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CARE Kenya  
Community Initiatives for Child Survival Siaya  
(CICSS)

Child Survival XI

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September 29, 1995 – September 30, 1999

**Final Evaluation**

Siaya, Kenya

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**Note to the AID Reader**

Because the revised 1999 final evaluation guidelines had not yet been distributed at the time of this evaluation, this report follows the guidelines established for projects ending in 1997

## Table of Contents

Chapter One	Summary and Recommendations	1
Chapter Two	Project Background	11
Chapter Three	Recommendations of the Mid-Term Evaluation	16
Chapter Four	Capacity Building and Sustainability	21
Chapter Five	Presentation and Discussion of Final Survey Findings	32
Chapter Six	Issues identified by Evaluation Team, Project or PVO	37
Chapter Seven	Innovations and Lessons	50
Chapter Eight	Achievements and Constraints	51
<b>Appendices</b>		
Appendix 1	Final Evaluation Schedule	
Appendix 2	Final evaluation Team Members	
Appendix 3	Logical Framework	
Appendix 4	Questions for Chiefs and Assistant Chiefs	
Appendix 5	Interviews with Chiefs and Assistant Chiefs	
Appendix 6	Focus Groups with Village Health Committee Members	
Appendix 7	Interview Guide for Village Health Committee	
Appendix 8	Village Elder' Interview and Discussion	
Appendix 9	Findings of the Focus Group Discussions for Mothers	
Appendix 10	Focus Group Discussion for Mothers	
Appendix 11	Health Facility Staff in Depth Interview	
Appendix 12	Summary of CHW Focus Groups	
Appendix 13	Sustainability Table	
Appendix 14	Collaboration and Formal Agreements	

## List of Tables

Table 1	Child Mortality
Table 2	Care Seeking Behaviors
Table 3	CHW Clinical Register
Table 4	Vaccination Coverage
Table 5	Results of Focus Group Discussions with Mothers
Table 6	Key Recommendations
Table 7	Sources of Data and Analysis Needed
Table 8	Project Beneficiaries
Table 9	Summary of Community-Level Health Workers
Table 10	Relationships between Different Systems
Table 11	Mid Term Evaluation Recommendations
Table 12	HMIS Review Recommendations
Table 13	Case Management Review Recommendations
Table 14	Mortality Study Recommendations
Table 15	Training Provided to CHWs
Table 16	Final KPC Results
Table 17	Care-seeking Behaviors
Table 18	Frequency of Health Education Messages and Follow-up
Table 19	Correct use of Medicines by CHWs
Table 20	Problems and Solutions to Medicine Ordering
Table 21	Types of Data Collected
Table 22	Sources of Data and Types of Analysis Needed

## ACCRONYMS

ALRI	Acute Lower Respiratory Infection
ARI	Acute Respiratory Infection
CDC	Centers for Disease Control
CHE	Community Health Extension workers
CHW	Community Health Worker
CICSS	Community Initiative for Child Survival in Siaya
CP	Community Pharmacy
DIP	Detailed Implementation Plan
DMO	District Medical Officer
DPHO	District Public Health Officer
DMW	Diocese of Maseno West
KPC	Knowledge, Practices and Coverage survey
MEDS	Mission for Essential Drug Supply
MOH	Ministry of Health
ORS	Oral Re-hydration Solution
ORT	Oral Re-hydration Therapy
PHT	Public Health Technicians
STD	Sexually Transmitted Diseases
SHEWAS	CARE water and sanitation project
VHC	Village Health Committee

## Chapter One Summary and Recommendations

### a Evaluation Objectives and Methods

The objectives of this evaluation were to assess the achievement of project objectives, explore reasons why some project objectives were not met, propose strategies to overcome barriers to success, examine sustainability of project activities and benefits, and share lessons learned that can benefit other child survival projects

The approach taken included reviewing existing documents and previous evaluations, and collecting of new information. All field activities occurred between July 7 and July 19, 1999

- Sources of new quantitative data included
- a knowledge, practices, and coverage (KPC) survey of randomly selected households in the project area,
  - interviews of randomly selected mothers at a market in the project area and in several villages,
  - analysis of a systematic sample of supervisory forms completed during in-service training of community health workers (CHWs),
  - evaluation of case management data from CHW clinical registers,
  - data on number of case management encounters and diagnoses from the sub-location chalkboards, and
  - data on revenues generated from several community pharmacies

Qualitative assessment tools were used to determine the knowledge, attitudes, and practices of project beneficiaries and stakeholders. These included

- interviews with country level CARE staff and personnel from USAID and the Ministry of Health in Nairobi,
- interviews with CARE Siaya project staff,
- interviews with 4 Chiefs and 10 Assistant Chiefs,
- interviews with 7 Village Elders,
- interviews with MOH clinical staff at 4 dispensaries and the Siaya District Hospital outpatient clinic,
- interviews with the District Public Health Officer, and the Officers in charge of health education at the District level,
- interviews with the medical director of the Diocese of Maseno West (DMW) and with the DMW pharmacist,
- a focus group with the 6 Public Health Technicians from the project area,
- 4 focus groups with Village Health Committee (VHC) members,
- 4 focus groups with community health workers (CHWs),
- 2 focus groups with community health extension workers (CHEs), and
- 4 focus groups with mothers from communities in the project area

b Achievements and Constraints

- The most important indicator of success in any child survival project is a reduction of deaths in children. Data collected in an earlier evaluation showed a substantial decline in mortality from 1996 and 1997 (before effective project implementation) to 1998. At the time of the evaluation, data were only available for January through August for each year.

**Table 1 - Child Mortality**

<b>Year (Jan to Aug )</b>	<b>Number of Deaths</b>	<b>Percent Change</b>
1996	415	
1997	444	increase 7%
1998	228	decrease 49%

This impact on deaths among children has been recognized widely in the community. In individual interviews, when asked about benefits from the project to their communities, 3 of 4 Chiefs, 9 of 10 Assistant Chiefs, and 5 of 7 Village Elders mentioned that fewer children were dying. This observation also was made in every focus group discussion with CHWs.

- Delivering care for common childhood illnesses within the community by CHWs has resulted in more rapid care seeking, lower cost to families, and improved outcome. These impacts were documented in the KPC survey, comparing children who were taken to a CHW with an illness occurring within the two weeks preceding the survey compared with children who were ill during the same period but were not taken to the CHW.

**Table 2 – Care Seeking Behaviors**

<b>Source of care</b>	<b>Sought care within 24 hours of illness onset</b>	<b>Cost of care less than 100 KS</b>	<b>Recovered from illness</b>
<i>Malaria</i>			
CHW	50%	91%	86%
Other	31%*	73%	59%

<i>Acute lower respiratory infections (ALRI)</i>			
CHW	50%	70%	59%
Other	26%*	55%	43%
<i>Diarrhea</i>			
CHW	Not asked	73%	67%
Other	Not asked	75%	56%

\*The comparison group for this analysis is children taken for care to a health facility

The benefits of care provided by CHWs are greatest for malaria and ALRI where CHWs can provide definitive treatment with Fansidar and co-trimoxazole

- The quality of case management provided by CHWs is high and has improved since the mid-term evaluation conducted in October 1997. During both evaluations, data were reviewed from CHW clinical registers to assess whether the illness classification was consistent with the assessment and whether the treatment was consistent with the classification.

**Table 3 – CHW Clinical Register**

	<b>Midterm Evaluation</b>	<b>Final Evaluation</b>
Classification errors	18.0%	13.5%
Treatment errors	21.1%	13.5%
Missed referrals	6.1%	2.8%

The high proportion of encounters with correct classification and treatment is confirmed by results of supervisory observation of case management during in-service training. Use of Fansidar and co-trimoxazole were classified as “correct” in 87% and 78% of encounters, respectively, supporting the MOH policy permitting project CHWs to dispense these drugs.

- Widespread support exists in the community for the services provided by the CHWs and for the community pharmacy. When focus groups of mothers were asked what health care providers they most trusted, CHWs and dispensary staff were mentioned most frequently. Surveys of mothers at a market and in villages in the project area showed that 98% of mothers knew one or more CHW by name and 80% agreed with the statement that the CHW had helped her or her family. Results of the survey also showed that 56% of respondents had received care from a CHW for a child’s illness during the preceding 3 months.

Important linkages have been developed between the project and the MOH health care system. The project has provided training in case management to about 30 nurses and Clinical Officers from the MOH. In turn, MOH staff has participated in in-service supervision of project CHWs. A referral system also works well with health facility staff who was interviewed indicating that CHW referrals generally were appropriate and that they frequently referred children back to the CHWs for follow-up.

The implementation of mobile vaccination clinics in project sub-locations, with costs supported by the community, reflects the shared priorities of the community, the project, and the MOH. In part, because of this, vaccination rates in the project area for DTP3 and measles increased between the baseline and the final KPC surveys -- a period of time during which immunization rates had decreased nationwide.

**Table 4 – Vaccination Coverage**

<b>Vaccine</b>	<b>Baseline KPC</b>	<b>Final KPC</b>
DTP3	57%	84%
Measles	41%	59%

Materials have been developed, field tested, and proven effective to support the implementation of case management in the community. These include a case management algorithm that is a modification of the more complex WHO algorithm, training materials, job aids, and supervisory forms. In addition, the strategy for implementation which includes supportive supervision, involvement of the community, the development of community pharmacies, and linkages with the MOH provides a model that can be replicated elsewhere.

This project is innovative and ground-breaking in the use of CHWs to provide case management for common childhood illnesses. The impact on mortality is impressive and documents a major impact in response to the inputs of time, money, and expertise. While these accomplishments support the principle that CHW provided case management can be successful, there is, as yet, no proof that the system will be sustainable or that the benefits achieved in the past two years can be maintained. This represents the major challenge for the next 4 years.

