums were swollen, and she had an upset stomach with a swollen face. A few days later her gums were inflamed, but she recovered three days later.

Hadi. This four-year-old boy was sick for 16 days. As his symptoms shifted, the family made a series of diagnoses. The illness began with *sasa* and was attributed to the coldness of the rainy season and to fatigue. He stayed in bed for several days and on the fourth day was described as being feverish and unable to sleep. His cold diminished, but he developed bloody diarrhea. On the eighth day the fieldworker was told he had dysentery. On the fifteenth day he was taken to the clinic, where he was apparently diagnosed with malaria and given chloroquine.

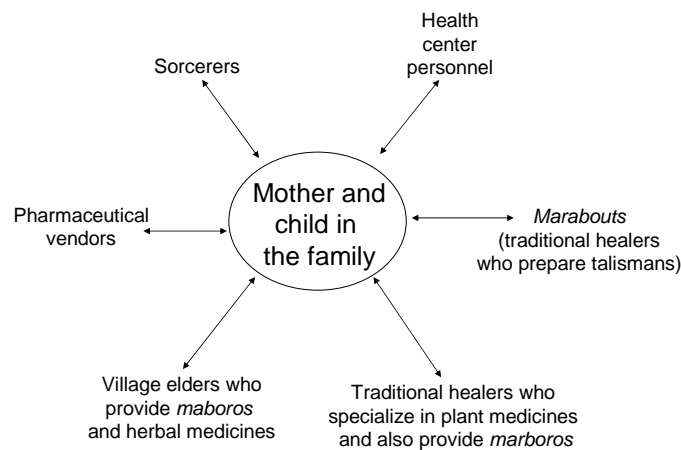
4.2 Human Resources and Treatment Options

A mother and her family have a wide variety of treatment options when a child becomes sick. They can turn to specialists or look for support from members of their social network, which includes family, friends, and community members who have an interest in the sick child and the child's mother.

4.2.1 Treatment by Specialists

The specialists who treat childhood illness in Konindou can be divided into three categories: 1) people with formal training in the educational system, such as clinic workers, 2) people whose training and orientation emulates the Western medical model, such as vendors of pharmaceuticals, and 3) people whose knowledge and skills are deeply rooted in the art and science of healing among the Malinké, such as traditional healers. Figure 1 shows all of the specialists available.

Figure 1 Specialists who offer treatments for childhood illnesses



Health center personnel and traditional healers both offer treatments for nearly any kind of illness, but they rely on different medical traditions. Treatment at the health center requires a cash payment, and social relations are not involved since nurses come and go while families remain. In contrast, the choice of a traditional healer (*basibola*) may well involve social ties, and treatment can be on credit. The term “traditional healer” refers to anyone with esoteric knowledge about medicinal plants, ritual healing, and/or medicinal washing and recitations. A mother who contacts a healer or elder to conduct a *maboro* has already made a diagnostic choice indicating that her child’s illness may go beyond the simple and common illnesses contracted in the natural environment.

From the cases in this study, it appears that families seeking treatment for a childhood illness are most likely to turn to the following six specialists:

1) Healers with plant medications (most frequently used). When illness is present and recognized as needing treatment, plant medications are usually used. The use of plant medication is especially common in the rainy season when there is little money available to pay for a clinic visit or to purchase medicine from a vendor of pharmaceuticals. Traditional healers (*basibola*) are especially active in the rainy season. At this time, parents are busy working in the fields and child care is left to the older generation, who are inclined to seek out the *basibola* for treatment rather than relying on manufactured pharmaceuticals. Many elders in the community (both men and women) also practice healing with plant medications.

2) Village elders offering a maboro (very frequently used). This is almost as common as the use of plant medications by healers. However, the *maboro* is a separate activity from other uses of medicinal plants. In one of the cases followed, four people performed a *maboro* on the same day, each in an effort to heal the child.

3) Pharmaceutical vendors (very frequently used). Western medicines were used in some cases where no one mentioned going to the *labutani* (a term used to refer to any kind of biomedical care offered in a formal setting, whether a health post, clinic or hospital). In these cases, people bought medicines from a vendor, often a member of a village family that runs a business selling pharmaceuticals. One family member, Alpha, can be found with several well-stocked tables of pharmaceuticals at the weekly markets, while other members of his family sell medicines out of their homes or while making the rounds of the compounds. Residents of Konindou seem to prefer vendors over the clinic because there is no waiting, vendors are conveniently located, and one can buy on credit. In addition, people put their personal faith in Alpha and his family, who were descended from one of the founding families of Konindou, the Dramé.

4) Health center personnel (less frequently used). Residents of Konindou used the health center far less often than any of the other treatment options listed above. People explained that they lacked the money to go to the clinic, especially in the rainy season; the staff often failed to show up; and biomedical remedies were not appropriate treatments for certain illnesses, such as *kono* and *sayi* (liver infections as sequelae of malaria; no cases of *sayi* were seen in this study). People did seem to use the health center for skin infections because they had good results after applying topical ointments.

5) Marabouts (infrequently used). A marabout can provide protective medicine by preparing a talisman (or *gri-gri*) for a sick child. The marabout writes Koranic verses on a smoothed piece of wood or even a black board, carefully washes off the letters and saves the water, and then bathes the child with the water or gives the child a little to drink. There were only a few mentions of using marabouts to make talismans to protect against illness. The type of sorcery that would lead people to turn to marabouts did not appear to be part of the life of children in Konindou.

6) *Sorcerers* (very infrequently used). If an act of sorcery is suspected to be the cause of a serious illness or misfortune, families might contact a sorcerer (*souba*) to undo the spell. Sorcerers are anyone who has learned to use esoteric knowledge about power to harm others. They may act on their own behalf or take money to do the deed for someone else. They are not like healers or marabouts, who are often full-time practitioners or who openly practice their art or science in addition to farming. Sorcerers are not full-time practitioners of sorcery, and few people may know of their abilities. In two of the cases followed, going to a sorcerer was mentioned. While this suggests that sorcery may sometimes be a concern, we were not able to confirm that any visits took place.

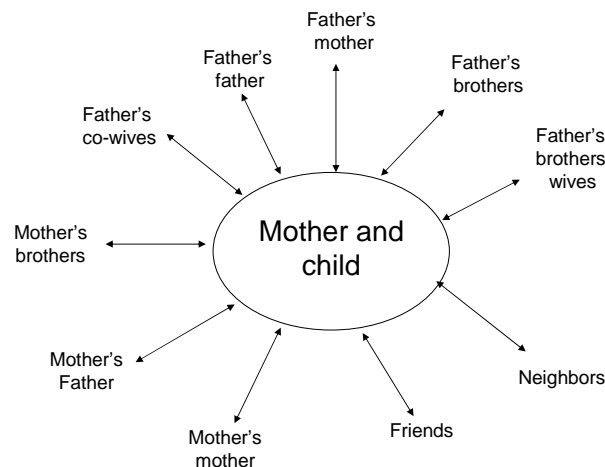
4.2.2 Treatment by Family and Community Members

Observations of sick children found that a wide variety of family members may be drawn into caring for a sick child, not just the parents. In fact, the father often plays less of a role than other members of the father's family. Family members may help with the diagnosis, provide or seek treatments (including medicinal plants, Western medicines, and *maboros*), and/or offer direct child care. Figure 2 shows the constellation of individuals who may participate when a child is ill, while Table 3 shows variations in the responses of families to childhood illness.

