

**A Literature
Review of
Care-seeking
Practices for
Major
Childhood
Illnesses in
Uganda**

Author

Dan Twebaze

Abstract

The Basic Support for Institutionalizing Child Survival Project commissioned this report in Uganda to identify research findings to guide BASICS and its partners in developing a comprehensive community-based strategy to improve care seeking, compliance with treatment, and referral for malaria, acute respiratory infection, and diarrheal disease. Findings from an analysis of 68 studies revealed a low level of understanding of the key danger signs for these three illnesses, which account for 60 percent of all childhood illnesses treated in Ugandan health units. Traditional medicines are usually the first line of treatment, followed by pharmaceuticals, and drug vendors supply at least 70 percent of the drugs used at the community level. The report also reviews the activities of the Ministry of Health and its partners in Community Integrated Management of Childhood Illness (C-IMCI) and makes recommendations for an intervention strategy that builds on these efforts.

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BASICS II

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BASICS II

1600 Wilson Boulevard, Suite 300 • Arlington, Virginia 22209 USA
Tel: 703-312-6800 • Fax: 703-312-6900
E-mail address: infoctr@basics.org • Website: www.basics.org

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Preface

The Basic Support for Institutionalizing Child Survival Project (BASICS II) is a global child survival project funded by the United States Agency for International Development (USAID) with the strategic objective to “increase use of effective, improved, and sustainable child health interventions.” BASICS II is charged with achieving the greatest possible country-level impact on major threats to child health and providing technical leadership in advancing the state-of-the-art in policy and programs. BASICS II works in partnership with other USAID projects, donor agencies, ministries, private voluntary agencies, nongovernmental organizations, and the private sector to link resources at the global, regional, and country levels to ensure the maximum scale of program efforts.

In Uganda, BASICS II supports the Ministry of Health (MOH) to help accelerate and strengthen the implementation of Community Integrated Management of Childhood Illness, including nutrition, within six districts of Uganda selected as sites of an

IMCI Effectiveness Study. At the same time, BASICS II supports national expansion of the strategy with partner organizations. BASICS II also works with the Uganda Expanded Program on Immunization (UNEPI) to develop affordable strategies and approaches for revitalizing and sustaining routine immunization coverage nationwide.

BASICS II commissioned the following report to identify research findings that could guide the project and other partners in developing a comprehensive community-based intervention strategy to address care seeking, compliance, and referral for malaria, acute respiratory infection, and diarrheal disease. The strategy was to be aligned with the MOH's Community IMCI and Home-based Management of Fever strategies resulting from Uganda's commitment to the Abuja Roll Back Malaria declaration.

In this report, the consultant annotates appropriate studies, describes relevant research findings, analyzes findings, and provides suggestions to guide an implementation strategy.



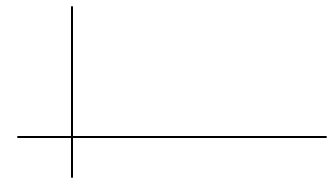
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I would also like to thank the various organizations involved, such as the World Health Organization, UNICEF, Uganda's Ministry of Health, the Delivery of Improved Services for Health (DISH) Project, and health staff from Masindi and Kiboga districts for their invaluable support, with special thanks to the persons interviewed as key informants.



Acronyms

AIDS	acquired immune deficiency syndrome
ALRI	acute lower respiratory infection
ARI	acute respiratory infection
BASICS	Basic Support for Institutionalizing Child Survival
CBC	communication and behavior change
CBO	community-based organization
CHDC	Child Health Development Center
CHW	community health worker
C-IMCI	Community IMCI
CMS	Commercial Marketing Strategies
CORP	community-owned resource person
DHT	district health team
DHV	district health visitor
DISH	Delivery of Improved Services for Health
GTZ	German Technical Cooperation
HMIS	health management information system
HSSP	Health Sector Support Program
IEC	information, education, and communication
IMCI	Integrated Management of Childhood Illness
ITBN	insecticide-treated bednet
ITM	insecticide-treated material
ITN	insecticide-treated net
MCU	Malaria Control Unit
MFPEd	Ministry of Finance, Planning, and Economic Development
MOH	Ministry of Health
MTR	mid-term review
NGO	nongovernmental organization
ORS	oral rehydration solution
ORT	oral rehydration therapy
PAF	Poverty Action Fund
PDC	parish development committee
PLA	participatory learning and action
PRA	participatory rapid appraisal
SSS	sugar salt solution
TBA	traditional birth attendant
TOR	terms of reference
UDHS	Uganda Demographic and Health Survey
UNICEF	United Nations Children's Fund
VHW	village health worker
WHO	World Health Organization

Executive Summary

The Uganda program of the Basic Support for Institutionalizing Child Survival Project (BASICS II) commissioned this study to guide the development of comprehensive intervention strategies to promote child survival at the community level in Uganda. The consultant was asked to review and compile information on research and work done at the community level in the previous ten years (published and unpublished) on care seeking, compliance, and referral for childhood illness, focusing on malaria, diarrhea, and acute respiratory infection. These three diseases account for about 60 percent of all childhood illnesses treated in health units in Uganda. The consultant was also asked to briefly review the Community Integrated Management of Childhood Illness (C-IMCI) activities of key partners and to provide recommendations for an intervention strategy.

This qualitative assessment involved a literature review and key informant interviews. Interviews were conducted with members of district health teams (DHTs) from two of the six “IMCI Effectiveness Study” districts and officials from the Ministry of Health, the World Health Organization (WHO), UNICEF, and the Commercial Marketing Strategies (CMS) and Delivery of Improved Services for Health (DISH) projects.

Findings showed that adequate information exists to guide the design of an intervention strategy, although there will be a need to carry out some additional research as part of the interventions. A total of 68 of the reviewed studies were selected for inclusion in this report. Forty-eight of the studies were conducted in Uganda and are included in the analysis. Twenty additional studies were found to be relevant even though they were conducted outside of Uganda and are thus annotated but not included in the content analysis. Most studies were cross-sectional descriptive surveys (38) and qualitative exploratory studies (18). Twelve

were prospective community trials.

Key findings in the literature review associated with **malaria** suggested that although children’s caretakers recognized malaria as a major childhood health problem, they did not easily recognize the key danger signs. Many caretakers did not distinguish between malaria and general fever. The majority of caretakers associated malaria with mosquitoes, but the actual transmission dynamics were unclear to them.

Six to nine out of ten caretakers were reported to treat fever/malaria at home. Herbs and home stocks are the first line of action, followed by analgesics and finally by use of antimalarials, usually chloroquine. Only 83 percent of caretakers reported feeding children the same amount of food or more during illness, and only 23 percent gave more food following an illness episode.

Eighty percent to ninety percent of treatment actions outside the home are taken at the community level. Over 79 percent of caretakers used retail shops due to accessibility and the possibility of credit. Almost 80 percent of caretakers using chloroquine used it inappropriately. Noncompliance with chloroquine therapy was associated with its bitterness and side effects and with inadequate counseling by providers. Children with convulsions were most often taken to traditional healers.

The efficacy of insecticide-treated nets (ITNs) was under review. Prevalence of mosquito nets ranged from 0.5 percent to 8 percent, with lower rates in rural areas than in urban centers. Knowledge of ITNs was low (14 percent), and bednet ownership was perceived as a luxury for the rich and knowledgeable. Cost was stated as a barrier to ownership as well as uncertainty about the safety of treated nets. Few other preventive actions against malaria were taken: one study showed that 28 percent of those interviewed used insecticide sprays. Two projects reported a significant re-

duction in malaria incidence after interventions to increase use of ITNs. Seventy-one percent of caretakers reported hearing preventive and curative messages on the radio.

Diarrhea was perceived to be a major health problem of children. Handwashing practices had reportedly improved since 1991. However, most water and sanitation indices were very low. Caretakers did not associate poor home hygiene with diarrhea, and 72 percent of caretakers inappropriately disposed of children's excreta, considering it to be harmless.

Over half of caretakers knew the symptoms and signs of diarrhea requiring action. Fifty-six percent of caretakers chose home care. Only 8 percent of caretakers reported giving children more food and fluids during bouts of diarrhea, although most maintained breastfeeding. Awareness of oral rehydration solution (ORS) was high (75 percent to 90 percent), but its use was low (11 percent) due to poor knowledge of preparation and lack of access and availability. ORS was available in health facilities but not readily available in drug shops.

More than 62 percent of caretakers sought treatment from drug shops, and inappropriate medications were often given. Traditional healers managed more than 40 percent of diarrhea cases. While they did encourage fluid intake and suggested referral if the child's condition did not improve, they did not understand the cause of the disease and did not prescribe herbs in sufficient quantity and quality to offset dehydration. Community health workers were demonstrated to be effective in conveying clear and simple messages to households.

Ninety percent of caretakers recognized **acute respiratory infection** and took action. Some communities had developed a classification scheme for types of ARI. However, in other communities only 19 percent of caretakers understood the key danger signs requiring immediate treatment. Thirty percent of caretakers used herbs as a first line of treatment, while 60 percent sought immedi-

ate care from a health unit. Choice of treatment option depended on cost, available credit, and transportation.

Overall findings show a low level of understanding of preventive actions for malaria and diarrhea and of the key danger signs for all three illnesses. Key sources of messages were radio, parents, grandparents, senior women, traditional healers, and drug shop operators. Traditional medicines were usually employed as the first line of treatment, followed by pharmaceuticals. There was a high knowledge of between 20 to 30 commonly used drugs, and many unused drugs were kept at home. Community drug vendors supplied 70 percent to 80 percent of the drugs used at the community level. Most practiced inappropriately, using drugs and injections irrationally and often being influenced by clients' demands and ability to pay. Preventive health messages and referral messages were rarely given. The national drug policies were unclear to drug vendors and were laxly enforced. People chose drug shops because of accessibility, availability of drugs, and credit services. Some negative perceptions of public facilities existed, including mistrust of injections given by the public sector, the belief that white tablets are inferior to colored tablets, and expectations of poor communication and counseling services. The male head of household often makes decisions about treatment options.

Community health workers and community-owned resource persons (CORPs) are widely used in Uganda but have a high rate of attrition, possibly because motivation is not adequately addressed at inception and during implementation. Field findings were consistent with this explanation and provide adequate background for designing intervention options.

The Ministry of Health is in the initial phases of C-IMCI implementation. Training materials and guidelines have been developed, and a supportive policy framework is in place. C-IMCI early implementation districts have provided a good baseline for preliminary work. WHO and UNICEF have provided substantial support to the introduction of C-IMCI

in Uganda. BASICS II is helping accelerate C-IMCI implementation directly in six districts and nationwide through work with the NGO community. The MOH has also designed a strategy for home-based management of fever that provides guidance for linking malaria and other C-IMCI interventions. Implementing partners should use partnerships and develop coordination mechanisms at the district level to strengthen the proposed interventions

Critical steps in the pathway to child survival are highlighted for interventions. These include the need to focus on water and sanitation; access to and use of bednets; danger sign recognition; male involvement in care seeking and treatment decisions; home care for ORS preparation; appropriate feeding practices during illness; compliance with a full regimen of antimalarial therapy; and the importance of community drug vendors for first-line treatment and referral.

This report includes general recommendations to implementing partners on various C-IMCI related issues. It is recommended that implementing partners design a strategy with intervention option packages that are complementary and synergistic. Implementers should engage communities and districts in a catalytic process aimed at building and sustaining capacity. Organizations working on C-IMCI projects should emphasize behavior change, and the NGO community should be involved in coordination and implementation. The role of districts should be designed in such a way that they take leadership of the implementation process. An intervention package should focus on the following critical areas:

- Early findings have demonstrated that Participatory Rapid Appraisal (PRA) is effective in promoting “well child” actions, such as practices associated with clean water and sanitation and use of bednets.
Recommendation: Emphasize sustained community capacity building for understanding child health and taking appropriate actions through use of the IMCI-tailored PRA.

- An intensive communication strategy focused at the district level is needed to strengthen positive family practices.

Recommendations: Focus on recognition of key danger signs, appropriate home care, and the importance of early treatment.

Emphasize interpersonal communication and practice-based rather than knowledge-based communication and behavior change (CBC) efforts through the CORPs, including the development of job aides for their use.

- The MOH has developed a strategy and guidelines for home-based management of fever that links malaria interventions with the C-IMCI strategy.

Recommendation: Follow the guidelines developed for the Home-based Management of Fever Strategy and the new policies for drug protocols that are in development.

- Partnership with community drug vendors is pivotal for successful outcome of household and community health-seeking practices.

Recommendations: Develop tripartite partnerships among communities, community drug vendors, and health units.

Train community drug vendors in the use of appropriate antimalarials, antibiotics, and ORS and in danger signs for referral to enhance the child survival pathway.

Use district assistant drug inspectors as focal persons to monitor and oversee drug vendor activities.

- Partnerships between communities and health facilities need to be explored to increase use of public-sector IMCI-trained providers.

Recommendation: Train health facility staff in community outreach, interpersonal counseling, and participatory problem-solving methodologies.

- Insecticide-treated nets need to be widely marketed and distributed, with mechanisms in place for their sustainability.

Recommendation: Promote use of ITNs through community drug vendors.

Develop public–private partnerships for net sustainability.

Possible areas of intervention research for implementing partners could include:

- Social marketing of ITNs, particularly among poor communities.
- Motivation and sustainability of CORPs, particularly through the use of a behavioral model with multiple incentives.
- The impact of communication interventions on behavior change.

Introduction

The Uganda program of the Basic Support for Institutionalizing Child Survival Project (BASICS II) commissioned this study to guide the development of comprehensive intervention strategies to promote child survival at the community level in Uganda.

