Qualitative study to identify solutions to local barriers to care-seeking and treatment for diarrhoea malaria and pneumonia in select high burden countries

Report on findings from Kenya

November 2012
Maternal, Newborn and Child Health
Working Paper
UNICEF Health Section, Program Division

unicef
unite for children

Qualitative study to identify solutions to local barriers to care-seeking and treatment for diarrhoea, malaria and pneumonia in select high burden countries. Report on findings from Kenya (1 of 3 country reports)

Knowledge Management and Implementation Research Unit, Health Section, Program Division
UNICEF
3 UN Plaza, New York, NY 10017
November 2012

The editors of the series are Theresa Diaz, Julia Kim and Alyssa Sharkey of UNICEF Program Division. For more information on the series, or to submit a working paper, please contact tdiaz@unicef.org, jukim@unicef.org or asharkey@unicef.org.

PHOTOGRAPHS: Children and parents in Homa Bay County, Nyanza Province, Kenya
by Juliet Bedford © Anthrologica Ltd 2012.

MATERNAL, NEWBORN AND CHILD HEALTH WORKING PAPER

November 2012

Qualitative study to identify solutions to local barriers to care-seeking and treatment for diarrhoea, malaria and pneumonia in select high burden countries

Report on findings from Kenya
(1 of 3 country reports)

Juliet Bedford

Anthrologica

www.anthrologica.com

Keywords: Africa, Kenya, Nigeria, Niger, community case management, care-seeking, treatment, diarrhoea, malaria, pneumonia, child health

Comments may be addressed by email to Juliet Bedford: julietbedford@anthrologica.com
cc: asharkey@unicef.org, myoung@unicef.org and tdiaz@unicef.org

Acknowledgements

We would like to thank Dr Sharif, the Director of Public Health and Sanitation for granting permission to undertake this study and for the support of Dr Jackson Kioko the Provincial Director of Public Health and Sanitation for Nyanza. From the UNICEF country office in Nairobi, we would like to thank Ketema Bizuneh, Peter Okoth, Josephine Odanga, Loise Oyugi and Joyce Kirubi-Mensah. From the UNICEF office in Kisumu, we would like to thank Margaret Gwada, Judith Raburu, Olga Nyamjom and Veronica Rodriguez, a CDC/WHO/UNICEF Polio Initiative consultant. From the Homa Bay District Health Management Team, we would like to thank Dr Oluoch, Daniel Okuku and Felix Ngira. From Ndiru, Hesbon Ochieng, Abil Obiero, Elizabeth Ogutu and Gabrial Okello. From Marindi, John Oluoch, Dalmas Oyugi, Scholastica Nyamunya, Julianna Masiaga, Joyce Dibogo and Mareza Otieno. From Lambwe Henry Onyengo, Mark Owango, Nedlis Adhianbo, Rosemary Odiembo and Caroline Auma. From UNICEF Head Quarters in New York, we thank Mark Young, Nick Oliphant, Thomas O'Connell, Deolinda Martins and Natalia Winder Rossi for their positive engagement and ideas, and Shanelle County and Paola Canahuati for their logistical support. We are particularly grateful to Alyssa Sharkey for her commitment, patience and good humour throughout.

We thank research assistants Irene Namai and Miriahm Mwaniki for their invaluable contributions to the study, and Anthrologica associates Olivia Tulloch and Benj Conway. Particular gratitude is extended to the mothers, families and health workers who participated in this research.

The research was made possible by a grant from the Bill and Melinda Gates Foundation.

Table of Contents

Tables and diagrams

Executive Summary

Background and objectives

UNICEF is a member of the UN Commission on Life-Saving Commodities for Women and Children, a consortium convened to recommend innovative strategies for increasing the availability, accessibility and rational utilisation of selected commodities for maternal and child health. A key aspect of this involves developing strategies to raise awareness of and strengthen demand for lifesaving products amongst end users. Against this backdrop, this research focuses on solutions to local barriers to care-seeking and treatment for malaria, diarrhoea and pneumonia identified in three select high burden countries: Kenya, Nigeria and Niger. The research has three main objectives:

- To assess perceptions and experiences of childhood malaria, diarrhoea and pneumonia and associated care-seeking and treatment (non-)uptake.
- To determine the barriers and challenges intended beneficiaries face in accessing treatment for malaria, diarrhoea and pneumonia in children under five years.
- To identify local solutions to overcome barriers identified that promote and facilitate more timely access to appropriate healthcare for these childhood illnesses.

Methodology

This report appertains solely to the research conducted in Kenya. Data collection was carried out over twelve days in May-June 2012 in three districts of Homa Bay County, Nyanza Province: Ndiru (Homa Bay District); Marindi (Ndhiwa District); and Lambwe (Mbita District). Primary carers of children under five years who did not (regularly) engage with health services or present their child at a health facility during illness episodes, and who spoke Kiswahili, were purposively selected for interview. 20 interviews with primary caregivers were conducted at their homes and in as much privacy as possible. In addition, three focus group discussions (FGDs) were held: with mothers in Marindi; fathers in Ndiru; and Community Health Workers (CHWs), Community Health Extension Workers (CHEWs) and members of the Community Unit Committees with whom the study had collaborated in all three areas. All interviews and FGDs were conducted by the English-speaking primary investigator with the research assistant translating consecutively between English and Kiswahili. Each interview and FGD lasted approximately two hours and audio recordings were made using a digital voice recorder. Informed consent was given by signature or thumbprint of all those participating. The primary researcher was responsible for the complete thematic analysis of the data using grounded theory. At the conclusion of the research, a second qualitative researcher undertook analysis of a sub-set of data using computer-assisted qualitative data analysis software.

Report structure

The report is presented in three sections: results and thematic analysis (organised around causation and prevention, and care-seeking behaviour); barriers and solutions to care-seeking and treatment (including a table summary); discussion, conclusion and programmatic implications.

- **Causation and prevention**

Malaria – The majority of caregivers made a direct causal link between malaria and mosquitoes, although not all were able to explain how mosquitoes spread malaria. In terms of prevention, all caregivers suggested that bed nets prevented malaria, although frequently insufficient bed nets were available for the whole household.

Diarrhoea – Attributed to dirt and contamination, particularly eating or drinking dirty food and water. Carers found it difficult to control risk factors and several suggested that it was not possible to prevent diarrhoea. It was often considered a symptom of another illness, rather than a condition in its own right. Household water sources, sanitation and hygiene were discussed.

Pneumonia – Carers had limited knowledge about the causation or prevention of pneumonia, beyond linking the condition to the cold, and only those who had direct experience of the illness were able to discuss its symptoms or management.

Local theories of causation – Malaria and pneumonia were not illnesses associated with local theories of causation, rather the community discussed them as biomedically defined diseases. In a number of cases, diarrhoea was seen as significant symptom of other conditions and imbued with cultural explanations linked to the breaking of social taboos.

- **Care-seeking behaviour**

Plant medicine – Plant medicine or herbal treatments were derived from crushing or pounding leaves, bark or roots which were then mixed with water or boiled, and drunk by the patient when cool. Plant medicine was the front-line home-based care for the majority of diarrhoea cases. Only a few mothers knew of local medicine for malaria, whilst the majority explained that was no such treatment available, only hospital treatment. This was also the case for pneumonia, which was seen to be treatable only by hospital medicine. As a first step in treatment, plant medicine was an accessible resource: the plants often grew close by and to self-prepare the treatments did not incur expenditure. A small number of mothers did not use herbs because of their religious beliefs.

Traditional healers – Local plant treatments were also available from traditional healers and from *nyamrerwa*, a person, usually a woman, who inherits the ability to treat their community using different types of traditional herbs, and is usually paid for her services.

Spiritual healers – A person with a gift for praying and healing ill members of their church, spiritual healers were also associated with casting-out demons that were causing illness, particularly in cases of bewitching or when the child had been affected by Satan. Visiting a spiritual healer could occur at any point in the pathway of care, and often happened in parallel to other forms of treatment, both herbal and biomedical.

Chemists and self-medication – The local chemist played a major role in treatment-seeking for childhood illness. Many carers visited the chemist at the instruction of a health facility due to the lack of drugs available at government centres. In other cases, the carer would go directly to the chemist, bypassing the health centre's referral. Some mothers would start a course of medication and stop when the symptoms subsided, whilst others would only be sold what they could afford, most often the incorrect dosage. Several described 'keeping medicine' from previous illness episodes to use when other children or family members fell ill, and a few respondents confirmed using medicines for purposes other than those it was prescribed for. When discussing their patronage of chemists,

participants perceived several advantages over seeking treatment at a health facility including the chemists' reliable stock of drugs, their faster service (as opposed to the long queues experienced at health facilities), greater proximity to their homes and the increased assertiveness and responsibility parents felt in dealing with chemists (as active stakeholders in their child's illness). Most importantly, however, parents were able to secure credit at the chemists and as 'customers' were able to receive medication and pay for it at a later date. This ensured that parents often prioritised seeking treatment from the chemist, especially when resources were scarce.

Private clinics – Few caregivers had attended a private clinic and for most it was not an option due to their scarcity in the area. Reasons for seeking treatment at a private clinic rather than a government health facility included the perception that the supply of drugs was more reliable; the clinic was closer and more easily accessible than the health facility; and carers were able to receive treatment on credit if they were a known customer. Carers who patronised private clinics confirmed that they did not report this action to their local health facility or health workers. The research team was introduced to these carers because, according to community health workers, they did not engage with health services, when in fact they were seeking biomedical treatment, but not from a regulated government facility.

Health facilities – Carers discussed their desire and willingness to attend a health facility (dispensary, health centre, sub-district or district hospital) when their child was ill. The training and experience of facility-based health professionals was seen to potentially enhance the quality of service provided. Although many carers claimed that medicine bought at a chemist was often the same as that prescribed by a health facility, there was a general sense that health facility medicine was superior and more likely to 'cure' the child or treat the condition reliably. That health facilities performed routine testing to identify the child's illness was also seen as a positive and distinguishing factor, as chemists and private clinics did not (always) offer sufficient diagnostic services. That many caregivers avoided testing to save money emphasises the dissonance between their desire to act and their ability to act.

Decision making and agency to act – It was the mother's role, their duty, to be the primary carer of children and **t**he majority of mothers interviewed asserted that it was their decision whether or not to seek treatment for their children. A child's illness was discussed with other family members, particularly the child's paternal grandmother, but in general fathers and other male relatives had little to do with child rearing unless there was a financial implication that necessitated the mother to consult with her husband to raise the funds. Not all mothers received financial support for care-seeking , particularly if they were a second or inherited wife. In some cases mothers were forced to act alone, either because they were widowed or because their husband was absent. In two cases, mothers asserted that their husband had directly prohibited their attendance at a health facility because of a distrust of biomedicine. In these cases, the mothers were unable to act contrary to their husband's wishes or direct instruction.

- **<u>Barriers to care-seeking and treatment</u>**

Financial barriers – Nearly all participants identified financial barriers as the main factor preventing care-seeking for childhood illness. Often households existed on scarce resources that could not accommodate the burden of extra costs when a child was ill. Many carers described occasions when the lack of money prevented care-seeking and resulted in the child not receiving treatment. With the exception of administering local herbal treatments, the need to 'find' money was a necessity in all

pathways of care and was magnified by the frequency of illness episodes. It is national policy that treatment for children under five years is free at the point of delivery in government health facilities, but no carer was aware of this, and all thought that treatment incurred both direct and indirect costs. Some undertook direct transactions to generate money for treatment, and others borrowed money from relations or neighbours, although this was often seen as a last resort. Several carers imbued local treatments with social and spiritual value and expenditure was not always economically relative.

Access barriers (distance, transport and location) – Distance from home to health facility was a challenge for many carers. Access was usually by foot across difficult terrain, made more problematic during the wet season. Although some routes were navigable by bicycle or motorbike, to hire transport required additional expenditure. Most carers were therefore forced to walk, often carrying their sick child, and this often prohibited attendance.

Knowledge and information barriers – Carers felt there was a shortage of health education at the community level: about childhood illness; home management; when to seek treatment; and how much the treatment would cost. Fathers complained that most health education was directed at women and wanted health education opportunities to be targeted at different sectors of the community. Health professionals lamented that the community remained 'ignorant' despite efforts to raise their level of awareness. Although community health workers have the potential to deliver and reinforce health education at the community level, most carers claimed that they have never been visited by a CHW and had no engagement with them at a household or village level. A major barrier was the failure of community level health education to convey key messages in simple memorable ways.

Socio-cultural and religious barriers – Few socio-cultural barriers were identified with seeking treatment for childhood malaria, diarrhoea or pneumonia, although there was an awareness of gender-related barriers, and mothers perceived the need to empower women to enable them to seek healthcare (both economically and socially). Religious beliefs played a larger role, not only in the prohibition of herbal medicine, but some denominations also prevented treatment-seeking at health facilities. Many health professionals also regarded the cultural practice of using herbal treatments to be a barrier to timely care-seeking at a health facility.

Health facility deterrents – Prolonged waiting times and poor communication between staff and patients were deterrents to attendance, as were negative experiences resulting in carers losing trust in health services. Some mothers were concerned about the possibility of being tested for HIV when presenting their child for treatment. Problems on the supply-side, particularly the lack of drugs at facilities, had negative ramifications on treatment-seeking. Carers were perplexed and frustrated by the lack of a reliable drug stock at their local health facility and supply-side barriers undermined the reputation of health facilities whilst actively encouraging other pathways of care.

- **<u>Solutions to barriers identified</u>**

Solutions to financial barriers – Carers asked for fixed costs to be publicised at health facilities to help them budget the necessary funds and to deter health workers from overcharging or incorporating false costs. Mothers and health workers emphasised the need to economically empower women to make them more financially independent and enable them to seek treatment without relying on their husbands, family, or having to look for money first themselves. Also suggested was a community fund into which a village or group of families would pool resources thereby providing each other with financial support when a child was ill. The overarching solution to financial barriers would see the

national policy to treat children under five for free at the point of delivery in all government health facilities be put into effect.

Solutions to access barriers – It was suggested that access could be improved if the community better maintained paths and walkways, and if village chiefs and clan elders encouraged their constituency to improve road access using the Constituency Development Fund (CDF). Carers also suggested that health facilities put transport options in place to assist patients in travel from home to the health centre, particularly in emergency situations. The terrain is such that, in most places, only a motorbike ambulance would be appropriate. Also forwarded as a solution to distance, location and transport barriers were mobile clinics and better outreach to facilitate access to treatment at the community level and within the village setting.

Solutions to knowledge and information barriers – Carers emphasised their need for more frequent health education events (demand-creation activities) at the community level to be delivered in group settings and at the individual or household level. They also stressed the need for tailored health education to target particular groups. This requires improved communication strategies that enable key health messages to be relevant, appropriate and delivered in an engaging way. Community health workers are well placed to deliver health education at the community level and in the village setting. Their role should be developed to enable them to act as a stronger link between the community and the local health facility and be 'positive change agents'.

Solutions to socio-cultural and religious barriers – Carers stressed the need for education and sensitisation at the community level to counter the instances of religious beliefs precluding treatment-seeking. They suggested that spiritual leaders and local healers be educated to advocate health facility attendance. They also emphasised the need to socially empower women so that mothers were better supported when they presented their children for treatment.

Solutions to health facility deterrents – Solutions focused on two broad and interrelated areas: measures to improve patient experience; and measures to improve service delivery. Carers asserted that improvements in the attitude and behaviour of health staff towards patients and in service delivery, such as reduced waiting times and better patient flow, would encourage their attendance. Clinicians and community health workers emphasised the need to build on the positive experiences caregivers may have at the facility to encourage their future attendance whilst advocating for others to attend. They also suggested that if reliable mechanisms were in place for tracing and follow-up at the community level (potentially through the network of community health workers) then better doctor-patient relations could be sustained and service delivery improved. Managing solutions to supply-side issues, particularly guaranteeing a reliable supply of drugs to health facilities would have significant impact on patient attendance, compliance and positive engagement with health services.

- **Conclusion and programmatic implications**

UNICEF intends that the UN Commission on Life-Saving Commodities for Women and Children use the empirical evidence this research has generated to recommend innovative strategies that raise awareness of, and strengthen demand for, lifesaving products amongst end users. In line with UNICEF's mission to achieve equity for, and realise the rights of, the world's most marginalised children, a number of key implications for policy and programming in Kenya are highlighted in relation to the Child Survival and Development Strategy and the roll out of Integrated Community Case Management: communication for development; financial and social protection mechanisms; faith for life initiative; education; and supply-side interventions. These are summarised in a table of action

points at the end of the discussion. If Kenya and its partners can combine resources and expertise, there is a window of opportunity to make a significant and positive impact on the health and survival of the most disadvantaged women and children, and Kenya can accelerate progress towards achieving its Millennium Development Goals.

Abbreviations

ACT	Artemisinin-based combination therapy
AL	Artemether-lumefantrine
ARI	Acute respiratory infections
CAQDAS	Computer assisted qualitative data analysis software
CDF	Constituency development fund
CHEW	Community health extension worker
CHW	Community health worker
CHU	Community health unit
CUC	Community unit committee
CSD	Child survival and development
CSDS	Child survival and development strategy
EHS	Essential health services
ESP	Economic stimulus project
FGD	Focus group discussion
HSSF	Health sector support fund
iCCM	Integrated community case management
IRS	Indoor residual spraying
KAP	Knowledge attitudes and practices
KHDS	Kenya health demographic survey
LLITN	Long lasting insecticide treated net
MCH	Maternal and child health
MDG	Millennium development goal
NASCOP	National Aids and STD control programme
NHIF	National hospital insurance fund
OHCHR	Office of the United Nations High Commissioner for Human Rights
ORT	Oral rehydration therapy
UHC	Universal health coverage
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund

Introduction

The United Nations Secretary-General's *Global Strategy for Women's and Children's Health* highlights the inequitable access to life-saving medicines and health supplies suffered by women and children around the world and calls on the global community to work together to save 16 million lives by 2015 [1]. This challenge was taken up the UN Commission on Life-Saving Commodities for Women and Children, part of the Every Woman, Every Child movement [2]. The Commission was convened to recommend innovative strategies for increasing the availability, accessibility and rational utilisation of select life-saving commodities in 50 of the world's poorest countries that account for more than 80% of all maternal and child deaths.

Evidence from developing countries suggests that, in addition to overarching health system and financial impediments for both governments and end-users, three main obstacles prevent women and children from accessing and using appropriate commodities: the insufficient supply of high quality health commodities; the inability to effectively regulate these quality commodities; and the lack of access and awareness of how, why and when to use them, resulting in limited demand [2]. A key aspect of increasing access to simple life-saving commodities therefore involves developing strategies to raise awareness of, and strengthen demand for, these products among end users (as outlined in Commission's seventh recommendation: demand and utilisation) [3].