#### Constraints

Although mothers in focus group discussions report that CHWs have educated them about disease prevention, indicators of prevention and care seeking knowledge measured by the final KPC survey suggest that the project has had little impact on the parameters measured.

**Table 5 – Results of Focus Group Discussions with Mothers**

	<b>Baseline KPC</b>	<b>Final KPC</b>
Care seeking for ARI in <24 hours	23%	26%
Increase breastfeeding in children <24 months old with diarrhea	50%	53%
Households with mosquito nets	19%	27%

Recognizing this limitation, the project has supported the development of information, education, and communications (IEC) materials and of a communications strategy. Materials have been completed recently and implementation is being planned.

For case management to have a greater impact, CHWs will need to become more active providers of care in the community. Review of CHW clinical registers shows that CHWs treat an average of 3 children per month, about a 50% decrease from the time of the midterm evaluation. KPC survey results suggest that only about 20% of children with fever, ARI, or diarrhea occurring in the 2 weeks preceding the survey took those children to a CHW for care. Focus group results suggest that a lack of motivation by CHWs rather than problems with acceptability account for this low utilization. Strategies to increase CHW motivation – such as providing incentives – need to be developed and implemented.

Family planning and sexually transmitted infection interventions have not been widely implemented. Consequently the project has had no impact on indicators related to these areas. The project should consider hiring a staff person dedicated to these areas and should make available sufficient financial support to implement effective programming.

Strategies must be developed and implemented to sustain key project structures and activities after CARE and USAID funding are no longer available. This would be facilitated by developing true collaboration with the MOH including joint program coordination and decision making. Assuring the financial capacity to sustain CHW quality and motivation, supervision and training, and monitoring and evaluation is important. Approaches that combine revenue from the sale of medications and bed nets, contributions from the community, and input from the District MOH need to be developed and implemented early in the next 4 years of the project.

c Conclusions

The CICSS project has achieved substantial success decreasing mortality and morbidity

from infectious illness among children. Community support is strong at all levels, substantial capacity for health care delivery and program management have been developed at the community level, and effective linkages have been developed with the MOH. Assuring CHW motivation, and strengthening disease prevention and family planning programs should be priorities in conjunction with continued quality assurance for case management. In addition, a realistic sustainability strategy must be developed and implemented early in the next phase of the project.

d Recommendations

**Table 6 – Key Recommendations**

<b>Problem</b>	<b>Recommended Action</b>	<b>Implementing organization</b>
Limited project impact on knowledge and healthy behaviors in the community	Finalize development of IEC materials, develop and implement a strategy of educating to promote behavior change	CARE/District MOH (DMOH)
Need to improve and assure the quality of case management	Refine supervisory checklist and assure its appropriate completion, consider decreasing the number of CHEs, retaining those who perform best, and providing them with transportation	CARE/DMOH
Few children <2 months old are treated by CHWs	Encourage routine home visits among newborns (weekly during the first month and every two weeks during the second)	CARE/DMOH
Declining CHW motivation	Develop strategy to raise funds in a sustainable fashion to support incentives for CHWs, field test in a few sub-locations	CARE/DMOH
Lack of a reliable supply of medications for community pharmacies	Record and review how frequently medications are out-of-stock, identify possible alternative sources of medication,	CARE
Lack of programming addressing family planning and sexually transmitted infections	Hire a staff person to coordinate FP and STI activities, allocate sufficient funds to support programming	CARE/DMOH

Need to enhance the community's sense of ownership of project activities	Promote project activities in the community, implement IEC strategy with community ownership as a component	CARE/DMOH
Need to increase involvement of the District MOH in project planning and management	Establish coordination with joint decision making in key project areas	CARE/DMOH
Lack of resources that will help sustain project activities	"Market" the benefits of the program to the community, the civil administration, the District Health Management Board, and other key decision makers, pilot test expanding the drugs and supplies available at the community pharmacy to generate income	CARE/DMOH
Inability of communities to interpret and use data generated by the project	Summarize key information and increase communication with Village Elders, Assistant Chiefs, and Chiefs, consider developing a quarterly newsletter	CARE/MOH
Need to improve the ability of project staff to use data to identify problems and develop solutions	Routinely summarize data from chalkboards, and supervisory forms, routinely analyze and provide feedback on the quality of case management and the activity of CHWs, analyze data to determine which CHEs may need assistance in assuring quality and motivation, identify career development/ training opportunities for project staff, cross train staff members as broader scope of knowledge increases ability to solve problems, discuss problems as a group and analyze and discuss how data can help provide solutions	CARE/MOH
Lack of integration of data from the project with that collected by the MOH	Coordinate with the District health information system officer	CARE/DMOH

Another problem identified is that, in several areas, the activities that are planned and which should be taking place are not. For example, in discussing supervision with project staff and CHEs, it was emphasized that CHWs receive in-service training at dispensaries. However, when we held focus groups with the CHWs and asked them whether they had had such an in-service training session during the past month, far less than half indicated that this had occurred. As a member of the evaluation team, it has been difficult at some times to distinguish between what was planned and what was actually occurring. The example of supervision is one that we identified but there are probably others that we missed. It is important that the project critically analyze whether project activities are being completed as envisioned in the plans and, if not why not. If plans were unrealistic, new plans need to be developed and then activities monitored to assure that they are being carried out appropriately.

Because one of the important issues identified (or missed opportunities) is using data to answer questions and solve problems, the program should describe in writing how data will be used. This document should include a description of 1) the source of data, 2) who is responsible for collecting the data, 3) who is responsible at the project level for checking the data, 4) how the accuracy or completeness of the data can be assessed, 5) how often the data are aggregated and analyzed, 6) the types of analyses that will be done, 7) the questions that these analyses will answer, and 8) who will use the data to provide feedback to CHWs, CHEs, communities, etc.

Once this plan is developed, someone must assure that the process works and that the activities are being completed as planned. While the Monitoring and Evaluation Officer should have primary responsibility for this, the Program Manager should be responsible for assuring that the process works. Regular meetings should be held with project staff to discuss the data, the analyses, and the implications of what has been found. As needed and appropriate, similar meetings should be held with CHEs, and with community leaders and Assistant Chiefs. Although not all the data collection or analyses may be sustainable, once primary responsibility for project activities has shifted away from CARE, this approach to data collection, analysis, and feedback is important for quality assurance and will result in better performance at all levels of the project. Planning what is sustainable and how information will be collected, aggregated, analyzed, and communicated in a sustainable way also needs to be done.

**Table 7 – Data Collection and Analysis Needed**

Data source	Types of analyses
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Chalkboard	<p>1) Trends in number of deaths – is the program working overall?</p> <p>2) Number of births – are births being detected and recorded? If not, suggests a problem with activity or access, link with data on whether CHWs are treating infants &lt;2 months old from clinical register</p> <p>2) Number of cases treated by CHWs, aggregate and by diagnosis – are the CHWs active? Is the activity of CHWs in this sub-location much lower than in other sub-locations? If so, why? Is there an outbreak of diarrhea or measles?</p> <p>3) Number of CHWs per village – are CHWs dropping out? If so, why? Are they being replaced?</p> <p>4) Number of bednets sold – is this approach to prevention working?</p> <p>5) Vaccination rates – evaluate especially in relation to whether measles cases are being diagnosed</p>
Verbal autopsy and care-seeking before death	<p><u>Note</u> the report from CDC provides an excellent description of the types of analyses that can be completed from these data</p>
Referral chits	<p>1) Number of referrals made by CHWs – are CHWs referring appropriately? Link with data on referrals from the clinical register</p> <p>2) Number and proportion of referral chits returned – Are referrals being completed? Are facility staff returning the chits?</p> <p>3) Comparison of diagnoses made by the CHW and health facility staff – are CHWs making correct diagnoses and referring appropriately?</p> <p>4) Are CHWs conducting appropriate follow-up of children who are referred back to them?</p>
Supervisory forms	<p><u>Individual</u></p> <p>1) Does each CHW have supervisory forms completed? Is every CHW participating in in-service training and being evaluated?</p> <p>2) Comparison of CHW and CHE case management – is case management being performed appropriately?</p> <p><u>Aggregated</u></p> <p>1) Determine where most errors in case management occur – are there common weaknesses that may require refresher training? Are there some CHEs whose CHWs make errors more frequently who may need support in providing appropriate supervision?</p> <p>2) Assess whether health education and follow-up messages are being given appropriately – are existing communication problems being solved?</p>

<p>Clinical Registers</p>	<p><u>Individual</u></p> <ol style="list-style-type: none"> <li>1) Number of children treated – is the CHW active?</li> <li>2) Number of children &lt;2 mo – is there access to young infants?</li> <li>3) Consistency of assessment, classification, and treatment – is case management correct?</li> <li>4) Proportion of RRs &gt;50 – is the CHW counting resp rates accurately?</li> <li>5) Proportion of children with &gt;1 diagnosis – are CHWs assessing all illnesses or just what is related to the chief complaint?</li> <li>6) Referrals – are referrals being made appropriately? (Need to assure that referrals are being recorded in the registers since there is no specific column to do so )</li> </ol> <p><u>Aggregated</u></p> <ol style="list-style-type: none"> <li>1) Evaluate activity and performance of CHWs combined by sub-location – is the CHE motivating the CHWs to perform? Does the CHE need assistance assuring the quality of case management? Are there other problems that would result in low activity levels in an area?</li> <li>2) Compare proportion of children with multiple diagnoses from clinical registers with the proportion from the supervisor checklists - - are CHWs assessing and classifying all illnesses when they are not being supervised?</li> </ol>
<p>Maternal and Child Registers</p>	<ol style="list-style-type: none"> <li>1) Completeness – are CHWs appropriately visiting, and collecting and recording data on families with young children?</li> <li>2) Immunizations and Fansidar prophylaxis of pregnant women, vitamin A to nursing mothers – are preventive strategies being applied?</li> <li>3) Immunization of children – are vaccinations timely (given at appropriate age) and up-to-date? If not, why?</li> <li>4) Use of bednets – do young children sleep under bednets?</li> </ol>

## Chapter Two Project Background

### a Project dates and funding

The Community Initiative for Child Survival in Siaya (CICSS) is a USAID Child Survival XI Project being implemented by CARE in Boro, Karemo, and Uranga Divisions in Siaya District. Funding was provided for the period of September 29, 1995 through September 30, 1999.