The consultant was asked to review and compile information on research and work done at the community level in the previous ten years (published and unpublished) on care seeking, compliance, and referral for childhood illnesses, focusing on malaria, diarrhea, and acute respiratory infection. The consultant was also asked to briefly review the C-IMCI activities of key partners and to provide recommendations for an intervention strategy. An annotated review of the studies is annexed.

Background

In 1995 Uganda launched Integrated Management of Childhood Illnesses as a major strategy to address childhood mortality and morbidity. IMCI is now part of the country's essential health care package. The implementation of the strategy has three components:

- Improving health workers' skills in the management of the common childhood illnesses.
- Improving the ability of the health system to support IMCI implementation.
- Improving household and community practices that affect the health, growth, and development of children.

Uganda is one of the initial countries to respond to the Santo Domingo Declaration (1997) and is now one of the lead countries in implementing the household and community component (C-IMCI). The Ugandan Ministry of health introduced this third component in 1998. It is aimed at promoting key household

and community behaviors that are likely to have the greatest impact on child care, survival, growth, and development.

Uganda has a population of about 22.5 million people, 20 percent of whom are age five or younger. About nine out of ten people live in rural areas, and 45 percent of the total population fall below the poverty line. Less than half have access to formal health services (MFPED 2000). Malaria, diarrhea, and acute respiratory infection account for about 60 percent of all the childhood illnesses treated in health units (HMIS report, MOH 2000). Malaria is the leading cause of childhood mortality and morbidity in Uganda, accounting for 46 percent of illnesses in children (UDHS 1995).

Uganda is one of the countries that have signed the Abuja declaration on Roll Back Malaria in Africa. In 2001 the MOH developed a strategy for home-based management of fever/malaria that integrates malaria and C-IMCI activities into a home-based care approach.

Objectives of the Consultancy

The major objective of the consultancy was to collect and assess information that is required for the design of a comprehensive intervention strategy aimed at improving child survival in Uganda.

Specifically, this involved:

- 1) Reviewing studies conducted (mainly) in Uganda over the past eight to ten years relating to care seeking, compliance, and referral at the community level and preparing a summary report to inform protocol development.

- 2) Assessing (through review of reports) the factors affecting the availability and use of insecticide-treated nets (ITNs), particularly in rural areas of Uganda.
- 3) Assessing key partners' activities to promote care seeking through C-IMCI, highlighting strengths, weaknesses, gaps, and possible areas of collaboration.
- 4) Reviewing existing models for intervention related to care seeking, treatment, compliance, referral, feeding/fluids, and disease prevention that have been tested in Uganda, particularly focusing on:
 - The role of community drug vendors (in drugstores, shops, and private clinics) in recommending, explaining, and selling complete courses of antimalarial therapy.
 - The involvement of community health workers in the management of diarrhea with oral rehydration therapy (ORT).
 - Home-level treatment of diarrhea with ORT, other fluids, and appropriate feeding during child illness.
 - CBC to promote prompt care seeking.
 - Means of ensuring antimalarial availability in the community.
- 5) Developing an outline for designing, implementing, and monitoring a comprehensive intervention.

Methodology

The major component of the methodology was a literature review of various publications: both published and unpublished research reports, technical reports, journals, dissertations, periodicals, activity reports, and working papers. The review covered literature produced in the past ten years on malaria, diarrhea, and acute respiratory infection among children under the age of five.

Materials were collected from various sources, including institutions such as the Institute of Public Health of Makerere University, UNICEF, WHO, the Child Health and Development Center, Makerere Institute of Social Research, GTZ, Makerere Medical School, and Ministry of Health libraries. Other

sources of information included partners in health care provision, such as district health teams, DISH, and Action Aid.

A number of key informant interviews were conducted with individuals from the organizations and structures that have championed the implementation of the IMCI strategy in Uganda: two of the six IMCI Effectiveness Study districts, the Ministry of Health, WHO, UNICEF, CMS and DISH. The interviews were aimed at seeking the views of the major C-IMCI partners, particularly on the challenges, experiences, strengths, weakness, and gaps of current C-IMCI activities and on possible areas for collaboration with BASICS II and other implementing partners.

The consultant analyzed the data for content and themes according to the various components in his terms of reference. Only studies conducted in Uganda were included in the content analysis. Of the studies reviewed that were conducted outside Uganda, only those with critical experiences and relevant findings were selected for documentation. These studies were not included in the content analysis presented in the findings section.

A total of 68 documents from the literature reviewed are annotated in Annex 1, including 48 documents on studies conducted in Uganda. Most studies were cross-sectional descriptive surveys (38) or exploratory studies (18). Only twelve were prospective community trials. The majority of the studies addressed a cross section of the interests stated in the terms of reference, such as recognition of illness, decision making for treatment, compliance with treatment, and preventive actions.

The consultant analyzed similar variable results together and established a median for a given variable result from the different studies. An area of interest is reported as "many studies" if more than nine studies considered the variable in question; a "number of studies" if four to nine studies considered it; and "few studies" if three or fewer considered

the variable. Variable agreement in more than three-fourths of the studies is referred to as “most studies” and in more than 50 percent of the studies as “the majority of studies.” When there was variable agreement in less than 50 percent of the studies, the varying results are presented. Studies conducted after 1997 are categorized as “recent studies,” and those before 1997 are referred to as “earlier studies.”

Levels of categorization of variable occurrence were high (more than 69 percent), good (50 percent to 69 percent), low (30 percent to 49 percent) and poor (less than 29 percent). The study had a limitation of comparing variables from studies with different sample sizes (variable power of studies).

Summary of Findings

This chapter presents the salient findings and the consultant's thematic synthesis of the studies reviewed. Annex 1 contains the annotated detailed findings of each of the studies.

Health-Seeking Behavior

Recognition of the common childhood illnesses

Many studies conducted in Uganda show that caretakers recognize malaria as the major health problem in their communities.

Equivalent terms for malaria as it is understood biomedically were reported to be nonexistent in all the studies reviewed.

However, caretakers have local terms that describe malaria and generally encompass most of the signs and symptoms used in describing clinical malaria.

Caretakers perceived fever as a sign detected by a rise in body temperature and differentiated malaria from other definitive causes of fever, such as measles. In one of the studies mothers did not recognize malaria well (sensitivity=37 percent), and 63 percent of them misclassified sick children with malaria-positive blood slides as having other conditions.¹ This is a critical finding for child survival programs and has particular significance for CBC interventions. However, a number of studies in Uganda that addressed this issue were concentrated in the central region (Buganda). In a country with such wide cultural diversity as Uganda, countrywide assessment of such perceptions is required.

Most studies indicated that a median of 50 percent (23 percent to 89 percent) of the respondents associated mosquitoes with malaria. The percentage was often higher in studies done in urban centers (71 percent to 89 percent) than those conducted in rural areas. The actual transmission dynamics of malaria were reportedly not clearly understood. Nearly all studies reported such local explanations of the cause of malaria as

eating raw mangoes, rainy weather, and dirty water. However, the proportion attributing malaria to such causes seemed to progressively diminish with the more recent studies compared to those done ten years ago. A good understanding of causality has implications for the community's preventive behavior and practices.

In a critical finding for the pathway to child survival, a number of studies stated that danger signs for malaria such as convulsions were not often linked to malaria and were commonly thought to be traditional illnesses. This could have consequences for child mortality, particularly if prompt, effective treatment is not sought for cerebral malaria.

Diarrheal diseases were perceived to be a major health problem among children in Uganda in most studies. Caretakers recognized frequent passage of watery stools, generalized weakness, and eating and drinking poorly as symptoms that prompted them to seek treatment outside the home in most studies. Folk definitions of diarrhea and its management were reported based on the perceived causes, and childhood diarrhea was attributed to numerous causes. In the majority of studies, over half of the caretakers correctly identified most of the risk factors associated with diarrhea. However, a few associated diarrhea with cultural and spiritual issues, while others considered it to be caused by developmental changes such as teething, and very few (3.4 percent) did not know the cause.¹⁴ Most studies indicated that children's excreta were disposed of inappropriately and were largely regarded as harmless.

A number of recent findings documented high levels of knowledge of the relationship between poor excreta disposal, handwashing, home environmental hygiene, and diarrheal diseases. However, they also reported poor hygienic practices, including those not requiring financial expenditure, such as cleaning the environment around homesteads. This finding suggests that the current health message strategy may be more knowledge- than practice-based. Further research on the knowledge-practice gap is recommended.

Acute respiratory infection was recognized as one of the major childhood illnesses. Communities had a well-developed classification system based on a combination of signs and symptoms, which included severity of presentation, body part affected, and duration of episode in a number of studies. The perception of ARI transmission seemed to correlate well with the medically known modes of transmission. Only 19 percent of caretakers were able to recognize at least one danger sign of severe ARI.²² This was even lower than the Ministry of Health standard of knowledge of at least two danger signs.

A number of studies reported that high fever (65 percent) and a child becoming “sicker” (63.9 percent) were the most common reasons for taking a child for medical care. There was poor knowledge about the critical symptoms for seeking care: blood in stool (3 percent), repeated watery diarrhea (5.7 percent), and repeated vomiting (6.4 percent). Convulsions (8.8 percent) were among the least reported signs prompting caretakers to seek care outside the home.³

Implications for implementing partners

- Caretakers in high malaria-endemic areas should be taught to suspect malaria in every case of febrile illness.
- Recognition of key danger signs is a critical step in the pathway to survival. Implementing partners should consider this recognition among the top priorities for message development.

- The term malaria and its cause are not universally understood. Appropriate CBC should be adopted in the implementing partner’s districts.

Decision making

A number of studies indicated that caretakers easily recognize fever and other behavior changes (inactivity, loss of appetite, general malaise) in children as signs of illness requiring treatment or remedial action. Mothers were highly responsible (79 percent) for all the initial decisions and remedial actions for management of childhood diseases.⁹ A number of studies also reported that decision making was influenced by perception of cause, previous experience, severity of the illness, and perceived consequences of the outcomes of action or non-action. Most studies reported that the time from recognition of illness to making a decision was also influenced by the household resource base, and particularly the availability of funds and drugs in the home at the time of illness. Parents, grandparents, senior females, traditional healers, and drug vendors were reported to play a major role as sources of knowledge and to greatly influence household management of childhood illnesses in a number of studies.

Male spouse decisions were ultimate (mean 42 hrs from onset of illness), most likely associated with positive health-seeking behavior, and commonly had financial implications.⁴ These findings, clearly demonstrated in a study done in the Kiyeyi Primary Health Care Project area, showed that in the intervention group, males spouses played a bigger role in the decision to take children outside the home for care. Members of the intervention group were also more likely to recognize the danger signs of ARI, such as fast breathing and chest in-drawing. The proportion seeking urgent attention for these symptoms was 64.8 percent in the intervention group and 24.4 percent in the control group.²³

Implications for implementing partners

- Successful health-seeking behavior interventions must incorporate strategies that involve the male spouse.

Treatment actions and compliance

Most studies documented that 80 percent to 90 percent of all treatment actions for childhood illnesses in Uganda were taken at the community level and 70 percent to 80 percent involved modern drugs. A number of studies revealed a hierarchical trend of treatment for childhood illnesses in Uganda. Home remedies were reported to be the first line of action, usually sought within the first six hours. Home treatment is followed by drugs and advice from community drug vendors within 18 to 24 hours and finally by care sought at a formal health unit by the end of 72 hours if the illness persists.

All studies were in agreement that when children are perceived to have malaria, communities usually apply supportive treatment and use home drug stocks. Local herbs were often administered simultaneously, usually within the first six hours of recognition of illness. Analgesics and chloroquine were administered within the first 12 and 36 hours of recognition of illness, respectively, and were obtained from sources within a 0.5 km to 1.5 km radius, mainly from ordinary shops.⁴

Most studies reported very high levels of ORS knowledge (70 percent to 90 percent, median 75 percent), although most perceived it as medicine. Only 15 percent knew how to prepare the ORS mix correctly and an even lower proportion knew how to prepare salt sugar solutions (SSS). About 80 percent of the caretakers were reported to have fed their children less than usual during illness episodes in a number of studies. Some fluids were encouraged, such as tea, porridge, and SSS, but they were given in inadequate amounts. Others avoided giving milk, millet, and banana juice.¹⁵ ORS was not readily available at the community level.

Most of the literature suggested that families in Uganda keep drugs in their homes.

These drugs are either western or traditional, and most are leftover from previous illnesses. Traditional medicine is a major component in health care, but many prefer pharmaceuticals. About 80 percent of the population were able to obtain all their perceived drug requirements from community drug vendors (shops, drug shops, and private clinics).²⁸ Most studies reported poor compliance with treatment. This was largely reported to be as a result of drug side effects, patient recovery, inadequate counseling, and procurement of partial doses. A literature review of malaria treatment in Uganda was conducted in February 2001 by D.W. Batega for the CMS Project in Uganda.

Implications for implementing partners

- CBC strategies should focus on educating consumers about appropriate malaria treatment.
- Counseling and messages should emphasize appropriate feeding practices during illness.
- Where ORS is available, counseling is needed on its proper preparation and use.
- Strategies for promoting compliance with full treatment need to be developed and tested.

Interventions

Community drug vendors

Most studies indicated that community drug vendors supply about 75 percent of the western drugs used at the community level in Uganda. Most drugs were obtained from shops (42 percent) and drug shops (32 percent), both licensed and unlicensed. Both had a wide range of drugs, including those they were not supposed to stock. A few studies documented that national drug policies were unclear to community drug vendors and were laxly enforced.

A number of studies reported that advantages offered by community drug vendors included convenience, proximity to households, easier credit facilities, and fewer restrictions on drug quantities, compared to public health facilities. While these

advantages ensured prompt treatment, quality of services was often questionable. It was reported that the majority of drug vendors handled drug supplies inappropriately and were likely to be dispensing ineffective drugs.