The mother's social network plays a central role in shaping the family's and community's response to a sick child. Thus, the mother's social relationships affect her capacity to respond to her child's illness. This finding was unanticipated, and the importance of the mother's social network only became clear over time, as events were observed by fieldworkers. The case studies in Section 4.4 show how the mother's social relationships determine which human resources she can draw on when her child is sick.

Elder members of the community play a special role in treating *kono*. It is believed that the diagnosis and cure of *kono* is beyond the capabilities of young adults, who are thought to be unaware of the forces of nature that harbor the source of *kono*. While the forces of evil that cause *kono* can be subdued, they believe the illness may remain and eventually return. To diagnose and treat the problem, mothers turn to elders who understand the threat, can diagnose *kono*, and know how to perform a *maboro*. Only older people, whose own children are old enough not to be taken advantage of by *kono*, will do a *maboro*. Thus, the mother's relationships with the older generation are important in determining the kind of care her sick child receives.

Figure 2 Family and community members who may participate when a child is ill



The explanation and treatment of *kono* carried out by elders helps the community grapple with the ever-present threat to children. Elders believe that *kono* signals impending death brought on by the unpredictable forces beyond the village. Thus, during a *maboro*, in addition to massaging the body of the afflicted with medicinal plants soaked in water, the elder recites verses to dispel the forces of evil set off by an inadvertent transgression in the bush. Those who recite the verses tell highly metaphorical stories that capture the struggle against illness and the forces of evil. Regardless of their effectiveness, *maboro* treatments offer an opportunity for older family members to respond to the signs of severe illness in young children.

Another way of considering the role of family members can be seen in data presented in Table 3. Twelve cases of illness collected by one fieldworker are presented along with the family members who participated in the process of treatment.

Cases of childhood illness				Parents' role in addition to mother (unless mothers absence noted)	Principal participants in treatment process
Name	Sex	Age	Illness		
Fanta	F	8 months	Malaria, skin disorder, <i>kono</i>	Father mostly absent	Father's mother, father's brother, father's brother's daughter, mother's mother, mother's sister, friend, older brother
Hady	M	8 months	Fever	Father away during illness	Father's mother had helped out before she died
Aminata	F	1 year	Vitamin deficiency, fever, malaria	Both parents cooperating	Father's brother, father's father, father's sister
Adama	F	2 years	Fever, cold symptoms	Father absent	Father's brother who plays a major role in procuring plants
Oumar	M	2 years	Malaria, <i>mojalou</i> , sorcery	Father wholly disinterested	Father's father completely involved
Kadiatou	F	2 years	Malaria	Father doesn't participate	Father's mother principal in care; older sister
Mamedí	F	4 years	Fever, vomiting, cold symptoms	Mother and father at Banankoro	Father's brother, father's mother, and co-wife
Ousmane	M	4 years	Malaria	Father lives elsewhere	Mother's mother, older sister
Mamadou	M	5 years	Malaria	Mother and father at Banko	Father's mother, father's brother,
Alpha	M	5 years	Fever	Mother and father cooperating	Father's mother, co-wife
Ciré	F	5 years	Intestinal disorder	Father and mother cooperating	Older sister
Fodé	F	5 years	Dysentery	Father deceased	Older sister, father's mother, mother's mother, mother's mother's sister

4.3 Challenges Posed by the Rainy Season

Conducting prospective research in the rainy season made us keenly aware of the seasonal dimensions of poverty, both in time and money. The rainy season is known as the period of *soudure* (bridging), a time of transition between harvests. These months confer a seasonal dimension to poverty. In the rainy season, during late June, July, August, and September, many people lack the money to buy medicines or supplementary food; they also lack the time to pay much attention to a sick child. Thus, the more frequent illnesses among children during the rainy season come at a time when the family's ability to care for a sick child is already strained. One mother summed up the problem of sick children during the rainy season as follows: "If you give birth in the dry season, God protects you."

4.3.1 Childhood Morbidity

The rainy season is a time when the frequency of childhood illness increases dramatically. In the rainy season risk factors including pathogens, cold and humidity, and lowered caregiving potential, lead to increased morbidity. As previously stated, researchers' concerns about not having enough cases of illness to follow disappeared during the second round of data collection, which took place in the middle of the rainy season.

Table 4 shows the number of children treated at the health center in 2000 in Konindou, which is staffed by a skilled nurse and one assistant. The numbers confirm that childhood morbidity is far higher in the rainy season than in the dry season. Yet the table probably understates the extent of seasonal differences, because in the rainy season people are less able to pay for clinic services and therefore less apt to use them.

Season and month	Number of children taken for treatment	Number of children diagnosed with:	
		Malaria	Diarrhea
Dry season			
January	25	8	6
February	24	7	6
March	38	11	12
Total	87	25	24
Rainy season			
June	55	18	12
July	66	34	21
August	52	13	11
Total	173	65	34

4.3.2 Time Constraints

Time poses a serious constraint on caring for sick children during the rainy season, a finding that researchers did not foresee. Because of time pressures, mothers are not necessarily the persons most likely to care for a sick child at this time of year. Mothers know that working in the fields during the rainy

season is crucial to the harvest. The entire family's nutrition depends on the mother's labors. Therefore, the care of sick children is turned over to older siblings or grandparents—many of whom have their own work obligations—and to the intermittent contributions of various family members. This reality is reflected in the following field note:

Today Abdul doesn't do anything but cry. He does not want to eat in the rainy season. He does not ask for anything when his mother goes off to the field. After she leaves he clings to his older sister. Abdul suffers from a malaise that no one takes note of because no one is around him. Abdul is in total despair, because the mothers don't consider the illnesses of the children even though Abdul is truly sick and he is not in the habit of crying. Since the mothers are occupied by their work in the fields, the grandmothers oversee the actions of the children, for the mothers return only in the evening.

Fieldworkers followed some cases of sick children whose mothers were also ill. For example, a fieldworker following the case of Fatoumata Cherif noted, "I have discovered that the mother is also sick, suffering from rheumatism." A phrase resonating throughout the fieldwork describes the state of many mothers: so busy working and caring for others that they have little time to take care of themselves.

There are times when a grandmother—usually the paternal grandmother—can replace the mother in providing child care, but grandmothers too have other responsibilities. Many grandmothers can still work a full day and have their own work in the fields, so children are often left to be cared for by older siblings. Grandmothers also may have multiple grandchildren to attend. It is not unusual for a grandmother to have three grown sons who, in turn, may have five wives among them. At certain points in the life cycle these daughters-in-law may have between them seven or eight children age five or younger. Given the prevalence of illness during the rainy season, several of these young children may be sick and in need of care at the same time. Clearly, a grandmother in such situations will not be able to focus on one child for long. Hence a grandmother's involvement is often brief and purposeful, administering medication and advice instead of extended care.