### b Project area description and beneficiaries

Siaya is one of 56 districts of Kenya. It is located in the southwestern corner of Kenya adjacent to Lake Victoria and Uganda. Eighty percent of the population of the project area survives through subsistence agriculture.

Child mortality in Kenya is highest in Nyanza province, which includes Siaya. The 1998 Demographic and Health Survey found a mortality rate among children less than 5 years old in Nyanza province of 199 per 1,000 compared with 105 per 1,000 for the country as a whole. Results of this survey also indicated that child mortality has increased steadily since the mid-1980s. This increase is related to increasing infant and child mortality, while neonatal mortality has remained constant, suggesting a decline in the provision of quality health care to children. In addition, the impact of AIDS may play a role; a survey of blood donors in Siaya District in 1998 showed a seroprevalence of 38% (MOH Siaya District Annual Report, 1998). Infant mortality in Siaya is 132 under one deaths per 1000 live births, under five mortality is 210 per 100 live births (GTZ, 1995, summarized in MOH, Siaya District Annual Report, 1998). Siaya is holoendemic for *Plasmodium falciparum* malaria with rainy season infective bite rates as high as 200 per person per day. Pneumonia and diarrhoea are the second and third causes of childhood mortality.

The specific project area Divisions were selected because Siaya District has the highest rates of infant and child mortality in Kenya, and these Divisions also host two other CARE development projects (water and sanitation and agro-forestry). The original project area was to be 40 sub-locations but based on recommendations in the midterm evaluation and approved by USAID the project area was limited to 23 sub-locations as described in the table, below.

The CICSS project area is divided into sub-locations, each including ~8-12 villages and a variable number of homesteads and households. Project beneficiaries include children less than 5 years old and women aged 15 to 49 years.

**Table 8 – Project Beneficiaries**

<b>Category</b>	<b>Number</b>
Sub-locations	23
Villages	201
Homesteads	6,817
Households	15,492
Beneficiaries	
Children 0-5 yrs old	10,201
Women 15-49 yrs old	14,609

**c**     Project objectives

The primary goal of the project is to enhance child survival through improved management of common childhood illnesses and promotion of improved health behaviors. The project also seeks to promote health education and disease prevention in families, promote family planning and HIV/STD prevention, and increase the capacity of communities to take actions that will improve health. This will be accomplished through 1) empowering households, communities, and sub-locations to improve the health of their people, 2) ensuring the easy availability of health services at the village level providing high quality assessment, classification, treatment, and counseling, and, 3) improving health care knowledge and behaviors through promotion and disease prevention.

Specific project objectives, measurement methods, planned inputs and outputs, and a measurement methods for those outputs were included in the Detailed Implementation Plan from April 1995 and revised in December 1995. The revised table is provided in Appendix 3.

**d**     Intervention strategy, project infrastructure

The strategy to accomplish project goals is to train community health workers (CHWs) to diagnose and treat children with fever, respiratory infections, or diarrhea, and to provide education on healthy behaviors and disease prevention. A Village Health Committee (VHC) member supports CHWs in their villages, with VHCs constituted in each project sub-location. Medications are made available to CHWs at a community pharmacy, which also has been established in each project sub-location. The community pharmacy also serves as a focus for case management, sale of mosquito bed nets, and dissemination of health information. CHWs and VHC members are volunteers who receive no remuneration for their activities.

Support and supervision of CHWs and VHCs are provided by community health extension workers (CHEs) CHEs generally are nurses who have been trained in case management and primary health care and are employed by CARE Each CHE is responsible for supervising CHWs from 2 to 3 sub-locations (~30 to 50 CHWs per CHE)

**Table 9 - Summary of Community-Level Health Workers**

Title	Responsibilities	Number	Paid/ Volunteer
Community Health Worker	<ul style="list-style-type: none"> <li>- case management</li> <li>- follow-up of sick children</li> <li>- provide malaria prophylaxis for pregnant women</li> <li>- health communication &amp; education</li> <li>- staffing community pharmacy (CP)</li> <li>- compile and track village level data</li> </ul>	320	Volunteer
Village Health Committee member	<ul style="list-style-type: none"> <li>- promote services provided by the CHWs and support, as needed</li> <li>- coordinate replacement of CHWs, as needed</li> <li>- hold community meetings</li> <li>- record and interpret the data from the community chalkboard</li> <li>- provide education to the community on disease prevention</li> <li>- determine drug prices at CP</li> <li>- track stock at CP and reorder drugs</li> <li>- manage funds from drug and bednet sales at the CP</li> </ul>	240	Volunteer
Community Health Extension worker	<ul style="list-style-type: none"> <li>- support/supervise CHWs and VHCs</li> <li>- compile community data</li> </ul>	8-20	Paid

Field Health Supervisor	<ul style="list-style-type: none"> <li>- support/supervise CHEs</li> <li>- identify problems/solutions, training needs, etc</li> <li>- coordinate field activities</li> <li>- collect data from sub-locations</li> </ul>	3-4	Paid
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A key component of the project is the community pharmacy. Pharmacies have been established in all project sub-locations at a site identified by the community where safety and accessibility to community members is considered. Most are in rented buildings although a few sub-locations have built pharmacies with community funds and participation in order to decrease costs and enhance community ownership. Security has not been a problem at any of the community pharmacies.

The pharmacies have been used as sites for case management of sick children, sale of certain drugs to community members -- both children and adults -- including Fansidar, Paracetamol, iron tablets, actual and deworming tablets, sale of mosquito bed nets to community members, sites for mobile immunisation clinics (occurring regularly in ~8 sub-locations), centers for delivery of health education and disease prevention messages, and centers for compilation of community level health data on the community chalkboard. All the pharmacies open daily for hours determined by the community and are manned by one or two of the CHWs on a rotational basis. One suggestion from some communities during the final evaluation was that the pharmacies be open on Sundays when other sources of health care are not available.

e Project area health care infrastructure and collaborations

One can only understand the project when the relationship between the health system, the government and the project is clear. Table 10 helps to define this relationship.

**Table 10 – Relationships between Different Systems**

Description	Government system	Health system	Project system
Village	Village elder		CHW/VHC
Sub-location	Assistant Chief	Dispensary	CHE/VHC
Location	Chief	Dispensary	FHS
DIVISION	District Officer	Dispensary	FHS
District	District Commissioner	District Hospital	Project Manager

Collaboration has been promoted between the three sectors at each level. Plans for collaboration included from the DIP are shown in Appendix \_\_. Actual collaboration achieved during the project is included in Section 4, Capacity Building.

## Chapter Three: Results and Recommendations of Previous Evaluations

### *a* Midterm evaluation (October 1997)

A midterm evaluation was conducted in October 1997 as specified by USAID. At that time, major accomplishments included 1) establishing the project infrastructure and developing collaboration in the community and with the MOH, 2) developing a case management algorithm appropriate for CHWs, formulating associated training materials, and training over 300 CHWs, 3) establishing a supervisory structure, and 4) developing data systems to monitor and evaluate project activities and to identify and solve problems with project implementation.

The evaluation team's key findings were that 1) case management, generally, is being performed well by the CHWs, 2) community pharmacies, established in all 23 project sub-locations, provide a focus for project activities, supply medications for CHWs, and were a site for care, sale of medicines, and bed nets in the community, and 3) collaboration with MOH staff in training and referral was ongoing and successful.

Recommendations to strengthen project activities and response of the CICSS team to these recommendations are shown below.

**Table 11 – MTE Recommendations and Responses**

<b>MTE recommendation</b>	<b>Project response</b>
Improve maternal education regarding disease recognition and care seeking, and prevention	Hired a consultant to develop IEC materials, trained staff in communications skills
Continue to monitor case management performance and strengthen quality assurance	Provide refresher training to CHWs and project staff, increase in-service training at dispensaries
Improve referral process and the proportion of successfully completed referrals	Met with MOH to discuss ways to improve the referral process. Referred cases were given priority. MOH staff were encouraged to refer children back to the CHW for follow-up.
Develop improved supervision and support systems for CHWs	Developed training for CHEs on communication skills and support for CHWs
Develop and implement a strategy to assure sustainability	Continued to collaborate with the MOH and promote community ownership. No specific sustainability strategy has been developed.

Enhance the capacity of the VHCs to manage the finances of the community pharmacies and to support health promotion in the villages	A training curriculum for VHCs was developed but training has not yet occurred CHEs received training in finances in a workshop
Develop system for drug pricing and provision of drugs to poor (equity)	These decisions should be made by the community Most have similar pricing with profit margins of ~50-100%
Evaluate and improve time management by project personnel at all levels	Reviewed activities, decreased hours for community pharmacies, discussed time allocations needs for supervision
Decrease the time spent at all levels in collecting data by focusing on data for decision making	A CDC consultant evaluated project data systems and made recommendations on simplifying reporting (see below)
Expand family planning and HIV/AIDS prevention programming	Pilot projects have been developed and implemented in 5 sub-locations
Improve communication with stakeholders	Held meetings with over 100 community leaders and established quarterly planning meetings

For several of the recommendations, the response of the project has not solved the problem identified. These areas will be highlighted in the sections on capacity building, sustainability, and other final survey findings, detailed below.

b Review of Health Management Information System (HMIS) (January 1998)

This review, coordinated by CDC, was undertaken in response to recommendations from the Midterm Evaluation that data needs be evaluated and that data collection be decreased to those items needed for decision making and problem solving. Specific focus included the usefulness of the household register, the community chalkboards, the volume of routinely collected data, and the number and type of indicators measured by the project. Key recommendations and responses from the project team are shown in the table.