Studies showed that communities considered colored drugs from drug vendors more effective than the white tablets (generic) obtained from the public sector.³⁸ Most studies indicated that caretakers knew that drug vending personnel are usually less knowledgeable than those in public health units.

A number of studies highlighted a big knowledge–practice gap. Prescribing patterns were more likely to follow patient demands and expectations and profit motive rather than professional principles. Most drug vendors misused antibiotics, practiced polypharmacy (prescription of multiple pharmaceuticals), did not give clear instructions about the dispensed drugs, and almost never gave preventive health education messages. It was also documented that most drug shop personnel were not qualified to dispense drugs.

A few small-scale intervention studies were carried out in Uganda. All of them demonstrated that prescribing patterns improved significantly with training, supervision, and use of job aids, as was demonstrated in the Bungoma study.

Implications for implementing partners

- Community drug vendors occupy a strategic position in the community. This important resource must be utilized to achieve C-IMCI objectives.
- Recognition of danger signs and appreciation of the timing of appropriate referral by community drug vendors is a critical gap in the pathway to child survival that can be addressed through training and CBC.
- Information, education, and communication (IEC) about drug policies and rational prescription is of paramount importance.

- Both licensed and unlicensed drug vendors should be part of the intervention strategy.
- Mechanisms for licensing currently unlicensed drug vendors should be considered and supported.
- Peer support models for working with drug vendors should be explored and tested.
- Training materials and job aids from the Bungoma study could be adapted to the Ugandan context and tested for effectiveness.

Insecticide-treated nets

Nine study reports particularly focused on the use of insecticide-treated nets (ITNs). Of these, only four were carried out in Uganda. Final reports of two big intervention studies (Kabarole and Mubende, executed by GTZ and Action Aid, respectively) were not readily available. Instead, excerpts were taken from presentations given at meetings. The other two descriptive studies clearly highlighted the status quo of ITNs in Uganda. A number of other health-seeking behavior studies also addressed ITNs to varying extents. NetMark is finalizing a baseline survey of ITN knowledge, beliefs, ownership, treatment, and use in Uganda conducted in November 2000 based on a sample size of 1000 households from five sites.

All studies were in agreement about the efficacy of treated bednets and their particular importance in community protection as well as the mechanical protection they offer to the individuals using them.

Most studies in Uganda document a very low level of mosquito net use, ranging from 0.5 percent to 8 percent. The prevalence was reported to be lower in rural areas than in urban areas. However, only about 30 percent in a number of studies were reported to use bednets consistently, and a small proportion of those nets were treated.

A NetMark exploratory study showed general cultural acceptability and a wide unmet demand for ITNs in Uganda.⁴³ The

major barriers to ownership of nets were largely lack of availability, low levels of awareness of their significance, safety concerns, and—most important—cost, particularly in rural areas. In the same study, it was also noted that ITNs were associated with affluence, luxury, and social status.

Experiences from Kenya and Tanzania documented the success of aggressive social marketing that made ITNs more readily accepted in the intervention areas, with a 70 percent compliance rate. However, this level of compliance was possible only when nets were distributed and retreated free. When costs were introduced, compliance rates fell markedly.

A number of unpublished activity reports of district and NGO programs in Uganda indicated that an attempt to introduce subsidies eventually did not benefit the target population. Most nets were repatriated back to urban centers, where they were sold at market prices.

Key areas that require further research are the social marketing dynamics, addressing reliable sources of ITNs (especially for rural areas), cost-recovery schemes, sustainability of interventions, and private-public sector collaboration. Observations of the role of ITNs in providing the greatest protection to children younger than one year (causing greater reductions in under-one mortality than in under-five mortality) documented elsewhere need to be closely monitored in Uganda with wide use of ITNs because of the variable endemicity levels countrywide.⁴⁵ The consultant found no study that addressed this question in Uganda.

The demonstrated impact of ITNs on all case mortality and community acceptance of bednet use has positive implications for child survival programs. Realizing the potential benefits of ITNs, however, will require an aggressive social marketing strategy involving many actors to make the approach affordable and sustainable. A good private–public partnership is essential for success.

Implications for implementing partners

- A strategy that promotes the involvement of the private sector in the production, marketing, and distribution of ITNs is a requisite for success.
- Cost recovery is paramount for bednet program sustainability. Best practice models targeting low-income communities, such as use of intrinsic community credit schemes, could be considered.
- An intensive communication campaign should be developed to promote bednet use, helping consumers overcome perceived barriers currently limiting their use. The campaign should involve key community members, such as shop owners and community-owned resource persons (CORPs).
- Further research in social marketing of bednets is needed on the following topics:
 - Consumer preferences
 - Best practices of credit lines
 - Distribution mechanisms
 - Incentives for supplier involvement, public-private partnerships
 - Optimal affordable costs
 - Best practices for low-income communities/households to benefit optimally from subsidies.

Other interventions

No credible studies addressed the use of community health workers/CORPs, community anti-malaria therapy strategies, or IEC for C-IMCI in Uganda. What were available were excerpts of MOH, NGO, and district reports, and some very small studies.

Community health workers (CHWs) have been used since the inception of the primary health care strategy in Uganda. A number of vertical programs from the Ministry of Health, district programs, community-based organizations, and NGOs recruited many CHWs countrywide. There are many CHWs in Uganda who belong or have belonged to the various health programs.

Most reports seemed to agree that CHWs were enthusiastic at the beginning of the programs and came with a lot of expectations. However, over time their attrition rate often hurt the programs, because their expectations, incentives, and motivations were not properly addressed. Reports further mentioned that when a project winds down, CHWs' activities also almost consistently diminish, largely due to lack of logistical support. Further research particularly focusing on the sustainability of CHWs and their incentives and motivation is highly recommended. A number of schemes have been suggested, including behavioral models that address multiple incentives, such as public recognition, regular follow-up and support, and linkage and supervision from sustainable structures. All these areas should be explored.

There was limited experience or documented studies of community antimalarial distribution. An ongoing study supported by WHO addresses the prepackaging of antimalarials in Mpigi, Masaka, and Mubende districts. The Ministry of Health, in collaboration with WHO and UNICEF, is planning to implement a home management of fever strategy that aims to put mechanisms in place for making prepackaged antimalarials available at the community level. If successful, this would be a major child survival breakthrough. Studies to monitor antimalarial drug resistance patterns are of paramount importance.

No documentation of credible studies addressed communication for behavior change targeting the common childhood illnesses in Uganda. However, the HIV/AIDS CBC campaigns of the late eighties and nineties have registered considerable success in Uganda.

Implications for implementing partners

- Research is needed to increase CORPs' motivation and retention over time, for both those involved in IEC and those involved in antimalarial distribution.

- Experience and lessons learned from Uganda's HIV/AIDS CBC and behavior change campaigns should be considered when designing C-IMCI strategies.

Overall Implications for Implementing Partners

- Though most of the studies found in the literature search were small and district-based, the consistency of the majority of the findings provides adequate background for designing intervention options for Community IMCI.
- Most of the C-IMCI behavioral practices have been documented, so it may not be necessary to repeat a large study to address these practices. However, intervention baselines should be established. This recommendation has been exemplified by the similarity of the findings of the Kiboga and Mukono IMCI baselines.
- Community drug vendors occupy a critical position in the community and play a major role in the drug distribution process. They are an important community resource that implementing partners should utilize to achieve C-IMCI objectives.
- Further research is recommended on several topics. Partners can work with universities (by offering study grants to students, for example) to design studies nested within the intervention project that can provide answers to some of the following research topics:
 - A detailed understanding of the knowledge-practice gap of the key C-IMCI behaviors
 - The impact of IEC strategy options in promoting C-IMCI
 - Social marketing strategies for insecticide-treated materials, with particular focus on persons in low-income communities
 - Intervention options for adequately targeting male spouse involvement in care seeking and treatment options
 - Motivation and sustainability of CORPs, particularly in regard to the use of a behavioral model.

Involvement of Development Partners in C-IMCI

Implementation of C-IMCI in Uganda is still in the initial stages. It is probably too early to glean substantial practical lessons from this early experience. Instead, major potential partners in the implementation of C-IMCI in Uganda were identified and their current activities and future plans were reviewed to establish key development partners, areas of possible collaboration, and unmet needs.

Six of the identified partners were selected, and representatives from those organizations were interviewed. These included:

- Ministry of Health (MOH)
- World Health Organization (WHO)
- United Nations Children's Fund (UNICEF)
- Delivery of Improved Health Services (DISH)
- Commercial Marketing Strategies (CMS)
- Masindi and Kiboga districts

Ministry of Health

The Ministry of Health is the mandated lead authority for IMCI activities in Uganda. It has championed the evolution of the IMCI strategy in Uganda and has registered considerable successes. Most of the C-IMCI activities are still in their infancy countrywide. The MOH program is mostly in the preparatory, pilot, and resource mobilization phases of implementation. Emphasis has been on obtaining baseline indices and establishing a community best practices models that could be replicated if found successful and feasible.

In 1999, the Kiboga District C-IMCI component was established with the collaboration of UNICEF. It emphasized two main components—a community PRA process and communication for behavior change emphasizing interpersonal communication.

The MOH, in collaboration with development partners such as UNICEF and WHO, developed training materials and

guidelines for the implementation of the C-IMCI component. However, the training materials and guidelines have not been mass-produced, and their circulation is limited. This has greatly affected the development of the best practice community model. It would be difficult to implement CBC without materials.

A supportive policy framework for the IMCI strategy has been established and is clearly documented in the National Health Policy and also included in the five-year National Health Strategic Plan. IMCI is a component of Uganda's minimum health package. The IMCI section in the MOH has continued its consensus-building efforts and advocacy. A number of partners have been identified, and liaison networks are being developed with some considerable success. However, a few still view IMCI as a competing section that duplicates their own roles. This is likely to change with time.

The Home-based Management of Fever Strategy has been fully developed in a participatory manner. The strategy document has been prepared, and the MOH is mobilizing resources to implement it. In addition, the government is planning schemes to address incentives and motivational issues for community health workers/CORPs.

Achievements

- C-IMCI training materials and guidelines developed
- Supportive policy framework in place
- High level of political will

- Best practice model of established in Kiboga District
- IMCI training of trainers carried out in Kiboga District
- Many persons oriented, sensitized, and trained in IMCI
- Baseline studies carried out in Kiboga and Mukono districts
- Participation in the IMCI Multi-Country Effectiveness Study established
- Community PRA methodologies tested and applied
- Good coordination between IMCI and line departments (e.g., Malaria Control Unit) established
- Malaria Home-based Management of Fever Strategy developed
- Components 1 (facility staff skills training) and 2 (systems support) of the IMCI strategy being implemented in most districts

Challenges

- Most efforts appear to have been spent on planning at the central level at the expense of community implementation.
- Training materials have not yet been mass-produced. Available copies were in limited circulation even to those who were carrying out training.
- The IMCI section seemed understaffed. Government funding to C-IMCI activities was limited (commitment appeared not yet tangible).

Despite a few shortcomings, it must be recognized that C-IMCI activities in Uganda are taking a global lead in establishing an implementation framework and are generally on track toward achieving the goal of improving child survival in Uganda. Every effort and goodwill must be invested in this process for the success of this program, particularly focusing on service delivery.

Districts

Two of the six IMCI Effectiveness Study districts—Masindi and Kiboga—were visited.

The 1997 Local Government Act mandates districts to implement health programs either in liaison with or through local government or administrative authorities. These legislative provisions make districts a strategic entry point into communities.

Masindi District

The district is receiving C-IMCI support from the BASCIS II program. The activities have only recently been introduced. District and sub-county-level leaders, NGOs, and staff have been sensitized on C-IMCI. The major target groups for the training activities were councilors, various health workers, religious leaders, various NGOs, and opinion leaders, such as TBAs. This participatory process had covered five subcounties in the district out of the 14, which represents about 40 percent coverage of the district's population.

The district had experienced a spirit of team building during the sensitization sessions. The inclusion of people from other departments, such as welfare and agriculture, improved intersectoral collaboration and networking among and across various departments. The community aspects of various activities have been augmented.

Although the district had done some work at the community level in other program areas, it lacked a clear malaria control strategy. The District Council had implemented ad hoc bednet programs, and about 2,000 subsidized nets had been sold. However, most were bought by urban residents and by traders who later resold them at market rates elsewhere. There was a reported unmet demand for nets among the population, and the nets were in short supply.

The district had trained about 300 CHWs: one per village in about 50 percent of the district. These workers could potentially be part of IMCI implementation. They were paid a bicycle allowance from a Poverty Alleviation Fund grant; however, this payment was reported to be irregular. The CHWs carry out home visits and at the same time double as resource persons for many other programs.

Although CHWs have been trained and oriented in various health care delivery modules, they do not have a clear relationship with the formal health system. Therefore, they may eventually lack motivation and could easily become ineffective. Reaching households remains a tremendous challenge. Community health workers were not sustainably integrated due to strategic, logistical, and financial constraints. This makes interpersonal health education at the household level unsustainable and rather project-driven. The MOH was working out a mechanism for making CHW a salaried position. To do so, it will need to reestablish the health extension system that prevailed in the 1960s.

The district enjoyed support from a number of programs, such as DISH, Action Aid, and UNICEF. There was also good political will toward various health programs. The politicians were reported to be benevolent, interested in, and enlightened about health programs. The total percentage expenditure on health was 10 percent to 20 percent of the district's local revenue.

At the community level, IMCI faced a number of threats. They include the various parallel programs, most of which were not well coordinated and appeared to be competing, including some that did not complement each other well. NGOs need forums at the district level to enable them to harmonize their policies and activities. Considering that NGOs in the country are not well coordinated, this is likely to be a challenge and will require careful planning. Recommendations of the New Partnership for Participatory Action in J. Bakirya's 2001 BASICS C-IMCI report should be considered. There also appeared a lack of clear strategies for sustaining these programs once NGO or donor support is phased out.