4.3.3 Financial Resources

The international public health community is well aware that the cost of health care may be a barrier that limits access to health services. In Konindou, people are much less able to pay for care during the rainy season than the dry season. During the second round of fieldwork, many individuals repeatedly said that they did not have the money to pay for services at the health center. The father of one sick child, Fanta, remarked that:

During the dry season, there's not a lot of work and the heat is fierce, so children will be more quickly treated because we have the means to do so. Thanks to the harvest we can satisfy our needs. On the other hand, during the rainy season, there's all the work that we must do, and during this time there is lots of illness but little money to go to the clinic. During this time, if there is an illness, one is obliged to use medicinal plants for treatment.

Fanta's mother added:

The rainy season is difficult because there's nothing to eat and no money to provide care for sick children, for everyday we are off in the fields. In the dry season, we have fewer difficulties because we can pay for what we need.

Fanta's grandmother also explained:

During this time [rainy season] children have fever, malaria, diarrhea, and sasa. During this time of soudure almost everyone uses medicinal plants to care for children in these different cases.

Even food becomes short during the rainy season. Food shortages were a major problem for daily life reported by fieldworkers, part of their own experience as well as the experience of the people who they were observing. During *soudure*, food stocks are depleted for everyone, not just the poor. During this time most people do not have the money to buy food from the market, either. One mother remarked:

We can't do anything for our sick children in this period; the problem of eating is difficult at this time... My children are put to bed without anything to eat.

4.4 The Social Network of Support

Existing social arrangements between the mother (and, by extension, her child), the father's and the mother's families, and the broader community affect the response to a child's illness. Although diagnosis, treatment, and care may be distributed among various members of the family and the community, certain elements of response to illness are predictable and consistent with patterns of social relations. An analysis of cases of illness in Konindou found that:

- The child's patrikin, not just the mother, is important in responding to illness.
- Child care is an outcome of the agency and initiative of the mother. Her relationships dictate whether the child's patrikin and others come to her assistance and to the assistance of the child.
- The child's long-term health status structures the response to illness. Continuing illness and susceptibility to illness limits assistance, because the child is labeled as *sidasolo* or resistant to treatment.
- Support is weaker when a child is not tied to patrikin, and it is weaker still when the child is not tied to the mother's kin either.
- Elders may participate in the healing process by conducting a *maboro* when a child's survival is in question. For those who are disconnected socially, however, the use of the *maboro* may not be possible.

The detailed case studies that follow illustrate common patterns in the response to illness, which are largely dictated by the organization of Malinké society and the mother's own social network. In addition, they illustrate common features of childhood illness in Konindou: illnesses are often protracted, with shifting symptoms, diagnoses, and treatments.

4.4.1 The Role of the Patrikin: The Case of Mamedi

The case of Mamedi, a two-year-old boy, illustrates how the patrikin may step in to support a mother when the father is absent. It also demonstrates the importance of the mother's agency in bringing together treatment and shows how labeling a child as constitutionally sick limits care.

Diary of Events: The Case of Mamedì

First Illness

Day 1: Mamedì's mother leaves him in the care of his older sister while she goes to work in the fields. When asked why she left Mamedì in such a state, the mother responds:

Madame, I am tired. None of my other children are like Mamedì. It's not just today he is sick, everyday he is sick. I don't have any help other than his paternal grandfather, who helps me out in these illnesses. It is the time of work in the fields. That is why I have to leave him with his older sister. At his birth it was his eyes that made him sick. His eyes became red. After that he had malaria. I sent him to the hospital and bought five bottles of medication which helped him. I picked medicinal plants to wash him as well. Now he is better. My other children are not sidasolo [sickly], but since his birth he has been sidasolo until now. He gets better and then he gets sick again all the time. Yesterday he had a relapse. I haven't told anybody about the illness. I had bought some plant medicine called candida that I give him. I bought it from a girl called Kiya. His grandfather usually comes to stay when he is ill.

Day 3: The mother prepares *kankomani*, a plant she bought yesterday, and she massages Mamedì with the butter of *karité* (sap from a tree). After that, Mamedì drinks some of the *kankomani* preparation as a tea. The mother tells the fieldworker:

Madame, as I told you the other day he is sidasolo. His malaria does not make me afraid. The labutani [hospital] has treated him as well. Today I paid for two pills at the clinic.

Day 4: Mamedì has a fever. His father shows no interest in him and says nothing. The grandfather visits and sees the state of his grandson. He brings a bottle of mentholatum chinois and tells the mother to mix it with the butter of *karité* and massage the boy with it after each bath. The grandfather tells the fieldworker:

Madame, Mamedì is my grandson, he is so sick; his illness has tired his mother out. I cannot do like his father and leave all the infants at the doorstep of his wife like they are orphan children.

Day 5: Mamedì is a little better. He is able to eat, and he does not cry.

Day 6: Mamedì eats some rice; his mother says he is getting much better.

Day 7: Mamedì goes to the field with his grandfather.

Day 8: Mamedì sleeps on the back of his mother.

Day 9: Mamedì eats very well and drinks tea. He has a second helping; and his mother is very happy to see him like this.

Day 10: Mamedì sits on a mat at his grandfather's house.

Day 11: Mamedì is better and back with his mother.

Continued ...

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Second Illness (two weeks later)

Mamedi's body is hot and trembling. The mother reports:

I made a maboro. At first, he got better. It is for his hot body that I made the maboro but now he doesn't get better. I brought him to a man to make a maboro and this man says it wasn't a simple illness; it is a mojalou [illness caused by a sorcerer] that is following him. The man made a gri-gri [talismán] and washed him with it. The mojalou comes from bad people with bad faith. It is the grandfather who diagnosed it. He said it came from sorcerers. It is I alone who pay attention to his illness. Mamedi's father has done nothing because he is sick, he can't do anything. In addition, there are many other children. When Mamedi is sick I bring him to his grandfather, for he has the necessary medications. Friends and neighbors do not help out; his grandfather bathes him with this mixture for three days in a row.

Among the Malinké, children belong to an entity larger than the single household—they belong to a patrilineage represented by the father, his brothers, and the paternal grandfather. The mother is not viewed as the sole caregiver, nor is she seen as able to carry the full responsibility for a sick child's care and treatment. In a way, women are somewhat marginal to the male world in which they operate. This is more the case in small villages than in the city, where husband and wife may live apart from other kin and are inclined to more equally address a child's needs. In the village setting, women's roles and their authority are somewhat diminished compared with life in town.

After marriage, a woman relocates to live in her husband's compound where she becomes acquainted with her new husband and his immediate family. The extent to which other family members will contribute to her children's care depends largely on her success in involving herself—sometimes ingratiating herself—into the life of her husband's lineage kin and co-wives. How the mother's relations with the patrikin evolve will have much to do with the care her children receive when they are sick. If a woman is not successful in developing mutually-supportive and ongoing reciprocal relationships with her child's patrikin, regarding services, material favors, gifts, advice, and support, she will not receive those benefits for her children. She may even be sharply criticized by her husband and family.