**Table 12 - HMIS Review Recommendations**

<b>HMIS Review Recommendations</b>	<b>Project Response</b>
Change from using a household register to a maternal and child register that collects information and focuses attention on households with young children	This change was made as recommended. The maternal and child register has been in use since June 1998.
Revise information on the community chalkboard to include children treated, other easily interpreted data, and upcoming events	This change also was made as recommended. Upcoming events are now on the chalkboard.
Enter, analyze, and provide feedback on data from the supervisor checklists (from in-service training sessions at health facilities)	Data were entered and analyzed but limited data quality restricted the ability to provide feedback.
Enter data from clinical registers in a "palmtop" computer to facilitate analysis and feedback	This was not done. Evaluation and feedback occur directly during CHE supervisory visits with the CHWs.
Conduct a midterm household survey to obtain information from the household level	A household (demographic) survey was completed in February 1999 and will be repeated during the new project period.
Increase data system automation	Ongoing efforts to improve data management and periodic review.

**c. Case Management Quality Evaluation (February 1998)**

This review, coordinated by CDC, was undertaken to determine the quality of case management by CHWs, in order to strengthen the care provided in the community for sick children. The approach was to validate the case management performance of "expert clinicians" whose evaluation was to serve as the gold standard, and to compare their assessment classification, and management of patients with that performed by randomly selected CHWs.

Overall, 100 of the 120 selected CHWs were evaluated in outpatient health facilities or in the inpatient ward at Siaya District Hospital (to evaluate management for more severely ill patients). In general, most case management tasks were performed well and treatment tended to be accurate based on the disease classifications. Specific weaknesses were observed in assessment (evaluation of danger signs and counting respiratory rates), classification (including classification for nonsevere diseases), and treatment (referral). One limitation of this evaluation was uncertainty over whether missing data reflected a task not being performed or the absence of a particular finding.

Recommendations and responses of the project team are shown in the table  
**Table 13 – Case Management Review Recommendations**

Case Management Review Recommendations	Project Response
Improve assessment of danger signs through CHW training	A refresher course for CHWs was conducted between Oct 1998 and Feb 1999 which included 4 days of “classroom” work and 4 days of “practice” sessions at the District Hospital and outpatient facilities Findings from the evaluation were used in the development of the course to help focus classroom and practice sessions Each of the issues identified by the evaluation was addressed
Improve counting of respiratory rates	
Train CHWs to ask assessment questions for each illness and to record all classifications	
Improve communications, particularly about need for follow-up	
Improve referral process and evaluation of the success of referral	The system of “referral chits” was reviewed and discussions were held with MOH staff to improve the system Referral chits still need to be analyzed

d Investigation of Childhood Deaths (April - November, 1998)

This study also was coordinated by personnel from CDC The goals of the investigation were to determine the causes of childhood deaths in the project area and to investigate care seeking and the type of care delivered before the child’s death Based on an understanding of why children die, approaches could be developed to improve the system

CHEs were trained to investigate childhood deaths using a questionnaire developed previously and field tested in a nearby area (Asembo Bay) When a death was identified, the trained CHE would interview the caretakers ~ 2 weeks later Where a child had been seen by a CHW or at an outpatient facility or the hospital, the clinical register or medical records were reviewed Data were analyzed jointly by CDC and the CICSS Monitoring and Evaluation Officer

Data were obtained on 97 deaths Ninety percent of these occurred at home In 26%, death occurred within 2 days of illness onset, with 46% occurring after 7 days or more Fever, signs of anemia, and fast breathing were the most common clinical signs Malaria (80%), ARI (40%), diarrhea (22%), and measles (18%) were classified as the most common causes of death, with malnutrition frequently identified as a contributing cause (71%) Care was sought during the terminal illness for r 91% of children from a variety of providers Overall, unqualified providers (drug vendors, traditional healers, quacks) were consulted more frequently that health

facilities or CARE CHWs. Only a quarter of children who died had been seen by a CARE CHW during that illness. However, of the 25 reported consultations only 10 (40%) were recorded in the clinical register, whether this reflects cases not being recorded or that the child had not been seen by the CHW is not clear. While care was sought within 2 - 3 days of the onset of illness in most cases, only 6% of children who died had been seen by a CHW within 24 hours of illness onset, frequently other sources of care were accessed before a child was brought to a health facility. The most common reasons given by 54 mothers regarding why care from a CHW was not sought included not being aware of the CHW, and preferring other providers. The most common perception of the cause of death was traditional causes (evil spirits).

**Table 14 – Mortality Study Recommendations**

<b>Recommendations from the Mortality Study</b>	<b>Project Responses</b>
Promote CHW services within the community to increase care seeking from these providers	Strategies are being developed to improve health communications by CHWs and to promote their services in the community through VHCs and at “field days”
Ensure quality care by CHWs and drug availability	Supervision and refresher training are two strategies to assure quality care. Drug availability has not been a significant problem.
Create greater awareness in the community about childhood illness	This will be done using the health education materials that recently have been developed.
Network with other providers in the community	Several attempts have been made to communicate with traditional healers. Plans are being developed as part of the CARE/CDC collaboration.
Support the availability of quality care at government health facilities	CARE staff has trained MOH providers in case management and has collaborated in patient care through referrals and follow-up in the community.

## Chapter Four Capacity Building and Sustainability

### *a* Capacity building

Capacity at each level of the system (e.g., community, sub-location, and district) has been enhanced both within the civil/administrative infrastructure and within the health care infrastructure

#### *Community level*

Capacity at the village level has been developed through the identification and training of CHWs and VHC members from each village and through the involvement of village elders in supporting the project. This has led to the provision of health care at the village level, capacity to provide health education and behavior change messages, and has empowered the community to improve the health of its members

Village elders have a wide range of involvement in project activities, reflecting the philosophy of local empowerment and decision making. Activities and impressions of village elders were obtained in individual interviews with elders from 7 different villages (see report of interviews with Elders, Appendix 8). Reported activities of village elders (and the number of responses) include

- Organizing meetings and participating in selection of CHWs and VHC members (7)
- Supporting the activities of CHWs (7)
- Calling barazas to discuss the project and CHW services (5)
- Promoting CHW services to families
- Mobilizing the community to support immunization and Vitamin A education (5)
- Calling barazas to discuss disease prevention and health promotion activities (3)
- Assuring the security of the CHWs during their rounds (3)
- Conducts follow-up household visits to assess satisfaction with CHW services (2)
- Established community bank accounts, collects payments to CHWs for medications (2)

In addition, some elders reported helping to set policies for making medications available to persons who could not pay, collecting money for medications from those who could, and settling disputes between clients and CHWs. All village elders reported that their families went to CHWs for care and 5 of 7 reported that the project had decreased the number of deaths occurring among children in their community. Other reported benefits of the project included disease prevention and availability of cheap mosquito bednets. Elders also expressed the belief that CHWs should be paid for the services they provide (6 of 7) and offered suggestions regarding how funding could be obtained. The involvement of all village elders interviewed in a variety of activities and their recognition of benefits to the community from project activities indicate the

development of support of for community level health care

A second community structure developed to provide support at the local level is the Village Health Committee, which operates at the sub-location level and includes a member identified from each village. VHC members were selected by the community at village level meetings and were trained by the project in primary health care, use of the project data collection tools, financial management, and Vitamin A. Four focus group discussions were conducted with VHC members from 8 sub-locations to assess their role in the project. In general, the VHC members acted as the link between the CHWs, the community and civil administrative structure. They reported supporting the activities of the CHWs, accompanying them during home visits, organizing mobile immunization clinics, promoting health education, overseeing the community pharmacy, managing finances from the pharmacies and assuring drug supplies, and making policy for the pharmacies,

CHWs have been the group responsible for the provision of case management for sick children and the dissemination of health education and disease prevention messages

**Table 15 – Training Provided to CHWs**

<b>Type of training</b>	<b>Date</b>	<b># Trained</b>
1 PHC/CBHC Concept	Aug-Oct, 1996	406
2 IMCI/HIS Tools/Financial Management	Dec, 1996-July, 1997	336
3 Vitamin A	April – June, 1997	316
4 IMCI Refresher	Oct, 1998-March, 1999	289

Retention of CHWs has been good. During the first 6 months of the project, 30 CHWs dropped out, likely due to difficulties successfully completing project tasks. Subsequently, between 2 and 27 CHWs have dropped out during each 6 month period. In general, when a CHW drops out, a replacement has been identified and trained. The quality of case management provided by CHWs will be discussed below. In focus group discussions with CHWs from 10 different sub-locations, all groups expressed confidence in carrying out case management. All groups also reported the support of the families in their villages. Several CHWs described their the community's perception of their role as being a "local doctor." When asked the impact the project has had on their communities, every focus group indicated that deaths in children had decreased. Many also mentioned improved management of sick children by mothers at home, changing beliefs on the causes of disease from traditional concepts, understanding disease prevention activities such as the use of mosquito bednets, and the availability of medications for common illnesses in the community.

These benefits were confirmed in focus group discussions with mothers with mothers from 8 sub-locations. CHWs were viewed as an important source of medical care in the community and when asked what providers are trusted, the most frequent responses were the

CHWs and the MOH personnel at health facilities. These findings were confirmed by results of the final KPC survey which indicated that 51 of 301 (17%) mothers had taken their child to the CHW in the past 2 weeks, and a survey of 49 mothers at a market in the project area and in several villages where 26 (53%) reported taking their child to a CHW for care in the previous 3 months. In addition, when asked whether they know the name of the CHW in their village 98% of mothers named one or more CHW and 80% reported that the CHW had helped them or their family. Other findings of the mothers' focus groups included that most mothers reported that CHWs had talked with them about disease prevention and 75% had used the community pharmacy.