Kiboga District

Kiboga was the first district to implement C-IMCI in Uganda, beginning in 1999. The district was perceived as a model district for C-IMCI in Uganda, particularly in community mobilization.

The activities were implemented as prescribed in the Uganda MOH standard guidelines for C-IMCI. They began with entry at the district level, a baseline study, and sub-county orientations, followed by parish sensitization and training. UNICEF supported the initial activities in three subcounties, and then the MOH and WHO took them over, adding two more. Recently BASICS II has added another three, for a total of eight out of 14 subcounties in the district with some C-IMCI activities underway. The PRA process has reportedly reached the village level in the first five subcounties. Parish-level PRAs were planned in the other three (BASICS II-supported) subcounties.

Part of the PRA community activities involve community visits and working out priorities with community members using resource mapping, transect walks, gender analysis, a disease matrix, and other participatory methods. This has yielded substantial community outreach, particularly among mothers.

This highly participatory process is reported to have re-energized the community. PRA proved to be a very good tool for collecting information and encouraging community ownership of programs, leading directly to immediate action. Some communities reported an increase in latrine coverage of about 50 percent. Models such as grouping households, either in pairs or groups of five or ten, for self-critique and group support were found very useful if sustained.

The district health team interpreted the initial phases of UNICEF activities as if they were a study and were meant to be done as prescribed without much interference from the district. As a result, the DHT appeared to have interpreted the entire C-IMCI program as an MOH project. This misperception was exacerbated by the overreliance on the focal person. The other members of the DHT interviewed, particularly the acting district director of health services and the district nursing officer, who are the hub of district

health activities, had not been apprised of the activities. They felt that the DHT should be more involved, particularly in monitoring activities. However, it was also noted that they were new office bearers. DHT members also mentioned the lack of recent supportive supervision from the ministry. The focal person often goes to Kampala to collect logistical supplies and advice. Most often tools (training materials) were promised and never delivered, even though DHT members were told to continue the PRA process.

As in Masindi, little has been achieved in malaria control in Kiboga. Some preventive measures may have improved as a result of the PRAs. Insecticide-treated nets (ITNs) have been widely discussed during the PRAs but are not available, largely due to marketing, distribution, and organizational problems. For example, although trainers recommend ITNs to communities, they do not even have a net to use for demonstrations. In addition, there seemed no clear mechanism for remunerating and motivating CORPs; hence, a high attrition rate was considered a real threat to sustained success.

The experience that has so far been realized in Kiboga indicates that the PRA methodology is a very useful tool for initiating a behavior change process. However, it must be realized that this is a gradual process, and attempts to move it too quickly will undermine results.

Implications for implementing partners

- Strategies to promote coordination of all players at the district level, including NGOs, should be implemented.
- Partners should support integrated planning so that C-IMCI is not viewed as a project but as an integral part of the district health services.
- Partnerships between the community and the health facility need to be explored to increase use of public sector IMCI-trained providers. Workers in the health facility could be trained in community outreach, interpersonal counseling, and participatory problem-solving methodologies.

- Strategies to motivate and retain CORPS should be developed and tested.
- Mechanisms for improving local ownership and developing other avenues of funding should be explored to promote the sustainability of interventions.
- IEC materials, tools, and documents should be made widely available to district and NGO partners.
- Mechanisms for strengthening the capacity of districts to reach households in a participatory manner should be developed.
- ITNs should be made widely available in the district.
- A district system for supervision and monitoring of community-level activities should be developed.

UN Agencies (WHO and UNICEF)

UN agencies have taken the lead in supporting the introduction of C-IMCI in Uganda. UNICEF took the initial lead in implementation, and WHO assumed responsibility for technical material development. These agencies have played an active role in the advocacy programs, supported baseline studies, and developed pilot models. They also provided leadership in the development of training guidelines, which has been highly participatory.

UNICEF was reported to be mass-producing training materials. This process seems to have taken rather long. UNICEF has modified its approach in its next five-year country program to concentrate in only 26 districts and on a few subcounties in each district, facilitating a closer regional supervision strategy (a few districts under each UNICEF officer) and ensuring consolidation of the impact of interventions. Three of the six IMCI Effectiveness Study districts (Ntungamo, Masaka, and Kiboga) will be included in the UNICEF program.

Other Programs

The Delivery of Improved Health Services Project was identified as a case study to

represent other programs/partners participating in C-IMCI. DISH began work in Uganda in 1994 but had only recently introduced child health programs. Its major emphasis has been on reproductive health. DISH has focused on strengthening IMCI components 1 and 2 and has developed a strategy to embark on C-IMCI during the next 18 months in two districts (Kamuli and Mbarara). The planned activities, focusing on community PRA and the Home-based Management of Fever Strategy, were still at the proposal stage. Networking activities, particularly with WHO, were being carried out as part of proposal development. DISH appeared to have limited experience in C-IMCI activities but had considerable experience in IEC, particularly in reproductive health. The Ministry of Health was in the process of forging an active partnership with DISH in the area of communication for behavior change. Partners could easily tap into this potential resource.

Other projects, such as Commercial Marketing Strategies, were reviewed. CMS has considerable leverage in social marketing of health services. It is marketing pretreated bednets that seem promising in Uganda. Studies are underway to determine their safety and efficacy over time. Communities were reported to have observed that these nets did not kill mosquitoes instantly, as portrayed in IEC messages and materials.

Strengths, Weaknesses, Gaps, and Areas of Collaboration

SWG analysis

Table 1 on the following page shows an analysis of the strengths, weakness, and gaps (SWG) of the key partners in C-IMCI and identifies possible areas of collaboration for the success of a child survival project.

Emerging issues

- At the time of this review, a clear direction for moving from preparation to scaling up

implementation among partners was lacking, particularly regarding the size of IMCI package to implement. Planning has taken a considerable amount of time.

- Adequate background and a policy framework to support C-IMCI implementation exists.
- No clear consensus has emerged on the way forward regarding an implementation strategy for ITNs.
- Initiation and follow up of C-IMCI to districts has not been comprehensive because no adequate supervision system is in place. This may affect progress at the community level.
- IMCI indicators did not seem to be harmonized within the ministry.

Implications for implementing partners

- Caution should be taken in initiating the C-IMCI component so that it is viewed as a catalytic process rather than a project.
- A realistic and manageable project based on selective C-IMCI interventions should be designed, using a phased approach and adaptive planning. Every effort must be made to enable organizations to keep their promises in communities.
- Critical and complementary packages should be implemented either simultaneously or in phases. Interventions addressing community mobilization, community drug vendors, communication for behavior change, home-based management of fever, and capacity building are prerequisites for a successful effort to improve child survival.
- Methods should be designed for strengthening the supervision of community-level activities. For example, a contract could be given to a competent NGO to develop a supportive supervision strategy and to introduce C-IMCI activities to districts. The focus and emphasis should be on building capacity within districts and subdistricts.

Table 1. Analysis of Strengths, Weakness, Gaps, and Areas of Collaboration in C-IMCI in Uganda

Strengths	<ul style="list-style-type: none"> ■ The concept addresses the key concerns of childhood illnesses. ■ Training materials and guidelines have been developed. ■ Government is planning incentives and motivation schemes for CHWs/CORPs. ■ The MOH has very well trained officers in C-IMCI. ■ Decentralization offers a very good entry point. ■ Many studies have been done, and most information needed for planning is available. ■ A policy supportive of C-IMCI is in place. ■ The PRA process is a very good community mobilization tool. ■ There is a high level of interest among partners. ■ Kiboga has offered a good learning experience as a model district. ■ Some districts have parish development committee. ■ There is good national level capacity and good potential at lower levels. ■ An NGO coordination mechanism is taking root; BASICS II is taking the lead at the national level. ■ NGOs have capacity, are well entrenched in communities, and can be good implementers. ■ Political will is strong.
Weaknesses	<ul style="list-style-type: none"> ■ A lot of time has been spent on the preparatory phases. It was less clear how the move from preparation to full implementation could be made efficiently. ■ The IMCI MOH division is understaffed. ■ There appears to be no structure for supervision of community programs in the ministry, particularly at lower levels. ■ Training and advocacy materials have not been mass-produced and circulated. ■ There is limited capacity at the district level, though there is a lot of potential. ■ IMCI indicators did not seem to be harmonized. ■ Health workers need orientation and training in community health approaches. ■ Districts appear to have viewed IMCI as a project, rather than a catalytic program for child survival, and therefore expected additional funding. ■ Districts do not seem to be receiving adequate supervision, particularly for community-level activities. ■ The introduction process and the overreliance on focal persons appear to have resulted in districts not owning the C-IMCI component. ■ Donors have unrealistic expectation of quick results.
Gaps	<ul style="list-style-type: none"> ■ More advocacy is required at all levels. ■ Critical steps must be fulfilled, e.g., sufficient time for introduction at all levels, materials must be available before the PRA process begins. ■ IEC does not seem to be well coordinated with the current IMCI strategy. (Experiences should be borrowed from HIV/AIDS campaigns.)
Areas for collaboration	<ul style="list-style-type: none"> ■ Building on what is available: Home-based Management of Fever Strategy, PRA strategy, training tools and materials, local governance structures, health subdistricts, PDC where they exist ■ Networking and information exchange among stakeholders and partners ■ Involving districts as partners with a view of owning the program ■ Using NGOs with comparative advantage to implement some of the activities, e.g., CBC, introduction of C-IMCI, supportive supervision, capacity building at district and subcounty levels, social marketing of nets ■ Harmonizing IMCI indicators ■ Further advocacy for government to commit material support for IMCI ■ Exploiting the advantages of the private sector in social marketing schemes

- Ample time should be allowed for implementing the strategy—preferably 36 to 60 months—because behavior change is usually a slow process.
- Implementing partners should pursue networking efforts with C-IMCI partners.
- PRA should not be viewed as an end in

itself but rather should be supplemented with PLA (participatory learning and action) for sustained community capacity building. Implementing partners should focus on conceptual frameworks and avoid lengthy debates on semantics.

Recommendations for an Intervention Strategy

Strategies should be simple, manageable, and realistic, but comprehensive. To achieve this goal, related and complementary activities should be implemented intensely in the same geographical areas. Partner involvement should be ensured from the beginning.

In implementing this strategy, the partners must be prepared to address the tradeoff between intensity of activities and geographical coverage. Another important issue to address is the choice between integrating activities within the district health plans, with a risk of slow rates of implementation, and a more intensive approach, which might reinforce the impression that the strategy is a “project” and reduce local ownership.

Complementary Intervention Options

The following areas are packaged as different intervention options, but they are complementary activities, and all are prerequisites for a major impact on child survival. The activities for different intervention options should be implemented either simultaneously or in phases, depending on the prevailing circumstances, in ways that exploit their potential synergistic contributions to the goal of improving child survival.

- Community mobilization through a PRA process
- Communication and behavior change
- Home-based management of fever
- Partnerships with community drug vendors
- Partnerships between communities and health facilities
- Marketing and distributing insecticide-treated nets

Recommendations

Community mobilization through PRA

The PRA process could be tailored to focus on C-IMCI behaviors and used to collect baseline information, plan intervention activities, build capacity at the community level, and ensure participatory monitoring of results. Recommendations for using the process to mobilize communities are to:

- Target households.
- Further explore the models of community/household/group support.
- Select CORPs carefully and encourage community members who have good track records with other programs to participate.
- Plan motivation of CORPs carefully and consider use of multiple incentives.
- Use the existing structures:
 - Use PDC as the entry point, where they exist, and identify other entry points where necessary.
 - Help local government councils and executives assume ownership of the program and encourage them to make budgetary contributions.
 - Link CORPS to the health subdistricts and involve them in the initial planning of interventions.
- Emphasize district capacity for supervision and monitoring.

Communication and behavior change

An intensive communication strategy is needed to encourage and support behavior change. This strategy should:

- Learn from the experiences of the successful HIV/AIDS control program in Uganda.
- Build the capacity of and support local agencies to carry out CBC activities.
- Emphasize strategies for improving practices rather than knowledge.
- Emphasize interpersonal communication, especially through CORPs.
- Encourage male spouse involvement in changing health-seeking behaviors.

Home-based management of fever

Strategic considerations are well developed in the Ministry of Health's draft Home-based Management of Fever Strategy document, which was discussed at a stakeholders meeting in May 2001. Guidelines from the final document should be used in developing program interventions.

Partnerships with community drug vendors

Partnership with community drug vendors is pivotal for the success of household and community health-seeking behavior. Recommendations for developing such partnerships are to:

- Obtain baseline information, including information about vendors' inventories and profiles, using rapid assessment techniques in project districts.
- Consider both licensed and unlicensed community drug vendors, and support possibilities for licensing the latter.
- Establish mechanisms for training the drug vendors according to need. Training should focus on rational drug use and knowledge of drug policies.
- Provide appropriate training materials and job aids.
- Develop mechanisms for supportive supervision, including using some of the drug vendors in this process.
- Enlist the district assistant inspectors of drugs as focal persons for community drug vendor activities.

- Establish tripartite partnerships among communities, community drug vendors, and health units.

Partnerships between communities and health facilities

Uganda has trained a significant number of health practitioners in IMCI, yet use of facilities remains low. Community perceptions about the quality of care and counseling received at some facilities were documented to be less than optimal. Quality of care may be good in the technical sense, as defined by the WHO strategy, but community definitions of quality are equally important. Partnerships between communities and health facilities should be strengthened. The following strategies could be employed:

- Train health facility staff in community outreach, interpersonal counseling, and participatory problem-solving methodologies.
- Strengthen the role of community management committees.
- Involve health facility staff in community dialogue to discuss the results of the PRA and devise appropriate solutions.