Against this backdrop, UNICEF, as co-host of the UN Commission during the initial phase of work, commissioned this research to focus on solutions to local barriers to care-seeking and treatment for malaria, diarrhoea and pneumonia in three select high burden countries: Kenya, Nigeria and Niger.

Malaria, diarrhoea and pneumonia remain the three largest killers of children and together account for approximately half of all child deaths during the post-neonatal period (ages 29 days to 5 years). Globally, they pose significant problems, particularly in communities with high rates of under-five mortality, and place a huge burden on families and communities, often the poorest and most vulnerable, and on health services functioning in resource-scarce settings.

Simple, inexpensive treatments are available for malaria, diarrhoea and pneumonia, and in many countries, including Kenya, Nigeria and Niger, efforts are being made to expand access. Yet, too few children receive appropriate and timely care due to problems relating to the supply of commodities and quality of services provided, in addition to issues relating to access to, poor demand for, and utilisation of, effective healthcare. As a result, high rates of childhood morbidity and mortality continue and for certain countries, have a negative impact on their ability to achieve their Millennium Development Goals (MDGs), particularly targets for Goals 4 and 5.

Research brief and objectives

UNICEF is therefore seeking an in-depth understanding of barriers to demand with the aim of developing context-specific strategies to address barriers identified. Building on previous work, including the systematic review of qualitative evidence from sub-Saharan Africa on household recognition and response to childhood malaria, pneumonia and diarrhoea [4] and a desk review of

published and grey literature relating to barriers to care-seeking in high burden countries [5], the current research is an in-depth qualitative study to identify solutions to local barriers to care-seeking and treatment uptake for diarrhoea, malaria and pneumonia in Kenya, Nigeria and Niger. Because of the lack of data available from the remote areas of the target countries, the study also provides new empirical evidence regarding demand-side barriers.

The research has three main objectives:

- To assess perceptions and experiences of childhood malaria, diarrhoea and pneumonia and associated care-seeking and treatment (non-)uptake.
- To determine the barriers and challenges intended beneficiaries face in accessing treatment for malaria, diarrhoea and pneumonia in children under five years.
- To identify local solutions to overcome barriers identified that promote and facilitate more timely access to appropriate healthcare for these childhood illnesses.

This report focuses solely on the research undertaken in Kenya.

Situational analysis

Kenya has one of the highest numbers of infant deaths in Africa. Estimates developed by the UN Inter-agency group for child mortality estimation, indicate a 2011 infant mortality rate of 48 per 1,000 live births and an under-five mortality rate of 73 deaths per 1,000 live births [6]. 46% of the population live below the poverty line and only 52% of Kenyans live within 5 kilometres of functioning health facilities. Achieving the MDG target for under-five mortality (33/1000) remains challenging [7].

The most recent Kenya Demographic and Health Survey (2008/2009) showed that the country has huge disparity in the coverage of essential interventions and child mortality rates [8]. Nyanza Province continues to suffer from the poorest child survival indicators both in absolute terms and proportionately – it has the highest under-five mortality rate in the country at 149 per 1,000 live births, translating into 33,826 deaths annually, or 33% of all child deaths in Kenya. Nyanza Province, which borders Lake Victoria in the West of Kenya, has 37 districts and an estimated population of 5.5 million, 63% of whom live in poverty, the greatest proportion in the country [9]. It has 141 health centres and 466 dispensaries, which, based on the national norms and standards, means the province is underserved by approximately 94 dispensaries [9]. Another major issue is regular stock-outs of essential drugs, with an estimated 60% of health facilities reported to have stock-outs for a period of two weeks per month [9]. Infrastructure is similarly lacking. In Nyanza a significantly high proportion of households (54%) obtain water from unsafe sources and in Homa Bay, 51% of rural households lack pit latrines.

In September 2010, UNICEF Kenya identified two counties in Nyanza, Homa Bay and Siaya, as having the highest under-five mortality rate and HIV prevalence rate in the province. Their aim was to converge UNICEF's programmes in these two counties to maximise the child survival rate and ensure that all the rights of the child are met [10]. UNICEF Kenya selected Homa Bay County as the main study site of this study to provide focused insight into an area in which they have ongoing

programmatic work and are planning to implement accelerated scale-up of Integrated Community Case Management (iCCM).

Methodology

The research was conducted in line with prevailing ethical principles to protect the rights and welfare of all participants. Permission to undertake the research was granted by the Director of the Ministry of Public Health and Sanitation. It was supported by the Nyanza Provincial Health Office and the Health Management Teams of Homa Bay District and Mbita District, and by the UNICEF Country Office in Nairobi and UNICEF District Office in Kisumu.

Research team

The research team consisted of Dr Juliet Bedford, the Director of Anthrologica, who as the primary investigator led the research, supported by two Kenyan research assistants, Irene Namai who participated in the interviews and focus group discussions as joint facilitator and translator, and Miriahm Mwaniki who transcribed the audio recordings of interviews and focus group discussions and managed data entry. Logistical support was provided by UNICEF. Additional analysis was undertaken at the conclusion of the research by Dr Olivia Tulloch, an Anthrologica Research Associate.

Study site

Data collection was carried out over twelve days in May-June 2012 in three districts of Homa Bay County, Nyanza Province. Three specific fieldsites were agreed in collaboration with the Homa Bay District Health Management Team: Ndiru (Homa Bay District); Marindi (Ndhiwa District); and Lambwe (Mbita District) (see map, Appendix 1).

Ndiru is an older health centre with a catchment population of 10,637. It has two community health units attached to it, and the study worked with the older and more active unit, Kanyiriema, that includes 47 Community Health Workers (CHWs). Marindi health centre is the largest facility with a catchment population of 21,000. Recently upgraded into a Model Health Centre as part of the Government's Economic Stimulus Project (ESP) it is also supported by the Health Sector Support Fund (HSSF). It has three community units, and the study worked with the oldest and most established unit, Kalanya Kanyango. This has 48 CHWs and serves three villages, Ojunge, Muche and Kuja. Lambwe is a dispensary, originally established in 2009 by the National Aids and STD Control Programme (NASCOP) that now comes under Ogongo Sub-District Hospital. Lambwe dispensary has a catchment population of 6,239 and has one community health unit, God Jope, with 18 CHWs. Ogongo Sub-District Hospital has a catchment population of 10,336 and three community units. In addition to God Jope, the study also worked with one community unit attached to OgongO Sub-District Hospital, Ruri East, which has 12 CHWs.

Participants and recruitment

The research team visited each facility and were appointed a number of CHWs from each attached community health unit to liaise with the community and facilitate the team's introduction to carers of children under five years old. The scope and objective of the research was outlined to the clinical officer, Community Health Extension Worker (CHEW) or member of the Community Unit Committee (CUC) attached to each facility, and they appointed the CHWs who made prior contact with the primary carer to seek informal permission for the research team to visit their homes. The primary carer of children under five years who did not (regularly) engage with health services or present their child at a health facility during illness episodes, and who spoke Kiswahili, were purposively selected for interview. 20 interviews with primary caregivers were completed.

In addition, an informal discussion was held with a group of mothers in Marindi; a structured focus group discussion (FGD) was held with fathers of children under five in Ndiru; and a second structured FGD brought together the CHWs, CHEW and members of the CUCs with whom the study had collaborated in all three areas.

Data collection

Based upon the literature reviews undertaken prior to the start of this research [4,5], the primary researcher devised a series of methodological tools including a topic guide that highlighted key issues and was the basis for the design of the semi-structure interview framework and FGD frameworks, that included a broad spectrum of research questions and probes (see Appendix 2). Specific questions and probes were reviewed and refined during the research period in light of themes arising. Although the direction of each interview was determined by the interviewee and largely focused on issues they self-prioritised (rather than on what the research team may have presupposed to be important), the key topics were addressed in each interview and therefore allowed generalisation of themes across participants.

All interviews were conducted by the English-speaking primary investigator with the research assistant translating consecutively between English and Kiswahili. In one interview, a CHW acted as an additional translator between Kiswahili and Dholuo (the local Luo language), and in a second interview, the daughter of the mother being interviewed acted as an additional translator. Each interview lasted for approximately two hours and audio recordings were made using a digital voice recorder. The focus groups were conducted in a mixture of English and Kiswahili, again with the primary researcher facilitating the discussion and the research assistant translating. Audio recordings were also made of each group discussion. The primary investigator and research assistant made extensive notes during each interview and FGD.

Interviews were conducted at the primary carer's home and were held in as much privacy as possible. The FGD of fathers in Ndiru was held in a local community hall, the informal discussion between mothers in Marindi was held in a school hall, and the focus group of CHWs was held in the office of the Homa Bay District Health Management Team. At the start of each interview and focus group, it was made clear to the interviewee or participants that their involvement was optional and voluntary and would not affect any future referral or medical service required or received. The study's consent

form was read and explained in detail (see Appendix 3). Informed consent was given by signature or thumbprint of all those participating.

Data analysis

At the conclusion of each day of data collection, the research team compiled and transcribed their interview notes. The audio recordings of all interviews and FGDs were transcribed in full with sections of narrative being translated and back translated as appropriate. Preliminary analysis was conducted in-country throughout the research process. Using an inductive approach, initial findings were discussed throughout the fieldwork and at its conclusion in two round-table debrief sessions between the research team and staff at the UNICEF district office in Kisumu, and the country office in Nairobi. Key findings were also presented at a final debriefing session with the Health Section at UNICEF Head Quarters in New York in October.

The primary researcher was responsible for the complete thematic analysis of the data using grounded theory [11,12,13]. Dominant themes were identified through the systematic sorting of data, labelling ideas and phenomena as they appeared and reappeared. Coding and analysis was done by hand. The emerging trends were analysed according to the research objectives using the critical-interpretive approach of medical anthropology [14,15,16]. At the conclusion of the research in all three countries (Kenya, Nigeria and Niger), a second qualitative researcher undertook analysis of a sub-set of data using computer-assisted qualitative data analysis software (CAQDAS). The transcripts of interviews and focus group discussions were imported into QSR NVivo software (version 9.2) and analysed using a framework approach [17]. No major inconsistencies were found between the manual and computer-assisted analyses and aspects of the CAQDAS analysis tool for the analysis of material gathered in Nigeria and Niger in subsequent phases of the research. The second qualitative researcher also reviewed the final reports.

Methodological limitations

The study was carried out in a challenging research environment. It was set in a difficult-to-access area of rural Kenya, and was conducted with limited time and manpower. Throughout, we sought to mitigate or minimise the impact of these constraints by employing a methodology carefully designed to be pragmatic and by deploying resources efficiently.

Inevitably, a number of limitations remained. Risks associated with misinterpretation are inherent in consecutive translation, but a number of strategies were used to improve accuracy. In translating between English and Kiswahili, the researchers planned translation and interpretation styles in advance and decided how to best capture colloquialisms, abstractions, idiomatic expressions and jargon. We used short units of speech and careful phraseology that was refined during the finalisation of the interview and FGD frameworks. During the interviews, the research team validated sections of narrative that were transcribed *ad verbatim* and certain responses were reiterated to the interviewee for clarification and confirmation. Full transcriptions of all interviews and FGDs were made by the second research assistant (who was not present during the data collection) and included the translation and back-translation of both questions and responses. During the first phase of

analysis, transcripts were cross-referenced with the research team's notes, and any areas of digression highlighted and discussed. That the research team had full visibility of the growing data and were able to query potential anomalies throughout the study, served to mitigate the risk of errors in the translation and transcription process.

All interviews, save two, were conducted primarily in English and Kiswahili and not in Dholuo. It is not thought that this rendered different findings than if the interviews had been conducted in English and Dholuo, as the majority of primary carers approached spoke fluent Kiswahili. It is likely that the carers who only spoke Dholuo would have highlighted the same barriers to care-seeking, but that certain aspects (for example extreme poverty) may have been magnified within their demographic.

It is possible that interviewees expressed what they perceived to be appropriate or socially desirable responses. This is a risk in most interview-based qualitative research, but was not seen to be a major limitation, as we conducted informal, private interviews, the interviewees did not know the research team, and the semi-structured interview format allowed questions to be asked in multiple ways and responses triangulated. The FGDs also provided data sets similar to those in the individual interviewees and this strengthened their validity.

Although relatively small, the sample size resulted in saturation of findings. This acted to lessen the impact of convenience sampling. The results are likely representative of the population in Homa Bay County, but are not generalisable and cannot be extrapolated to a wider Kenyan context, although they are broadly corroborated by other literature (as discussed below).

The coding and thematic analysis upon which the report is based was conducted by the primary investigator. At the conclusion of the overall study (ie. after fieldwork in Kenya, Nigeria and Niger), a sub-set of transcripts from Kenya were coded again by a second qualitative researcher using QRS NVivo software. Layers of coding were not shared between researchers until the analysis was complete. The findings were compared and used as a benchmark for the reliability of analysis across the whole study. Triangulating results using separate researchers and techniques ensures the rigor of the analytical process, enhances the credibility of the final results and is regarded as best practice.

Report structure

This study provides new empirical data contributing to our understanding of local barriers to care-seeking and treatment for childhood diarrhoea, malaria and pneumonia in Kenya, specifically in Homa Bay County, Nyanza Province. It explores the complex issues around the low uptake of health services for childhood illness and identifies and assesses particular influencing factors and local solutions to overcome these perceived barriers. It was designed primarily to be of operational use to the UN Commission on Life-Saving Commodities for Women and Children, and to UNICEF and its partners at local, national and international levels.

The report comprises three main sections: results and thematic analysis; barriers and solutions identified (including a table summary); discussion, programmatic implications and conclusions. This is the final report. Prior to its completion, UNICEF stakeholders were given the opportunity to provide

written comments and verbal feedback that were incorporated as appropriate into the final manuscript.

Results and thematic analysis

Demographic details

Twenty in-depth interviews were conducted with the primary carer of a child or children under five years of age: 19 mothers and one grandmother were interviewed.

The mothers were aged between 19 and 39 years and the number of children in their care ranged from one to eight (the grandmother was aged 43 years and was the primary carer for one of her three daughters and three grandchildren). Three mothers had experienced the death of one or more children.

Sixteen mothers were married, one was not married and two were widowed and had not re-married. The grandmother was a widow. Of those who were married, four were in polygamous marriages (two as the first wife, one as the second and one was the inherited wife of her late husband's brother). In addition to their biological children, many mothers were caring for the children of close relations, particularly the children of their husband's previous marriages.

All the mothers interviewed had attended school with most leaving between classes 5 and 8 of primary school. Three mothers had left in form 1 of secondary school, and one mother had attended college. The grandmother interviewed had not attended school. All the husbands of mothers interviewed had attended school and most had completed primary school. Three had completed secondary school and one had attended college.

Mothers found it difficult to estimate household income, but most earned between 200 and 500 Kenyan Shillings per day, and between 1000 to 2000 Kenyan Shillings per week. Seven mothers gave a lower range, stating their household income as between 150 and 500 Shillings per week. Most mothers were engaged in piecemeal work (often weeding or digging other people's farms a couple of times a week). In addition to casual and farm work, several husbands drove a motorbike taxi, and two were teachers.

Of the 20 caregivers interviewed, 19 confirmed that at least one of their children had experienced at least one episode of malaria in the previous six months, as was the case for diarrhoea. Four carers confirmed one of their children had experienced pneumonia at some point during their life. Two mothers had had pneumonia themselves, and all had experienced malaria and diarrhoea.

When asked to estimate the length of time it took them to travel from home to the health facility (hospital, health centre or dispensary) six carers stated it took under an hour, nine carers stated it took about an hour and three claimed more than one hour. The range of times given was from 20 minutes to three and half hours walking. One carer always used public transport to travel an hour to hospital.

In addition to the 20 in-depth interviews, two structured focus group discussions were held: one with fathers (nine participants) and one with community heath workers (10 participants). The fathers were aged between 22 and 44 years, and each cared for between 2 and 7 children. They had all

attended school, two had completed primary school, six had attended secondary school (including two who had completed secondary school) and one had a diploma. The majority stated their income was approximately 1,500 Shillings per month (with the exception of one who earned over 17,000 Shillings a month as a teacher). All the fathers in the focus group were married, and two were in polygamous marriages, each with two wives. When asked how long it took to travel from home to the health facility, three fathers stated less than an hour, two estimated an hour, and four said over an hour. By foot, the length of time took between 30 minutes and two hours.

In the focus group discussion with community health workers, one participant was a community health extension worker (CHEW), eight worked as community health workers (CHWs) and one was a member of the local Community Unit Committee (CUC). Two of the CHWs were also on their CUCs.

Causation and prevention

Malaria

Wichbar comes from mosquitoes. If you don't have a net you get malaria. They usually bite at night. They remove the blood you have and put their blood in you, then you start with an aching body, feeling cold, having a high fever. When the child urinates, it is yellow in colour. That is how you know they have malaria.

In Homa Bay County, malaria is referred to as 'malaria' or '*wichbar*' in Dholuo, the Luo language. The majority of caregivers made a direct causal link between malaria and mosquitoes, although not all were able to explain how mosquitoes spread malaria. About half of all respondents also made a link between water, the cold and malaria, suggesting that the children contracted malaria when they played in water, especially stagnant water, or got cold. Many carers commented that malaria increased during the raining season, but often attributed the increase to the water and cold, rather than to mosquitoes.

In terms of prevention, all caregivers suggested that bed nets prevented malaria. Only two respondents admitted to not having or using a bed net, although in several households that claimed regular use, no bed net was in evidence.

We don't have bed nets. You are supposed to use the nets when sleeping at night to stop the mosquitoes coming as they give malaria to the children and adults. I have heard on the radio that you should sleep with the net because mosquitoes are the ones that bring malaria. We had a net long ago, but not anymore. I have thought about getting one, but I have never gone to the health centre.

Most carers had been given their bed net by a health facility or NGO distribution centre, although a couple had purchased their nets at the local market. All the nets were treated (Long Lasting Insecticide Treated Nets, LLITNs), although several confirmed that they required re-treating or were old and torn. In cases of torn nets, a few mothers had tried to mend them by sewing the holes or tying up the ripped section, but most continued to use them regardless.

We have one net but it is not treated now, the medicine is finished. I bought it at the market for 100 Shillings. I take it aside and tie it during the day. There are some large holes. I have never tried to fix them, they will only get torn again.