#### *Sub-location and District level - Civil and administrative system*

Assistant Chiefs and Chiefs participated in identifying community needs and in planning the project, participated in selecting CHWs and VHC members, and have provided support by sharing information with the communities during barazas (community meetings) and promoting health education messages. Individual interviews were conducted with 4 Chiefs and 10 Assistant Chiefs to assess their involvement in project activities and their impression of the project's impact. Every Chief and Assistant Chief interviewed reported several types of involvement in the child survival project. Most often reported were calling meetings to mobilize the community (barazas), involvement in selection and replacement of CHW and VHC, advocacy, selection of the pharmacy site and security, promotion of CHWs, participation in field days, and arbitration of disputes over pharmacy. When respondents were asked what was the benefit of the project to the community, 3 of 4 Chiefs and 9 of 10 Assistant Chiefs – without having been prompted – reported that fewer children are dying than before the project was implemented. Other common answers included improved sanitation and hygiene, available and cheap medications, increased immunization, knowledge of prevention, and increased use of bednets.

#### *Sub- location and District level – Health care system*

At the Sub-location level, health care is provided in 8 Dispensaries, by 1 to 3 nurses per facility. Since the beginning of the project, about 30 Nurses and Clinical Officers in the dispensaries and at the District Hospital were trained by project staff in integrated case management (1996), received case management refresher training (1998), and training in Vitamin A interventions (1997). Several Clinical Officers also were trained in the use of the health information tools developed by the project and members of the District Health Management Team were trained in primary healthcare and integrated case management.

Once trained, MOH staff has assisted in supervising CHWs and providing feedback during in-service training sessions conducted at the dispensaries. CHEs participating in focus groups indicated that between 0 and 30% of the supervision occurring during these sessions is provided by the health facility staff.

Health facility staff also receives referrals from CHWs. A system of “referral chits” has

been established whereby mothers of referred children bring a form to the health facility and, after the patient has been evaluated, the MOH health care worker indicates his/her diagnosis and instructions for follow-up and the mother brings this back to the CHW. Mothers report that they like this system because being referred by a CHW gives them preference in being seen at the facility. CHWs like the system because back-referral increases their credibility in the community and the feedback allows them to assess whether they had made the correct diagnosis (which most often is the case). Limitations of the system are that the referrals sometimes are not completed, or the referral charts not completed or returned. In addition, project staff have not used these data for monitoring or supervision purposes. Occasionally, health facility staff will refer patients to a CHW when appropriate medications (e.g., Fansidar or cotrimoxazole) are not available at the facility. CHWs may refer a child to the health facility for medication if the family is unable to pay (because medications for children less than 5 years old are free).

Health facility staff also participate in the mobile immunization clinics that occur at the community pharmacy sites in most of the project sub-locations -- in some areas on a monthly basis. These clinics were established to make access to immunization services easier (replicating the easy access to clinical services through CHWs and medications at the community pharmacies). To support these mobile clinics, communities have established a fee of 10 Ksh for children who are being vaccinated (to support the costs of transport and to buy lunch for the staff). These clinics also provide the opportunity for evaluation and diagnosis of sick children and they increase the contact between the health care system and the community. In part because of these clinics, the coverage rates for DTP1, DTP3, measles, and tetanus toxoid during pregnancy have increased markedly in the project area whereas data from the 1998 Demographic and Health Survey indicate that coverage has declined nationwide.

Interviews with staff at 4 health facilities confirmed their role in project activities. In 3 of 4 facilities, staff reported being involved in assisting in supervision of CHWs and in receiving referrals. In addition, at least one staff member at 3 of the 4 facilities had been trained in case management. Limitations to the ability of health facility staff to interact with CHWs include a lack of training, other responsibilities that decrease the time available, and a lack of motivating factors. Some health facility staff indicated that financial incentives would increase their motivation. Provision of transportation, supplying equipment to the health facility, and increased staffing were also mentioned as needs.

Another cadre of MOH personnel who work at the Location or sub-location level are the Public Health Technicians (PHTs). The 6 PHTs who work in the project area were interviewed regarding their training, responsibilities, and links with the project. Duration of service in the project area ranged from 1 ½ to 16 years in the project area (median, 4). Two of the PHTs had received training in case management from the project. Other training received includes primary health care (6), distribution of family planning materials (4), safe motherhood (3), and immunization (2). Responsibilities include sanitation, hygiene, clean water, community health, occupational health, and communicable disease control.

Initially the PHTs were informed about the project and assisted in training CHWs in

primary health care. Subsequently, however, their involvement has been minimal. Four stated that they had no recent involvement, one participated in supervision of CHWs at the health facility, and one participated in two mobile immunization clinics at the sub-location level. One PHT said that “the CHWs have become CARE CHWs.” Focus groups with the CHEs and CHWs revealed that none had worked with the PHTs in the field. PHTs do use the information from the community chalkboards, specifically mentioning data on immunization and latrines.

All the PHTs indicated their willingness to work more closely with the project. To do so, they indicated that they would need additional training, especially in IMCI and use of health education materials. Types of possible interactions included attending meetings and participating in supervision with CHEs. Motivation for collaboration would be facilitated by opportunities for training, and provision of transportation and allowances.

At the District level, the District Medical Officer (DMO), the District Public Health Officer (DPHO) and other staff have been involved in project planning, reviewing and approving materials developed by the project, and in planning training. Collaboration also occurred in cholera control and semi-annual immunization campaigns. Finally, the CARE Project Manager is a member of the District Development Committee.

At the national level, approval by the Director of Medical Services, MOH Nairobi was obtained to allow the CHWs dispense Fansidar and co-trimoxazole at the village level. Technical support from the Division of Vectorborne Diseases at the MOH was obtained on malaria control, including training and demonstration to the CICSS staff. The District Clinical Officer provided technical advice on ARI and CDD during the IMCI training sessions and participated in the development of the training curriculum.

The Ministry of Culture and Social Services has facilitated the registration of community groups as self help groups and provided education on the rules and regulations for such groups. They have also assisted the communities in opening bank accounts.

Also important are linkages with other NGOs, and other CARE projects. The greatest interaction has occurred with the Diocese of Maseno West (DMW), which operates several outpatient facilities in the project area. Several of the DMW nurses have been trained in case management and occasionally receive referral from CHWs. The most important role played by DMW is facilitating the supply of drugs for the community pharmacies. Supplies are obtained by DMW from the Mission for Essential Drug Supply (MEDS) and sold at cost plus 2% under a memorandum of understanding with CARE. While supply generally is reliable, some medications have been out-of-stock. A MEDS policy allowing return of unopened tins of pills that have an expiration date more than 9 months in the future facilitates returning drugs that are soon to expire. However, the large size of the tins limits the usefulness of this option.

The CICSS project also collaborates with SHEWAS, another CARE project that promotes clean water and sanitation and contributes to diarrhoeal disease control. Finally, CHWs refer sick children to Mbaga Mission Hospital and hospital staff have been trained in case

management by the project

### *Summary of capacity building*

Community participation in the project and use of the services provided are high. Clearly the benefits the project has brought to the community are substantial and are appreciated. The project support structure which involves as stakeholders CHWs and VHC members, who were selected by the community, and village elders and Assistant Chiefs creates a strong group who is concerned with improving health care within the community. Organizing and supporting the immunization clinics is a good indication of the priority placed by the community on accessible health care and responses were uniform among focus group participants regarding the importance of the CHW services and the availability of medications at the community pharmacies. Training in case management, primary health care, Vitamin A, use of monitoring tools, and financial management of the community pharmacy have given communities the capacity to effectively manage project activities. When asked what could be done when CARE no longer provides support, answers received included using the best CHWs to train new workers and continuing project activities under community control. Many sub-locations are planning or have begun construction of community-owned community pharmacies, which indicates an expectation of ongoing activities. Community “ownership” of the project is less clear. To some, the CHWs are CARE CHWs and, while there is support at all levels for CHWs to receive some compensation for their work, it is not clear whether sustainable financial support would be forthcoming from the villages.

Capacity of the MOH has been enhanced by the project – particularly at the sub-location level where the dispensary staff work most closely with project staff and CHWs. Training in case management has strengthened the clinical care provided at the facilities and enables them to supervise CHW training sessions. Transfer of trained staff to other areas and hiring of new staff creates a need for occasional training courses. While the PHTs express willingness to work with the project and indicate that it would be consistent with their responsibilities and interests, their lack of involvement to date, raises some question concerning their potential future role. Both health facility staff and PHTs mentioned the need for more training, equipment, transportation, and incentives to facilitate their involvement. Although requests for these emoluments were not universal, further investigation should be done regarding the ability of MOH staff to contribute substantially given their present responsibilities and the likely limited availability of incentives.

#### *b*     Sustainability

Sustainability goals from the first 4 years of the project, as described in the DIP, were focused on promoting community involvement, establishing a community-level infrastructure, and promoting cooperation and developing linkages with the MOH (see Appendix 13). While these qualitative objectives generally were met, with community management of their health problems, the development of community pharmacies and local control of finances and drug re-supply, and cooperation with the MOH all having occurred, the project still has not adequately addressed the need for sustainability.

Involvement of the communities in project activities, and the attitudes of community members and the administrative system are described in the section above. Linkage with the health care system also has been described. While community knowledge, capacity, and support, and the links between the project and the health care system will contribute to sustaining project activities and benefits, alone they are not sufficient to assure sustainability. Assessing whether an effective system that will reduce child mortality can be sustained requires evaluating each component of that system, determining what will be needed for its sustainability, and evaluating whether that already exists or can be developed.