Marketing and distributing insecticide-treated nets

Mechanisms for the sustainability of ITNs should be central in the conceptual framework for their marketing and distribution. The following strategies are recommended:

- Do not distribute nets free of charge.
- Help the private sector take an active role in marketing and distribution.
- Use all intrinsic community distribution avenues.
- Link the ITN component with successful community credit schemes.
- Enlist an NGO with proven social marketing experience.
- Aggressively pursue a CBC campaign addressing barriers to bednet use, such as concerns about the safety of treated nets.

- Explore the potential of pretreated nets, which seem to be a most promising intervention but require further research analysis.

Way Forward

In order to achieve maximum cooperation, emphasis should not be placed on conducting baseline studies to establish benchmark indices rather than to identify intervention options. Uganda's experience has already provided sufficient information to design

effective interventions. Stakeholders seem eager to act, focusing on service delivery. This opportunity should be fully exploited. Approaching any project as a catalytic process rather than a short-term, donor-driven effort would encourage sustainability. In practical terms, this means that the role of districts should be designed in such a way that they take leadership of the implementation process. This ownership should be further enhanced with a clear and concise exit plan for the MOH's implementation partners.

Annotation of the Reviewed Literature on Major Community Child Health Problems

TITLE OF STUDY	REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: HEALTH-SEEKING BEHAVIOR				
RECOGNITION OF ILLNESS AND HEALTH-SEEKING ACTIONS (malaria, diarrhea, and ARI)				
1. Maternal diagnosis and treatment of children's fever in an endemic malaria zone of Uganda: implications for malaria control programme. (cross-sectional study, mothers seeking care in Mulago hospital, n=439)	R. Lubanga, Submitted and accepted to Acta Tropica. P110001-706X/97/00071-5, 1997.	<ul style="list-style-type: none"> ■ Mothers associated fever with several types of illness, with only 40 percent suspecting malaria to be the cause. ■ Mothers' recognition of malaria was very poor (37 percent sensitivity), with 63 percent of malaria (slide +) misclassified as other conditions. ■ 90 percent of the children had had treatment prior to examination, and 76 percent were given modern drugs. ■ Mothers indiscriminately administered antimalarials to their children irrespective of the perceived cause of fever. ■ Chloroquine was the most frequently used antimalarial. ■ Analgesics were the commonest western drugs used. 	<ul style="list-style-type: none"> ■ Mothers should be educated to suspect malaria first in every case of febrile illness. ■ Mothers should be given guidelines for the first line of treatment of malaria. 	
2. Presumptive treatment of malaria in children aged 5 years and below. Home treatments done before visiting the Health Centre. (cross-sectional study, n=439)	R. Lubanga. Dissertation, Clinical Epidemiology Dept., University of Pennsylvania, 1994 (unpublished).	<ul style="list-style-type: none"> ■ Mothers call malaria and fever synonymously and interchangeably ■ Mothers easily recognize fever and other behavioral changes in children as pointers of unwellness therefore requiring treatment or remedial action. ■ Mothers tended to underestimate the true prevalence of malaria and physicians overestimated it when prescribing presumptive treatment (sensitivity of 37 percent and 98 percent, respectively). 	<ul style="list-style-type: none"> ■ Health educators should ensure that mothers learn to give treatment for malaria for all suspicious cases, as antimalarials are not harmful. ■ Need to help communities link overt symptoms of malaria, e.g., convulsions, anemia to malaria 	Other studies, however, have demonstrated that mothers are able to tell that fever may also be caused by other illnesses, e.g., measles, wounds

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Major Theme: HEALTH-SEEKING BEHAVIOR				
RECOGNITION OF ILLNESS AND HEALTH-SEEKING ACTIONS (malaria, diarrhea, and ARI)				
3. IMCI community component. Baseline survey: Kiboga District. (n=300)	L. Atuyambe, et al. Institute of Public Health, MOH, UNICEF, and WHO report, Sept. 2000.	<ul style="list-style-type: none"> ■ High fever (65 percent) and child becoming sicker/very sick (63.9 percent) were the most common prompting indicators for taking a child for medical care. ■ There was insufficient knowledge about the critical symptoms for seeking care. ■ Blood in stool (3 percent), repeated watery diarrhea (5.7 percent), repeated vomiting (6.4), and convulsions (8.8 percent) were among the least reported prompting signs that should be managed outside the home. ■ 83.1 percent of the caretakers reported to have fed their children less than usual during the illness episode. ■ About 24 percent fed their children more than usual after the illness episode. ■ Only about 20 percent reported to wash their hands with soap when indicated. ■ There was reported high use of ORS during fever episodes of 67 percent. ■ Only 5 percent (15/300) had mosquito nets, of which only one had slept under a net the previous night, and only 3 nets were treated. 		The high use of ORS is not reported in most other studies, probably because it's not qualified in terms of frequency, adequacy, and preparation quality, but merely reported as "ever used."

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: HEALTH-SEEKING BEHAVIOR					
RECOGNITION OF ILLNESS AND HEALTH-SEEKING ACTIONS (malaria, diarrhea, and ARI)					
4. Mothers perception and recognition of childhood malaria in Rakai District- 1998. (survey, n=240, with a qualitative component)	D.Tweaze. Dissertation for the award of MPH, Makerere University, 1998.	<ul style="list-style-type: none"> ■ Mothers perceive "malaria" as a disease that presents as a "syndrome" of signs and symptoms that correlates fairly well with what clinicians call clinical malaria. ■ Mothers perceived fever as sign detected by a rise in body temperature. ■ The disease was associated with mosquitoes, but its actual transmission dynamics were not clearly understood. ■ Mothers differentiated malaria from other causes of fever, such as measles. ■ Presentation of danger signs, such as convulsions and anemia, were not well linked to malaria, but to traditional disorders. ■ 80-90 percent of the treatment actions were at the community level. ■ Support treatment and use of home stocks and herbs were on average applied within the first 6 hours, analgesics within 12 hours, and effective antimalarials within 36 hours of recognition of illness. ■ Analgesics and chloroquine were obtained from sources within ½ and 1½ Km radius respectively, and were mainly obtained from ordinary shops. ■ Father's decisions were most often the last (42hrs), but were more likely to influence positive health-seeking behavior. 	<ul style="list-style-type: none"> ■ Mothers/caretakers should be given more knowledge and skills to recognize malaria and particularly to recognize the danger signs, such as convulsions and anemia. ■ Community practices play a major role in the management of malaria. They should be studied more and positive actions should be reinforced. ■ The policy to enable effective antimalarials such as chloroquine more widely available as analgesics should be implemented. ■ Paternal involvement in malaria control programs is critical. 	The ability of mothers to recognize malaria could be used as an entry point for prompt treatment at the community level.	

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: HEALTH-SEEKING BEHAVIOR					
RECOGNITION OF ILLNESS AND HEALTH-SEEKING ACTIONS (malaria, diarrhea, and ARI)					
5. Malaria, maize and mangoes. A descriptive research into malaria in south – west Uganda. (exploratory)	K. Marlou, Dissertation for the award of MPH, University of Rotterdam, 1993.	<ul style="list-style-type: none"> ■ The local term for malaria was “omushwijiya” and the term was not specific to malaria. ■ Mosquitoes, mangoes, and maize were thought to be the commonest cause of malaria. ■ The community used local herbs to treat symptoms of fever. 	<ul style="list-style-type: none"> ■ Research about the efficacy of the commonly used herbs was highly recommended. ■ Research on local perceptions would provide a basis for health care development that is culturally relevant. 		
6. Recognition, treatment seeking behaviour and perception among rural women in Masaka district, Uganda. (cross-sectional survey, n=395, and qualitative components)	J.F. Kengeya-Kayondo et.al. Acta Tropica 58(1994) 267-273.	<ul style="list-style-type: none"> ■ Women consistently recognize that omussa uja is the important disease in their community. ■ Symptoms of omussa uja varied from generally feeling unwell to a specific fever diagnosis of a rise in body temperature. ■ Omussa uja affected children more than adults. ■ Omussa uja comes from eating mangoes and maize, whose abundance coincides with rainy seasons. ■ Community appreciates prompt intervention though with local herbs. 	<ul style="list-style-type: none"> ■ Messages must clearly explain that malaria is a mosquito-borne parasitic disease in simple terms. ■ Effective drugs must be made available either through community health workers or trained drug shop operators. 	Signs and symptoms are not well correlated with the complications of malaria. They are sometimes interpreted as different diseases.	
7. Between local and biomedical concepts of malaria; perceptions of malaria among Baganda in Mpigi District, Uganda. (exploratory study)	L. Annika and H. Raijas, University of Helsinki, Department of Cultural Anthropology thesis, March 1996.	<ul style="list-style-type: none"> ■ Baganda do not have a vernacular name for malaria. ■ The Baganda refer to malaria as omussa uja gwensiri (ever of mosquitoes) ■ Omussa uja is generally treated at home with either local herbs or biomedicine, unless when it persists then a health facility is considered. ■ The Baganda also recognized other diseases that correspond with different symptomatology, such as convulsions called Eyabwe. ■ Eyabwe is associated with witchcraft, and is managed mainly with traditional therapies and through biomedicine to a lesser extent. 	<ul style="list-style-type: none"> ■ The local term for malaria should be well understood so that more effective health messages could be developed. 	The study considers only a small section of Uganda's cultural heritage. Similar studies need to be replicated in other cultural settings.	

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: HEALTH-SEEKING BEHAVIOR					
RECOGNITION OF ILLNESS AND HEALTH-SEEKING ACTIONS (malaria, diarrhea, and ARI)					
8. The control of malaria in Uganda- a study of perceived causes and home treatment in Kabaloro District. (survey, n=100)	E.A. State. Dissertation, Dept. of Sociology, B. Arts, Makerere University, 1993.	<ul style="list-style-type: none"> ■ 50 percent of the respondents felt mosquito bites were the cause of malaria, both in rural and urban areas. ■ 27 percent of the rural and 1 percent of the urban population did not know the cause of malaria. ■ Unboiled, dirty water, raw mangoes, and sugar canes were erroneously considered the major causes of malaria. ■ 57 percent of the rural population obtained drugs from rural shop vendors. ■ Very few people tried to clear the areas around their compounds, though most knew the implications of an unattended environment and mosquito breeding. ■ Financial constraints were among the major deterrents for seeking medical care and opting for self-medication instead. 	<ul style="list-style-type: none"> ■ Health education and community mobilization for action against malaria was recommended. 	More research is required in the knowledge-practice disparity for clearing mosquito-breeding sites.	
9. Management of malaria within households: Women behavior, attitudes and practices in the initial management of malaria in Mpigi District. (survey, n=399)	C.S. Bakika. UNICEF reports, 1994.	<ul style="list-style-type: none"> ■ Mothers were highly responsible (79 percent) for all the initial decisions and remedial actions in the management of malaria. ■ Most of the initial actions were inappropriate, with limited or no significance to malaria treatment, e.g., use of local herbs and available drugs—mostly analgesics. ■ The time it takes to make a decision is mostly influenced by perception of cause, severity of illness, availability of funds at the time of illness, and availability of drugs in the home. ■ Parents, grandparents, senior females in the home, traditional healers, and drug shop operators play a major role as sources of knowledge and practices in household management of illness. 	<ul style="list-style-type: none"> ■ Use a communication strategy for behavior change to ensure appropriate, prompt treatment. ■ Empower mothers by making efficacious drugs available at household level with the necessary information. 	Other behavior determinants should be addressed as well, e.g., shop owners, tradition healers, and injectionists, in order to encourage positive practices.	

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: HEALTH-SEEKING BEHAVIOR					
RECOGNITION OF ILLNESS AND HEALTH-SEEKING ACTIONS (malaria, diarrhea, and ARI)					
*10. Child malaria treatment practices among mothers in Kenya	Mwenezi and Harphans. Soc. Sci. & Med., 1995, 40(9):1271-1277.	<ul style="list-style-type: none"> ■ Child malaria was perceived as a mild, every day illness, not preventable but treatable. ■ Illness recognition, definition, and management procedures depend on the general axioms about health and illness within a peoples' culture. ■ Only 56 percent linked malaria and mosquitoes, but transmission not well understood. In preventive measures, most showed indifference to mosquitoes. ■ The association of convulsions, splenomegaly, and anemia to malaria was elusive, and mothers had their own explanatory models for these illnesses. 	<ul style="list-style-type: none"> ■ Health educators must be aware of the potential resistance caused by existing misconceptions of the causes of the danger signs for childhood malaria. 	The appreciation of the role of mosquitoes in parasite transmission is critical to successful prevention campaigns.	
*11. Integrated Management of a Sick Child Initiative: First experiences. (review of reports)	T. Lambrechts et al. Bull WHO, 1999, 77(7):582-93.	<ul style="list-style-type: none"> ■ Implementation of the Community IMCI program is still in its infancy world wide. ■ Understanding of community social, cultural, and spiritual ways and norms is central to influencing treatment-seeking behavior. 	<ul style="list-style-type: none"> ■ Community IMCI must be implemented as a new and separate strategy. ■ Focus on building on the successes of the existing and past child survival programs ■ Appropriate messages must be understood in local terms. 		