Most carers had one or two nets, and several claimed that this was insufficient to protect the whole family. In several cases, the parents slept under the available net, and the children slept in the open, whilst in other households, only the youngest child slept under the net (often with the mother or both parents) and the older children slept without. As one mother explained,

We only have one net. I use it every night. The smallest child sleeps under it with me and my husband. The other children sleep about [indicates towards a child asleep on a chair] *and they don't use the nets. I only have one net and am not able to buy another one. I would like the children to sleep under the net, but there is no money to buy more nets.*
The children get malaria a lot.

The decision-making process about who slept under the net was unclear. Several carers gave preference to the younger children because they were believed to be more susceptible to malaria than their older siblings or parents. Several parents had not considered giving their space under the net to their children whilst they slept outside it. In the fathers' focus group discussion, one participant explained,

There are not enough nets to go around, not enough nets per household. We can give to the younger children, but it depends. If the father is the one being responsible for the family and looking for money, then he is the first priority and should sleep under the net.

Although the majority of caregivers knew to use a bed net, two were unable to explain how this prevented malaria. As one concluded, '*I just use the net because I was told to, I don't know why it stops malaria*'. In a couple of cases, carers admitted to using the nets for other purposes, primarily as fencing or to protect their vegetables from chickens. Incorrect usage was also recounted by health workers who explained that government slogan for promoting the use of mosquito nets, '*sisi ndani, mbu nje*' (we are inside, mosquitoes are outside) has been popularly corrupted to '*mboga ndani kuku nje*' (vegetables inside, chickens outside).

Besides the use of bed nets, other precautionary measures to avoid malaria were rarely discussed and only one mother suggested cleaning the compound and cutting back long grass, draining stagnant water and keeping the household water containers covered. In the fathers' focus group discussion, such preventative measures were raised, and the fathers confirmed that cutting back the undergrowth and keeping the compound clear of stagnant water was something that they, as fathers and household heads, could do to prevent their children getting malaria. In addition to bed nets, several mothers emphasised the need to keep the child warm and dress them in warm clothes and shoes, and one mother said that malaria could be prevented by giving the child 'clean food'. She suggested,

To avoid malaria, if you have the net, you should tie it up, and for the children, if you have the ability you can buy them boots so they don't step on the cold, as that brings malaria, and they should wear

sweaters and jackets. And I cook them clean food so they don't get malaria. To prevent malaria you need to wake up in the morning and put on a sweater and wear gum boots so that you don't get cold.

Many caregivers were confused about how their children got malaria, even when they slept under bed nets. As one mother asked, *'We always use the nets. Why do the children still get malaria? That is surprising to myself'*. Although some carers expressed frustration at this, it did not appear to prevent them using bed nets, as they had been instructed to do. Other carers concluded that their child caught malaria after being bitten by mosquitoes *'in the evening, whilst they are waiting for their meal*', '*before they get into the net*', or '*maybe the mosquitoes are inside the net*' and some said the mosquitoes bite when *'the children are walking in the bush*' or '*are working on the farm*'. In the fathers' focus group it was agreed that,

Children are exposed outside to the malaria, from the breeding places. It is very difficult to avoid. You just get it out there, you need to wear more clothes, clear the bushes and avoid stagnant water, but you can't carry the nets with you, so they will always get malaria.

Diarrhoea

Luo terms for diarrhoea included *diep*, *dieo*, *odieo* and *ndira*. It was mainly attributed to 'eating dirty things' or 'drinking dirty water'. Several caregivers explained that diarrhoea was caused by house flies landing on food after they had touched 'dirt' outside, mud or faeces (human and animal) on the ground. Using dirty utensils or the children having dirty nails were also common explanations. Some carers linked diarrhoea to specific types of food including sweet potatoes, green maize and, more frequently, to eating fruit without washing it first. One carer concluded that diarrhoea was caused by 'insects in the stomach', whilst another explained it was to do with 'germs' (and used the English word). In several cases, the term diarrhoea was used as a verb, suggesting diarrhoea was a symptom of other conditions and not necessarily regarded as an illness in its own right.

Although six caregivers claimed that it is not possible to prevent diarrhoea, or they didn't know how to prevent it, avoidance strategies discussed by other interviewees included washing hands (with or without soap), using clean things (food and utensils), covering cooked food, boiling or treating water before drinking and cutting a child's nails short.

Carers were also questioned about household water sources, sanitation and hygiene. At the time of the study (during the wet season), all respondents were collecting rainwater to supplement other water collection methods including the river, hand pump or well. Collecting water from the pump usually cost 20 Shillings for 20 litres. Some carers treated their drinking water with Water Guard or Aqua Tabs, although the majority boiled their drinking water, but not all the time and frequently water was consumed untreated. As many caregivers explained, rainwater was rarely treated,

We believe that anything from above is pure, so we take and drink from the collected rain water directly. We have containers that collect the rain water running off the iron sheeting on the roof. If you treated the rain water it would be a waste. We only treat water during the dry season.

Of the twenty caregivers interviewed, eight had a working pit-latrine. In several cases, carers explained that their household's latrine had been damaged or had collapsed during the heavy rain. As one mother recounted,

For now, the toilet is a big problem. We had dug one out there, but the rain has collapsed it. The latrine was flooded by the water and it got full and then it fell down and collapsed. So now we have to go to the bush. We take the hoe and cover it over. When the rain stops, we will try to make another one, but the ground here is very hard to dig and normally it just falls in on itself.

Most families who used the bush, covered up their faeces by digging a small hole and piling the earth on top with a hoe. Some carers stated that whilst this was their practice at home, at the farm or between the maize stalks, they left waste uncovered. One respondent explained, '*we go in the bush and just leave it there – you can't go around covering the whole bush – so we go in different areas*'.

The majority of carers confirmed that they washed their hands before they ate or prepared food and after going to the toilet. Some used soap, but many just used water. Several explained that they washed their children's hands before eating, but thought it unlikely that the children would wash their hands after going to the latrine or field to defecate. Some mothers said they washed their hands after being in the garden or farm and after taking their child to the field, whilst several added that their hands were always clean because they washed clothes every day.

Pneumonia

Pneumonia was most commonly referred to as 'pneumonia' (English word used in Dholuo), although other terms used included '*koyo*', '*kor madhum*', '*ngich*', '*kahera*' and '*ang'ieu*'. The majority of respondents concluded that pneumonia was caused by the cold, and several added that wind and water or getting wet could also result in pneumonia. Two carers said they did not know what caused pneumonia, whilst one suggested it resulted from 'stress' and another that it was due to insects. When asked to describe pneumonia's symptoms, most concluded it was to do with the chest and made breathing difficult ('*there is a sound like something inside is holding you*'). Several carers said that it was indistinguishable from malaria, and another thought it affected the feet. A small number of carers did not know how to prevent pneumonia although the majority explained that to avoid it you had to dress the child in warm clothes, sweaters and jackets, socks and shoes, and make the child sleep in a warm place.

It was clear that the caregivers who knew about pneumonia were those who had directly experienced the illness. Four carers confirmed that their child had suffered from pneumonia, and two other carers had had pneumonia themselves. In comparison to malaria and diarrhoea, both well known and more commonly occurring illnesses, knowledge about pneumonia was very limited. The majority of carers claimed that whilst they had heard of pneumonia, they did not know anybody who had had it. When asked what health problems were common in children in their community, many carers included coughing in their list (alongside malaria and diarrhoea) and at the health facilities high levels of acute respiratory illness were recorded. However, few cases of pneumonia were identified in the facilities' records. Healthcare practitioners suggested this was due to a lack of knowledge amongst health

workers themselves, plus the facilities' inability to diagnose pneumonia. As one clinician at a health centre explained,

We can't diagnose pneumonia here, so if we suspect it we treat it clinically within the guidelines. This is why the community may have heard about it, but is not as familiar with pneumonia as they are with malaria and diarrhoea, where there are so many cases.

Local theories of causation

Malaria and pneumonia were not illnesses associated with local theories of causation, rather the community discussed them as biomedically defined diseases. Although a number of caregivers did narrate instances of child bewitching, and some associated measles or rashes with a child being cursed, neither malaria nor pneumonia were imbued with cultural explanations. Diarrhoea, however, was expressed as a significant symptom of other conditions, such as *chiira*, a wasting illness that is brought on by breaking a social taboo. For example, if a man's second wife has a baby and he returns to the house of the first wife before the new baby is settled, it will result in *chiira* and the baby will suffer from diarrhoea. Similarly, if a married son is living in the same compound as his father, and during the maize planting has sexual intercourse before his father, the son is likely to get *chiira* and will grow thin and listless and have diarrhoea. Diarrhoea was also regarded as a sign of quarrelling or upset in a household, and should a husband or wife be unfaithful, their child is likely to get diarrhoea. The cause of diarrhoea, however, does not preclude the child from being treated (usually with local herbs, as discussed below), with the exception of 'normal diarrhoea' that is brought about by teething and does not warrant treatment.

Care-seeking behaviour

Plant medicine

The use of local plant medicine or herbal treatments (*madawa za kienyeji*) was the front-line home-based care for the majority of diarrhoea cases. Treatments derived from crushing or pounding leaves, bark or roots which were then mixed with water or boiled, and drunk by the patient when cool. In the case of measles and skin rashes, the child was bathed in the liquid. A variety of names were given by respondents, appertaining either to the treatment or the plant, bark or root it was derived from. As the table below illustrates, many different treatments exist for diarrhoea and interviewees also discussed the use of herbs for stomach pains and amoebas, as well as for other conditions. Only a few mothers knew of local plant medicine for malaria, whilst the majority explained that there was no such treatment available, only hospital treatment. This was also the case for pneumonia, which was seen to be treatable only by hospital medicine.

For diep [diarrhoea] *because the hospital is far, we can get medicine from the bushes and use that. It is called okwero. It is roots, you dig them up, wash them and then pound pound. Then you boil them and when it is cold you strain the water and then drink it. It works and it works quickly, that one is a really good medicine.*

Plant or herbal medicine plant / bark / root	Diarrhoea	Stomach pains	Amoeba	Skin rashes	Malaria	Headache	Measles	Typhoid	Yellow fever
Aketch	✓	✓							✓
Omienyi	✓	✓				✓		✓	
Okwero	✓		✓						
Nyanyodhi	✓								
Mwarubaini	✓			✓			✓		✓
Angwe	✓						✓		
Nyabende	✓						✓		
Duele	✓						✓		✓
Nyanamu	✓								
Manyasi	✓								
Orembe	✓								
Ng'wen	✓								
Nyalwet-kwach	✓								
Olourkye	✓				✓				
Omweny		✓			✓				
Mikinka		✓				✓			
Okaka					✓				
Rauywe		✓							
Abuba							✓		

Most respondents echoed the above quotation and confirmed that treatments, at least in the case of diarrhoea, were efficacious. Many were less enthusiastic, however, about treatments for malaria.

For malaria, we use omweny. You collect it, crush it and put it into a cup, then use a small spoon to give to the baby. You don't boil it, just mix it with water. You just try, but usually there is no difference.

Although a number of fathers in the focus group suggested that plant medicine was used less frequently today than in the past, this view was not corroborated by mothers or health workers for whom plant or herbal medicine continued to represent the first phase of treatment-seeking. Most of the mothers collected and prepared the herbal treatments themselves, having been taught by their mothers and grandmothers. As an accessible resource – the plants often grew close by and to self-prepare the treatments did not incur expenditure – mothers prioritised the importance of local plant medicine in the pathway of care for their child's ailment, and concluded that they would continue to pass the knowledge on to their daughters.

When the child is ill, I look for the traditional herbs. The health centre is far and we have no money to go and buy medicine, so I collect and prepare the herbs. We believe that they work. When I was young my grandmother showed me how to do these things. Some are close but some are far, and you

have to look for them. You are supposed to go to the health centre first, but if you are not able to, then you use the herbs first and go to the health centre later. So, I will teach my daughters like the old grandmothers taught me.

Contrary to the practices followed by the majority of respondents, a small number of mothers explained that they did not use herbs because of their religious beliefs. Certain denominations, such as Legio Maria and Lwong Mogik (God's Last Appeal) prohibit the use of traditional medicine, including local herbal treatments that are categorised as medicines witchdoctors (*mchawi*, *mrogi*, or *mganga wa kienyeji*) may use. One mother, who worshipped at the local Baptist church explained that '*the church doesn't allow us to use traditional herbs, if you use them it is like you are worshipping other God idols*'. Another respondent, who lived within the compound of a church of Legio Maria, explained,

Some people don't take their children to hospital but use herbs instead because the hospital costs them so much, so they prefer the herbs, but our church does not like herbs, this is just our belief, they are bad and only used by witchdoctors. Their medicine and local medicines are the same thing, and are not allowed. It would be an 'abomination' [using the English word] *to bring them inside the compound*.

Traditional healers

Local treatments were also available from traditional healers (*daktari wa kienyeji*). Several mothers who self-prepared most treatments, discussed going to a traditional healer for specific conditions, particularly to source leaves to treat measles, and would pay the traditional healer 10-20 Shillings. Such treatments are also available from *nyamrerwa*, a person, usually a woman, who inherits the ability to treat their community using different types of traditional herbs, and is usually paid for her services. Although different from a traditional birth attendant (*mkunga wa kienyeji*), *nyamrerwa* also attend to mothers during pregnancy, delivery and postnatally. During pregnancy, for example, they massage certain herbs on the stomach to make sure the baby is positioned correctly, and after delivery, can use other herbs to help dispel a retained placenta. A couple of mothers also discussed buying traditional medicine from Maasai who roamed the area selling home-made medicine out of jerry-cans. Their medicine was well known to be particularly potent. As one mother explained,

My husband buys it from the Masai when they pass by with their medicine. They walk from Homa Bay to Sindo selling it, and then will go back to their place to make more. I don't know the cost because my husband buys it, but it is good for 'megongo', diep [diarrhoea] *with mucus in it. That one is very painful but their medicine works well*.

Spiritual healers

Many participants discussed the role of a spiritual healer in their pathway of care: a person with a gift for praying and healing ill members of their church (*mwombaji / mponyaji aliye na kipawa cha kuombea wagonjwa na kuwaponya*). A *mtumwa* is also sent by God to identify and pray for an illness,

even if the patient themselves is unable to identify what kind of illness they have or what condition they are suffering from. In Dholuo, several respondents referred to their church's spiritual healer as a *jaote* (similar to a *mtumwa* in Kiswahili). In some cases, these healers were associated with casting-out demons that were causing illness, particularly in cases of bewitching or when the child had been affected by Satan. One mother, a devotee of the Church of the Holy Ghost, explained,

The spiritual healer has the powers to see what caused the problem. If it is Satan that has caused it, he has the power to pray to cause the devil to come out. Some illness are brought by the devil and it is like you are talking to yourself. In children who have measles, they talk to themselves, their teeth chatter. Then we will take them and pray to God. We give the healer some money or gifts. We can even give 1000 Shillings for prayers if the child gets well. If the child is not fine, then we are still grateful to his prayers, so will give something small, like 100 Shillings. Not everybody can do it, there is just one person in the whole church. He gets the power from God. You will just see that if he prays for you, you will be healed and you will see. It is for other conditions, not malaria or diarrhoea, you can only treat those with medicine.

In other examples given, the spiritual healer simply prayed for the child's health and prosperity, and although this was most common on the usual day of worship, it could also be arranged on other days when the family could go to the healer's house, or he to theirs. Seeing a spiritual healer could come at any point in the pathway of care, and was often in parallel to other forms of treatment, both local herbal treatments (as discussed above) and biomedical treatment. One mother who attended the ST Roho Church explained,

You can take the child any day, or every day, it doesn't have to be a worship day, they will be prayed for so they get better. You don't have to pay him, he doesn't want any payment. He just prays free of charge. He can pray for any disease until the baby gets better. I have taken my children for all illnesses, even malaria when we have come back from the health centre.

Another mother, a Seventh Day Adventist, the church most frequented amongst the participants, emphasised,

Yes, there are spiritual healers. You can go to the church to ask them to pray for you, or call them to come and pray for you in the house. Even when the child doesn't have illness they can still pray for them. I do that, even when my eldest son was going to do exams, I called him to pray for my son. But during May and November, that is when they visit people and pray in the homes of Christians. Even other spiritual healers visit the faithful from their churches.

In the church of Legio Maria (where the use of local herbal medicines is prohibited), their *jaote* boils and then blesses water that he gives to the patient during prayers. As one mother explained,

If you are willing, you go to the jaote to take the blessed water that he provides. His prayers and the water go together. They will give the child a teaspoon of the water, but it is not a must, only if you are willing. In return for his praying for you, you can give something small, like a packet of sugar, just for thanksgiving, but you don't have to.

Only in one case, did a mother conclude that her family only visited the *jaote* in isolation, rather than seeking any other form of treatment. She explained that her husband distrusted hospital medicine, believing that causing a child to cry through giving an injection or vaccination, resulted in increasing the fever and therefore escalating the household's problems. She described how her husband never went to the health centre and always instructed her to take the children to the *jaote* when they were ill.

When the children are ill I tell my husband and he tells me to take them to the jaote. When the child is sick the jaote will take the cross and point it forcefully at the child to pull out the devil. If there is a quarrel in the house, then he can use the same cross to disperse the demons that caused the quarrel in the name of Jesus.

Chemists and self-medication

For the majority of respondents, the local chemist (or pharmacy) played a major role in their treatment-seeking. Many discussed visiting the chemist at the instruction of the health facility due to the lack of drugs available at the government centres. In such instances, the parent would commonly present the child at the health facility, pay their registration fee, wait to see the doctor and undergo tests if necessary, and then be given a prescription and told to buy the medicine at the chemist. This is discussed in detail below.
In other cases, the parent would go directly to the chemist without first visiting the health centre. Some parents would take the ill child so that the chemist could see their symptoms whilst others would describe the symptoms they perceived and the chemist would diagnose the illness in the abstract. In many cases, however, participants claimed that they visited the chemist, asked for the drugs they wanted and bought the medication, just as they would shop for any other commodity. As one mother concluded,

For the pneumonia, I buy medicine from the chemist. I buy tablets for 50 Bob [Shillings]*. When it is cold my daughter gets it, but with the medicine it goes away. When her breathing gets bad I go to the chemist immediately with the child*.

Panadol was frequently given at home for all illnesses, and could be cheaply bought from a chemist or small local store. Some parents crushed the tablets and mixed them with water to give to a younger child as a drink, whilst others just gave the tablets. In cases of diarrhoea, local herbal treatments were usually administered first at home, and if the condition persisted, then parents would seek medicine, usually antibiotics, from the chemist. Similarly, for malaria, many participants described buying medicine directly from the chemist without first presenting at the health facility. This was perceived as being a 'short cut' to treatment. As one mother explained,

If I observe the child has malaria, I give him panadol and then I go to the chemist. There I can buy medicine. They have the malaria medicine for children, tablets and panadol syrup. Quinine syrup costs 90 Shillings and the tablets cost 40. They will pour out the amount of syrup you want into a small bottle, so they can give you just 30 Shillings worth if that is what you can afford.