Thus, the mother is key to a sick child's care; she mediates care and resources on behalf of the child. Although she is not expected to do it alone, she is ultimately held responsible. One father told the fieldworker that if the mother informs the family of a child's illness, then each member of the family will become involved in the search for a cure. Those that can afford to will buy medicine at the health center, while the grandmothers will occupy themselves with the preparation of plant medicines and the *maboro*. Everyone will confront the illness and make a contribution according to their individual capacities.

The case of Mamedi shows how a patrilineage may respond when the mother is overwhelmed and the father shows little interest in a child. Fathers frequently remain uninvolved, as may other members of his family. But members of the patrilineage who are inclined to play a meaningful role have opportunities to contribute to a child's care. In Mamedi's case, the paternal grandfather became a highly active participant in his care, in part, as a consequence of the father's noninvolvement. The grandfather apparently did not have competing demands to work in the fields. Had Mamedi's paternal grandmother been similarly free from farming obligations, she might have been more active. However, Mamedi's

mother reported that the grandmother disliked her so much that she did not even want to touch the child.

Mothers often claim that the burden of child care is theirs alone. Mamedi's mother said that she was the one who took care of the child. Yet by her own admission, her father-in-law was clearly very much involved:

It is I who pays the healer for the talisman. My husband scolds and spansks the children when they do wrong. It is the paternal grandfather who does the treating [and caring]; no one else participates.

This pattern is typical. Mothers often told fieldworkers about family members and others who stepped in with care and treatments. While the mother appears to be responsible for the results of a sick child's care, she does not provide all of the day-to-day care for the child and she continually receives directions and suggestions about treatment from her husband's patrikin.

The case of Mamedi is also striking because of the strong role in his care played by a man. Any preconceptions about the absent male were continually contradicted by the data, although the man offering support was often not the father. While the data do not show consistent attentiveness by fathers, in some cases fathers were active partners in the search for medication. Sometimes they even offered direct care for a child, complementing the care provided by the mother and the paternal grandmother.

Like some other children followed in this study, Mamedi was labeled as *sidasolo*, or sickly by nature. According to the mother, this was why she was not too concerned when Mamedi first fell ill. Throughout the research, withdrawal of care happened for a variety of reasons. In this case, the mother expressed a certain lack of interest in caring for the child because, as she exclaimed at the start of the illness, he was always sick. Given the time constraints and demands on mothers' labor in Konindou, extensive allocation of time and care have to produce results. If labor-intensive care is not likely to yield a good result, mothers withdraw.

Mamedi's second illness is of special interest because it was thought to be *mojalou*, a diagnosis suggested by the elders of the family to explain Mamedi's persistent ill health. *Mojalou* is caused by a spell or a spirit sent by a sorcerer who must be persuaded to desist in order for the child to recover. Thus, while a sick child with *mojalou* may be treated for symptoms of illness, he or she is not likely to recover from such treatments alone. According to Malinké beliefs, ritual treatments are required to protect the child from harm. In Mamedi's case, the mother explained that the *mojalou* first attacked the paternal grandmother, but at least five other people said the *mojalou* attacked the mother first. According to the mother, Mamedi also came down with *mojalou* the year before, during the rainy season. She spent so much money on injections, western medications, plant medicines and other treatment that she went into debt.

4.4.2 Demands on the Mother: The Case of Fanta

The case of Fanta, an 8-month-old girl, illustrates the demands placed on the mother of a sick child—both by family members who get involved in a sick child's care and by the special stresses of the rainy season.

Diary of Events: The Case of Fanta

Day 1: Fanta has a skin eruption (scabies) and fever. Fanta only accepts care from her paternal grandmother.

Day 2: Fanta's fever continues. She is cared for by her father's brother's daughter. The paternal grandmother arrives and exclaims to the mother:

It's you who doesn't want the rash cured quickly. One who is nursing a child with scabies should turn the child over to someone else to wash it. Then the problem will quickly leave. I've always said that when you want to wash the child, let me know, but you never do it.

The grandmother then prepares a body wash with a commonly used tree salve.

Day 3: The father's brother, Alpha (who is a pharmaceutical vendor), arrives and asks where Fanta's rash came from. The mother replies that the rash came little by little and that she has done so much for Fanta but now does not know what else to do. The paternal grandmother, in her presence, replies: "Alpha, it's Djenabou [the mother] who makes the child worse." The grandmother goes on to explain how morning and night she washed the child with medicinal preparations from plants she collected. But, she said, it was all in vain. Alpha gave some penicillin topical ointment to the mother, telling her that it is she who should wash Fanta:

Who should wash Fanta, who belongs to all of us? Since she is your child, take charge of her treatment yourself, for the love of God.

Day 4: The paternal grandmother reapplies the ointment. The mother goes to the weekly market and returns home to find Fanta has a fever again. Alpha enters and cries out to the father:

What are you thinking about for Fanta? About this rash, they've never told me that you've done anything. She is sick again today, so what to do? Are you counting on her mother [his wife]? And the day she dies, what are you going to do then? You should learn what to do from now on, not for today but for the future.

Alpha then gives *nivaquine* syrup to Fanta and asks plaintively, "What more can I do?" Alpha turns to the mother and asks why she had not given the syrup to Fanta and advises her to solve the problem before any complications develop.

Day 6: Fanta goes to her paternal grandmother who prepares medicinal plants. The mother goes to the fields to work and returns late to find her child once again has a fever, but she is too tired to do anything about it.

Day 7: The mother visits Fanta's maternal grandfather, and goes off to the fields.

Day 8: The rash clears up, but Fanta comes down with an illness that the family recognizes as malaria. The same treatments are applied for the skin disorder even though there is an additional diagnosis.

Day 9: Fanta's fever continues, but neither the father, nor the mother, nor the father's brother, Alpha, is involved at this point.

Day 10: The fever worsens.

Day 11: The mother buys prescription medications on the parallel market from Alpha. She buys an analgesic combined with antihistamines and Indomiel. She also takes her child to a healer for a *maboro*.

Day 12: The *maboro* continues.

Continued ...

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Day 13: The mother tells the paternal grandmother that she has not slept for three days. The grandmother reproaches her and says that:

[I have been] waiting for all this too happen: Fanta sleeps constantly, the color in her face has changed, and her stools are black, and furthermore, she has had convulsions while she was sleeping.

The grandmother concludes that the problem is *kono* since this is the third day of the *maboro*, which would usually cure *kono* illnesses from nature. Three neighbors advise her to go to a well-known healer to get another *maboro*.

Day 14: The paternal grandmother stops her involvement for the duration of the illness.

Day 15: A friend and neighbor takes Fanta to another healer who treats *kono*. The mother reports:

They said it was kono because there's a lot of fatigue. I bought four bottles of medicine and gave it to her, but it didn't have any effect. Then I took her to the old woman who said that it was kono. I then came back with my mother-in-law to find yirili [a medicinal plant], just like the old healer had said.

When asked how she knew her child was sick, the mother replied:

You know illness through the signs, you take a sick child to an old woman, and she will tell you it is kono. The color of one's stools becomes green like the color of leaves.