*Studies conducted outside Uganda but of relevance

TITLE OF STUDY	REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: HEALTH-SEEKING BEHAVIOR				
<ul style="list-style-type: none"> • 12. Home care of malaria infected children of less than 5 years of age in a rural area of the Republic of Guinea. (survey, n=784) 	<p>D. Amadou et al. Bull WHO, 2001, 79 (1):28-32.</p>	<ul style="list-style-type: none"> ■ Of the 784 examined from households, 23 percent were febrile and about 50 percent of these were positive. ■ 63 percent of the children with above-normal temperatures were reported sick by mothers. ■ Among all reported feverish, 55 percent had a normal temperature. ■ 38 percent were reported sick and febrile, but 13 percent of febrile children were considered healthy. ■ Among the febrile children, only 18 percent received efficacious drugs. 	<ul style="list-style-type: none"> ■ Mothers often failed to identify fever in their children. ■ Mothers did not seek appropriate care for their children 	<p>Without effective home care, it is unlikely that the morbidity and mortality due to malaria in young children will be greatly reduced.</p>
<p>Other studies with similar findings as the above are: MOH, WHO, Community IMCI baseline in Mukono District (survey, n= 300). Africare, Community IMCI baseline in Ntungamo District (survey) 2000. Kallisa and Gamba-Osiga. A case study of the malaria control policy in Hoima District. UNICEF, CHDC report, 1997 (exploratory study). J. Kamugisha et al., Community based action research to control malaria in Mukono and Tororo Districts. Uganda MOH report, 1994 (survey n=175). G. Bukenya et al., Malaria control in Kibimba defined area-Iganga District. IPH report, 1994 (baseline survey for a longitudinal study). P.J. Winch, Local terminology for febrile illnesses in Bagamoyo district, Tanzania and its impact on the design of a community-based malaria control programme. Soc. Sci. & Med., Apr. 1996, 42(7):1057-67. L. Oberlander and B. Everdan, Malaria in the United Republic of Tanzania: Cultural considerations and health-seeking behaviour, Bulletin of WHO, Nov. 2000, (11):1352-7. J. Namusobya, Factors associated with high morbidity and mortality due to malaria in Iganga District, WHO, UNICEF report, 1998 (survey, n=216). A. Kilian et al., GTZ malaria baseline project report in Kabarole. D. Twebazze, A successful health education campaign in Rubaga Community (before and after study, n=150). H. Isabirye and W. Wendo, Management of malaria in rural Rukungiri. WHO, MOH, CHDC (survey) report. Kamugisha et al., Malaria situation analysis, Apac, Kabarole, Kampala, and Rukungiri Districts. Ministry of Health report, 1992 (survey, n=1274). I. Agyepong, The diagnosis and management of fever at household level in greater Accra region of Ghana, Acta Tropica, Dec. 1994, 58(3-4) 317-30. I. Agyepong, Malaria ethnomedical perceptions and practice in an Adangbe farming community and implications for control, Soc. Sci. & Med., Jul. 1992, 35(2):131-7.</p>				

*Studies conducted outside Uganda but of relevance

TITLE OF STUDY	REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: HEALTH-SEEKING BEHAVIOR				
DIARRHEA	<p>13. Home management of acute childhood diarrhoea by mothers/caretakers in Kiyeyi target area, Tororo District, Uganda.</p> <p>A. Kakaiza-M. Dissertation for the award of masters of medicine in paediatrics and child health, Makerere University, 1999 (unpublished).</p>	<ul style="list-style-type: none"> ■ Diarrheal diseases are perceived as one of the major health problems in children. ■ Frequent passage of stools, generalized weakness, and eating and drinking poorly are the signs that prompt a mother to seek treatment outside the home. ■ Availability of money in the home and perceived severity are the major factors determining the choice of treatment. ■ Most children are given less fluid and food during the episode, while breastfeeding is maintained. ■ Practices of handwashing, boiling water before drinking, and preventive measures against diarrhoea have increased since 1991 in the target area. ■ Folk definitions of diarrhoea and its management are based on the perceived cause; however, feeding and use of ORT is hardly a feature in the management. Though ORT awareness was high, use rate was very low because of poor knowledge of preparation and lack of accessibility and availability. ■ There was indiscriminate use of inappropriate medications for children with diarrhoea. 	<ul style="list-style-type: none"> ■ IEC strategy to address misconceptions and beliefs. ■ Promotion of use of available home-based fluids. ■ Commercial marketing strategy for improving the availability of ORS. ■ Local governments need to focus their public health programs more on safe water supply and excreta management. 	<p>The Kiyeyi target community area is likely to have more positive behavior compared to the rest of the country because of the KIYEYI PHC Project.</p>

TITLE OF STUDY	REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS	
Major Theme: HEALTH-SEEKING BEHAVIOR					
DIARRHEA	14. Knowledge, attitudes and practices of urban communities of Tororo in relation to home management of diarrhoea in children. (descriptive cross sectional survey n=390)	D. Kyamanwua. Dissertation for the award of MPH, Makerere University, 1997 (unpublished).	<ul style="list-style-type: none"> ■ Caretakers knew the gravity and dangers of diarrhoea and did something at home when the child fell sick. ■ About 50 percent of the mothers knew most of the factors associated with diarrhoea, though most did not practice the safe methods. Others still associated it with cultural misconceptions and developmental milestones, and very few did not know the cause (3,4 percent) ■ Knowledge about ORS was high (75 percent), though most thought it was medicine, and only 15 percent knew how to prepare the mix. Even fewer knew how to prepare SSS. ■ There was inappropriate disposal of children's excreta, which was regarded as harmless, and sources of water were suspicious in most cases. ■ Some useful foods were withheld during diarrhoea episodes, though the majority of mothers continued breastfeeding. ■ Knowledge about handwashing was generally high but probably not often practiced, and home environmental hygiene was lacking. 	<ul style="list-style-type: none"> ■ Increase and sustain the importance of ORS. An emphasis on the actual benefits and the implications of inadequate amounts should be communicated. ■ CBC regarding factors associated with diarrhoea and its causality, dispelling the myths, beliefs and practices detrimental to effective management of diarrhoea at home. ■ Environmental hygiene in homes should be encouraged. 	

TITLE OF STUDY	REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: HEALTH-SEEKING BEHAVIOR				
DIARRHEA				
15. Oral rehydration therapy in Uganda A community based survey on the knowledge attitudes and practices of oral rehydration therapy in Masindi District, Uganda. (n=240)	Kisamba-Mugerwa and G. Wamai. CDD/ MOH, UNICEF report, 1992.	<ul style="list-style-type: none"> ■ 17 percent of children had had diarrhea in the previous 2 weeks. ■ Awareness of ORS was reported high (214/240, 90 percent); however, only 11 percent had adequate knowledge and skill for proper use of ORS. ■ Identified constraints to ORS were inability of ORS to stop diarrhea, misconceptions of ORS as a medicine, nonavailability of ORS, and lack of readily available clean water to prepare ORS. ■ Home management remedies and sources are often used in combination. ■ Some fluids, such as tea, porridge, and SSS, were encouraged though given in inadequate amounts, but others such as milk, millet, and banana juice were avoided. 	<ul style="list-style-type: none"> ■ An ORT health promotion strategy building on positive community beliefs and discouraging negative misconceptions. 	The study reports that some people do not have the basic ingredients of SSS as a result of economic barriers.
16. Traditional methods in the management of diarrheal disease in Uganda.	Anakbonong et al. Bull WHO, 1990, 68(3):359-363.	<ul style="list-style-type: none"> ■ Diarrhea was one of the commonest illnesses managed by traditional healers (42 percent). ■ Traditional healers did not appreciate well the cause of diarrhea. ■ The amount of fluid of herbal extracts prescribed was unlikely to correct or offset dehydration. ■ Traditional healers encouraged intake of fluids, e.g., water, fruit juice, porridge. ■ Healers encouraged their clients to seek alternative treatment if no improvement was observed within 3 days. 	<ul style="list-style-type: none"> ■ Traditional healers should be targeted and assisted to improve diarrhea management. ■ Specific messages about the danger signs and harmful practices should be addressed. 	

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
DIARRHEA					
17. Health-seeking behaviour for diarrhoea and malaria among Karamojong, semi-nomadic pastoralists, Moroto District, Uganda. (survey, n=480)	E. Donath. Dissertation for the award of MPH, Makerere University, 1999.	<ul style="list-style-type: none"> ■ Hygienic practices, such as handwashing and use of soap and safe water, are not associated with lower incidence of diarrhoea. ■ The head of the household made 51.7 percent of the decision, to seek care outside the home for diarrhoea and 47.6 percent of the decisions to seek such care for malaria. ■ Diarrhoea is recognized as needing attention if a child's activity is impaired as a result of the illness. ■ The traditional healers do most of the first-line treatment, as they are closest to the communities. ■ Access to health care is largely affected by distance, as is the low health service coverage (only 24.4 percent). 	<ul style="list-style-type: none"> ■ Train community health workers who understand the cultural values of the semi-nomadic people. ■ Messages about ORT strategy and recognition of the danger signs are paramount. 	Interventions for unique categories of populations must be given due consideration.	
18. Acute childhood diarrhoeal disease management in the community in Kumi District. (survey, n=362)	J. Omunuk. Dissertation for the award of masters of medical public health, Makerere University, 1995.	<ul style="list-style-type: none"> ■ Withholding feeding during episodes was common, with only 8.4 percent wanting their children to eat well during an episode of diarrhoea. ■ ORS was not readily available and was obtainable only in health units. ■ 72.1 percent practice poor disposal methods for children's feces. ■ Water and sanitation indices were low: 15 percent to 24 percent. 	■ As above.		
*19. Fluid intake and feeding practices during diarrhoea in Odukpani, Nigeria.	E. Edet. East Afr. Med. J., May 1996, 73(5):289-91.	<ul style="list-style-type: none"> ■ Low intake of fluid during diarrhoeal episodes. ■ Less than 1/2 the mothers continue breastfeeding during diarrhoea. 	<ul style="list-style-type: none"> ■ Health educators should target improved use of fluid and food in home management of diarrhoea. 	Dehydration and electrolyte imbalance are the major immediate causes of death in diarrhoea.	
Other studies with similar findings were: Q. Okello, Transient risk factors for diarrhoea in children less than 3 years in urban area in Lira District. Dissertation, M. Med. Public Health, Makerere University, Kampala, Uganda, 1995 (unpublished survey, n=250).					

*Studies conducted outside Uganda but of relevance

TITLE OF STUDY	REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
ACUTE RESPIRATORY INFECTION				
20. Health-seeking behaviour of caretakers for diarrhoea and acute respiratory infection among under fives in Busiro North, Mpigi District. (survey + qualitative methods, n=390)	L. Nabweimba. Dissertation for the award of MPH, Makerere University, 1999 (unpublished).	<ul style="list-style-type: none"> ■ Over 90 percent take action when a child develops diarrhea or ARI. ■ 56.3 percent and 30.5 percent of the caretakers took home-based action for diarrhea and ARI, respectively. ■ A larger proportion (64 percent) opted for health unit care for ARI, compared to 37 percent for diarrhea. ■ Younger children were more likely to be taken to a health facility as the initial action for both ARI and diarrhea almost equally (OR 2.57 [1.13-5.06]). ■ Caretakers chose cheaper methods where they could easily get credit facilities and most times mentioned private sector sources. ■ Health-seeking choice was influenced by a number of factors, such as cultural beliefs, past experiences, health facility-related quality of care, severity of illness, and economics. 	<ul style="list-style-type: none"> ■ Health education to promote positive health-seeking behavior in households addressing the factors that influence such behavior. 	Positive health-seeking behavior is heavily linked to the quality of health care provision in a neighbourhood. Concomitant efforts to improve facility-based care are also recommended.
21. Community management of acute respiratory tract infection in children in rural Sabaddu B subcounty, Gomba, Mpigi District. (exploratory study)	S. Sebudde and J. Nakku. UNICEF/CHDC report, 1995 (unpublished).	<ul style="list-style-type: none"> ■ Communities recognize ARI as one of the most important health problems. ■ Communities have a well-developed classification scheme that is based on a combination of signs and symptoms, severity of presentation, body part affected, and duration of episode. ■ The first line of treat of ARI at the community level appeared to local herbs. ■ The perception of transmission of ARI seemed to correlate well with the biomedically known modes of transmission. ■ Transportation and lack of funds were identified as major setbacks for referral. 	<ul style="list-style-type: none"> ■ Communication strategy with emphasis on the danger signs. ■ Support community health workers with the required knowledge and skill to manage ARI and referral. ■ A study to address the possibilities of low-cost, community-based transport alternatives would be very useful. 	The local classification could be easily linked to the WHO/UNICEF classification of ARI based on severity.

Major Theme: HEALTH-SEEKING BEHAVIOR

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: HEALTH-SEEKING BEHAVIOR					
ACUTE RESPIRATORY INFECTION					
22. Knowledge, attitude and practices regarding acute respiratory tract infections in Naguru, a Kampala peri-urban Area. (descriptive cross-sectional n = 385)	C.S. Nakazzi. Dissertation for the award of the diploma in public health, Makerere University, 1997 (unpublished).	<ul style="list-style-type: none"> ■ Only 19 percent of caretakers mentioned the correct symptoms for the danger signs for severe ARI. ■ High fever, extreme weakness, and severe cough prompted mothers to take their children to health units. ■ Knowledge on the causes of ARI was poor. It was commonly associated with weather changes. ■ Most caretakers delayed seeking appropriate care for their children with severe ARI. ■ Drug stores and ordinary shops were the commonest sources of remedial measures. 	<ul style="list-style-type: none"> ■ Need to educate mothers about the danger signs of ARI, prompt, appropriate treatment seeking, and possible preventive measures. 	The study covered a geographically small poor urban community; therefore, countrywide generalizations are not possible.	
23. Assessing the impact of primary health care on acute respiratory infection case management practices in the community.	Dhikusoka James. Dissertation for the award of master of medicine in community practices, Makerere University, 1993 (unpublished).	<ul style="list-style-type: none"> ■ In the decision to take a child for treatment outside the home, fathers played a bigger role in the intervention group (Kiyeyi), compared to the control (Nagongera). ■ The intervention group was more likely to recognize the danger signs such as fast breathing and chest in-drawing and to seek urgent health attention, particularly for malnourished children (64.8 percent compared to only 24.4 percent in the control group). 	<ul style="list-style-type: none"> ■ Paternal involvement in the primary health project was critical for positive decision making, behavior change, and improving child survival. 		