Self-diagnosis and self-medication are hugely problematic and often resulted in delayed presentation at a health facility, in turn leading to a condition's increased severity. Health professionals, CHEWs, CHWs and community members alike all admitted that 'every fever is treated as if its malaria'. Clearly this has major implications for dosage and drug resistance. In Kenya, there has been repeated turnover of frontline therapies for malaria in the past two decades due to resistance, from chloroquine to sulphur-based drugs, to artemether-lumefantrine (AL), currently used as part of artemisinin-based combination therapy (ACT). Often mothers would start a course of medication and stop when the symptoms subsided, whilst others would only be sold what they could afford, most often the incorrect dosage. Several mothers described 'keeping medicine' from previous illness episodes to use when other children or family members fell ill, and a few respondents confirmed using medicines for purposes other than those it was prescribed for. One mother, who was HIV positive, recounted,

The last time the older boy had malaria was one month ago. I didn't have money to get the medicine so I gave him my septrin [co-trimoxazole] *and he got better immediately. I just gave it to him because it was the only medicine in the house and God knows how to take care of his children. Even though it was my medicine, I just thought there was medicine in the house. I couldn't give the child nothing when he was sick*.

When discussing their patronage of chemists, participants perceived several advantages over seeking treatment at a health facility (discussed in detail below). These included the chemists' reliable stock of drugs, their faster service (as opposed to the long queues experienced at health facilities), greater proximity to their homes and the increased assertiveness and responsibility parents felt in dealing with chemists (as active stakeholders in their child's illness). Most importantly, however, parents were able to secure credit at the chemists and as 'customers' were able to receive medication and pay for it at a later date. This ensured that parents often prioritised seeking treatment from the chemist, especially when resources were scarce. As the fathers concluded in their focus group discussion,

Father 1 – *You start with herbs for diarrhoea and then if they don't work, you go to the chemist. If it is for malaria or another illness, then the danger is of taking an under-dose. You can't afford more, and so then you look for ways and means to go to the health centre.*
Father 2 – *It is determined by money if you go to the chemist first, they give tetracycline and doxycyline.*
Father 3 – *Not all chemists are qualified, some are just engaged for business and they just give you what you want.*
Father 4 – *It is somebody's business so they can go without the money. If you are a customer, you take the drugs and then find the money later on. They give you the drugs on credit.*
Father 3 – *You don't know who is qualified and who isn't. Some have a good reputation, but at others you get credit.*
[Question – which is the more important, reputation or credit?]
Father 2 – *We go according to price.*
Father 3 – *We go to the chemist with the lowest price, or where we can get credit.*

That financial expenditure determined the pathway of care and often placed the chemist above the health centre, was also iterated by other respondents. One mother commented,

I like going to the health centre to test the children if they have malaria, then they will get cured and treated properly, but at the chemist, sometimes they don't get so better with the medicine. Whether I go to the health centre or the chemist, it has to do mostly with the money. Sometimes you don't have enough. Even though I prefer the health centre, just to take one child can cost 200 Shillings and I don't have that.

Similarly, a father in the focus group discussion asserted,

At the chemist they have low quality drugs, they are generic drugs. Sometimes you might not get the right medicine or the right dose. The child does not respond. You give the dose you purchased, but it doesn't cure the child, so there are deaths.

Private clinics

Only a few caregivers had attended a private clinic. For many, it was not an option as there were few private clinics in the vicinity. In preference to seeking treatment at a health facility, participants gave similar reasons for visiting a private clinic as they did the chemist: the supply of drugs appeared more reliable; the clinic was closer and more easily accessible than the health facility; and carers were able to get treatment on credit if they were a known customer. As one mother explained,

The last time the boy had malaria, I went to the private clinic near here. It only takes 30 minutes, but the health centre is far. We often go to that private clinic, it has medicine and is nearer so I prefer it. You have to pay for medicine at the clinic, and sometimes at the health centre it is free. But I don't always have the money to go all the way to the health centre. Here I am a customer, so I go to the clinic even if I don't have money and the baby is treated on credit.

The carers who patronised private clinics confirmed that they did not tell the local health facility or health workers they did so. The research team was introduced to these participants because, according to the CHW, they did not engage with health services, when in fact they were seeking biomedical treatment, but not from a government facility.

Health facilities

Many participants discussed their desire and willingness to attend a health facility (dispensary, health centre, sub-district or district hospital) when their child was ill and highlighted several positive drivers to attendance. The training and experience of health professionals based at facilities was seen to potentially enhance the quality of service that could be provided, in contrast to chemists, some of whom had little training and were known to be 'in it for the business'. Some caregivers felt more comfortable seeking treatment in a familiar environment where they were known to the health professionals. One mother who was HIV positive and regularly attended a clinic at the sub-district

hospital, usually presented her children for treatment at the hospital rather than taking them to the local dispensary, which was closer and more easily accessible from the family home. Although many carers claimed that the medicine they bought at the chemist was often the same as that prescribed by the health facility, there was a general sense that medicine received at a health facility was of superior quality and more likely to 'cure' the child or treat the condition reliably than that obtained at the chemist (either through direct purchase or after being referred by the health facility). As one participant emphasised, '*at the health centre they give you the proper medicine and the full amount*'. That health facilities performed routine testing to identify the child's illness was also seen as a positive factor, and was a service that distinguished health facilities as testing was not available at chemists or private clinics. Although this incurred extra expenditure (laboratory tests for malaria, for example, costing around 40 Shillings) and was sometimes a deterrent if resources were scarce, many carers acknowledged that having a test to confirm a diagnosis should be the preferred course of action. As one mother recounted,

I don't often go to the health centre. Last time I went they asked for 150 Shillings. I didn't have it, so I went to a private clinic and they gave me the medicine for malaria for 50 Shillings. I don't know if it was the same medicine. The health centre is more expensive because of checking the blood. It is good to check the blood before they treat the child, then they know it is malaria and they give you the right medicine. But at the private clinic or the chemist, you just take the medicine with no test. I didn't have enough money to check the blood and buy medicine.

That many caregivers avoided testing to save money emphasises the dissonance between their desire to act and their ability to act. Barriers to treatment-seeking are presented in the following chapter.

Decision making and agency to act

In Homa Bay County, as elsewhere in Kenya, it is the mother's role, their duty, to be the primary carer for children. In general, fathers and other male relatives had little to do with child rearing. It was the mother who identified when a child was ill, although she would often discuss the condition with her husband and his parents (a couple usually live with or close to the husband's family after marriage). The paternal grandmother of an ill child was, therefore, an influential figure in treatment-seeking: giving advice; helping to prepare local medicine; sometimes providing money; and on occasion, accompanying the mother and child to the health facility. One mother described how, if her baby was ill,

I tell my husband and the child's grandmother and grandfather. If the baby is very sick and I need to go to the health centre, I usually go with somebody, my mother-in-law usually comes with me. We walk there, and my husband helps me to take the baby for treatment by finding some money.

The majority of mothers interviewed asserted that it was their decision whether or not to seek treatment for their children. In cases of local herbal treatments, mothers had the agency to act independently and could collect and prepare the treatments themselves. To access treatment at a chemist, private clinic or health facility, however, the financial implications necessitated the mother to consult with her husband to raise the funds. In only a few cases did mothers have access to their

own money, through selling samosas or vegetables at market. The father's role in treatment-seeking was therefore closely associated with providing financial support, and sometimes with facilitating access by transporting the mother and child to the clinic. One mother, whose husband drove a motorbike taxi on the main road, explained,

When the child is ill I tell my mother-in-law and I tell her I need to go to the health centre. If the father isn't here, then I carry the baby on my back to the road to tell him that the baby is sick and he can carry us on the bike to the health centre.

Similarly, a father participating in the focus group discussion claimed that he '*always accompanies the mother to the health centre*'. Upon further probing he explained, '*I mean, when the child is ill, I will give money to the mother and sometimes I will take her to the gate of the health centre, and leave her there to see the doctors*'.

Although most mothers confirmed that their husbands tried to support them financially when their child was ill, not all mothers received such assistance.

When the children are sick, I can tell the father, but he doesn't help me. Sometimes if he has 50 Shillings then he might give it to me to buy from the chemist, but going to the health centre, that one is a problem. Sometimes I go to the nurse, and I cry and appeal to them. One time I went without money and they gave me what I needed for the child.

This scenario seemed more common if the mother was a second or an inherited wife. In other cases, mothers were forced to act alone, either because they were widowed or because their husband was absent. One mother who had been widowed but inherited by her late husband's brother concluded,

My new husband is also ill and does not support us. So, when the children are ill, at home, there is nobody I can tell. So I make the decision alone. It can be difficult if the child is sick and there is no money. I can give them herbal medicine, but then I just leave the child in the house sleeping and go to look for money. Whilst I am out, the other children look after the one who is sick.

Another mother explained,

When the child is ill and I am alone, I just make the decision myself. If my husband is around, then we talk and decide if we need to take the child to the health centre. Also I can talk with my mother-in-law, if it is at night, she can give me the herbs to give to the child. Normally, I just find the money on my own. If my husband is around, I can ask him for it, but if he is not here, then I look for it myself.

In such cases mothers were the decision makers with regards to seeking treatment and had agency, albeit limited ability, to act. In two cases, mothers did not perceive themselves as decision makers regarding treatment-seeking for their children, and in both cases, their husband had directly prohibited their attendance at a health facility. In these cases, mothers were unable to act contrary to their husband's wishes or direct instruction. Both fathers distrusted biomedicine, one preferring to put his faith and his family's health in the hands of the *jaote*, the other having lost two children

despite their having the full course of vaccinations. As the wife of one of these men, the mother of three young children, commented,

> *If the children are ill, I might think of going to the hospital, but I never take them. I don't like it, I have a lot of house chores to do that prevent me going… My husband will not allow us to go. He is difficult and will say don't go today, if they are still sick, maybe we will go another day. If something happens to a child and my husband refuses me to go, then I pray to God, but inside my own heart I would be willing to go.*

If more than one child was ill at once, then the decision regarding who was to have treatment was made according to the severity of the children's conditions, and no gender bias was evidenced.

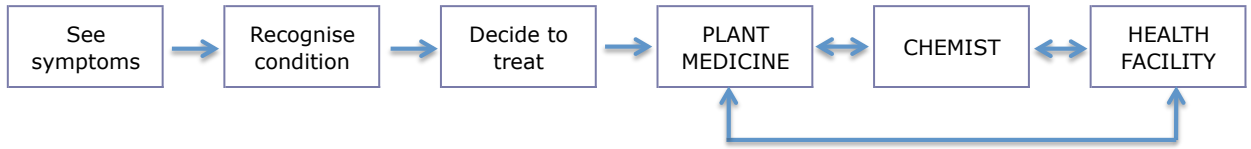
Pathways of care

The financial implications of seeking treatment often determined the pathway of care sought for a condition. As a mother (further quoted below) concluded, '*there is nothing else I can do to help the baby, so I just sit and wait for the child get better*'. Such a 'syndrome of dependency', as termed by a CHEW and several CHWs, was not often encountered amongst participants. Rather, caregivers acted pragmatically and endeavoured to make the most of their constrained circumstances. Most knew the preferred course of action was to seek treatment at a health facility, but were not always able to do so and therefore looked for alternative pathways of care for their child.

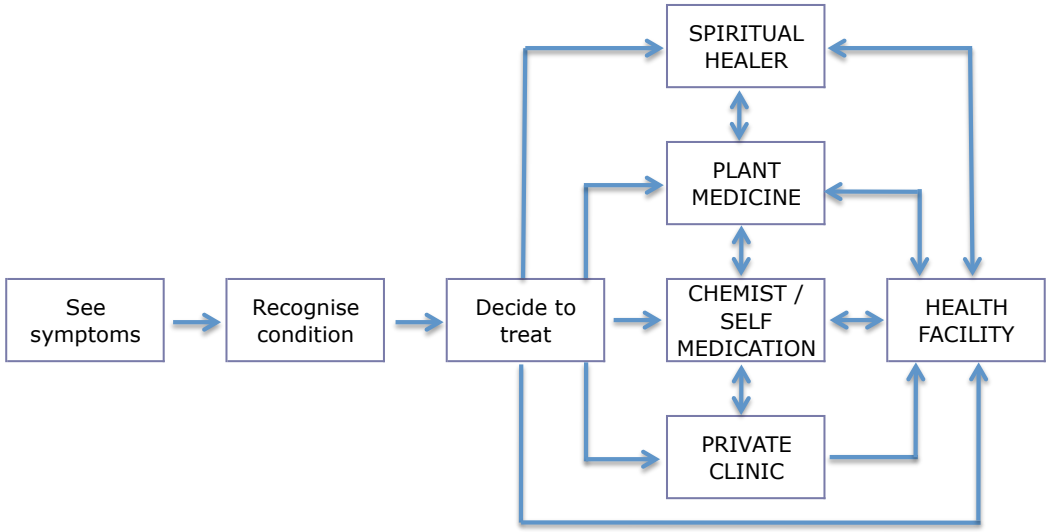
For malaria, diarrhoea and pneumonia, carers follow similar yet distinct pathways that incorporated a range of treatment sources and healthcare options. To graphically represent the pathways identified risks over simplification. Diagrams cannot fully take account of the variety of influences that impact when, where and why treatment is sought. Nor can they accurately represent the ways in which different treatments are sought in parallel or the flexibility and non-linear nature of care-seeking. With these caveats in mind, however, the following may be useful guides to better understand how caregivers in Homa Bay navigate the treatment options that may be available to them for three childhood illnesses.

Diagram 1 – Pathways of care, Homa Bay

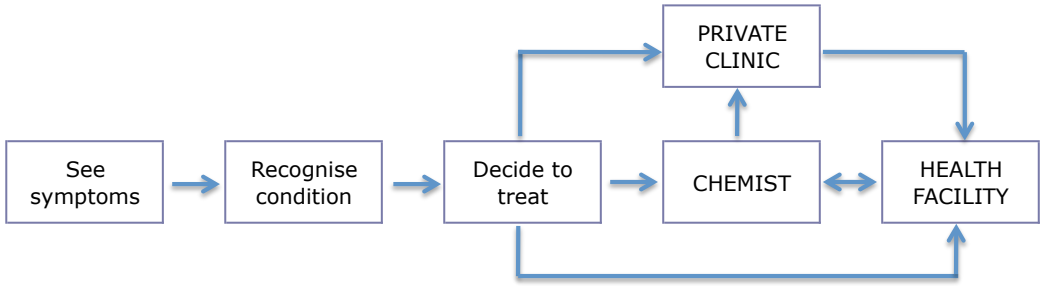
Diarrhoea



Malaria



Pneumonia



Barriers to care-seeking and treatment

Throughout the interviews and focus group discussions, participants identified barriers encountered when seeking treatment for childhood malaria, diarrhoea and pneumonia. These were triangulated with evidence from the thematic analysis and five categories of barrier were delineated: financial; access; knowledge and information; socio-cultural and religious; and health facility deterrents. It should be noted that because of the interrelatedness of these barriers, some issues have natural overlap.

Financial barriers

(1 USD = *c*.83 Kenyan Shillings)

Nearly all participants identified financial barriers as the main factor preventing care-seeking for childhood illness. The assertion that '*everything at the health centre is to do with money, if you don't have money then it is difficult, it is a problem*' was echoed by many respondents throughout both interviews and focus group discussions. Economic difficulties were seen to stem from the low incomes generated through piecemeal or casual work, which most carers were engaged in. Often households existed on scarce resources that could not include the burden of extra costs when a child was ill. Many carers described occasions when the lack of money prevented care-seeking and resulted in the child not receiving treatment. The following quotations are representative:

The main challenge is lack of money. Maybe with a disease, if you had money, then the child would be treated and they would be fine, but without money you just sit and hope the child will get better. There is nowhere you can go without money. Sometimes, even if you find money and go [to the health facility] *you feel like you are wasting money because it doesn't always work, so you look around for others, those women* [*nyamrerwa*] *to give you other treatment. I might want to take the child to the health centre, but the doctor will want money and I don't have it. So there is nothing else I can do to help the baby. I just sit and wait for the child to get better, it can take a week for them to improve*.

Like I said, if I have money, then I take the child to the hospital. If not, then I use traditional herbs my grandmother showed me. With the herbs, for malaria, it takes one week for the child to get better. At other times it can take longer and the child just sleeps. I don't know traditional herbs for pneumonia, so when he is sick I have to go straight to the hospital. If I have the money then I go, but if not then I let him sleep and he gets better slowly and then he can go to school. Lack of money makes me not go for treatment for my son's pneumonia. And now, the small one has diarrhoea, even today he is 'diarrhoeaing' but I have not taken him to the health centre. I gave him the herbs to drink. Initially it was quite severe, but they helped him. I don't have the money, like I told you. That day, I had done casual work and made 100 Shillings, just enough to buy flour, but at the hospital you might need 300 shillings, so I decided to buy the flour and give him the herbs that I collected, and now he has improved a bit. Overall, at the health centre, getting the treatment is good, but the problem is money. So most people just keep crying and lamenting as I do. You can be sick and the child can be sick, but there is no money to go with.

With the exception of administering local herbal treatments, the need to 'find' money was a necessity in all pathways of care and was magnified by the frequency of illness episodes. Participants discussed both direct and indirect costs involved with health facility attendance (registration fee, lab tests, prescription medicine, purchasing equipment such as needles, transport etc.) although no carer suggested the potential to lose income through taking the child to the facility as a barrier, most probably because the mother was the primary care-seeker, whereas the father could continue working as normal. Participants emphasised their inability to save or '*put aside*' money because there was '*always something to be done with it*'. Several mothers explained that if they had access to money, they used it for essential household expenditure, most often to buy flour. As one mother concluded,

It is difficult to find money, it really disturbs me a lot. Because I don't have a husband it is up to me to look for the money. Money is never there and with the children, it is difficult to find it. Like now there is no money. When you get it, you go straight to buy flour so you can make ugali and the family can eat.

Several carers discussed undertaking direct transactions to generate money for treatment. One carer explained, '*if somebody is ill, then I sell a hen so that I can take them to the health centre. To sell one big hen gives you 200 Shillings*'. Similarly, another mother had spent the morning prior to her interview chopping firewood. She explained,

The child has been sick for three days now. He was feeling cold and in the evening the body had a high fever. I gave him some traditional herbs, but now we will take him to the health centre as he is not improving. I was splitting wood to get money to go the health centre. If you go without money, they just chase you away. This afternoon, I will carry the firewood on my head and the baby on my back. Then I will sell the firewood in the market and with the money will take the boy to the health centre. If you go to the health centre depends on money, and the condition can get worse, but if it takes time to find the money I don't always go. I don't know if I will have enough wood, but I will try.