First, I bought paracetamol, which did not help. The old woman had told me to go in the bush with my grandmother. One knows that a child has kono when she will not take breast milk. The medicine that should be taken is yalacamban. This is a medication which should not be seen by men.

Day 16: Mother returns to the healer.

Day 17: Fanta sleeps the whole night without difficulty.

Day 18: Fanta is considerably better.

Day 19: Mother reports a relapse. Fanta just sleeps and does not eat. The paternal grandmother is noticeably unconcerned, being preoccupied with her own work in the fields. The father continues to travel back and forth on his motorcycle between Banko and Konindou.

Day 20: The mother stays home and takes care of Fanta who does nothing except sleep, refusing to nurse. She does not consult a healer.

Day 21: Fanta is a little better and is in the care of her father's brother's daughter.

Day 22: Fanta appears to have recovered: she spent the night peacefully and is nursing properly.

Day 23: Recovery continues.

In this case, as in many others, the mother is not the primary decisionmaker—although it is her social network that dictates who becomes involved in the response to the child's illness. Instead, the mother is given advice (which she may or may not follow) and supplied with treatments by others. At different points in Fanta's illness, the mother-in-law, husband, neighbors, and friends involve themselves in diagnosing and treating the child's illness. As usual in the rainy season, Fanta's direct care was often

left to a young female relative (the father's brother's daughter) so that the mother could continue her work in the fields. Fanta's illness also illustrates what happens when the mother has not fashioned good relations with the patrikin—she is likely to be criticized for her actions rather than supported.

The kind of care that each individual proffers has much to do with their access and commitment to different forms of care familiar to the social network. For example, because Fanta's paternal uncle is a pharmaceutical vendor, Fanta has prompt access to Western medicines. But eventually the diagnoses of the older women seem to prevail. They decide that Fanta suffers from *kono*—a disorder that older women are best at treating and are most inclined to diagnose. In fact, the course of Fanta's illness shows the uncertain relation between diagnosis and treatment at times, the diagnosis changes but the treatment remains the same, while at other times, the treatment changes but the diagnosis remains the same.

Fanta's case also illustrates the competing demands that the rainy season imposes on mothers. Fanta was ill during much of the study period. Her father often worked at Banko, about 36 kilometers away. He showed little interest in the child and spent less time with her than other members of his family. The mother was clearly upset that the child was sick so often during the rainy season when she had work to do in the fields. The mother began thinking of her child as *sidasolo*, or sickly. Such children not only test the fortitude of a mother, but they also test the quality of relations she has forged in her social world.

The mother revealed her feelings in a continuing monologue that was apparently directed toward Fanta but really provided an outlet for her concerns and sentiments. One day she exclaimed:

I don't know anything anymore. I can't do the job of weeding my peanut field if you stay sidasolo. I just don't understand. Pardon me, dear little mother [term of endearment for the child], it's the rainy season and I have no help. You have to have pity on me. I was left an orphan when my mother died, and only your namesake [Fanta's maternal grandfather] is living and all our needs fall on him. Then, little mother, you present me with this illness. I hope you are going to understand my request.

The next day she addressed the child in these words:

Fanta, you have so tired me out in recent days. The whole dry season you don't get sick. You choose the rainy season to be ill and this is the exact moment where it is important to work in the field. Everyday another illness! My mother-in-law asks, "What now?" Your father notices this [as well].

The mother then turned to the researcher and said:

Fanta has had this problem since she was a baby; it's a problem that can't be cured.

The following day, she repeats:

Fanta, you have so tired me out in these times. Throughout the whole dry season you haven't fallen sick, but now you choose the rainy season to always be sick. And now's the right time to work in the fields! Everyday, it's a new illness.

Clearly, mothers bear multiple burdens, especially in the rainy season. The refractory nature of a child's illness is especially onerous. The web of physiological circumstances means that one illness leads to another illness before the child has enough time to rebound or recover. This places insuperable

demands on the mother. Others step in. One of the unforeseen circumstances, which is clearly sensible in light of the mother's stressful situation, is the tension bordering on hostility and despair that is engendered in the mother.

4.4.3 Reliance on the Mother's Kin: The Case of Mariam

The case of Mariam, a two-month old girl, illustrates what happens when the patrikin fails to contribute to a child's care. Mariam's father died and after that, her mother married his younger brother, following a practice that assures marriage for a widow. As is not uncommon in these arrangements, the new husband was less attentive; he did not supply either food or medicines. The rest of the patrikin was also uninvolved. While they reported seeing Mariam regularly in her house, there was no help forthcoming from them when she became ill. Instead, the matrikin stepped in, along with older female healers in the community.

Diary of Events: The Case of Mariam

Day 1: Mariam cries, has a fever, and does not sleep. She is taken to the clinic, but without any money to pay for services. The nurse is absent.

Day 2: Mariam's symptoms continue, and she is taken to her maternal grandmother's sister for a *maboro*.

Day 3: Mariam's symptoms remain the same, and she is taken to her maternal grandmother for a *maboro*.

Day 4: Mariam's symptoms continue, and she is taken to a neighbor for a *maboro*.

Day 5: Mariam continues to cry, her stools are dark and have an odor, and she has convulsions while sleeping. Mariam is taken to an elderly healer who says it is *kono*. The mother collects leaves so her mother's sister can prepare medication and do a *maboro*.

Day 6: The maternal grandmother advises the mother to take Mariam to the clinic and to visit another healer.

Day 9: Mariam shows some improvement.

Day 10: Mariam worsens. She is taken to the clinic, where the staff says she has bronchitis. The mother takes Mariam to the pharmaceutical vendor, and she plans to go to her father's younger brother (the mother's uncle) and ask him for money for medications.

In Mariam's case, the mother's social contacts are limited largely to her own parents and to older women in the village—not the patrikin. Thus, the mother received advice and support only from her mother, her mother's sister, and elderly healers. She is referred from one older person to another in search of a cure. As a result, Mariam's care follows the dictates of an older generation of women, whose principal contribution is to address the possibility of *kono* and provide *maboros*.

The mother's social circle explains her inclination to diagnose Mariam's symptoms according to their potential for *kono* and to treat her with *konobasi* (medication for *kono*). Indeed, she used *konobasi* on the first day of treatment. The diagnosis was confirmed on the fifth day by the color and odor of her daughter's stools and by the fact that her daughter had convulsions while sleeping. The older woman who made the diagnosis remarked that *kono* had entered Mariam's back. Mariam's mother, like all mothers in Konindou, was aware of *kono*'s tendency to profit by the presence of a pre-existing illness and feared the possibility of *kono*. She observed that even the problem of cutting teeth could be an open door for *kono*.

According to her mother, Mariam had been sick since birth. While Mariam's mother took her to the clinic on the first day she became ill, there was no mention of any purchase of medications. Only after eleven days of acute illness was the child once again taken to the clinic where she was diagnosed with bronchitis, which seemingly has no clear relation to the condition of her stools. Then she was given medication by a pharmaceutical vendor.