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: HEALTH-SEEKING BEHAVIOR					
ACUTE RESPIRATORY INFECTION					
*24. Acute lower respiratory infections in rural Bangladesh children: Patterns of treatment and identification of barriers.	K. Zaman, Ziethyn et al. South East Asian. J. Trop. Med. Public Health, March 1997, 28(1):99-106.	<ul style="list-style-type: none"> ■ 62 percent (out of 194) sought allopathic treatment within 24 hours of illness, and 23.3 percent did nothing at all. ■ Most mothers could recognize the different symptoms of ALRI. ■ Cold was reported as the most common cause of ALRI. ■ There was no significant difference observed in the reported signs and symptoms or perceived cause of illness among those who sought allopathic, homeopathic, spiritual, or combined treatment. ■ Failure to recognize severity, followed by work loss, were the most common reasons identified for not any seeking care. ■ Seeking medical care was not associated with age of child and mother, education, duration of illness, birth order, housing type, or distance from health center. 	<ul style="list-style-type: none"> ■ Study suggests potential value of giving parents clear guidelines on recognition of severity of symptoms and signs. ■ Health providers should be aware of the heavy workloads rural women have and the severe time constraints that deter them from seeking prompt and timely treatment from appropriate sources. 	The characteristics observed are common among rural women in Uganda.	
*25. Pneumonia perceptions and management: An ethnographic study in urban squatter settlements in Karachi, Pakistan.	R. Hussain et al. Soc. Sci. & Med, Oct. 1997, 45(7):991-1004.	<ul style="list-style-type: none"> ■ Pneumonia recognition was almost universal ■ Main recognition and severity indicator was chest in-drawing, followed by symptoms related to quality of breathing, presence of high fever, and lethargy. ■ Exposure to cold through a variety of mechanisms was perceived as the dominant causal model. ■ Although the concept of contagion barely existed, the use of allopathic care was high. ■ Outside care was sought 1-3 days after onset of illness. ■ Unrealistic expectations of care often led to change of physicians and treatment regimens. ■ Quality of care of both licensed/unlicensed unsatisfactory. ■ Female autonomy and mobility did not seem to be a major constraint to seeking outside care other than hospitalization. 	<ul style="list-style-type: none"> ■ Recognition of danger signs is very critical ■ Rational drug use is of paramount importance. 	Inappropriate drug use, poor quality of care in both licensed and unlicensed facilities is typical of a breakdown of a health system with lax regulatory measures, as in Uganda, especially among urban poor communities.	

*Studies conducted outside Uganda but of relevance

TITLE OF STUDY	REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: HEALTH-SEEKING BEHAVIOR				
COMMUNITY REFERRAL SYSTEM				
26. Where referral is difficult or impossible. (exploratory study)	X. Nsabagasani. MISER/MOH report, 1998, (unpublished).	<ul style="list-style-type: none"> ■ People felt that the first level did not have adequate facilities and did not coordinate well with the referral centers. ■ Fees (cost sharing) at referral centers were often very high. ■ Referral is received as a nightmare to mothers because of the implications and the required immediate decisions. ■ Problems of referral were categorized in 3 areas: personal, institutional, and geographical. ■ There are many barriers, such as economic, transport, and difficulties in reception at referral centers. 	<ul style="list-style-type: none"> ■ It is essential to improve the capacity, infrastructure, and drug supply of the first-level health units. ■ Referral center staff should be oriented about courtesy. 	Issues of referral are largely social and often have a direct relationship with income dynamics. Often mothers leave nature to take its course because of economic barriers.

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
TREATMENT OPTIONS AND PRACTICES AT COMMUNITY LEVEL					
<i>Major Theme: TREATMENT PRACTICES</i>					
27. Injections and self-help: Risk and trust in Uganda health care. One year. (longitudinal ethnographic study)	H. Birungi. Makerere Institute of Social Research, Soc. Sci & Med Nov. 1998, 47(10):1455-62.	<ul style="list-style-type: none"> ■ People mistrust injections provided by government health institutions. ■ People prefer to gain access to injections through personal contacts and personal ownership of injecting equipment. ■ Needles, syringes, and injectables are widely available at the household level in Uganda. ■ Weakening government institutions and HIV/AIDS are some of the reasons for personalizing and domestic use of injectables. 	<ul style="list-style-type: none"> ■ A change in the organization of public health institutions is of paramount importance to change this trend toward obtaining injections outside health facilities. 		
28. A survey of the community drug use patterns in Rakai District. (n= 226)	W.S. Kaiyebi. Dissertation for the award of MPH, Makerere University, 1997.	<ul style="list-style-type: none"> ■ People keep drugs in their home, both western and traditional. The source is most times left over from a previous episode or a purchase in the market. ■ Traditional medicine is a major component in health care; however, pharmaceuticals are preferred where traditional methods have failed. ■ About 60 percent of the drugs are from informal sources. ■ 78.9 percent were able to get their entire drug requirement from shops, drug shops, and clinics. ■ There was poor compliance with treatment. 	<ul style="list-style-type: none"> ■ Informal sources of drugs should be trained in managing IMCI illnesses. 	<p>The fact the communities already keep drugs for an eventuality could utilized positively as a strong point for home treatment.</p> <p>Both licensed and unlicensed drug sellers should be targeted.</p>	
29. Collaborative project on community drug use, Tororo District report. (survey n=150)	J. Owor and R. Adome. Child Health Development Centre (CHDC) report, Makerere University, 1993.	<ul style="list-style-type: none"> ■ 62 percent of the drugs were obtained from ordinary shops. ■ 60 percent of the fever episodes in Kiyeyi were self-medicated. ■ Herbs and pharmaceuticals, either in combination or singly, were used to treat febrile illnesses. ■ Chloroquine and its brands were the most commonly used antimalarial drugs. 	<ul style="list-style-type: none"> ■ Self-treatment with chloroquine and analgesics was the main form of malaria management in Tororo. 		

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: TREATMENT PRACTICES					
TREATMENT OPTIONS AND PRACTICES AT COMMUNITY LEVEL					
30. A study of factors contributing to increased prevalence of malaria infection in Arua municipality. (exploratory)	B.J. Deboni. Dissertation of health studies, public health nurses college, 1993.	<ul style="list-style-type: none"> ■ Majority of people lacked knowledge of the cause, transmission, and prevention of malaria. ■ Drugs were commonly inappropriately used. ■ Drug shops and shops handled drugs inappropriately and were likely to be dispensing ineffective drugs. ■ Drugs policies were not clear to drug handlers and were not enforced at all. 	<ul style="list-style-type: none"> ■ Policies must be in concert with the realities in communities. ■ Selected interventions must be understood and must be operable within the framework of their cultural, ecological, and economic constraints. 	A study about the efficacy of antimalarial drugs at the community level should be considered.	
31. A baseline survey of drug shop and clinic operators in Rubaga Division. (n=149)	D. Tweaze et al. UNICEF report, 1994.	<ul style="list-style-type: none"> ■ The majority of drug shop operators were nurses. Registered proprietors were not the ones manning the units, leaving untrained personnel in charge. ■ Most drug stocks for the common drugs are available. ■ Drugs are not utilized appropriately ■ Referral messages have low efficacy. ■ Injections were used, in most cases, where not indicated. ■ Medicines are dispensed freely on request. ■ Both legal and illegal drug shops operators practiced inappropriately. 	<ul style="list-style-type: none"> ■ Standard guidelines of practice to be provided for all levels of practice. ■ Train health workers operating at this level. 	More work is required to assess quality of illegal practitioners and the magnitude of departure from standard practices.	
32. Pharmaceuticals as folk medicine: transformation in the social relations of health care in Uganda.	S.R. Whyte. Institute of Anthropology, University of Copenhagen, Denmark.	<ul style="list-style-type: none"> ■ Pharmaceuticals are readily available outside bio-institutions in Uganda. ■ Folk practitioners include specialists and private vendors in local markets ■ Folk practitioners respect customers' opinions and needs, such as providing treatment by proxy and adjusting services to the customer's ability to pay. 	<ul style="list-style-type: none"> ■ Although there were negative aspects of this development, from the local point of view there are also positive ones that deserve the consideration of health planners. 		

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: TREATMENT PRACTICES					
TREATMENT OPTIONS AND PRACTICES AT COMMUNITY LEVEL					
*33. The role of drug delivery systems in health care: The case of self-medication – Halima and Mwensi.	Medical Research Center, Kenya Medical Research Institute, 1995.	<ul style="list-style-type: none"> ■ Majority of the women were unaware that dosage instructions were found on the packaging of the drugs. ■ Some retail-out-let proprietors mishandled OTC drugs. ■ Storage of these drugs was not optimal (open or completely uncovered containers). ■ Self-treatment ranges from a 'cool' bath to a course of antimalarials. 	<ul style="list-style-type: none"> ■ Excessive use of retail outlets in Kilifi may imply dissatisfaction with health services. ■ Health education could equip populations with awareness of the benefits and dangers of OTC drugs. 		
*34. Rural drug vendors (RDV) in Eritrea, a study of treatment practices and training needs (management of ARI and diarrhoea).	J. Murry, A. Mosazgi, et al. BASICS technical report, 1998.	<ul style="list-style-type: none"> ■ Knowledge-practice gap disproportionality high among rural drug vendors. ■ Prescribing patterns tend to follow patients' demands and expectations. ■ Misuse of antibiotics. ■ Patients not given clear instructions. ■ Limited health education is given. 	<ul style="list-style-type: none"> ■ Training focusing on simple ways to improve practice, e.g., critical history questions, essential advice and treatment, and danger signs for decisions necessary for referral. ■ Supportive supervision. ■ Development of simple health education messages. 	<p>More research is need in establishing the barriers to improved practices despite adequate knowledge.</p>	
*35. Pharmaceuticals in the third world: The local perspective (to be improved on).	S. Van der Geest. Soc. Sci. & Med, 1987, 29:195-204.	<ul style="list-style-type: none"> ■ There seemed to be a serious risk of misuse of drugs and a deeper-rooted association with illiteracy. ■ Husbands were consulted most frequently to purchase pharmaceuticals. ■ The type of retail outlet depended on distance from home and availability of required medication. ■ Traditional healers are extensively consulted. 	<ul style="list-style-type: none"> ■ Possible use of male spouses as health informers. ■ Reputable healers should be identified and incorporated into malaria intervention programs since they too have a following. ■ Health workers should be approachable and should not always seem to be in a hurry. 	<p>Need to recognize that remedial action taken depend on perceived etiology, prognosis, and severity of the illness.</p> <p>Mothers not only used inappropriate drugs for what they defined as malaria, but also gave incorrect doses.</p> <p>Targeting women alone in health education might not achieve intended results.</p>	
<p>Other studies include: D. Twebaze, Antimalarial self medication practices in Tororo district, IPH report, March 1997, (cross-sectional of exit polls study, n = 89). S. Chakraborty et al. Improving private practitioner care of sick children: New approaches tested in rural Bihar, India. Supported by USAID. Submitted to editors of Health Policy and Planning, London School of Hygiene and Tropical Medicine (before and after design, n=600, 300, respectively). Y. Tawfik, Utilizing the potential of formal and informal private practitioners in child survival, SARA Project report, 2001.</p>					

*Studies conducted outside Uganda but of relevance

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: TREATMENT PRACTICES					
COMPLIANCE WITH TREATMENT					
36. Possible factors that are likely to lead to the development of resistance of P. falciparum to antimalarial drugs in Kyakibula Village-Masaka District. (survey, n= 800)	J. Bwanika. Dissertation, Department of Zoology, Makerere University, 1991.	<ul style="list-style-type: none"> ■ Bitterness and other side effects, such as itching, deterred individuals from completing the chloroquine dose. ■ Inadequate counseling and advice on taking drugs is one of the reasons for taking inappropriate doses. ■ 76.9 percent of those who took chloroquine took it inappropriately, and about 10 percent could not remember the dose. ■ 79 percent of the chloroquine was from retail shops. 	<ul style="list-style-type: none"> ■ No recommendations were available. 	Very long recall period of 5 months. There are few community studies about the availability of Fansidar in Uganda.	
*37. Social and behavioral factors affecting malaria in Somalia.	Abyan I.M and Osman AA. WHO TDR Programme, Social and Economic Research, 1993.	<ul style="list-style-type: none"> ■ A common behavior is to stop taking medicine when symptoms are relieved and “save” tablets for future attacks or friends and family. ■ Self-treatment with antimalarials purchased in shops was judged the least expensive option when fees and transportation costs were included. ■ Self-treatment and use of traditional remedies is higher in rural areas. 	<ul style="list-style-type: none"> ■ Training focusing on simple ways to improve practice, e.g., critical history questions, essential advice and treatment, and danger signs for decisions necessary for referral. ■ Supportive supervision. ■ Development of simple health education messages. 	More research is need in establishing the barriers to improved practices despite adequate knowledge.	
Major Theme: INTERVENTION EXPERIENCE					
COMMUNITY C-IMCI (MALARIA, ARI, DIARRHEA) THERAPY					
38. Impact of training on compliance with IMCI treatment guidelines in Hoima and Kibale Districts – Uganda. (cross-sectional study)	G. Pariyo, P. Winch, F. Wabwire, et al. Institute of Public Health/Johns Hopkins University (unpublished report).	<ul style="list-style-type: none"> ■ High level of knowledge about drugs: over 20 to 30 types known. ■ High levels of injection use and inappropriate use, primarily by local injectionists. ■ Widespread perception that the white (IMCI generic) tablets commonly obtained from government facilities are inferior in quality to the colored tablets obtained from private facilities. ■ Caretakers not satisfied with counseling and communication from government health facilities. 	<ul style="list-style-type: none"> ■ IEC about rational drug use targeting both health workers and community. ■ Indiscriminate use of injections should be seriously discouraged. 		