Other carers discussed borrowing money from relations or, occasionally, neighbours, but this was often seen as a last resort. As one mother concluded,

Mothers are usually big headed, they are proud and they don't like to ask to borrow money. Sometimes when there is no money, I think what can I do to get money, the child is sick. So I go to my husband and he tried to think where we can get it. In the end, we can ask a friend for money and they can help you, but we are stubborn and don't like doing that.

In their discussions about the cost of care-seeking, caregivers acknowledged that the amount charged would depend on the type and severity of the illness and on the treatment required, but when presented with a particular scenario (you think the child has malaria, they have been ill for 3 days with a fever, you take them to the health centre and have to pay the registration fee, lab tests and for the course of medicine routinely prescribed by the doctor) many respondents estimated markedly different costs involved, ranging from 100 Shillings to over 500 Shillings (more than a week's salary for many families).

Also, several carers imbued certain costs with additional value and not all types of expenditure were considered economically equal. For example, one mother asserted that whilst she did not have the means to pay 300 Shillings at the health facility, she was prepared to pay a similar amount to the *jaote*. The social and spiritual value of this expenditure ensured that, to her, it was of greater worth than the transaction to buy drugs, a material commodity, from the health facility.

It is national policy in Kenya that treatment for children under five years old is free at the point of delivery in government health facilities. Carers should be asked to pay a registration fee (20 Shillings) and for laboratory tests, but not for medication. This was not known amongst the carers who participated in the study, all of whom thought that treatment (consultation and/or drugs) incurred cost.

Access barriers (distance, transport and location)

The distance from home to health facility was a challenge for many participants. Over half of the study's respondents affirmed that it took an hour or more to reach the health facility and for most carers, access was by foot, often across difficult terrain. In the wet season (when the study was conducted) access was made more problematic by the heavy rain each afternoon and the muddy conditions that easily swamped some footpaths. As one mother exclaimed to the research team, '*you have walked here, so you know there is no access*'. Some routes are navigable by bicycle or motorbike, but to hire transport requires additional expenditure and most carers were forced to walk, often carrying their sick child. As one mother explained,

> *From here to the health centre is far, especially now when it has rained and you have to go around. You can't go straight anymore, so it makes it a long journey. If you leave at 7 then you will arrive at 1030 in the morning. If you have money you can use the motorbike, but it costs 50 Shillings and you still have to walk to the road*.

Similarly, another mother confirmed,

> *From here to the health centre can take two hours, more than two hours. In the dry season it can take 1 ½ hours. Then you can go by bicycle, it costs 100 Shillings one way. But not now, not in the raining season, because of the mud the bicycle just slips. I just walk*.

In emergency situations, caregivers recounted using a bicycle or motorbike to transport patients, or in some areas without good access, using a wheelbarrow in the dry season. In the rains, however, patients had to be carried on the backs of relatives or neighbours, and several carers stated that their community lacked a stretcher. Not all health facilities had transport to assist patients. Lambwe dispensary had no means of transport; Ogongo sub-district hospital had an ambulance but only for referrals between health facilities (e.g to the district hospital) and not to access patients from the community; Marindi health centre did have the use of an ambulance, but again it was mainly for referrals and there was no budget line for fuel; and Ndiru health centre had a motorbike ambulance that was underused due to the terrain and because the patient had to reimburse the facility for the

cost of fuel consumed. As fathers discussed in their focus group, this prohibited many carers from considering calling for the motorbike ambulance. One father concluded

If the child is ill and it is beyond the capability of the health centre, then they need referral. But we can't raise the money to go to the district hospital. So how do we get treatment? We just have to try the next health centre.

Knowledge and information barriers

The level of knowledge about childhood illness was generally higher than the research team had previously expected. Knowledge about causation, symptoms, prevention strategies and the availability of treatment for malaria and diarrhoea was fairly widespread, although information about pneumonia was lacking.

The majority of mothers interviewed suggested that male members of their household or community had little understanding of childhood illness. Although educating and sensitising fathers was repeatedly called for, a small number of mothers echoed the opinion that,

The men, they don't know about illness in the children. It is not important that they know, they are not the ones who care for the children. It is the mothers who are important. You should call all the mothers together and teach them.

The more commonly expressed view was that,

Some fathers do know these things, but they need to know more. They should be taught. It is important. Usually it is the women who struggle with the children, but sometimes the mothers might not be around. The fathers should be educated so that if they have children they should not say 'I don't have money' if the child is suffering.

In comparing responses given by mothers during interviews with those of fathers in the focus group discussion, fathers actually appeared to have a better understanding of health issues. This may have been due to fathers being more socially confident to voice opinions and more versed at expressing their own ideas than mothers. The focus group format may also have encouraged the participants to build on what others were saying, where as mothers had to self-generate ideas and views in their individual interviews.

Respondents highlighted four main occasions when they learnt about health: at school; at the health centre (mostly mothers); at community meetings; and at health dialogue and action days (held at a public place such as the market, at 'chief's *barazas'* (public meetings held by the chief and village elders) or at the health centre). Dialogue days were community gatherings facilitated by the health facility, CHEWs and CHWs to provide health education and identify issues arising at the grass-roots level. These were followed, if necessary, by action days, which focused on an issue identified in the dialogue days. If poor sanitation practices were identified, for example, an action day might focus on the need and practicalities of building safe and secure pit latrines. The frequency of such meetings at

a community level had substantially reduced in the past year due to lack of funding. In Ndiru, for example, the facility's partner Essential Health Services (under the auspices of the Ministry of Health) had facilitated a range of community meetings, dialogue and action days, but no further funding had been secured after the partnership finished. Other organisations held ad hoc meetings, for example, the Red Cross facilitated a dialogue day two weeks after the completion of the study's fieldwork in Ndiru, but there was no sustained or strategic health education programme.

The Homa Bay Health Management Team asserted that whilst a certain threshold of health education had been achieved, it was necessary to continue awareness raising activities to ensure that a reduction in the level of community interaction does not result in lower levels of engagement with health services. Certainly, the majority of participants felt there was a shortage of health education at the community level: about childhood illness (particularly pneumonia); home management; when to seek treatment; and how much the treatment would cost. Fathers in the focus group discussion complained that most health education was directed at women and wanted health education opportunities to be targeted at both fathers and 'big people', the elders of their community. As one grandmother concluded at the end of her daughter-in-law's interview,

> *Before we didn't know what it was or what do about malaria. But nowadays, young mothers take the child to the hospital. Even if they have only been ill one day, then they take it the next* [day]*. There is some change, it is a bit better now. Before we used to use traditional medicine, but nowadays we don't use so much because of the health centre. How can you stay without taking your child if they need treatment? Those mothers need to be educated to go to the health centre. They need to be taught by the doctors. And for big people, we need to be taught so that we can pass on the information to other people. If the older people are not taught, they will not know, because before we used traditional medicine.*

A major knowledge and information barrier was the failure of community level health education to convey key messages in simple memorable ways. Several mothers who had been to community meetings or participated in dialogue days, concluded that although they could remember the general topics covered (most commonly HIV/AIDS; malaria; hygiene and sanitation) they could not recall exact messages, nor had their behaviour changed as a result of attending the meeting.

During the study, Indoor Residual Spraying (IRS) was occurring in all the areas visited, and proved to be a good case study in poor communication at the community level. Several mothers interviewed had concerns about the spraying and complained that afterwards, the mosquitoes had increased in number and their houses were subsequently full of mosquitoes. According to the CHEW and CHWs participating in the focus group discussion, the mobilisers who had been employed to carry out the spraying, had received briefings about the IRS (how it worked, why it was important etc.) and had been instructed to pass on key messages to the household, but none of the mothers interviewed could recall them sharing this information. Instead, rumours within the community suggested that the spraying could kill children, hens, dogs, rats and snakes, and would cause the mosquitoes to grow in number and size. It was also suggested that some mobilisers had sold their 'medicine' and were spraying houses with water. According to CHWs, the mobilisers faced a high level of distrust because of the rumours and spent any time they may have allocated for information sharing in just persuading the household to allow them to spray, conscious of achieving their own targets of number of households so as to receive payment.

Health professionals at the facilities lamented that the community remained 'ignorant' despite efforts to raise their level of knowledge and awareness through health education and sensitisation. But health information will not be impactful unless key messages are relevant, appropriately presented and correctly packaged for different groups within the target community. The research team saw posters on the walls of health facilities about the dangers of cholera. Printed in English and including complex biomedical terms, such posters were unlikely to meaningfully contribute to the health education of the community. The lack of health education aimed at positively encouraging carers to actively seek treatment in a timely fashion, was the dominant knowledge and information barrier.

A number of parents wanted to emphasise that whilst they ensured their children slept under mosquito nets at home, at school (boarding school) the pupils slept without nets and '*the child comes home with malaria*'. Others complained that whilst children used a pit latrine and washed their hands at home, they had '*to go in the bush*' during the school day and were '*not supervised about hand washing*'. A father who participated in the focus group discussion and was a teacher by profession concluded,

For the health of children, it is not only the commitments of parents. It is the commitment of schools. We need to educate the teachers. A parent takes the child to school, but the school environment is poor. There are no latrines, or not enough for all the pupils, the food is not hygienic, they children don't wash their hands. The government should educate all teachers and improve the sanitation at schools.

Socio-cultural and religious barriers

As discussed, there were limited socio-cultural or gender-related barriers associated with seeking treatment for childhood malaria, diarrhoea or pneumonia in Homa Bay County, although some mothers perceived the need to empower women to enable them to seek healthcare (both economically and socially) and this was also discussed in the CHW focus group.

Religious beliefs played a larger role, not only in the prohibition of herbal medicine, but some denominations also prevented treatment-seeking at health facilities. The research team were told about several cases relating to Lwong Mogik (God's Last Appeal), in which parents chose to pray to God for their child's recovery rather than take them at the health facility or administer medication.

Some families in this area believe in their church, Lwong Mogik, and don't go to the health centre. There was one case when the child was very sick and they stayed in the house for long. The child was sick, sick, sick. Then the community took the child by force. It had severe malaria and the body had turned yellow. The chairman [of the village] *entered by force and took the child by motorbike to the hospital in Homa Bay. If the child had stayed in the house it would have died, but eventually it got better and was cured. The parents never went to the hospital, just the chairman and the grandmother of the child. She paid for the treatment. She is not part of that church.*

Although no respondent had this experience themselves, several interviewees did not give herbal treatments, and frequently carers prayed to God or sought the services of a spiritual healer in

conjunction with other treatment options. Some suggested that Legio Maria did not allow engagement with health services, but this was contradicted by one mother, an ardent devotee, who explained,

Even God created the medicine and the doctors. You can't always wait for God, so you should go to look for medicine and He can help you there. The head of our church does not refuse us. His advice is to go to the hospital and to pray. He will also pray for you and give you the blessed water.

Only one mother, described earlier, was prevented from seeking treatment at the health centre by her husband because of his religious beliefs. They were members of the Roho Msalaba Church and the husband would only condone his wife and children visiting the *jaote* when they were ill.

As discussed above, many health professionals also regarded the cultural practice of using local herbal treatments to be a barrier to timely care-seeking at a health facility.

Health facility deterrents

Services and structures at health facilities were also identified as barriers to care-seeking, as certain issues deterred carers from attending. Prolonged waiting times were regarded as problematic amongst respondents. Carers claimed they had to wait, sometimes several hours, to be seen. As one participant explained,

When you go to the health centre, you find too many people there. Maybe your child is very sick, but they won't be able to be treated because there are so many people. You will wait, wait, wait. You can reach there at 7am and only see the doctor at noon. There are people on benches, some standing, and some sitting under the trees. You can wait all morning and then they will tell you to wait until 2pm to get the medicine, and then you might have to go buy medicine at the chemist if it is not there at the health centre.

Similarly, another mother recounted,

When I last went there weren't many doctors there. I walked for over an hour, and then when I arrived I just had to wait. If you go at 8 in the morning, then you can come home at 4 in the afternoon. I had really waited, but then they came and said to us to come back the next day, as there was no more treatment that day. So I collected my two babies [twins] *and left. I felt so bad I was very annoyed that I had to go back. I walked back the next day*.

Carers also described instances in which ill children had been taken to the health facility for treatment, but had died in the queue waiting to be seen. Whether this had occurred or not, the fact that it is a known scenario at the community level, magnifies the problem of waiting times and deters carers from attending.

Challenges in communication were also interpreted negatively by the community. A number of carers claimed that health workers treated patients abruptly and without respect, ordering them around without demonstrating appropriate care. Many participants confirmed that health workers were renowned for their 'bad attitudes' and for 'quarrelling' with their patients, particularly the way in which they berated mothers during labour. In their focus group, fathers discussed the manner and tone in which clinicians took case histories. One father explained,

If the child is affected by diarrhoea, and you reach the doctor, he can say to you, 'the child has eaten faeces and now you expect us to treat them. In our language, that is how it sounds, as if it was deliberate. It makes you feel bad.

Similarly another carer suggested that patients felt pressure to give 'correct' or socially desirable answers to clinicians, and might therefore not provide an accurate history of the illness or treatment received. This was echoed by the head nurse at one facility, who explained that they asked about previous treatments administered because some herbal remedies might contradict medication prescribed by the health facility. He acknowledged that mothers often claimed not to have given herbal treatment when he suspected they had.

Fathers in the focus group also suggested that mothers did not always understand the information given to them by the health professionals at the facility, partly due to the use of complex or technical terminology, or because of language differences (e.g speaking in Kiswahili when the mother only understood Dholuo). This, they suggested, could result in mothers' administering medicine incorrectly. Mothers themselves, however, dismissed this, stating that other mothers were on hand at the health facility to provide further explanations, remind carers of particular issues, or to act as translators if necessary.

In their interviews, some mothers expressed other concerns about attending health facilities, including the possibility of being tested for HIV. Another deterrent was the lack of a clinic card. When children are vaccinated at the health facility, they receive a clinic card from the MCH department. Mothers who had not taken their children for vaccination were concerned that when they needed to present their child for treatment, but could not present the clinic card, treatment might be refused and the health workers would criticise them. In reality, mothers were not required to present clinic card at OPD, but the perception they had to acted as a deterrent for some. When discussing this scenario in their focus group, CHWs suggested the concern stemmed from the mothers' guilt in not behaving in the prescribed way and failing to vaccinate her child. Negative experiences were also a deterrent for other parents who had lost trust in health services. As described above, one father had lost two children to illness despite their being vaccinated, and had since prohibited his family from seeking treatment, including his second wife who was heavily pregnant.

Problems on the supply-side, particularly the lack of drugs at facilities, had negative ramifications on treatment-seeking. As already highlighted, carers were perplexed and frustrated by the lack of a reliable drug stock at their local health facility and the majority of participants volunteered examples of when they had presented for treatment only to be turned away or sent to the chemist to purchase medication. As one mother emphasised,

What we are praying for, what we want, is for the government to bring the drugs to the health facilities. Life is very difficult for us because of this. You go to the health centre and they send you to the chemist, there you have to buy everything, even the needle to take back to the health centre.

Similarly fathers in the focus group discussion concluded,

Father 7 –The big challenge is that you go to the health centre and there are no drugs, and then you are referred to the chemist. Sometimes their drugs are of lower quality.
Father 5 – With our health centre, there is no medicine. The drugs come once after four months and are finished in a week. It is discouraging people to go. They look for other alternatives, and this is bad for the children's health.

The lack of drugs was confirmed by clinicians in the facilities and also stressed as a deterrent to treatment-seeking by the CHEW and CHWs. The Homa Bay Health Management Team agreed that '*drug shortages are a major problem*'. Other supply side issues included: a lack of equipment and diagnostic capabilities in the facilities (leading, for example, to the majority of suspected malaria cases being clinically diagnosed and treated without confirmed microscopy); limited tracing and follow-up; and the curtailed activities of CHWs (discussed below). Such challenges on the supply-side contributed to barriers preventing effective and efficient care-seeking and resulted in the communities' non-uptake of health services.

Solutions to barriers identified

Having highlighted the barriers, difficulties and challenges faced by carers when attempting to access treatment for childhood malaria, diarrhoea and pneumonia, participants were asked to share ideas and possible solutions to the challenges identified. They were asked to suggest ways in which the barriers could be overcome, and encouraged to consider what would be needed, from their perspective, to enable carers to seek and access appropriate and timely treatment for childhood illness. Although some carers found it difficult to consider solutions in the abstract and were not accustomed to being asked their opinions, ideas and practical measures to improve care-seeking were raised throughout the interviews and focus group discussions, and these were analysed in relation to the empirical evidence collected.

It should be noted that the ideas presented here are not hard and fast 'solutions'. The barriers identified are complex and entrenched – issues such as poverty and lack of infrastructure cannot be solved by health interventions or demand-generating activities alone. Rather these ideas, devised at the community level and from the perspective of the beneficiaries, should be seen as a platform upon which a series of 'local solutions to local barriers' can be developed. In this way, community-derived solutions may be incorporated into and supported by more systemic policy solutions. Programmatic implications are explored further in the discussion section. Here, for ease of reference, solutions raised by participants are presented according to the five categories of barrier identified.

Solutions to financial barriers

Caregivers acknowledged that the total cost of treatment would depend on the illness, its severity and the type of treatment or medication required. However, many asserted that, in preparing the funds required, it would be helpful if they had a clearer and more accurate idea of the cost of treatment in advance. They suggested publicising fixed fees for registration, laboratory tests and basic treatments. This would also deter health workers from overcharging or incorporating false costs. Ogongo sub-district hospital, for example, lists their fees on a signboard close to the entrance.

The need to empower women economically was highlighted by a number of mothers and CHWs. This may make mothers more financially independent and enable them to seek treatment without relying on their husbands or family, or having to look for money first themselves. Although mothers appreciated this in principle, several concluded that they would spend whatever money they earned on their children and general household expenditure and may well still have no spare financial resources to take the child for treatment when necessary.