Quality case management at the village level requires CHWs who are trained, motivated, supplied with essential drugs and whose quality of service is maintained through in-service training, monitoring, and supervision. To date, training has been a CARE responsibility and is not sustainable. Communities have suggested that good CHWs be trained as trainers but the complexity of case management makes this approach infeasible. For training capacity to be sustained, this activity likely will need to be assumed by the MOH. CARE should work with the MOH to identify motivated staff who can be trained as trainers and can work with CARE during the next 4 years of the project to jointly conduct training activities. Good CHWs should be trained to provide in-service training for new CHWs after completion of their initial course during an “apprenticeship” period.

**Recommendation on training – Identify and train at least 2 trainers from the MOH, CARE (and other NGOs) could provide part of the salaries in return for using his/her services**

CHW motivation is maintained, in part, by the appreciation they receive from the community and the meetings they hold where issues are discussed and success stories and approaches to solving problems are shared. Support from the VHC and recognition from speaking at barazas also provides motivation. However, comparing the number of case management encounters per month by CHWs before the midterm evaluation and before the final evaluation indicates that the mean number of children treated has been halved – from about 6 per month to about 3 per month. Given that community preventive knowledge and behaviors have not changed sufficiently to account for this difference and that the acceptability of CHW services is widely acknowledged, one likely explanation for this decreased activity is decreased motivation. In focus groups with CHWs, incentives were raised as the most important issue affecting motivation and retention. CHWs reported the disapproval of their husbands when they return from work with nothing to contribute to the family and some CHWs expressed the difficulty of collecting money from selling medications but not having the money to buy the medications when their own children are ill. Currently, on a trial basis, CARE has developed a strategy whereby CHWs keep 10% of the profit generated by their sale of medications but the amount received is very low. When asked how much CHWs should receive as incentives, mothers, village elders, Assistant Chiefs, and the CHWs themselves all suggested that 1,000 - 1,500 Ksh per month (about \$15 to \$20) is reasonable. Approaches to generating funds to support CHW incentives will be discussed below. In addition to financial sustainability, a risk associated with a strategy of providing incentives is that similar compensation may be expected

by others. Although VHC members did not request that incentives be given to them, in focus group discussions and interviews, CHEs, health facility staff, and PHTs all suggested that increased compensation would help motivate them to assume additional tasks supervising CHWs.

**Recommendation on motivation – Incentives need to be provided to CHWs and probably will also be needed for other “volunteer” personnel. This will require an adequate financial strategy for sustainability.**

Assuring drug supply also is needed to sustain case management and confidence in care provided by CHWs. Occasional shortages have already occurred and were mentioned by several CHWs in focus group discussions. Although VHC members have received training in management of the community pharmacy, improvements can be made in how drugs are ordered and distributed to CHWs. Currently some medications (e.g., Fansidar) are delivered in units of 1,000 pills. Once a “tin” is opened, all the pills may not be used before the expiration date, leading either to wastage or to use of out-of-date medications. Although unopened tins may be returned to the supplier if the expiration date is 9 months or less, this is not an option once opened. There also may be loss of revenue if drugs are provided on credit and money is not later collected. Several CHWs and VHC members mentioned this as a problem. Occasionally, CHWs reported having to provide the money so that the revenue matches what has been distributed. Finally, the Medical Director of DMW suggested that CHWs may sell medications “on the side” or use them for their own purposes, however, we found no evidence of this and it was not mentioned by any respondent from the project villages. To address these threats, CARE has provided training to VHC members on financial management of the pharmacies and has handed over responsibility for ordering medications. Continued monitoring of this process and of the financial records of the community pharmacies would be useful to assure that mismanagement does not threaten their sustainability. Because of the occurrence of shortages and drugs being out-of-stock it would be reasonable for CARE to investigate whether there are other potential suppliers for essential medications. In addition drug unavailability should be documented by having the differences between what is on the order form and what is provided being clearly delineated. So that communities do not “tie up” large amounts of money in an account at DMW waiting for a drug to be supplied, if an expensive product is being ordered (e.g., pyrimethrin for dipping bed nets) whether that product is in-stock should be determined before a bank check is obtained.

**Recommendation on drug supply – Identify potential alternative sources, more closely monitor performance of the DMW and the financial management of VHCs.**

Supportive supervision (support-a-vision) is another key to the maintenance of effective case management (“You get what you *inspect*, not what you *expect*”). Errors in the performance of case management were detected when the supervisory checklists were reviewed from in-service training, and when the CHWs clinical registers were reviewed. Good supervision would be able to detect these errors and develop strategies to correct them. Despite the importance of supervision to quality care, this relationship is not recognized in the community. When asked

what aspects of the project are important to sustain, supervision was not mentioned by mothers, VHC members, Assistant Chiefs, or by most CHWs. Because the importance of supervision is not recognized, it is unlikely that the community would be willing to provide financial support for its maintenance.

One option for supervision that may be sustainable would be for that task to be assumed by personnel from the MOH. The PHTs have been proposed as one cadre that could perform this role. In a discussion with the PHTs they recognized the importance of the care being provided by the CHWs and indicated that they would be willing to supervise them. To do so, they indicated that they would need training and that supervision would be facilitated if they were provided with transportation and incentives. A concern with using PHTs as supervisors is that this position apparently is being phased out by the MOH and it is unclear what the training and responsibilities will be of the group that replaces them.

Nurses from the dispensaries in the project area may represent another group that could supervise CHWs. They already participate in supervision during the CHWs' in-service training activities at the dispensaries. However, their contribution frequently is minimal (estimated by the CHWs to be between 1% and 30% of the total supervision during those sessions). They also mentioned the need for additional training, transportation, and incentives to increase their motivation. Another concern is that nurses may be reassigned out of the project area and that staff shortages at the dispensaries may limit the time and energy they have to supervise the CHWs.

One potential approach to sustainable supervision would be if the MOH created a new cadre of employee – a Community Health Supervisor – and staffed this position with persons who were trained as CARE CHEs. Because of their training background, generally as nurses, and their experiences working with CARE and providing supervision to CHWs, they would be ideal to continue in that role under the auspices of the MOH. Possible drawbacks of this strategy are that it would mean hiring new employees with the attendant expenses, that there is no group of trained persons from which to draw when one would leave, and that this type of innovation may be difficult to achieve in a government agency.

**Recommendations on supervision – Enroll and train PHTs as supervisors and carefully monitor their performance parallel to the CHEs. By midterm, have collected and analyzed data to suggest whether their performance and motivation are appropriate and sustainable. If not, push for CHEs to be hired by the MOH as supervisors. Consider providing motorbikes for transportation and using fewer supervisors. In this way, only the best performers need be retained.**

#### *Financial sustainability*

Sustaining key project activities will be impossible without the availability of funds to support the activities of the CHWs, ensure their supervision, and monitor program activities. In addition to personnel costs, funds will be needed to purchase equipment and supplies, and to

support costs of transportation. It would be useful to review costs associated with the project in order to estimate future expenses.

The most substantial costs faced in a sustainable project are likely to be costs associated with incentives for CHWs and salary for supervisors and a project coordinator. In discussions with mothers, CHWs, Village Elders, and others, it was felt that CHWs should receive financial incentives, given the amount of time they spend on program activities. Most respondents suggested that these incentives be in the range of 500 to 1,500 Ksh per month. Even at the lower end of this range, if 300 CHWs received 500 Ksh per month, the total cost would be 1.8 million Ksh annually. Moreover, if the CHWs received financial incentives, it is likely that similar incentives would be expected from the VHC members, and from the health care workers who participated in supervision, even if, as for the PHTs, their salary already was paid by the MOH. While formal calculations should be done, it would be reasonable to estimate revenue needs of 4 to 6 million Ksh per year to sustain key activities.

What are potential sources of funds? One potential approach would be to use the entire amount of funding obtained for the extension and invest it in income generating securities and support project activities with the proceeds. If \$1.3 million were invested at 7%, the yield would be over 6 million Ksh per year. A key limitation of this "endowment" approach – if USAID approves such a strategy – is that all funds would need to be invested not allowing a period where CARE activities were phased out and responsibility for the project was gradually assumed by the MOH and community partners.

A more realistic strategy for financial sustainability would be to rely on funds from three sources: 1) pharmacy revenues, 2) community contributions, and 3) the District MOH. Obtaining funding from these sources would have the dual benefits of raising needed money and enhancing feelings of ownership by those who contribute to the project.

Financial records were reviewed from 3 community pharmacies to assess what revenue currently is being generated. Estimates were very similar from each pharmacy and suggest that the gross profit is about 4,000 Ksh per month (above the cost associated with replacing drugs). Because of costs associated with rent and security, the net profit was estimated at about 3,000 Ksh per month. Multiplying this by the 23 Sub-location pharmacies would result in 828,000 Ksh per year. Earnings could be increased in the following ways:

- if communities built community-owned pharmacy buildings (which has been done or is in progress in several Sub-locations),
- if medications were sold to adults at increased cost (adults already are purchasing Fansidar and paracetamol from CHWs – costs to this group could be increased without jeopardizing the child survival goals),
- if additional products were sold at the pharmacies – requests for additional supplies were common during interviews and focus group discussions, sale of medications that could be used safely without requiring a medical diagnosis (e.g., antacids or medications to relieve stomach upset), or products such as first aid supplies or "feminine products" had been

suggested and would be reasonable

A second group from which funding could be obtained is the community. Communities currently support the schools by paying or supplementing teachers' salaries and purchasing supplies. This reflects the community perception that schools are important and that funding is needed to improve the system. The project should "market" its activities and achievements in the community to create the perception that community based health care and the availability of important and low cost medications at the community pharmacy also are important and should routinely be supported. If 10 Ksh per month were raised from the 6,817 homesteads in the current project area, revenues would be 818,040 – an amount similar to that generated by the community pharmacy. While this is one potential approach, presenting a fundraising goal to the community and relying on them to determine the best approach to meeting this goal would be reasonable.