*Studies conducted outside Uganda but of relevance

TITLE OF STUDY	REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
Major Theme: INTERVENTION EXPERIENCE				
<p>39. An assessment of the communication strategy for promotion of ORT: A case study of Mbale and Ntugamo Districts.</p>	<p>D. Babika and D. Kayondo. CHDC, Ministry of Health and UNICEF report, 1995.</p>	<p>Community health workers (TIPs) appear to have done a creditable job in dissemination of ORT messages. This was facilitated by:</p> <ul style="list-style-type: none"> ■ Simplicity of the ORT message. ■ Selected TIPs were already health workers in CBOs. ■ There was a high attrition rate because most TIPs had high expectations, which were not met by the project. ■ Promotional campaigns provided an extra motivation of prizes for participating homes. ■ Homes that never received prizes were discouraged, and those that received prizes considered them inadequate for the effort put in the exercise. ■ There were problem in logistics and supervision flows in the implementation by the organizers. ■ There seemed to be no evidence of sustainability at the evaluation stage of the project. 	<ul style="list-style-type: none"> ■ Communities themselves, with guidance only, should select community health workers. ■ Both communities and health workers must understand precisely what is expected of them and should have their expectations addressed. ■ Planning and involvement of local leaders are prerequisites for the success and sustainability of the project. 	<p>Prizes are a very good motivational tool for communities, but they must be chosen with care to maximize their advantages and minimize disadvantages.</p> <p>Incentives for community health workers must be thought through for a successful project.</p>
INFORMATION, EDUCATION, AND COMMUNICATION (IEC) TO PROMOTE EARLY CARE-SEEKING BEHAVIOR				
NO STUDIES FOUND				

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
AVAILABILITY AND USE OF ITM MALARIA CONTROLS					
Major Theme: INTERVENTION EXPERIENCE					
40. Knowledge attitudes and practices related to malaria and insecticide treated nets in Uganda. (baseline survey, n=700)	F.O kello Ogojo. Commercial Marketing Strategies, USAID- funded project report, February 2001.	<ul style="list-style-type: none"> ■ Most children < 5 years slept on mats (40 percent) and 35.4 percent slept with parents. ■ High level of knowledge about malaria and mosquitoes (77.6 percent). ■ Radio was the main source of information (70.6 percent) ■ 76.3 reported to be bothered by bites, and only 52.4 percent cited carrying disease—even fewer among rural respondents. ■ Preventive measures were less frequently practiced; all were reported by less than 30 percent, and sprays were the commonest (28 percent). ■ Only 8 percent had nets on all the beds (not verified), though a few verified were torn. Nets were more likely to be in urban centers. ■ Limited knowledge about ITM nets (14.1 percent). ■ Rectangular and white nets were preferred to other shapes and colours. 	<ul style="list-style-type: none"> ■ As nets were reported to be expensive, it's important to consider cost while marketing. ■ The marketing campaign should address the net use concerns, such as safety, feeling very hot, and intermittent use. ■ Positive community effects of large-scale use of nets to be emphasized. 	Due to a widespread concern about malaria and the cost of its treatment, there exists a definite need for ITNs, and the figures suggest a potential demand for the product in Uganda.	
41. A successful ITM implementation programme in Mubende.	Action Aid report, 1993.	<ul style="list-style-type: none"> ■ Reported over 90 reduction of mosquitoes in houses in intervention villages. 		Final reports not obtained, just an excerpt of results presented in 1995.	
42. Work done in Kabarole by GTZ Basic Health Services Project.	Albert Kilian, GTZ report, 1995.	<ul style="list-style-type: none"> ■ Reduction of malaria incidence among under-fives by 50 percent. 		Final report not available.	

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
MAJOR Theme: INTERVENTION EXPERIENCE					
AVAILABILITY AND USE OF ITM MALARIA CONTROLS					
43. Formative qualitative research on insecticide-treated materials in Uganda.	NetMark Project report, 2001.	<ul style="list-style-type: none"> ■ Most of the sampled population (purposively) associated malaria with mosquitoes. ■ Most respondents had good knowledge that children under five are more vulnerable. ■ Mosquito nets were considered a luxury item for the educated, rich, and knowledgeable. ■ Nets were not easily available, especially in rural areas, but cost was the major reason for non-ownership. ■ Nets cost US\$ 3.80 - \$12.70, depending on size. ■ Most of the nets were untreated, and the concept of treating nets was not known among traders. ■ Consumers were concerned about the safety of treated nets. 	<ul style="list-style-type: none"> ■ Demand for nets is high, especially in urban centers. ■ Nets should be made widely available, especially in rural areas. Strong supplier involvement should be ensured. ■ Major ITM promotional campaigns that emphasize net treatment and highlight benefits, e.g., of a communal effect. ■ Address consumer suspicions about safety. Multiple sources of information were recommended. ■ Continuous market research about consumer preferences was recommended. 	<p>The fact that nets are difficult to get in rural area suggests lack of access (availability, cost, etc). The challenge now is making nets affordable and widely available.</p> <p>The selected study population was heavily biased to those who were likely to be more knowledgeable about malaria.</p>	
44. Meta-analysis of insecticide treated nets and curtains for preventing malaria.	C. Lengeler. Public Health and Epidemiology, Swiss Tropical Institute, Basel, Switzerland. Cochrane Database Syst. Rev., 2000, (2):CD000363.	<ul style="list-style-type: none"> ■ Review of 18 studies ■ Treated nets had a 17 percent protective efficacy compared to untreated ones (RR 0.83). ■ Relative risk of childhood mortality of 0.77 ■ Treated nets reduce mild malaria incidence by 48 percent and untreated nets reduce it by 34 percent. 	<ul style="list-style-type: none"> ■ Treated nets appear to be effective in reducing childhood mortality and morbidity for malaria. ■ Widespread access to insecticide-treated nets will require major financial, technical, and operational inputs. 	<p>Results shows that evidence about efficacy of treated nets is real, as was reported in Uganda.</p>	

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
MAJOR THEME: INTERVENTION EXPERIENCE					
AVAILABILITY AND USE OF ITM MALARIA CONTROLS					
45. Insecticide-treated bednets reduce mortality and severe morbidity from malaria among children on the Kenyan Coast.	Nevil, Mungala, et al. Tropical Medicine and International Health, April 1996 (2):139-146.	<ul style="list-style-type: none"> ■ Malaria pediatric admissions reduced by 41 percent (p=0.001). ■ Admission for severe and life-threatening malaria reduced by 44 percent (p=0.001). ■ Children in intervention were less likely to be admitted by a ratio of 28:51/1000. 	<ul style="list-style-type: none"> ■ The study demonstrates overwhelming evidence that impregnated mosquito bednets reduce child mortality and increase child survival. 	<p>This study answered the question of the fallacy that use of impregnated bednets was associated with an increase in severe presentations of malaria. (However, further works need be done in areas of varying endemicity in view of the results of a study by Snow et al., Relationship between severe malaria morbidity and level of <i>falciparum</i> transmission in Africa, Lancet, June 1997, 349(9066):1650-9.)</p>	
46. Impact of permethrin impregnated bednets on child mortality in Kassena-Nakanana District, Ghana. A randomised controlled trial.	Binka F.N., Kabaje et al. Tropical Medicine and International Health, 1996 Apr. 147- 154.	<ul style="list-style-type: none"> ■ Use of impregnated mosquito net was associated with a 17 percent reduction in overall mortality (p=0.05). ■ Bednets were readily accepted with social marketing. ■ There was over 70 percent compliance with use of bednets. 	<ul style="list-style-type: none"> ■ The demonstrated impact on all case mortality and community acceptance and compliance with bednet use has positive implications for programs for improving child survival. 	<p>This study also demonstrates the efficacy of nets on child survival. What remains are issues of mass community acquisition and sustainability of use and reimpregnation.</p>	
47. Implementing a nation wide insecticide-impregnated bednet programme in the Gambia.	M.K. Cham, D'Alessandro, et al. Health Policy and Planning, Sept. 1996, 11(3):292-298.	<ul style="list-style-type: none"> ■ Govt s supplied free nets, and there was 78 percent persistent use and 83 percent re-impregnation. ■ Health promotion called all actors, including the private sector and NGOs. 	<ul style="list-style-type: none"> ■ The campaign was a success, and a multifaceted approach offered considerable leverage. 	<p>Free bednets are not sustainable; measures for cost recovery are paramount.</p>	

TITLE OF STUDY		REFERENCES	KEY FINDINGS	RECOMMENDATIONS	GAPS
AVAILABILITY AND USE OF ITN MALARIA CONTROLS					
Major Theme: INTERVENTION EXPERIENCE					
48. Social marketing of mosquito nets in coastal ITZ. Overcoming barriers to effective distribution—the case of Bagamoyo.	P. Winch. Social Marketing Matters, Sept. 1996, 1(3):6-7.	<ul style="list-style-type: none"> ■ Many factors influence large-scale distribution of nets: <ul style="list-style-type: none"> – Difficulty in maintaining supplies of insecticide and bednets, – Many projects with different policies, especially on pricing, – Transportation, – Poor infrastructure. ■ The experience of the USAID-funded Bagamoyo Project was that success was achieved more with use of community committees on advice of villagers. Advance sales were made with the revolving fund. Pricing and leakage posed problems to the revolving fund. Some buyers were uncomfortable with advance sales. However the problems were resolved, the private sector involved, and a three-fold decrease in the episodes of malaria was realized. 	<ul style="list-style-type: none"> ■ For successful mass distributions, policies on distribution need to be harmonized, regular supply and logistics ensured, and involvement of community leaders and the private sector achieved. ■ The revolving fund is a prerequisite for sustaining the project in the initial phases and for creation of demand. 	A revolving fund is one way of raising funds for a project but is usually short lived. Creation of demand and letting the private sector take up the continued supply seems more sustainable.	
49. Evaluating the community education programme of an insecticide-treated bednet trial on the Kenyan coast.	V.M. Marsh, W. Mutemi, E.S. Somme, et al. Health Policy and Planning, Sept. 1996, 11(3):280-91.	<ul style="list-style-type: none"> ■ 98 percent of the mothers understood using bednets year round; however, 29 percent did not use them during hot seasons. ■ Because of the low level of understanding of the etiological link between mosquitoes and malaria, educators omitted the term malaria in the initial stages with success. ■ Following the school program, 75 percent of the intervention homes knew about the ITBN trial. ■ However, only 30 percent of the homes understood the specific messages of the school program. 	<ul style="list-style-type: none"> ■ It was realized that for the success of ITBN trial, there was need to allocate adequate resources for education to achieve a change in community practices and for ongoing communication to maximize the effectiveness of message and methods used. 	The study offers the experience that simplicity and understanding of the community's knowledge and perceptions of the disease etiology, transmission, and remedial measures are critical for the success of behavior change efforts.	

List of Persons Interviewed

- 1) Dr. D. Walker Country Representative, WHO
- 2) Dr. J. Namboze Senior Health Advisor, WHO
- 3) Dr. Jessica Nsungwa IMCI Program Manager (MOH)
- 4) Dr. W. Wamani IMCI Advisor, WHO
- 5) Dr. Eva Kabongera UNICEF
- 6) Peter Kabagambe UNICEF
- 7) Dr. Kenya-Mugisha Senior Consultant, Jinja Hospital
- 8) Dr. Magumba Child Health Advisor, DISH II Project
- 9) Dr. Batibwe Kiboga District Director of Health Services
- 10) Mr. C. Walakira IMCI Focal Person, Kiboga
- 11) Dr. Bisoborwa IMCI Focal Person, Masindi
- 12) Sr. C. Nasiwa District Nursing Officer, Kiboga
- 13) Mr James Mugisha IMCI Program, MOH
- 14) Ms. Sarah Mawege Administrator, IMCI Program
- 15) Mr. Peter Cowrley Director, Commercial Marketing Strategies
- 16) Ms. Beth Fischer Commercial Marketing Strategies
- 17) Dr. Nathan Bakyaita Ministry of Health (MCU)
- 18) Ms. Betty Mpeka Ministry of Health

Key Informant Questionnaire Tools

Key informant questionnaire interview for the BASICS II Community IMCI Study to review information on child survival programs In Uganda (Ministry of Health, May 2001)

- 1) What are the key elements of the IMCI program in Uganda?
 Probe: Community IMCI, communication for improving health-seeking behavior of malaria, ARI, and diarrhea
 ORT strategy
 Malaria control
 Community mobilization
 Use community health workers for child survival activities
 Community drug vendors
 Home management strategy (drug prepackaging)
 Collaboration with other actors, NGOs, districts
 Community IMCI material development, production, and procurement
- 2) What is the scope (geographical) of your activities?
- 3) What challenges do you face in the Community IMCI programs?
- 4) In your view, what are the major *challenges* to child survival in Uganda?
- 5) In your experience, what are the specific child survival threats or opportunities?
- 6) What are the major strengths you feel can be drawn upon to make a difference in child survival?
- 7) How are your IMCI programs monitored and evaluated?
 Probe: Methods used
 Any baseline and evaluation surveys in the last 10 years (list)
- 8) What do you think are key areas that require further research in IMCI interventions?
 Probe: ITM use
 Home use of ORT therapy
 CBC to promote early health-seeking behavior
 Community drug vendors
 Home management of malaria (ensuring availability of antimalarials)
 Community health workers' role in management of malaria, diarrhea, and ARI
- 8) With which partners do you collaborate and which others do you know of?
 Probe: Level of contribution, areas of operation, and any experiences gained from partners and potential partners
- 9) What are your future plans for Community IMCI (4 year)?
 Probe: Improving health-seeking behavior
 Malaria prevention and home management
 IEC/CBC
 ORT strategy
 Any other
- 10) Which areas do you think are not being addressed and could be handled by a development partner or any other agency?
- 11) What are your recommendations for the IMCI program in Uganda, and particularly for NGO involvement?

Thank you