The inability to save was a major barrier, in addition to the limited financial resources experienced by most caregivers. In their focus group, fathers discussed a solution based upon the National Hospital Insurance Fund (NHIF), which they termed the 'Community Based Health Insurance Fund'. Although three of the nine fathers did have personal NHIF schemes, most of them did not think they could afford insurance. As one father exclaimed, '*my level of income doesn't allow me, I have to buy food first*'. Instead, they suggested a community fund in which a village or group of families would pool resources thereby providing each other with financial support when a child was ill. There are

numerous examples of 'merry-go-rounds' in Homa Bay County, in which a group of individuals assemble to contribute and distribute funds. A CHW gave the example of families joining together to save for funerals, and several mothers were involved with a women's scheme called Silk. In this scheme, a local committee releases loans to women in the group who have contributed a certain amount of funds. Loans are made for specific causes (such as school fees) and are to be paid back with a monthly interest rate of 10%.

Although no activity or 'merry-go-round' focusing on saving money for treating child illness was known by the men in the focus group, one father gave the example of a community in Nyakach (Homa Bay District) in which community members pooled money to deposit with the NHIF. If anybody from a contributing family was ill, they would be treated with the group's insurance card. Based on this principle, the fathers suggested their 'Community Based Health Insurance Fund would work because '*you can achieve more as a collective, with accumulated resources, than as an individual*' and '*it is easier to look for money to pool when your child is not ill and it is not an urgent problem*'.

Issues of how to manage and distribute funds would need careful consideration. Whilst fathers preferred the idea of depositing the money at a community level rather than with a national scheme, they were concerned that an individual might 'run off with the money'. Despite such logistical issues, the idea of the Community Based Health Insurance Fund gained traction in both interviews and focus group discussions when it was subsequently raised by the research team as an idea generated by fathers.

Solutions to access barriers

Improving the road access from village to health facility was suggested as a solution to overcome access barriers. Whilst this may seem to lie outside the remit of health interventions, a couple of practical measures were put forward. First, the community should take responsibility for maintaining the paths and walkways between houses and villages, especially during the wet season. This would facilitate easier access by foot and, in places, by bicycles and motorbikes. Secondly, health facilities and organisations such as UNICEF should work in collaboration with village chiefs and clan elders to encourage their constituency to improve road access using the Constituency Development Fund (CDF).

It was suggested that the health facilities have transport options in place to assist patients in travel from home to the health centre, particularly in emergency situations. The terrain is such that, in most places, only a motorbike ambulance would be appropriate. It was known that these vehicles have had a positive impact in other African settings, and participants were keen that they be introduced to health facilities in Homa Bay. Simultaneously, they stressed the need for fuel to be paid for, or at least subsidised, by the facility or government. If this was the case, it was suggested that the motorbike ambulance in Ndiru might be used more regularly and to greater effect. CHWs also requested bicycles, not only to enable them to access the community, but to help transport patients, particularly children to the health facility.

Participants also discussed the benefits that mobile clinics and better outreach would bring. Fathers in the focus group claimed that whilst outreach and mobile clinics used to exist in their area, they were no longer active. Facilitating access to treatment at the community level and within the village setting was also forwarded as a solution to distance, location and transport barriers. CHWs were keen to have first aid kits containing basic equipment that would help them attend to patients as frontline carers. Several mothers affirmed that access to simple treatments such as Oral Rehydration Therapy (ORT) or deworming medication from a CHW, would be very helpful. As one mother concluded,

> *Often the diarrhoea comes at night, so I have to look for local herbs to treat the child because you cannot go to the health facility or chemist in the night. If I could go to the CHW and receive the treatment from them, that would be easier for me and better for the child*.

Issuing kits to CHWs is a political and much debated topic in Kenya. Kits were withdrawn due to concerns regarding undertrained and unsupervised CHWs having access to medication, the potential for misdiagnosis, mistreatment and misappropriation, and the elevated risk of increasing drug resistance. In their focus group discussion, the CHEW and CHWs emphasised that, contrary to what some health professionals assumed, they did not want complex medication to be included in their kits, only basic first aid equipment and simple medication such as panadol. As one CHW explained,

> *You can visit a household and the child has a fever. If you don't have painkillers, you can't reduce the fever before referral. Before we could, but now we can't, we just have to refer them. And on the reporting tool it asks what action you, the CHW, took before referral, and now we just have to write zero*.

Solutions to knowledge and information barriers

The need for more frequent health education events (demand-creation activities) at the community level was emphasised by the majority of participants. Suggestions included:

- Continue the health 'seminars' facilities held prior to the start of clinic
- Hold community meetings
- Facilitate dialogue and action days
- Go from 'home to home' to educate individual households
- Publicise key messages in the media, particularly public radio
- Design clearer more impactful health education posters
- Dramatise key messages so they are entertaining and more easily remembered and recalled
- Use T-shirts to publicise key messages and validate behaviour
- Teach children in school, so they benefit from health education but can also cascade knowledge upwards to their parents and other family members.

Many of these events are already occurring, although as discussed above, the reach and regularity of mobilisation activities, such as dialogue and action days, has reduced in the past year. The CHWs were keen for health facilities to partner with organisations to fund activities, whilst the Homa Bay

District Management Team stressed the need to support communities to hold and facilitate activities themselves (from internal income generation). Caregivers were keen for health education to be delivered in group settings and at the individual or household level and emphasised need for tailored health education to target particular groups (mothers, fathers, 'big people' etc). The fathers' focus group requested that health education be focused on fathers as well as mothers. One mother emphasised the need for all parents to be better educated about their children's health,

As parents we need to be educated. You can give birth, but then you don't know how to care for the child. Mothers and fathers should be taught about how to care for the child.

Who is best placed to provide this education at the community level was also discussed. The majority of participants concluded that it would be more appropriate if men and women were separated and, ideally, if '*mothers were taught by mothers and fathers taught by fathers*'. Most thought that doctors or health professionals from the facilities should provide the education, or 'experienced people' from health organisations (such as Care or the Red Cross). A couple of mothers suggested that fathers should be taught by the grandmothers, and several others emphasised the need for the 'big people' to be educated so they could provide the right advice and exert the necessary pressure on family members. It was rare for a carer to suggest that health education should be provided by CHWs. In fact, most carers asserted that they had never been visited by a CHW and had no engagement with them at a household or village level. Only in one case did a mother confirm that she had received education and support from a CHW,

When I started going to the hospital, she [the CHW] *was the one teaching me. She comes to my house and sometimes I go to her house. She encourages me.*

To overcome knowledge and information barriers, carers suggested that 'better' health education was required across all areas, not only child illness. This means improved communication strategies that enable key health messages to be relevant, appropriate and delivered in an engaging way. Dramatising health education to make it entertaining and using T-shirts to promote healthy behaviour has worked in other health contexts. For example, to counter the problem of unskilled delivery and home births, T-shirts were printed with the phrase 'I take my wife to hospital, do you?' (*'Huwa napeleka mke wangu kwa hospitali, na je wewe?')* The message was well publicised but its profile was further raised when the T-shirts became fashion statements amongst younger men.

Caregivers also suggested the need for education to motivate the community in the upkeep of their environment, focusing on the health benefits of: building robust pit latrines; cutting back undergrowth and maintaining pathways; collecting, treating and storing water safely; hand washing and other sanitation practices; and preparing and eating '*good, clean*' food. Several participants commented that improvements in child health could only be achieved if the school environment was targeted, in addition to the home environment. They urged that teachers be educated to improve hygiene and sanitation in schools and to introduce preventative measures such as mosquito nets.

Solutions to socio-cultural and religious barriers

In contrast to other illnesses, the presentation of malaria, diarrhoea or pneumonia was not readily imbued with socio-cultural significance that prevented care-seeking. To counter the instances of religious beliefs precluding treatment-seeking, participants stressed the need for education and sensitisation at the community level. They suggested that spiritual leaders and 'traditional' health practitioners (such as traditional birth attendants and *nyamrerwa*) be educated to advocate health facility attendance, and discussed the possibility of seeking multiple treatment methods concurrently if this was not detrimental to the healthcare received (e.g complementing AL (artemether-lumefantrine) treatment received at the health facility with the prayers of the *jaote*).

Participants also emphasised the need to educate fathers and 'big people' in the empowerment of women, so that they were in a better position to support mothers, as the primary carers, with the social ability to present their children for treatment.

The cultural practice of using local herbal treatments was regarded by many health professionals as a barrier to timely care-seeking at a health facility, and they suggested that, through health education and sensitisation, carers should be dissuaded from using local treatments. Several mothers asserted that doctors at health facilities had told them not to use local treatments, but concluded that their practice had not changed, and they continued to use herbal remedies regardless.

Solutions to health facility deterrents

Solutions to overcoming health facility deterrents focused on two broad and interrelated areas: measures to improve patient experience; and measures to improve service delivery. For many respondents, the primary solution was to ensure a reliable supply of medicine was available at the health facilities. Carers also asserted that they would be encouraged to attend if the attitude and behaviour of health staff towards patients improved. They suggested health professionals should be better sensitised and taught interpersonal skills so that they did not quarrel with patients, but rather treated them 'kindly' and 'gently'. This would reassure patients and foster a trusting (rather than confrontational) environment in which carers would be more likely to present a child for treatment and additional concerns (HIV testing, lacking a clinic card) would be resolved.

Clinicians and CHWs emphasised the need to build on the positive experiences caregivers may have at the facility to encourage their future attendance whilst advocating for others to attend ('leading by example'). At Marindi health centre, for example, the upgraded maternity unit was seeing a rising number of deliveries each month, as mothers started to come voluntarily and not only during obstetric emergencies. The health centre suggested that there was also a related upwards trend in the number of mothers attending for vaccination and seeking treatment for child illnesses. Carers also agreed that improved service delivery, such as reduced waiting times and better patient flow, would encourage their attendance. Similarly, health professionals suggested that if reliable mechanisms were in place for tracing and follow-up at the community level (potentially through the network of CHWs) then better doctor-patient relations could be sustained and service delivery improved.

Table 1 – Summary of community identified barriers and solutions suggested

Identified barrier		Suggested solution
Financial	• Lack of money • Inability to save • Cost of treatment (direct and indirect) • Limited empowerment of women (economically)	• Economic empowerment of mothers through income-generating activities • Publication of fixed fees for registration, lab tests, basic treatment • Community Based Health Insurance Fund • Implementation of the national policy of free treatment for children under five
Access	• Distance • Location • Lack of transport	• Community responsibility for maintaining paths and walkways • Collaborate to encourage constituency to improve road access (CDF) • Introduce motorbike ambulances with subsidised fuel • Provide CHWs with bicycles to access the community and transport patients • Introduce mobile health clinics and better outreach • Provide CHWs with basic first aid kits, to administer treatment in village setting
Knowledge & information	• Reduction in community level health education • Lack of strategic and targeted health education • Poor communication strategies • 'Dependency syndrome' & preference for home management • Poor school environment	• More health education events (demand-creation activities) at community level • Strategic health education to be targeted at particular groups (e.g fathers, 'big people', spiritual leaders) • Improve communication of key health messages • Contextualise health messages to promote safe and appropriate care-seeking • Develop role of CHWs to deliver health education at community level • Educate teachers to improve school environment
Socio-cultural & religious	• Use of local herbal treatments • Religious prohibition of treatment-seeking • Dependency on spiritual healers • Limited empowerment of women (socially)	• Educate and sensitise the community to seek treatment at health facilities • Educate spiritual leaders and 'traditional' health practitioners to advocate health facility attendance • Educate fathers and 'big people' in the social empowerment of women
Health facility deterrents	• Waiting times • Poor communication and negative staff attitudes • Other issues (HIV testing, clinic card) • Supply-side issues (lack of drugs, equipment and diagnostic capability; limited follow-up and tracing; curtailed activities of CHWs)	• Improve patient experience and service delivery • Improve staff attitude and behaviour • Foster a trusting environment with effective communication • Maximise positive patient experiences • Supply side issues (manage resources to avoid stockouts, staff shortages, equipment shortages and to improve diagnostic capabilities) • Improve tracing and follow up at the community level (network of CHWs)

Discussion and implications

The care-seeking behaviour and associated barriers to treatment for childhood illness identified in this study are supported by similar findings across Kenya. In the literature review undertaken prior to the start of research, Åhs found that socioeconomic status was significantly associated with care-seeking at a facility [4]. Lack of finances was the main explanation given for not seeking healthcare outside the home, and was also the most common reason cited for the non-uptake of hospital referral [4]. In their study of mothers' health seeking behaviour during child illness in Kakemega District, Western Province, Mbagaya et al asserted that over a third of mothers bought drugs to treat their child at home without seeking further care [18]. Amuyunzu-Nyamongo found that caregivers often sought treatment at a place (chemist, shop, private clinic) where cost could be negotiated, and concluded that mothers commonly used a 'wait and see' approach, delaying two or three days prior to seeking treatment [19]. In the recent Knowledge Attitudes and Practices (KAP) study on child survival and development (CSD) in Kenya [20], the 'incorrect perception of health facility child survival service costs' was emphasised. This meshes closely with the findings of this study.

In addition to financial constraints, barriers discussed in other research included: the distance to health facilities; lack of awareness about available treatment; limited knowledge about illness and danger signs; lack of effective communication strategies; the presence of socio-cultural and religious practices that inhibit full utilisation of facility-based care; and supply-side issues including waiting times, lack of drugs, insufficient human resources, negative relations with healthcare providers and the perception of poor quality care [20,21,22].

In terms of the specific illnesses, the lack of knowledge about pneumonia in comparison to malaria and diarrhoea was echoed by several other studies [23,24]. In a KAP study of acute respiratory illness (ARI) in Baringo District, Rift Valley Province, undertaken by Simiyu et al [25], less than one fifth of mother respondents could describe pneumonia satisfactorily: 80% described it as fever without referencing any respiratory association and 90% thought it was caused by the cold. Similarly, the 2003 Kenya Health Demographic Survey (KHDS) concluded that 87% of caregivers did not know signs of pneumonia that would indicate referral to hospital was necessary [26]. The need to raise awareness of pneumonia and dedicate more resources to address this 'forgotten killer' [27], particularly in relation to decreasing under-five mortality rates, is emphasised by the Global Action Plan for Prevention and Control of Pneumonia [28].

Caregivers (and health workers) in Homa Bay, as elsewhere in Kenya, tended to treat any fever as malaria [29]. Malaria was known to be caused by mosquitoes by the majority of carers, but as in this research, other associated causes included the cold and dirty water or food [20,30]. From her review of the literature, Åhs reported that care for malaria at health facilities was only reported in about one third of cases and that most treatment fell outside the formal sector [4,18,29,31]. As in Homa Bay, carers in other districts reported not completing the full course of medication. Hamel et al [29] in their study of malaria control in Bungoma District, Western Province, concluded that, of the caregivers who took their child to a health facility due to malaria, 58% reported having medication left over after they ceased treatment. The KAP of CSD reported that, in Nyanza Province, 95.8% of participants had a mosquito net (slightly above the national average of 92.8%) and 53% had responded in the affirmative to the question 'did your child sleep under a LLITN last night?' The findings of the current study suggest, however, that this may be a false indication of

bed net use, because whilst the youngest child usually slept under the net with the mother or parents (thereby allowing the carer to respond 'yes'), older children frequently slept unprotected.

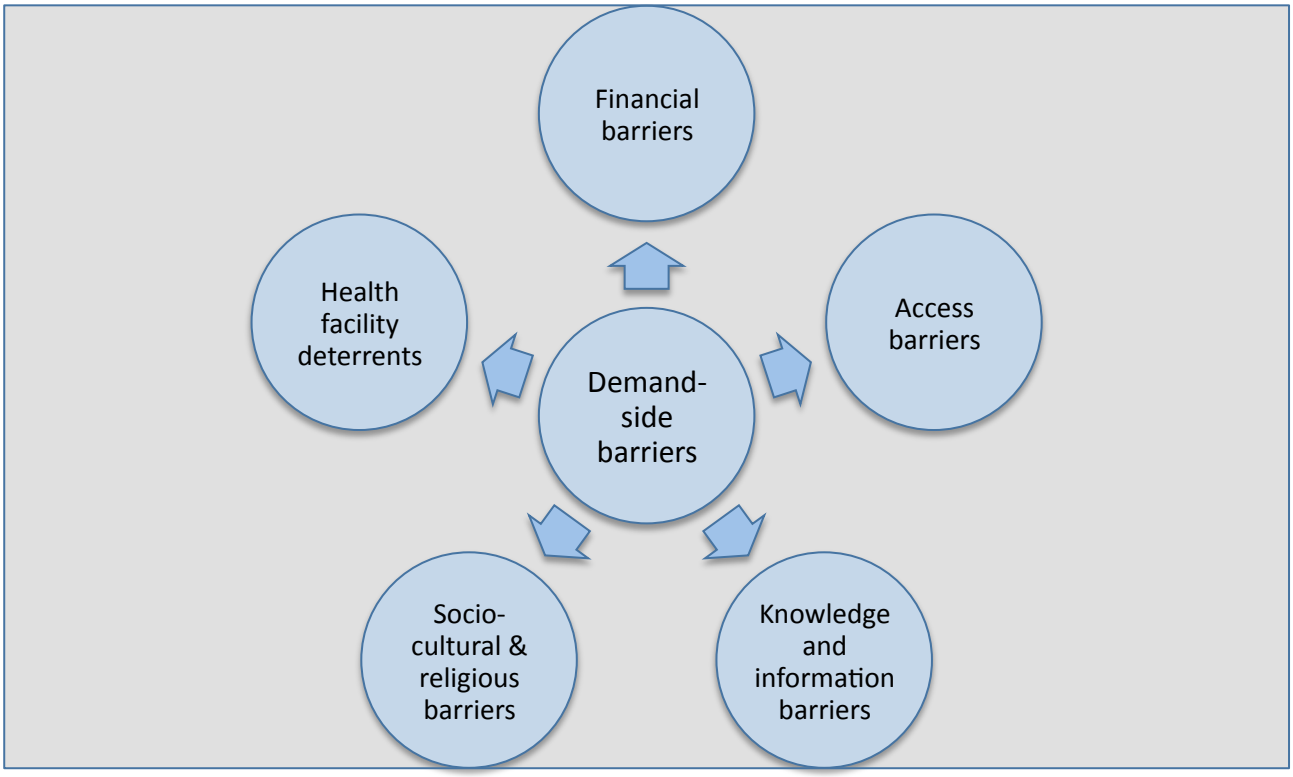
Causes of diarrhoea were similarly reported across the literature, although in addition to drinking unclean water and eating with unwashed hands, a large number of participants in this study also attributed diarrhoea to eating dirty or unclean food, but this was not an option given in the KAP study on CDS [20]. In marked contrast to findings in Homa Bay District that recorded a large percentage of carers administered local herbal treatment, Othero et al, in another study in Nyanza Province (Nyando District) concluded that only a minority of carers gave herbal medicine (8%) or homemade fluids (19%) during home management of diarrhoea in children under five [32]. They also reported that carers frequently withheld fluids from their child during episodes of diarrhoea. Although a direct question about withholding fluids was not asked during this study, it was not volunteered as a practice followed by any participant.