4.4.4 Multiple Support Systems: The Case of Aissatou

Six-month old Aissatou, who suffered from a lingering eye infection since birth, benefited from multiple and overlapping systems of support that were developed and reinforced by linkages between the mother's and the father's families and by the mother's personality. The mother's social relations are structured by the fact that she is married to her mother's sister's son. The mother's personality also reinforces and enlarges her social network. She is welcoming, eager to please (especially her in-laws), and sympathetic to all. As a result, she can draw on the kinship relations that structure her social world to provide continual attention and benefit to her child's health, and she can also get help from friends and neighbors.

She is well received by everyone in the community, and neighbors and friends are willing to come to her assistance. When the mother goes to work in the fields, her neighbor's daughter cares for Aissatou. Her friends continually provide moral support in times of illness. Her brothers and sisters also visit her frequently; during the study, her sister traveled 36 kilometers from Banko to help her out in the fields.

Not only did Aissatou's mother use all of the treatment resources available, she actively pursued preventive care and visited the local clinic for vaccinations. Her husband was attentive. He bought drugs when necessary, and when he could not buy medications himself, he looked for a friend to assist him. During the illnesses that were recorded—fever, eye infection, and distended stomach—the husband bought drugs, the mother bought plant medications, and one of the healers in the community conducted a *maboro*. As a result of support from both the patrikin and matrikin, *Aissatou* received ample care and efforts to cure her when she fell ill. A wide range of treatments was undertaken: plant medicines, Western medicines, and ministrations from healers using herbal medicines and verses.

4.4.5 Unaffiliated Mothers: The Case of Nouhou

Little assistance was forthcoming when Nouhou was ill with *sasa* and fever for close to a month. Nouhou's mother is divorced and lives several hours walk from Konindou. Nouhou's father lives in Konindou but provides no support for his son. He is known as a "jack of all trades" but has no visible source of income or livestock and does not work in the fields. Because Nouhou's father comes from Siguiri, a town far away, he has no kinfolk in Konindou. From time to time Nouhou's mother's brother visits Konindou and gives them something.

When Nouhou was sick, his sole source of assistance was his maternal grandmother. However, she had not been able to work for a year because of her health and therefore had few resources. In addition, she did not come from the village and had no kin there except for her daughter.

Although the grandmother was on friendly terms with other people in the village, this did not result in any assistance during Nouhou's illness. Her ability to knit together a circle of amicable relations, which in other cases facilitated a flow of support for a sick child, did not have the same result here. Evidently, more than personality and skill in getting along is needed for a caretaker to receive help when a child is ill; other conditions also need to be met. Either the child needs to be recognized as part of a local lineage, thus making an investment necessary, or the caretaker must be involved in a set of

reciprocal relationships that channels assistance to the child. In Nouhou's case, the grandmother had no kin close by, she had no resources, and she lacked the means to accumulate resources. She took care of Nouhou when he was sick, but she did not seek out medicines from other people in the village.

The public health literature would describe Nouhou's problem as being part of a family classified as "the poorest of the poor." Materially speaking, however, Nouhou and his grandmother are not so different from the other residents of Konindou. The critical difference is social rather than material: Nouhou and his grandmother do not belong to a social network that can channel assistance back and forth. They are not part of any reciprocal relationships that recognize that children are a source of investment with benefits coming much later. The only assistance that Nouhou received when he got sick came in the form of a small amount of money that the grandmother used to buy medicines prescribed at the clinic.

4.4.6 Uninvolved Fathers: The Case of Djenabou

In a number of the cases observed, the mother was alone in her struggle to deal with her child's illness and to access sources of care. The apparent detachment of fathers from their children's health problems was a prominent feature in many cases. The father's lack of involvement puts the mother at the heart of the complex of responses toward the child and sometimes makes her the sole figure responsible. As one mother reported:

The preoccupations of the mother facing a child's illness are many. From the beginning of illness until the end of it, she'll have to organize all of the treatments, and these treatments include going to healers, to sorcerers, to the marabouts and to the hospital, and only a few fathers will come to assist when mothers do not have the means to pay for treatment. It is not like that in the larger towns and cities. There it's the father and the mother both who will occupy themselves with the treatment of the child until the child recovers.

The case of Djenabou, a four-month-old girl, illustrates the situation of a mother who is isolated in caring for her child. For three days after Djenabou began to vomit and run a fever, her mother washed the girl with warm water, gave her two Difase pills, and washed her with medicinal plants. The fever diminished but the vomiting continued. When asked if she had told her husband, Djenabou's father, about the illness, the mother replied:

He knows it because we live in the same house and he sees her lying down. I've told him quite often that Fanta is sick, that she has a fever and a headache.

When asked what the father has done for his daughter, she replied:

He has not done anything since the beginning of the illness. I am the only person who pays attention to her. I don't know any healers, and I have not taken her to a health center.

In each of these cases is it important to realize that the patterns of response to, and treatment of, sick children are consistent with pre-existing social norms. If one wants to anticipate how a child will be diagnosed and then treated and cared for on a day-to-day basis, it is necessary to examine the on-going structure and pattern of social relationships. It is not sufficient to rely only on health beliefs and knowledge of illness and its treatment to anticipate patterns of care and cure.

CHAPTER 5 CONCLUSIONS

5.1 Benefits of Prospective Research

Because of its scope and openness, the research design for this study has contributed to our understanding of household and community responses to sick children. The study did not set any limits on what concepts, actions, or participants would be included in the data collection and analysis process, nor were any limits set on what would be regarded as important. Instead, the study's subject matter was defined by a prospective design that recorded whatever occurred and whatever the participants considered relevant.

Daily visits to families with young children enabled fieldworkers to monitor not just what mothers said and did when a child showed signs of illness, but also the activity of everyone involved in identifying, interpreting, and treating the illness. Fieldworkers were able to follow child care and treatment for extended periods, during which childhood illnesses were often punctuated by brief recoveries followed by relapses. The research captured the point of view of the participants in their recognition of the signs of illness, nomenclature applied to the illness, criteria for judging the effectiveness of treatments, and decisions regarding what constitutes an effective treatment strategy.

The study found substantial variation in the recognition of signs of illness, the kinds of persons who participate in caring for sick children, the range of medications used, the sequence of episodes of illness, and the number and types of illnesses each child experienced. Because fieldworkers relied on local understandings to define the relevant aspects of childhood illness, it was possible to collect a wide range of information about the signs and symptoms of illness, participants in care, and treatment choices.

5.2 Fluidity in Diagnosis and Treatment

Some of the signs and symptoms of illness that are regarded as important in other societies carried less weight in this study. Respiratory problems and cold symptoms seemed relatively unimportant unless they interfered with normal activities such as eating, playing, talking, and sleeping, or if a fever was present. The resumption of everyday activities or departure of fever resulted in the withdrawal of attention.

A childhood illness often elicited different interpretations from different members of the mother's social network. The diagnosis and treatments chosen depended not only on the presenting symptoms but also on how the illness was framed. Malaria, for example, had treatments that were well known and often followed. However, when that illness changed into *kono* (cerebral malaria), it was reframed as the consequence of evil forces emanating from the bush, which demanded ritual body washes and the recitation of verses.