The third contributor to a sustainable funding base would be the MOH. The MOH currently collects cost-sharing revenues from services provided in the District. Of these revenues, 25% is currently designated for primary health care. Following health sector reform, the ability of Districts to control their spending and the emphasis on primary health care are likely to increase, providing even more opportunity for funding. Because of competing priorities for MOH funding, money is likely to be made available to support project activities on a continuing basis only if the DMOH recognizes the importance of the project, the benefits that have occurred, and if they feel a sense of ownership of project activities. In addition, as long as they perceive that the project will be funded by CARE, they will be reluctant to allocate funding. Therefore, a process should begin now to promote the benefits of the project with the MOH and other decision makers in the District (e.g., the District Commissioner, the District Development Team, the Chiefs and Assistant Chiefs, etc.) and to give the MOH a meaningful role in project coordination, including allocation of funding.

**Recommendation on financial sustainability** The project should be encouraged to 1) more formally estimate costs of a sustainable system and revenues from the community pharmacies, 2) discuss the issue of financial sustainability more in-depth with community leaders and decision makers in the District and at the MOH, and 3) review information available from other NGO projects in Kenya and elsewhere to determine what approaches to sustaining projects have worked in the past.

## Chapter Five Final Survey Findings

### a Achievement of indicators from the DIP

The table shows the project indicators from Table B in the DIP and the project accomplishments as determined from the baseline and final KPC surveys. Indicators that were not measured by the KPC surveys are assessed later.

**Table 16 – Final KPC Results**

<b>Indicator</b>	<b>Baseline KPC</b>	<b>Final KPC</b>	<b>Set target</b>
Mothers recognize rapid breathing as a sign of pneumonia in a child with cough and difficult breathing	4%	40%	60%
Mothers seek medical treatment for children with rapid and difficult breathing within 24 hours of noticing it	23%	26%	63%
Percentage of households with impregnated mosquito bed nets	19%	27%	40%
Mothers and children <2 sleeping under an impregnated bed net	17%	21%	40%
Women correctly taking malaria prophylaxis during pregnancy	1%	15%	40%
Mothers seek appropriate treatment within 24 hours for their child's uncomplicated malaria from CHWs	5%	8%	75%
Percentage of infants <2 months exclusively breastfeeding	1%	30%	15%
Percentage of infants <24 months with diarrhea in the last 2 weeks who were given the same amount or more of breast milk	50%	53%	80%
Percentage of infants <24 months with diarrhea in the last 2 weeks who were given the same amount or more of breast milk	53%	71%	80%

<b>Indicator</b>	<b>Baseline KPC</b>	<b>Final KPC</b>	<b>Set target</b>
Percentage of infants <24 months with diarrhea in the last 2 weeks who were treated with ORT	44%	38%	60%
Percentage of infants <24 months with diarrhea in the last 2 weeks who were given the same amount or more of solid or semi-solid foods	30%	27%	75%
Coverage of children 12 to 23 months with DTP1	62%	87%	80%
Coverage of children 12 to 23 months with DTP3	57%	84%	70%
Coverage of children 12 to 23 months with measles immunization	41%	59%	70%
Maintain low dropout rate for DTP1 to DTP3	5%	3%	<10%
Women bearing a child receive at least one dose of TT during the most recent pregnancy	86%	99%	90%
Modern contraceptive use among women who wish to delay pregnancy for 2 years or more	14%	16%	31%
Population 15 to 49 years report having had sex with a partner other than a regular sex partner in the last 3 months		4%	
Population 15 to 49 years report the use of a condom during the most recent sexual intercourse with a non-regular sex partner		42%	

In general, defined targets for indicators reflecting health knowledge and disease prevention behaviors were not met. Little change was noted in indicators of disease recognition for ARI or timeliness of care seeking for ARI or malaria. There was an increase in the proportion of households with mosquito bed nets from 19% to 27%, a 42% increase, yet this fell short of the goal of 40%. The proportion of mothers who took Fansidar prophylaxis during their pregnancy also increased substantially, from 1% to 15% but still fell short of the 40% target. Appropriate feeding practices during diarrheal episodes improved somewhat while use of ORT showed a small decrease. The lack of any change in the use of contraceptives indicator reflects the lack of

family planning and STI programming during the first 4-year period

The lack of substantial achievements in health education and disease prevention reflects the limited emphasis on these components relative to the provision of curative care in the community. This also was noted in the midterm evaluation. In response, the project worked with consultants to develop appropriate IEC materials, which have been finalized and made available in “camera ready” copies. However, printing, dissemination, and training CHWs and VHC members in their use has not yet occurred.

In contrast to the limited achievements in health education regarding childhood illness and its prevention, the Vitamin A intervention appeared to be effective in educating mothers about the importance of Vitamin A and the foods that contain it. Using materials that already had been developed and strategies such as promotion in the villages and at “field days” the Vitamin A messages seem to have been received by most mothers. Although quantitative data are not available, in focus groups with mothers, most said that they had attended the field days and most knew Vitamin A containing foods. The apparent success of this activity provides a foundation for the development of health education strategies for the other interventions.

One area where project goals were achieved or exceeded was in immunization. Rates of DTP1 and DTP3 vaccination increased from 62% and 57%, respectively, at baseline to 87% and 84% in the final survey. This change, occurring during a time when vaccination rates nationwide declined, may reflect the implementation of mobile vaccination clinics supported by the MOH, the community and the project. Measles vaccination also increased but the goal of 70% coverage was not achieved. Because measles remains a leading cause of death (the 4<sup>th</sup> leading etiology according to the mortality study), improving measles coverage commensurate with that for DTP3 should be a high priority. Immunization of pregnant women with tetanus toxoid increased to 99%, exceeding the set target of 90%.

Two indicators were included in the DIP that could not be measured from data obtained in the baseline and final KPC surveys. These were 1) “CHWs know how to assess, classify and treat children with ARI” (90% target), and 2) “Children presenting with ALRI who are taken to a CHW receive appropriate medical treatment immediately” (80% target). CHW knowledge was assessed in two ways during the final evaluation: the consistency of case management was evaluated based on review of the CHW clinical registers and a sample of supervisory forms were reviewed from CHW in-service training at health facilities. From the register review, of 48 children with ARI, only 3 classifications were inconsistent (6%) and only one of these was of potential clinical significance (a child diagnosed with malaria rather than with pneumonia). In only one case was treatment inconsistent with the classification, when a child with pneumonia was not treated because the mother couldn’t afford the cotrimoxazole. All referrals for ARI were made appropriately. Review of 25 supervisory forms included 10 from children with ARI where data were sufficient to assess the quality of case management (some of these forms were not completed correctly by the supervisors making it impossible to determine whether the CHW may have made errors in case management). If findings are assumed to be negative where data are missing, case management was perfect for 7 of 10 (70%) of children with ARI. In each of the

three cases where an error was made, it resulted in classifying a child with pneumonia who should have been classified with a cough or cold. One child was classified as having pneumonia despite a normal respiratory rate and no chest indrawing and two children were classified with pneumonia despite one normal and one elevated respiratory rate count (a diagnosis of pneumonia requires that both respiratory rate counts exceed the defined cutoff). Thus, none of these cases would have resulted in clinical harm and all are amenable to correction through training. These data suggest that the project indicators on the quality of ARI case management were met.

b Other KPC findings not related to DIP indicators

Although indicators related to the provision and quality of clinical care were not included in the initial DIP, data from the KPC survey can be analyzed to evaluate program accomplishments. The timeliness of care seeking was compared for parents who took their children to the CHW versus those who took their children to the health facilities, and the cost of care and the outcome were compared for those who took their children to the CHW versus those who received care elsewhere. Data from these analyses are shown in the table.

**Table 17 – Care Seeking Behaviors**

Source of care	Sought care within 24 hours of illness onset	Cost of care less than 100 KS	Recovered from illness
<i>Malaria</i>			
CHW	50%	91%	86%
Other	31%*	73%	59%
<i>Acute lower respiratory infections (ALRI)</i>			
CHW	50%	70%	59%
Other	26%*	55%	43%
<i>Diarrhea</i>			
CHW	Not asked	73%	67%
Other	Not asked	75%	56%

\*The comparison group for this analysis is children taken for care to a health facility

These results indicate that care seeking occurred earlier from CHWs than from health facilities, likely reflecting the greater availability and access to the CHWs. Costs also were substantially

lower for CHW care, particularly for malaria and ARI. Finally, clinical outcomes were better for each condition treated by CHWs compared to other sources of care. Differences were greatest for malaria and ARI where CHWs could provide definitive therapy (Fansidar and cotrimoxazole), whereas for diarrhea only symptomatic therapy for dehydration can be given.

Therefore, although the project was not successful in meeting many of the indicators included in the DIP, the successes achieved through providing available, inexpensive, and effective care in the community outweigh these limitations. As documented by the impact of the project on mortality in children, this project has accomplished the ultimate child survival goal of improving survival whereas, I am not aware of any projects whose focus is only education and prevention that have accomplished this goal. Particularly for diseases such as malaria where prevention is difficult or ARI where no effective and feasible strategies for prevention have been developed, there is more value in providing effective therapy. The decision of the project to develop the materials and strategies, and to assure the success of case management before turning efforts to education and prevention was a well reasoned decision, in my opinion.

## Chapter Six: Issues Identified by the Evaluation Team, Project or PVO

The "Scope of Work" for the final evaluation provided by the project and CARE specifically requested assessment of the quality of case management provided by CHWs, issues related to CHW incentives and the community pharmacies, the community capacity to manage the HIS, the level of project monitoring and evaluation, including feedback at all levels, and project logistics including finances and personnel issues. The financial aspects of the project were summarized in the section on sustainability and the personnel issues included in a letter to the CARE Country Director.