Several studies explored who was involved in decision-making with regard to child healthcare. Similar to the findings of this research, the KAP on CDS concluded that the mother (or primary caregiver) was the most likely individual to make decisions about when to take a child for curative services. This was echoed by Molyneux et al in their detailed examination of intra-household relations and treatment decision-making for childhood illness amongst the Mijkenda of coastal Kenya [33]. The 2003 KDHS also showed a correlation between the decision-making ability of women and child mortality. There appeared to be a higher mortality rate among children of women who had no role in decision-making compared to those who had some say in household decisions [26]. Similarly, the 2008/09 KDHS emphasised the relationship between the educational status of women and child mortality, indication that children whose mothers had received no education or incomplete primary education were more likely to be malnourished in comparison to children whose mothers had completed primary education [8].

Solutions to barriers reported in other literature largely explored health education [19,20,32,34] and facilitating behaviour change in patterns of care-seeking [20,24]. Recommendations made in the KAP study of CSD also focused on communication strategies to engage men and husbands, religious leaders, and mothers-in-law, and to prioritise improved interpersonal communication between health workers and their clients [20]. An interesting local solution forwarded by fathers and supported by other participants during this research was a community-based health insurance fund. An informal and grass-root level mechanism, their idea was akin to a social health protection scheme, run by and for the community, through which they sought to remove the financial barriers preventing individuals from accessing the healthcare services to which they are entitled. UNICEF recently undertook a review of how social health protection, including national health insurance, contributes to achieving universal health coverage (UHC) [35]. Focusing at the national level, it did not examine informal community-based initiatives, but does provide a context for such schemes to be analysed in relation to other frameworks of social health protection.

In their systematic review of qualitative evidence from Sub-Saharan Africa on household recognition and response to child malaria, pneumonia and diarrhoea, Colvin et al [4] identified five main themes: how households understand these illnesses; how social relationships in families and communities affect the recognition and response to these illnesses; how households act to prevent and treat these illnesses; how households perceive, experience and access different forms of healing; and pathways of care and decision making. These issues cut across the current study, but the synthesis of material echoes the 'guide to demand-side barriers' developed by UNICEF,

Diagram 2 – Framework of demand-side barriers



that outlines four barriers: financial; distance and location of health facilities; socio-cultural and gender dynamics; education and information. [5,36].

The current research developed a demand-side barriers framework that added a fifth barrier, as depicted above. The fifth barrier, health centre deterrents, collated the qualitative data on participants' perspectives of supply-side issues that influence their care-seeking and highlights the complex relationship between different determinants of a health system.

Demand for services plus provision of services does not necessarily equate with uptake of services. A critical component that has often been lacking in health interventions is a clear understanding of care-seeking behaviour. This study therefore used a participatory approach not only to assess demand-side issues (both barriers and drivers to care-seeking) from the perspective of the intended beneficiaries, but also to identify a series of related solutions, grounded in empirical data and developed at the community level to encourage and enable care-seeking for childhood illness.

As a platform upon which to develop and promote interventions that are equitable, relevant, appropriate and acceptable, UNICEF should seek to incorporate this information into ongoing policy and programming at international, national and local levels (see summary table below). It will be of particular relevance in Kenya, for example, in relation to UNICEF's operational strategy for improving child survival and development (CSD) in Nyanza and scaling-up integrated community case management (iCCM) in Homa Bay County.

The Child Survival and Development Strategy (2008-2015) was launched by the Kenyan Government in 2009 to provide a framework to scale-up and accelerate child survival and development. Working with the Ministry of Public Health and Sanitation and the Ministry of Medical Services, WHO and other development partners, UNICEF is focusing on operationalising

the Strategy in Nyanza and Western Provinces as together these regions account for over 50% of all under-five mortality in Kenya [9]. There are seven major strands to the activities that UNICEF will implement: prioritising high impact interventions; effective mobilisation and engagement of communities; scaling-up community strategy; expanding outreach services; building district capacity for planning, implementation, monitoring and evaluation of CSD interventions; improving coordination, synergy and convergence amongst programmes; and the mobilisation of resources.

Previously it was assumed that there was a 'general lack of knowledge among families and households on key child survival and development practices and behaviours' [9]. This research aims to furnish UNICEF with empirical details that can help shape the Strategy's activities and goes some way to fulfilling the call for 'formative studies to determine community knowledge, attitudes and practices which may have a negative impact on child survival and development' [9]. Local solutions outlined in this report support a number of CSD initiatives including the involvement of religious institutions in the promotion of child health (the Faith for Life initiative); the participation of community leaders; the expansion of outreach services; the orientation of CHWs; and the development of communication strategies. To be effective, health education needs to positively engage carers to take responsibility and actively seek treatment in a timely fashion, thereby minimising barriers associated with 'dependency syndrome' and the practice of self-diagnosis and self medication. In accepting that home management is the frontline of care for child illness, community for development (C4D) initiatives must work constructively within the local context to promote and safe appropriate care-seeking. A view echoed by several participants was,

> *It is unhelpful when the doctors tell us not to give local herbal treatments, when this is the only way we have to treat our children because the health centre is far, the roads are bad, and we don't have the money for their medicine*.

The roll-out of iCCM further emphasises the growing recognition that programmes which reach beyond static health facilities to involve the community as partners have great potential for improving the health and survival of women and children [37]. iCCM is 'a mechanism to strengthen the role of households and communities in health by increasing their knowledge, skills and participation to take charge of improving their own health and demanding services from all providers, hence progressively realising their rights to equitable and quality healthcare' [37]. A central component of this strategy is effectively 'task-shifting' to CHWs, not only to improve links with the community and for CHWs to act as 'agents for change', but also to relieve mounting pressures due to the chronic shortage of skilled health workers. CHWs will be trained in the three main aspects of iCCM: promotion of key practices at family and community levels; caring for the newborn; and caring for the ill child in the community. Community Health Units (CHUs) will be designed to serve a population of 5000, and every CHW will be responsible for looking after 100 households. Currently, there are 372 trained CHUs in Nyanza, compared to the 1,097 required for full coverage [37]. It is hoped that the allocation of the Health Sector Support Fund (HSSF) and the leveraging of Constituency Development Funds (CDF) will go some way in accelerating the implementation of the community strategy.

As with UNICEF's CSD strategy, the findings of this research can be directly applied in their development and advocacy of iCCM. In addition to providing insights into the perspectives of the intended beneficiaries, the study also highlights some important features about how the current system is functioning. Whilst the role of CHWs was not a central aspect of the study, a number of issues should be noted. CHWs require refresher training (CHWs in Ndiru have not received any training since 2008). CHWs currently lack the resources to carry out their duties efficiently and

effectively: they have no kits to treat the community; they have no transport to facilitate access to the community (although the UNICEF regional office in Kisumu did confirm that a number of bicycles had been procured but not yet distributed); and they have limited reporting tools (in Marindi, the CHWs have had no reporting tools since March 2012, whilst in Ogango, World Vision is currently supporting their referral materials, but that partnership is soon ending). There was great concern amongst CHWs about managing their responsibility for 100 households. The UNICEF country office suggested, however, that it was not a requirement that every household be visited by the CHW every month, but this was not the understanding on the ground in Homa Bay County. Methods of coverage and operation need to be better explained to CHWs. There was also disappointment and mounting resentment amongst the CHWs that they did not receive any remuneration for their work. Whilst they appreciated that being a CHW was a voluntary position, they emphasised a need for expenses to be covered at the very least. Lack of support is decreasing the levels of commitment and motivation amongst CHWs. Most concerning, however, was the revelation that some CHWs are reporting their monthly data inaccurately. Some are 'faking' their data because they don't have the capacity or capability to collect, collate and report on their households reliably. This is particularly problematic when national and international stakeholders (including UNICEF) depend upon data 'collected' at the community level to design interventions and monitor progress. In the development and roll-out of iCCM, stakeholders must conceptualise the role and duties of CHWs realistically (c.f. 'fast-track implementation of the community strategy by training community health workers', a flagship project under the 'social (health) pillar' of Vision 2030 [38]).

As emphasised by the recommendations made by the UN Commission on Life-Saving Commodities (particularly recommendation 6 – supply and awareness; 7 – demand and utilisation; and 8 – reaching women and children), demand- and supply-sides of health interventions are interrelated and, to some extent, mutually dependent. Stockouts are a major supply-side issue that have negative and far-reaching ramifications on care-seeking behaviour. Managing resources to ensure a reliable supply of drugs to health facilities could have significant impact on patient attendance, compliance and positive engagement with health services. If medication was available at government health facilities, and was supplied free of charge at the point of delivery to children under five years (in line with national policy), then the financial barrier all carers discussed would be reduced. In addition, a suite of broad social protection mechanisms should be considered as a means to address social and economic vulnerabilities that prevent individuals and households from accessing health services [39,40,41].

In line with its key objectives, this research has successfully generated new empirical data and identified barriers and local solutions to care-seeking and treatment uptake of childhood malaria, diarrhoea and pneumonia in Kenya. UNICEF must now strive to put this evidence into policy, and policy into practice.

Table 2 – Summary of policy/programmatic implications and action points

	Policy/programmatic implications and action points
C4D	• Develop key messages that better address the causation, symptoms and prevention strategies regarding childhood illness (particularly pneumonia and diarrhoea) and incorporate related issues such as water, hygiene and sanitation. • Strengthen demand generation through targeted C4D that emphasises the recognition of danger signs, advocate timely care-seeking, and promote adherence to treatment protocols. • Revise health education material to ensure messages are simple and memorable and focus on Key Practices. • Support community leaders to develop local partnerships that initiative demand-creation activities (e.g. dialogue and action days). • Integrate rigorous monitoring and evaluation to assess the effectiveness and impact of all health education, communication strategies and demand-generating activities.
Financial and social protection	• Advocate and support the government to implement and publicise the national policy of free treatment to children under five years at the point of service delivery. • Advocate for and support the economic and social empowerment of women. • Support a range of social policy and protection solutions that are equitable. • Explore the feasibility of a community health fund (based on local merry-go-round schemes) in relation to the NHIF.
iCCM	• Support all aspects of iCCM roll out in Homa Bay (and beyond). • Support the development of a sustainable policy for CHWs, defining their role and responsibilities, and rates of remuneration. • Support the development of operational factors such as training, supervision, the make-up and distribution of kits, accurate reporting tools and logistical support (e.g distribution of bicycles).
Faith for Life Initiative	• Collaborate with spiritual leaders from different denominations to promote appropriate and timely care-seeking. • Address religious prohibition of biomedicine and health facility attendance.
Education	• Support the improvement of the school environment in relation to child health (the use of bed nets at boarding schools, better water hygiene and sanitation practices). • Advocate for health education to be given to children at school (part of the strategy for child to parent knowledge transfer).
Supply side	• Strengthen supply side chain management at all levels to prevent stockouts of essential commodities. Revise protocols for maintaining standard minimum stock levels for essential commodities. • Strengthen the monitoring of stockouts through routine HMIS, regular supervision visits and annual rapid assessments. • Provide support and technical assistance for health system strengthening to improve both service delivery and patient experience.
Other	• Advocate that the informal network of healthcare providers, particularly chemists and traditional healers (such as *namretcha*) be included in dialogue to strengthen provision of health services and care-seeking behaviour. • Work with local community and regional leaders to leverage CDF and HSSF.

Conclusion

The demand-side of health interventions to improve child survival has often been neglected in research, policy and programming, or at least, has not been afforded the weight it deserves. As the Kenyan government and its partners strive to improve equitable coverage of interventions that are known to improve child survival, attention must be given to understanding demand-side (and supply-side barriers) encountered by care-givers as well as to locally derived and relevant solutions.

This research was conducted under the auspices of the UN Commission on Life-Saving Commodities for Women and Children, which recognises the importance of barriers in affecting the availability, accessibility and rational utilisation of selected commodities for maternal and child health. It is UNICEF's intention that the UN Commission use the information generated through this research to recommend innovative strategies that raise awareness of, and strengthen demand for, these lifesaving products amongst end users.

Against this backdrop and in line with UNICEF's mission to achieve equity for and realise the rights of the world's most marginalised children, the research resulted in a number of key implications for policy and programming in Kenya. Building upon these specific points, five general recommendations are offered in conclusion:

1. Utilise the solutions identified as a platform to develop effective and sustainable interventions that are rooted in the lived experience of the intended beneficiaries.
2. Ensure interventions are oriented towards the community. Support caregivers to make decisions and seek treatment within their local context, rather than characterise a lack of engagement with health facilities as a product of poor health literacy. Accept that home management is likely to remain the frontline of care. Promote safe and appropriate practices at a community level and simple processes for seeking treatment at health facilities.
3. Synergise supply- and demand-side initiatives so that health is not adversely affected. Whilst demand-side generation will 'backfire' if patients expend time, energy and resources seeking care only to be denied because of stock-outs or staff shortages, demand-side generation takes time to evolve and take effect, and should therefore be implemented in parallel to supply-side challenges being resolved.
4. It is imperative that health interventions are critically and rigorously monitored and evaluated. This will promote accountability and transparency as findings are meaningfully incorporated into the cycle of programme and policy development and implementation.
5. Focused research that can be operationalised should continue to seek answers to specific questions. For example, is there a positive correlation between improved maternity services and an upwards trend in care-seeking and treatment uptake for childhood illness?

Nyanza Province, being one of the poorest regions of the country with the highest burden of disease, has attracted many donors, international and national non-governmental organisations. This provides a fertile opportunity. If Kenya and its partners can combine resources and expertise, they can make a significant and positive impact on the health and survival of the most disadvantaged women and children, and Kenya can accelerate progress towards achieving its Millennium Development Goals.

Appendix 1 – Map of fieldsites

(approximate locations)

Lambwe Dispensary

Ndiru Health Centre

Marindi Health Centre

Appendix 2 – Methodological tools

Topic Guide

- **Malaria, diarrhoea and pneumonia**

Language
Local theories of causation
Recognition of illness
Preventive measures, disease prevention strategies
Risk /danger

- **Care- and treatment-seeking behaviour for malaria, diarrhoea and pneumonia**

Response to illness
Previous experiences
Treatment strategies, treatments sought (including gender)

- **Modes of healthcare**

Biomedical / local / traditional
Relations with healthcare providers
Non-medical impact of seeking different modes of healthcare

- **Location of healthcare**

Distance
Time
Terrain
Transport
Access (independent and collective)

- **Household and community**

Socio-cultural norms
Household (priorities and negotiation)
Social relationships, decision-making continuum and agency to act (including gender)
Role of religious and spiritual beliefs

- **Financial**

Costs (direct and indirect)
Commodification of care

- **Level of (biomedical) knowledge**

Health education exposure
Information about services available

- **Other determinants**

- **Behaviour and change**

Divergence between theory and practice **(**e.g know what should do, but doesn't – why?)
Triggers and processes of change in health beliefs and practices

- **Local solutions**

Interview framework – carers of children under 5 years old

Demographic details

- Age
- Relationship to child
- Marital status
- Number of children in care
- Age of children
- Gender of children
- Do children go to school
- Did carer go to school
- Does family (paternal, maternal) live near
- Religion
- Employment
- General income range

Q1
What are the main child health problems in your community?
Do many young children (under 5) die in this area?
What do they die from?

Q2
What do you call malaria in your community?
What causes malaria and what are the symptoms?
How do you prevent malaria and do you do this?
Do your family sleep under bed nets?
Where did you get your family's bed net(s) from? Were they treated? How much did they cost?
Do bed nets have any other uses?
If the children sleep under a bed net, when and how do they get malaria? What can be done?

What do you call diarrhoea in your community?
What causes diarrhoea and what are the symptoms?
How do you prevent diarrhoea and do you do this?
Where does your family get water from? Do you drink it directly from the source?
Where does your family (adults and children) go to the toilet? (If in the bush, do you leave it?)
Does your family (adults and children) wash their hands? With water only?

What do you call pneumonia in your community?
What causes pneumonia what are the symptoms?
How do you prevent pneumonia and do you do this?

Q3
For child illness, do you use traditional medicine / home remedies?
What for? How do you prepare? Where do you get the herbs? Who showed you how to use them?

Does your family use a traditional doctor / spiritual healer for child illness?
What for? Do you have to pay? How much?

Do you sometimes go to the health centre for child illness?
How far is the health centre from your place? How do you get there?
What cost is incurred to visit the health centre and obtain medicine?
What is your opinion about the quality of the services provided by the health centre?
Do you have to wait to be seen at the health centre?

Do you sometimes use the chemist for child illness?
Why do you use the chemist (instead of the health centre?)
How far is the chemist from your place? How do you get there?
What cost is incurred to visit the chemist and obtain medicine?

Q4
When a child is ill, who do you tell?
What kind of help does your husband / family provide to you when a child is ill?
Who takes the decision to treat the child?

Q5
What cultural beliefs influence child illness and treatment-seeking in your community?

Q6
How often is your child ill?
How often do you get treatment for your child?
When did you last visit the health centre because of child illness? (Elicit narrative)

Q7
Of the three illnesses, which is the most dangerous / serious for children in your opinion?
Of the three illnesses, which are you most likely to visit a health centre for?

Q8
Where do you get your information about child illness?
What child survival information, education and communication activities are targeted at mothers?
What measures should be taken to improve the community's knowledge about child illness?

Q9
What are the main challenges your family faces in going to the health centre or accessing treatment for child illness?
What are the reasons that some families do not take their child for treatment if they are ill?
Does the cost of accessing treatment sometimes prevent you taking the child?

Q10
What are the solutions to these challenges / barriers?

Q11
What can be done to improve the health of children in this area?

Focus group discussion framework – mothers of children under 5 years old

Q1
What are the main child health problems in your community?
Do many young children (under 5) die in this area?
What do they die from?

Q2
What causes malaria and what are the symptoms?
How do you prevent malaria and do you do this?
If the children sleep under a bed net, when and how do they get malaria? What can be done?

What causes diarrhoea and what are the symptoms?
How do you prevent diarrhoea and do you do this?

What causes pneumonia what are the symptoms?
How do you prevent pneumonia and do you do this?

Q3
For child illness, do you use traditional medicine / home remedies? What for?
Does your family use a traditional doctor / spiritual healer for child illness?

Do you sometimes go to the health centre for child illness?
How far is the health centre from your place?
What is your opinion about the quality of the services provided by the health centre?

Do you sometimes use the chemist for child illness?
Why do you use the chemist (instead of the health centre?)

Q4
What kind of help does your husband / family provide to you when a child is ill?