At the outset, researchers assumed they would be able to identify specific illnesses and examine how diagnostic and treatment decisions were made for each one. That proved difficult because sick children often suffered from multiple illnesses requiring several treatments. While most children monitored during the two months of fieldwork did not fall ill, those who did often suffered from several illnesses at once. For example, one child was sick at various times over the course of 16 days with cold and flu, fever, bloody diarrhea, and malaria. Another child had six different illnesses over the course of 23 days. Fieldworkers also observed that the approach to diagnosis and treatment was likely to change from day to day. Therefore, making a single diagnosis and examining the treatment for that one illness did not make sense.

The study uncovered substantial diversity and fluidity in the recognition, diagnosis, and treatment of illness—a state of affairs that tends to be overlooked by studies using survey methodologies that employ a decision modeling approach. The common expectation that children suffer from a single illness and that it should be treated in a particular way is a natural outcome of studies of specific illnesses over short periods of time. Survey questions tend to ask about specific symptoms (such as fever, diarrhea, cough, or rapid breathing) over the past week or two and do not notice that a child may have two or three symptoms at once. Decision models put a time frame on the engagement with illness, and illness narratives tend not to focus on what happens outside the margins of any one illness. However, when fieldworkers observe children daily over a longer period of time, noting how symptoms come and go and treatments are tried and abandoned, they learn that children often have what physicians would call three or four different illnesses at once. If the study had focused on just one or two weeks, as do survey recall questions, we would have found more cases of single illnesses.

Any public health intervention needs to take into account the distinction between local understandings of illness and biomedical definitions of what constitutes a disease. Interventions also need to address the lack of consensus and the diversity of approaches regarding a child's illness and treatment.

5.3 Influence of Contextual Factors

Contextual features of a child's world precede episodes of illness and exert considerable influence on the way that illness is understood and addressed. Much of the theory on health care behavior relies on cognitive models of belief and explanation. However, placing oneself in the social reality of the child makes it possible to see the role of contextual features, including linkages between the child and the kin group, patterns of social relations that the mother has woven with others, and norms of day-to-day care that are converted into modalities for cure in case of illness.

In short, social and physical conditions always mediate the responses of those caring for sick children. Situational variation in responses to illness make it more difficult to discern patterns of response to specific illnesses. Even though knowledge about effective treatment may be widely shared, circumstances may make it impossible for a mother and her kin to act on that knowledge. Thus, health education campaigns stressing an ideal response to a specific illness without taking into consideration the social and physical context will have a limited effect.

The child's health history is another important contextual factor. If a child develops a reputation for being sickly (*sidasolo*), he or she will initially receive less attention than a child who has been healthy. Children are so labeled when they are sickly from birth or if they are chronically ill for long periods of time. It seems likely that the label is used to excuse neglect when mothers are simply unable to care adequately for their sick child. Children so labeled should receive special assistance rather than less care when they become ill.

5.3.1 Role of the Patrilineage

The structure of social relations may limit or facilitate people's responses to a sick child. Among the Malinké, marriages tend to be exogamous, with the woman moving to the residence of her husband's lineage. Informants confirmed that mothers come from outside the immediate community and arrive at their husband's compound after marriage. Therefore, the response to illness comes largely from the patrilineage, and the depth and breadth of that response is a function of the number of patrikin on hand to participate.

Monitoring the day-to-day actions of mothers and other family members (primarily those in the same patrilineage) revealed that, while mothers are generally the first to recognize the signs of illness in their children, they are not necessarily in charge of decisions regarding a child's care. The father's family tends to exert considerable authority in identifying, interpreting, and treating illness. Many mothers find themselves in a double bind: the mother is considered ultimately responsible for the health of her children, but members of the husband's family often make treatment decisions for her. Thus, the mother is blamed for being inattentive should the child's illness not improve, and she must continually adjust her actions and responses to fit the desires of her in-laws.

Responses to childhood illness need to be understood in a broader context than the limited framework of the mother or household. Efforts to mediate care through the members of the community, (part of IMCI), will need to be flexible and give attention to the many people who are actively engaged in the care of sick children.

5.3.2 Mother's Social Relations

Fieldworkers carefully mapped the social networks surrounding each child at the beginning of each round of the data collection. Observations and discussions with mothers and other household members revealed that some mothers had regular and extensive interactions with the patrikin while others did not. Likewise, some mothers regularly spent time with friends and neighbors while others did not. When a child was sick, the mother received far more attention and support (in the form of active participation in treatment seeking and medicines) from members of her husband's family, friends, and neighbors if she had frequent contacts with them. Thus, the mother's social relations played a major role in how many resources were available to care for her sick child.

5.3.3 Child Care Norms and Limitations

Looking after a sick child is just one part of broader child care patterns and responsibilities. Constraints on the mother's ability to respond to a child's illness—whether because of limited resources or unfavorable circumstances—are the same as the constraints she experiences daily during routine feeding and child care.

The rainy season accentuates limitations on child care options. Most adults spend long days in the fields and leave the care of young children to those who remain in the village, typically slightly older siblings or the elderly. Thus, the inadequate care sick children sometimes receive is a direct outgrowth of the limited possibilities for allocating child care during the rainy season.

In many cases, the difficulties associated with caring for a sick child, particularly during the rainy season, have an unexpected effect. The overwhelming material and emotional demands on the mother make inattentiveness to illness a common and quite acceptable strategy. In a study of illness in Western Cameroon, Ryan (1998) found that a common response to illness was to delay taking action. This response is particularly common when a child has developed a reputation for being sickly and efforts to treat the illness are seen as fruitless. It seems likely that labeling a child as sickly is not done in a malevolent or uncaring fashion, but rather as a function of the mother's scarce resources, including her time, money, capacity for affect, and network of social support. These resources must be allocated in a rational and efficient manner, where they can have the most impact. Labeling a child as *sidasolo* may be a way to assess the most rational allocation of resources.

5.3.4 Seasonality

Collecting data at two points during the year made us profoundly aware of the impact of the rainy season on morbidity and child care. The complex pressures exerted in the rainy season pose a serious impediment to the successful treatment and care of ill children.

Rates of childhood morbidity in Upper Guinea differ substantially between the dry season and the rainy season, just as Adams (1994) found in central Mali. Relatively few children get sick during the dry season. In contrast, children often suffer from diarrhea, fever, acute respiratory infections, malaria, and colds and flu during the rainy season. The first phase of the study took place during the dry season, but not enough cases of childhood illness were found for the data to be useful. During the second phase, which took place during the rainy season, about one-third of the children became ill with a variety of illnesses. The study reported only those illnesses that were relatively severe or that lasted for a relatively long time.

The rainy season is a period of food shortage in Upper Guinea. Most of the food from the last harvest has been consumed, and nothing is yet available from the new harvest. It is also a time when little cash is available to pay for medicines or fees for service, so people tend to treat illnesses with medicinal plants collected in the bush or obtained from relatives. The rainy season is also the time of the heaviest work in the fields. Both women and men spend long hours in the fields every day for weeks on end. Mothers are often obliged to leave sick children in the care of an older sibling or other relative, who may or may not provide adequate care until the mother returns.

In summary, the rainy season is a period when families have the least amount of funds to use for medicines, when adults have the least amount of time to spend on child care, and when food is scarcest. It is also the time when childhood illnesses—diarrhea, malaria, colds, and flu—occur most frequently and need the most attention. Left unattended, diarrhea can lead to dehydration, malaria can bring on convulsions, and flu can turn into pneumonia. Any program seeking to improve children's health needs to address the situation of sick children during the rainy season differently from the rest of the year.

CHAPTER 6 RECOMMENDATIONS

Findings from this study suggest four ways to reorient child survival programs and restructure research strategies:

- Create new child care and mutual support systems,
- Make health promotion and health education activities more inclusive,
- Enhance access to health care and curative services, and
- Restructure studies of child illness so they collect data that more fully represent what actually takes place.

6.1 Child Care Systems

Child survival programs need to recognize that treatment of sick children is an extension of the overall pattern of child care, and design interventions accordingly. In Guinea, child care systems are strained during the rainy season because of occupational demands on all able-bodied adults; as a result, young children are frequently left with older siblings or elderly women. While these caregivers may perform well when children are healthy, they may not have adequate resources or experience to tend sick children. Currently, in the study area, older siblings or elderly adults care for a few children who are related to them. We suggest a broader based system of care that employs fewer but more highly trained caregivers to look after a larger number of children. The development of cooperative systems of day care may enable child care providers to provide more appropriate support to a broader range of children.

The availability of caregivers (including relatives, neighbors, and friends) is a function of how well individual mothers and their children are integrated into the patrilineage and the community. These social systems may be an adequate source of support and care for many children. However, other children are isolated from systems of care either because their mothers are marginal to kinship systems or because their father's family is absent or reduced. For these unaffiliated women, an association that links together mothers—and fathers, if possible—for mutual support and information-sharing may assure broader opportunities for support of children.

6.2 Health Promotion

The IMCI strategy emphasizes the importance of treating the child rather than a presenting illness and also teaching mothers “key family practices.” While teaching IMCI principles to health care providers has changed the way many practitioners approach the treatment of illness, applying IMCI to the household level remains a challenge. This study suggests altering the way IMCI is applied at the household level.

First, IMCI must expand its focus beyond the mother and take account of the many relatives, neighbors, and friends who are involved in a child's illness. This study shows that, although the mother may be held responsible for her child's health, she rarely decides how to proceed by herself. A child's care is shaped by the context of everyday life, including the availability of resources, the structure of the patrilineage, and the social relationships the mother has cultivated. Health education efforts need to address everyone who involves themselves in the health care process: grandparents, father's brothers, older siblings, co-wives, and so forth. Currently, however, health education is typically offered to mothers only when they bring their child to the health center. Expanding health education to include everyone who responds to childhood illness, along with enhanced systems of day care, may make it possible to achieve the goal of good family practices. It also may create linkages to clinic services.

Second, it would be far more productive for IMCI programs to engage in a dialogue with mothers (and others responsible for child care) about what is best for a child rather than to dictate what should be done. A dialogue with the diverse agents who are involved in the diagnosis and treatment of childhood illnesses could shed light on the differences between local and biomedical beliefs and approaches. Such a dialogue could also search for complementary approaches, with the goal of conserving locally established treatments that provide beneficial social support while incorporating important biomedical interventions that address physiological processes. Part of this effort would necessarily address the informal system of triage that has evolved, considering some children worthy of extensive care (if they have proven resistant to illness) while withholding care from others labeled as *sidasolo* (sickly).

Third, the case studies have shown that vendors who sell “modern” medicine in villages are an important element in the care of sick children. Any program of health promotion and education should include these vendors. Vendors should be trained so that they themselves know how to manage childhood illnesses and so that they can pass information about the effective care of sick children to mothers and to other concerned persons.

6.3 Access To Health Care

Older people in the village exercise considerable authority in regard to childhood illness: they are responsible for administering ritual body washes (*maboro*) and diagnosing serious illnesses in children. Involving these elders in child care generally, and in caring for sick children when the need arises, might increase access to health care. While the involvement of elders might increase pressures for “traditional” treatments, this group constitutes an important source of potential linkage to the clinic. If they were organized, given resources to provide medicines, and given the authority to forge a connection between the child and the clinic, they could make a positive contribution to health care.

The financial capacity of the mother and other persons involved in the care of sick children acts as a limiting factor. While this study did not collect statistics on consultations with a nurse at the local health center, such consultations were rare. People said repeatedly that they did not have the money for such consultations during the rainy season. Presumably, if a way were found to help finance medical consultations, utilization of the health center would increase. Making prospective payments in the dry season to cover costs during the rainy season might provide an answer. Extending credit is another alternative. Villagers already have extensive experience in obtaining health care through the use of credit. They seek out pharmaceutical vendors because, unlike the health clinics, the vendors extend credit for the purchase of medicine.

6.4 Studies of Child Illness

The open-ended and prospective nature of this study, which followed children over a two-month period, has shown that local criteria for what matters in treating childhood illness may vary but are identifiable. The study also has demonstrated that symptoms and diagnoses are fluid: they shift over time, overlap one another, and may be concurrent. The study also demonstrates that a wide range of individuals are involved in the care of sick children.

Given the findings of this study, we can suggest research strategies that will expand investigations to include multiple and shifting diagnoses, expand the time frame for investigation of illnesses, and take notice of the diverse individuals who are involved in health care. Studies of childhood illness should be oriented as follow:

- Studies should focus on how everyone connected to a child—within the household, sub-lineage, and compound as well as neighbors and friends—regards signs of illness in children and how they provide care and treatment. Such a focus allows the research to deem relevant whatever the population considers to be important. Such studies also should focus attention on the options for care and treatment that are available to mothers and other people.
- Studies should follow children over a longer period of time as they fall ill, recover, and perhaps fall ill again. This allows researchers to observe how people close to the family interpret and act on signs of illness, to discover how the effectiveness of treatment is assessed, and to trace how one treatment is supplanted by another.
- Since the care and treatment of sick children is a direct extension of child care generally, studies should examine the relationship between the attention routinely directed to children and the special attention they receive once they get sick and require treatment.
- Retrospective studies of childhood illness should devise interview formats and question frames that elicit the full range of participants and strategies for treatment as well as local definitions of illness and recovery. Such a research strategy may involve combining closed-ended questions with an open-ended approach to ensure that the elements relevant to a particular situation are not pre-judged. An open approach increases the likelihood that a study will elicit useful information that the researcher may not even have contemplated.
- Obtaining medicines from health centers and hospitals constitutes only a small part of the response to illness in many African countries, including Guinea. Surveys that focus on the formal health care delivery system may miss much of the activity undertaken to treat childhood illness, including, for example, the purchase of modern drugs from vendors and treatments with medicinal plants. Efforts should be made to broaden inquiries into existing sources of care so that they include more of the treatment options actually used to address childhood illness.

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