Q5
What cultural beliefs influence child illness and treatment-seeking in your community?

Q6
Where do you get information about child illness?
What child survival information, education and communication activities are targeted at mothers?
What measures should be taken to improve the community's knowledge about child illness?

Q7
What are the main challenges your family faces in going to the health centre or accessing treatment for child illness?
What are the reasons that some families do not take their child for treatment if they are ill?
Does the cost of accessing treatment sometimes prevent you taking the child?

Q8 / Q9
What are the solutions to these challenges / barriers?
What can be done to improve the health of children in this area?

Focus group discussion framework – fathers of children under 5 years old

Q1
What are the main child health problems in your community?
Do many young children (under 5) die in this area?
What do they die from?

Q2
What causes malaria and what are the symptoms?
How do you prevent malaria and do you do this?
If they children sleep under a bed net, when and how do they get malaria? What can be done?

What causes diarrhoea and what are the symptoms?
How do you prevent diarrhoea and do you do this?

What causes pneumonia what are the symptoms?
How do you prevent pneumonia and do you do this?

Q3
For child illness, does your wife use traditional medicine / home remedies? What for?
Does your family use a traditional doctor / spiritual healer for child illness?

Do you sometimes go to the health centre for child illness?
How far is the health centre from your place?
What is your opinion about the quality of the services provided by the health centre?

Do you sometimes use the chemist for child illness?
Why do you use the chemist (instead of the health centre?)

Q4
What kind of help do you provide to your wife when a child is ill?

Q5
What cultural beliefs influence child illness and treatment-seeking in your community?

Q6
What role should fathers play to prevent children getting malaria, diarrhoea and pneumonia?
What role should fathers play to ensure children access treatment quickly & easily?
What role should fathers play to create awareness about childhood illness?

Where do you get information about child illness?
Are there any child survival information, education and communication activities targeted at men?
What measures should be taken to improve fathers' knowledge about child illness?

Q7
What are the main challenges your family faces in going to the health centre or accessing treatment for child illness?
What are the reasons that some families do not take their child for treatment if they are ill?
Does the cost of accessing treatment sometimes prevent you taking the child?

Q8
What are the solutions to these challenges / barriers?

Q9
What can be done to improve the health of children in this area?

Focus group discussion framework – community health workers.

Q1
What are the main child health problems in your community?
Do many young children (under 5) die in this area?
What do they die from?

Q2
What causes malaria and what are the symptoms?
How do you prevent malaria and do you do this?
If they children sleep under a bed net, when and how do they get malaria? What can be done?

What causes diarrhoea and what are the symptoms?
How do you prevent diarrhoea and do you do this?

What causes pneumonia what are the symptoms?
How do you prevent pneumonia and do you do this?

Q3
For child illness, do some families use traditional medicine / home remedies? What for?
Do some families use a traditional doctor / spiritual healer for child illness?

Do some families go to the health centre for child illness?
What is your opinion about the quality of the services provided by the health centre?

Do some families use the chemist for your child illness?
Why do they use the chemist (instead of the health centre?)

Q4
What kind of help do husbands / family provide to mothers when a child is ill?

Q5
What cultural beliefs influence child illness and treatment-seeking in this community?

Q6
Where do the community learn about child illness?
What child survival information, education and communication activities are targeted at mothers/fathers?
What measures should be taken to improve the community's knowledge about child illness?

Q7
What activities do health workers undertake in the community?
What challenges do health workers face doing their work in the community?
Do you get support from the health centre, the government, the community?

Q8
What are the main challenges families in this community face in going to the health centre or accessing treatment for child illness?
What are the reasons that some families do not take their child for treatment if they are ill?

Does the cost of accessing treatment sometimes prevent some families from taking the child?

Q9
What are the solutions to these challenges / barriers?

Q10
What can be done to improve the health of children in this area?

Appendix 3 – Consent form

English language version

UNICEF / Anthrologica

Qualitative research to identify solutions to local barriers to care-seeking and treatment for diarrhoea, malaria and pneumonia in Kenya

Background to the study

Diarrhoea, malaria and pneumonia remain the three largest killers of children. Simple, inexpensive treatments are available for these conditions and in many countries, including Kenya, efforts are being made to expand access by making the treatments available within communities and health facilities. Yet, too few children receive appropriate care. UNICEF and Anthrologica are interested in developing a better understanding of barriers that prevent uptake of treatment in Kenya, and seek to develop specific strategies to address the barriers identified.

Objective of the study

The objective of this study is to learn from care givers in Homa Bay, Nyanza Province. We are interested in:

- Your perceptions and experiences of diarrhoea, malaria and pneumonia
- Your treatment-seeking behaviour for diarrhoea, malaria and pneumonia
- The barriers, difficulties and challenges you face in accessing treatment for these illnesses
- Your ideas about solutions to these challenges, ways in which the barriers can be overcome, and what would need to happen for better and more timely access to treatment for these illnesses.

Interivew

For this purpose, we would like to talk to you about matters relating to diarrhoea, malaria and pneumonia in children. The informal interview will last for approximately one hour. You have the right to withdraw from the discussion at any time without reason.

We will ensure that your information, opinions and experiences are kept confidential and will only be used for the purpose of the study outlined. We will not use your name. During our conversation, we will make an audio recording for our records. It will be destroyed at the end of the study. During our discussion we will take a number of photographs of you. These will be used for the purpose of the current study and may be included in academic publications and other material for UNICEF and Anthrologica. If your photograph is published, you shall not be identified by name and the usual confidential process shall be followed.

In regard to collecting information for this study we would greatly appreciate your help and therefore seek your consent and cooperation. You may ask any questions related to the study and we will answer these questions to your satisfaction.

INFORMED CONSENT

I have been informed in detail about the purpose and nature of this study.
I have received satisfactory answers to all my questions relating to this study.
I have decided that I will participate willingly and can withdraw at any time for any reason.
I give my informed consent to participate in this study and have my photograph taken as part of the study.

_____	_____	_____
Name of Participant	**Signature**	**Date**

_____	_____	_____
Name of Witness	**Signature**	**Date**

As a witness of this letter, I ensure that I have the above information has been accurately conveyed to the participant. I also ensure that they have decided to participate in this study freely and willingly.

Kiswahili language version

UNICEF / Anthrologica

Qualitative research to identify solutions to local barriers to care-seeking and treatment for diarrhoea, malaria and pneumonia in Kenya

Kiini cha utafiti

Tumbo la kuendesha, ugonjwa wa malaria na ugonjwa wa mapafu ndio bado magonjwa makubwa matatu ambayo yanaendelea kuwaua watoto. Matibabu rahisi na ya gharama ya chini yanapatikana ili kutibu magonjwa haya na katika nchi nyingi; pamoja na hapa Kenya, juhudi zinafanywa ili kuhakikisha yakwamba matibabu haya yanaweza kupatikana kwa urahisi zaidi kwa kuyaleta katika jamii mbalimbali na katika vituo vya afya. Lakini, ni watoto wachache sana ambao hupokea huduma inayofaa. UNICEF na Athrologica zingependa kuelewa zaidi kuhusu vizuizi ambavyo huzuia matumizi ya matibabu haya nchini Kenya, na kujitahidi kutengeneza mikakati maalum za kushughulikia vizuizi hivyo.

Lengo la utafiti

Lengo la utafiti huu ni kujifunza kutoka kwa walezi walio Homabay, katika mkoa wa Nyanza. Tungependa kujua:

- Maoni na uzoefu wako kuhusu tumbo la kuendesha, ugonjwa wa malaria na ugonjwa wa mapafu.
- Mazoea yako ya kutafuta matibabu kutokana na tumbo la kuendesha, ugonjwa wa malaria na ugonjwa wa mapafu.
- Vizuizi, shida na changamoto unazopata wakati wa kutafuta matibabu ya magonjwa haya.
- Maoni yako kuhusu suluhisho zinazohitajika kukumbana na changamoto hizi, njia ambazo vizuizi hivyo vinaweza kuepukwa na ni nini kinapaswa kufanyika ili kuwe na matibabu bora zaidi na yanayoweza kupatikana kwa haraka zaidi ili kutibu magonjwa haya.

Mahojiano

Kwa sababu hii, tungependa kuzungumza na wewe kuhusu maswala yanayohusiana na tumbo la kuendesha, ugonjwa wa malaria na ugonjwa wa mapafu katika watoto. Mahojiano haya yasiyo na sherehe kubwa yatachukua muda wa kama saa moja hivi. Uko na uhuru wa kujiondoa kutoka kwa mazungumzo wakati wowote bila ya kutoa sababu yoyote.

Tutahakikisha yakwamba habari na maoni yako na uzoefu wa yale umepitia yatawekwa kwa usiri na yatatumika tu kwa madhumuni ya utafiti huu ulioelezewa. Hatutatumia jina lako. Unaweza kuuliza swali lolote linalohusiana na utafiti huu na tutajibu maswali hayo ili uweze kuridhika. Wakati wa mazungumzo yetu, tutatumia kinasa sauti kunasa mazungumzo haya kwa rekodi zetu. Mazungumzo hayo yaliyorekodiwa yataharibiwa utafiti utakapomalizika. Wakati wa mazungumzo yetu, tutakuchukua picha kadhaa. Picha hizi zitatumika kwa madhumuni ya utafiti huu na zinaweza kutumika katika vijitabu vya elimu na vitu vingine vya UNICEF na Anthrologica. Ikiwa picha yako itatumika katika kijitabu, hatutakutambulisha kwa jina lako na zile mikakati za kawaida za kuweka mambo kwa usiri zitafuatwa.

Kwa minajili ya kukusanya habari katika utafiti huu, tutashukuru sana kupata usaidizi wako na kwa hivyo tunakuuliza kukubali kushiriki na kushirikiana nasi.

KUKUBALI KUSHIRIKI

Nimeelezewa kwa undani kuhusu madhumuni na asili ya utafiti huu.
Nimepokea majibu ya kuridhisha kwa maswali yangu yote yanayohusiana na utafiti huu.
Nimeamua kwamba nitashiriki kwa hiari yangu na ninaweza kujiondoa wakati wowote na kwa sababu yoyote.
Ninakubali kushiriki katika utafiti huu na picha yangu kuchukuliwa kama sehemu moja ya utafiti huu.

_____	_____	_____
Jina la Mshiriki	**Sahihi**	**Tarehe**
_____	_____	_____
Jina la Shahidi	**Sahihi**	**Tarehe**

Kama shahidi wa barua hii, nimehakikisha yakwamba mshiriki amepewa habari iliyopo hapo juu kwa njia iliyo sahihi. Pia nimehakikisha yakwamba amekubali kushiriki katika utafiti huu bila kulazimishwa na kwa hiari yake.

References

[1] United Nations Secretary-General (2010). *Global strategy for women's and children's health: the partnership for maternal, newborn and child health*. www.everywomaneverychild.org/images/content/files/global_strategy/full/20100914_gswch_en.pdf

[2] Every Woman Every Child (2012). *UN Commission on life-saving commodities for women and children: commissioners' report*. http://www.everywomaneverychild.org/images/UN_Commission_Report_September_2012_Final.pdf

[3] Every Woman Every Child (2012). *UN Commission on life-saving commodities for women and children: implementation plan*. http://www.everywomaneverychild.org/images/Implementation_plan_Sept_2012.pdf

[4] Colvin, CJ. (2011). *Systematic review of qualitative evidence from Sub-Saharan Africa on household recognition and response to child malaria, pneumonia and diarrhoea*. (Unpublished).

[5] Åhs, J. (2012). *Perceptions, management and barriers to care seeking for childhood diarrhoea, malaria and pneumonia: Uganda, Kenya, Nigeria, Ethiopia, Niger*. (Unpublished).

[6] UN Inter-agency Group for Child Mortality Estimation (2012). *Levels and Trends in Child Mortality*. UNICEF: New York. http://www.unicef.org.uk/Documents/Publications/UNICEF_2012_IGME_child_mortality_report.pdf

[7] UNDP (2010). *Assessing progress in Africa torward the millennium development goals*. http://web.undp.org/africa/documents/mdg/full-report.pdf

[8] Kenya National Bureau of Statistics (2010). *Kenya Demographic Health Survey 2008-2009*. Kenya National Bureau of Statistics: Nairobi. http://www.unfpa.org/sowmy/resources/docs/library/R313_KNBS_2010_Kenya_DHS_2009_final_report.pdf

[9] UNICEF Kenya Country Office (2010). *Operational strategy for improving child survival and development in Nyanza and Western Provinces: a framework for the implementation of the Child Survival and Development Strategy (CSDS) at the district level*. (Unpublished).

[10] OHCHR (1989). *Convention on the rights of the child*. http://www2.ohchr.org/english/law/crc.htm

[11] Guest, G. K.M. MacQueen & E. Namey (2012). *Applied thematic analysis*. Thousand Oaks, CA: Sage.

[12] Bryman, A. (2008). *Social research methods* (3rd edition). New York: Oxford University Press.

[13] Ritchie, J. & J. Lewis (2008). *Qualitative research practice*. Thousand Oaks, CA: Sage.

[14] Lock, M. & N. Scheper-Huges (1990). A critical-interpretative approach in medical anthropology: rituals and routines of discipline and dissent. In T.M. Johnson & C.F Sargent (Eds.) *Medical anthropology: contemporary theory and method* (pp. 47-72). New York: Praeger.

[15] Hahn, R.A. & M.C. Inhorn (2009). *Anthropology and public health: bridging differences in culture and society*. Oxford: Oxford University Press.

[16] Nichter, M. (2008). *Global Health: why cultural perceptions, social representations and biopolitics matter*. Tucson: University of Arizona Press.

[17] Pope, C., S.Ziebland & N. Mays (2000). Qualitative research in health care. *British Medical Journal*, 320(7227): 114-116.
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1117368/pdf/114.pdf

[18] Mbagaya, G.M. et al. (2005). Mother's health seeking behaviour during child illness in a rural western Kenay community. *Africa Health Sciences*, 1125: 322-327.

[19] Amuyunzu-Nyamongo, M. & I.K. Nyamongo (2006). Health seeking behaviour of mothers of under-five-year-old children in the slum communities of Nairobi, Kenya. *Anthropology and Medicine*, 13(1): 25-40.

[20] Participatory Development Consultancy (2012). *Formative study of knowledge, attitudes and practices (KAP) on child survival and development in Kenya*. (Unpublished, submitted to the Division of Child and Adolescent Health, Ministry of Public Health and Sanitation).

[21] Opwora, A.S. et al. (2011). Who is to blame? Perspectives of caregivers on barriers to accessing healthcare for the under-fives in Butere District, Western Kenya. *BMC Public Health*, 11(1): 272-282.

[22] Bigogo, G. et al. (2010). Health-seeking patterns among participants of population-based morbidity surveillance in rural western Kenya: implications for calculating disease rates. *International Journal of Infectious Diseases*, 14(11): 967-973.

[23] Irimu, G. et al. (2008). Community understanding of pneumonia in Kenya. *Africa Health Sciences*, 8: 103-107.

[24] Taffa, N. & G. Chepngeno (2005). Determinants of health care seeking for childhood illnesses in Nairobi slums. *Tropcial Medicine and International Health*, 10: 240-245.

[25] Simiyu, D.E. et al. (2003). Mothers' knowledge, attitudes and practices regarding acute respiratory infections in children in Baringo District, Kenya. *East Africa Medical Journal*, 80(6): 303-307.

[26] Kenya National Bureau of Statistics (2004). *Kenya Demographic Health Survey 2002-2003.* Kenya National Bureau of Statistics: Nairobi.
http://www.measuredhs.com/pubs/pdf/FR151/FR151.pdf

[27] UNICEF and WHO (2006). *Pneumonia: the forgotten killer of children*. Unicef: New York. http://whqlibdoc.who.int/publications/2006/9280640489_eng.pdf

[28] WHO and UNICEF (2009). *Global Action Plan for Prevention and Control of Pneumonia (GAPP)*. WHO: Geneva. http://whqlibdoc.who.int/publications/2008/9789241596336_eng.pdf

[29] Hamel, M.J. et al. (2001). Malaria control in Bungoma District, Kenya: a survey of home treatment of children with fever, bednet use and attendance at antenatal clinics. *Bulletin of the World Health Organisation*, 69: 1014-1023.

[30] Osero, J.S. et al. (2006). Mothers' knowledge of malaria and vector management strategies in Nyamira District, Kenya. *East Africa Medical Journal*, 83(9): 507-514.

[31] Amin, A.A. et al. (2003). The use of formal and informal curative services in the management of paediatric fevers in four districts in Kenya. *Tropical Medicine and International Health*, 8: 1143-1152.

[32] Othero, E.M. et al. (2008). Home management of diarrhoea among under-fives in a rural community in Kenya: household perceptions and practices. *East African Journal of Public Health*, 5: 142-146.

[33] Molyneux, C.S. et al. (2002). Intra-household relations and treatment decision-making for childhood illness: a Kenyan case study. *Journal of biosocial science*, 34: 109-131.

[34] Kakai, R.D. et al. (2009). Supporting formal education to improve quality of healthcare provided by mothers of children with malaria in rural western Kenya. *Journal of infection in developing countries*, 3(7): 548-553.

[35] UNICEF (2012). *National health insurance in Asia and Africa: advancing equitable social health protection to achieve universal health coverage*. UNICEF: New York. http://www.unicef.org/socialpolicy/files/National_health_insurance_in_Asia_and_Africa-Final-22MAY12.pdf

[36] UNICEF Health Section (2012). *Assessment of barriers to demand: a guide to assess barriers to key maternal, newborn and child health interventions from the perspective of beneficiaries and to involve them in identifying solutions*. (Unpublished).

[37] UNICEF Kenya Country Office (2011). *Addressing the triple killers of children at community level: proposal to scale up iCCM in Siaya and Homa Bay Counties of Kenya*. (Unpublished).

[38] Government of the Republic of Kenya (2007). *Vision 2030: the popular vision*. http://www.vision2030.go.ke/index.php/pillars/project/Social/86

[39] UNICEF (2012). *UNICEF social protection strategic framework: integrating social protection systems, enhancing equity for children*. UNICEF: New York. http://www.unicef.org/socialprotection/framework/files/Full_Social_Protection_Strategic_Framework_low_res(1).pdf

[40] Ministry of State for Planning, National Development and Vision 2030 (2012). *Kenya social protection sector review*.
http://www.vision2030.go.ke/cms/vds/SP_Executive_Report_FINAL1.pdf

[41] WHO (2008). *Closing the gap in a generation: health equity through action on the social determinants of health*. WHO: Geneva.
http://whqlibdoc.who.int/publications/2008/9789241563703_eng.pdf

[All weblinks accessed 12 October 2012]