### a Case management quality

Quality was assessed by review of clinical registers, by review of the supervisory forms, and in focus group discussions with CHWs and CHEs. In addition, CDC and the project team completed an evaluation of case management in 1998.

1 Clinical register review - Data from the clinical registers of 30 CHWs from 11 sub-locations were reviewed to determine whether the classifications were consistent with the assessments, whether treatment was appropriate given the classification, and whether children were appropriately referred. Data were reviewed for 141 children evaluated between April 14 and July 14, 1999. Participating CHWs represented a convenience sample from the selected sub-locations and also participated in the focus group discussions. Data from clinical registers was systematically reviewed with up to 5 case management encounters reviewed per health worker. Data abstracted included the classification, whether the classification was consistent with the assessment, whether the treatment was consistent with the classification, what the treatment should have been, whether the child had been referred, and whether referral was indicated. Because not all sub-locations were represented, CHWs were not selected randomly for participation, and a similar number of records were reviewed per CHW rather than a similar proportion, these data may not be representative of the entire CHW cohort.

Altogether the 30 CHWs had treated 292 children during the 3 month period (mean per CHW = 9.7, median = 8 [range = 3 - 26, 25% = 5, 75% = 11.5]). Of these children, only 9 were less than 2 months old (mean per CHW = 0.3, median = 0 [range 0 - 3, 25% = 0, 75% = 0]). Given that the mortality rate is highest among these young infants, the low rate of care provided by CHWs is of concern.

Overall, 170 diagnoses were assigned to these 141 children (1.2 diagnoses per child).

They included

Malaria	85
ARI	48
Diarrhea	23
Very severe disease	8

Classifications were inconsistent with assessment for 10 children (5.9%)

<u>CHW Classification</u>	<u>Correct classification</u>
Measles	Complicated measles (3)
No dehydration	Some dehydration (1)
No dehydration	Persistent diarrhea (1)
Malaria	Pneumonia (1)
Severe pneumonia	Pneumonia (1)
Some dehydration	No dehydration (1)
Malaria	No fever (1)
Pneumonia	No ARI (1)

Five incorrect classifications resulted in missed referral (possible harm to 5/141 [3.5%] children), one resulted in missed therapy (possible harm to 1/141 [0.7%] children), and four resulted in more treatment being given than needed (no harm to children)

In addition to incorrect classifications, there were 17 instances when a classification should have been provided based on the assessment but was missing (10% of diagnoses). These included malaria in a child with fever (9), cough/cold in a child without pneumonia (7), and diarrhea (1). In all cases when a diagnosis of malaria should have been made, the child received either cotrimoxazole for pneumonia or Fansidar without the malaria diagnosis being recorded, thus, no potential harm occurred from the missing classification. In only one child (with diarrhea) was therapy not given for a potentially treatable condition (possible harm, 0.7% of children)

In general, decisions regarding referral were made correctly. Appropriate referrals were made for 15 (10.6%) children. Referrals should have been made but were missed for 4 (complicated measles [3], persistent diarrhea [1]), one child was referred who did not require referral (pneumonia misclassified as severe pneumonia), and for 3 children whether or not referral occurred was unclear from the records. Overall, four children were potentially harmed from missed referral (2.8%)

In assessing treatment errors, cases where an incorrect dose of paracetamol was given, where vitamin A was not administered, or where vitamin A was given to a child who had received vitamin A for another recent illness were not included since these are inconsistently recorded and are unlikely to result in any harm to the child. Treatment errors occurred in 19 cases (11.2% of classifications and 13.5% of children). Errors included

No ORS for diarrhea	1
No Septrin for pneumonia	1
No immediate Septrin for very severe disease	1

Low dose of Fansidar	2
Wrong ORS dose	3
Seprin given for diarrhea	1
High dose of Fansidar	1
Seprin given without classification	1
No Seprin duration recorded	2
No ORS dose recorded	6

Excluding children where the dose or duration of therapy was unclear, 3 children (2.1%) may have been harmed by not being given treatment and 5 (3.5%) by being under-treated. No harm was likely from over treatment (one unnecessary course of Seprin and 1 tablet of Fansidar given instead of ½ tablet)

The data from clinical register review suggest that, in general, CHWs' classification and treatment of children are consistent with their assessment. These data also show improvement from a similar evaluation conducted at the midterm evaluation where errors in classification, treatment, and referral all were more common (see section on achievements). Caveats in this analysis include that the accuracy of assessment cannot be determined by reviewing the clinical register and that what is recorded may differ from what actually is done. Where errors or inconsistencies were identified, few potentially would have resulted in harm to the child. Four children were diagnosed with a less severe condition than suggested by the assessment which resulted in missed referral, three children were not given treatment for an illness where treatment is recommended, and six children were under-treated either because a less severe disease was diagnosed (1) or a low dose of medication was given (5). Given the complexity of case management, the low frequency of errors and the limited potential harm that may have accrued attest to the quality of training and supervision of the CHWs.

Potentially a greater problem is the low number of children treated by many of the CHWs. This may reflect poor CHW motivation or poor acceptability by the community. Focus group discussions with mothers, Village Health Committee members, village elders, Assistant Chiefs and Chiefs suggest that poor motivation is more likely to explain these findings. Another possible explanation is that CHWs are not recording case management encounters in their registers, this could be assessed by comparing the medications used by CHWs with what is recorded in their registers.

2. Review of supervisory checklists - Objectives of this review included evaluating the quality of case management performed by CHWs and determining whether CHWs are using medications appropriately. This second objective is particularly important because the MOH gave CARE special permission for CHWs to dispense cotrimoxazole and Fansidar.

Community Health Extension workers (CHEs) supervise CHW case management of children at dispensaries as part of in-service training. Of 230 supervisory checklists completed, data were entered into a database and reviewed for a systematic sample of 25. The ability to analyze these data is limited by the small sample size and because many of the forms were not

correctly or completely filled out. In addition to this sample, data from all 230 forms was reviewed for the appropriateness of drug use based on the supervisor indicating that the medication given by the CHW was “correct”

Of the 25 case management encounters reviewed, 19 children had fever, 13 acute respiratory infection (ARI), and 8 diarrhea. Among all 19 children with fever, the classification of the CHW and the CHE agreed. One CHW missed a measles rash and the assessment of whether a child “felt hot” differed for one child. Among the 13 children with ARI, sufficient data were available from the CHE for 10. Data from the CHW was not recorded for chest indrawing in 5 children, it is likely that this reflects the sign not being present. If one assumes this to be the case, 7/10 (70%) of encounters included no mistakes by the CHW. In two cases, a child was diagnosed with pneumonia when one respiratory rate count was above and the other below the cutoff, and one child was diagnosed as having pneumonia despite a normal respiratory rate and no chest indrawing. These data suggest a tendency toward over-diagnosis of pneumonia. In no cases was the diagnosis of pneumonia missed by the CHW. Among all 8 children with diarrhea, the classification of the CHW and the CHE agreed. Four of the 8 children with this diagnosis had had fewer than 3 stools per day reported. In 2 of the 25 children (8%) not all danger signs were assessed by the CHW and in three (12%), the CHE identified a danger sign that was not identified by the CHW. Differences between the CHW and CHE were most common regarding whether the child was lethargic.

As identified in prior evaluations, communication with mothers remains an important area for improvement. Only 9 (36%) of 25 mothers were asked whether they understood the treatment and only 7 (28%) were asked whether they had any questions at the end of the encounter. The frequency with which health education messages and follow-up instructions were delivered are shown in the table.

**Table 18 – Frequency of Health Education Messages and Follow-up**

	Proportion
<b>Health education messages</b>	
Increase breastfeeding	76%
Increase fluids	72%
Increase feeds	72%
<b>Follow-up messages</b>	
Daily follow-up x 2 days	60%
Follow-up if becomes sicker	80%
Follow-up if stops feeding	80%

Follow-up if new fever develops	56%
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Use of medications and the proportion of children for whom the CHE indicated that the medication was given correctly are shown in the table (Note this analysis makes no assumption about whether the diagnosis was correct)

**Table 19 – Correct Use of Medicine by CHWs**

Medication	Frequency used	Proportion correct
Fansidar	127/230 (55%)	110/127 (87%)
Septin	68/230 (30%)	53/68 (78%)
ORS	52/230 (23%)	45/52 (87%)
Vitamin A	111/230 (48%)	100/111 (90%)
Paracetamol	165/230 (72%)	147/165 (89%)

In summary, missing data on the supervisory forms limits the ability to reach conclusions from their analysis. A strategy to improve the use of the supervisory forms should be developed that may include revision of the forms, training for CHEs on completing the forms, and review and feedback by the FHS to the CHE on completing the forms.

Few problems were identified in diagnosis and classification of children with fever or diarrhea. For pneumonia, CHWs should be taught that the diagnosis requires that both respiratory rate counts exceed the defined cutoff. The ability of CHWs to accurately assess the presence of chest in-drawing could not be determined from this analysis.

Because missing or incorrectly classifying danger signs may be harmful to a child, supervisors should emphasize the importance of always assessing every sign. Identifying whether a child is lethargic may be difficult and CHWs should be taught signs to assess whether a child is lethargic such as being difficult to wake or not able to stay awake during the evaluation.

The high proportion of medication use that was classified by the CHE as correct is an important indicator for the MOH that CHWs can correctly give children Fansidar and Septin. This finding also is consistent with review of the CHW clinical registers which indicates that treatment generally is consistent with the classification of the illness and that the dose of medication given is correct. Whether overuse of these medications occurs because of over-diagnosis of malaria and pneumonia, or whether CHWs are using these medications in other situations (e.g., treating persons and not recording it in the clinical register, or selling the drugs) cannot be determined from these data.

Educating mothers about appropriate home care and follow-up continues to be an area that should be emphasized, although improvement has occurred since the midterm evaluation. Communications should be emphasized to CHWs during supervisory sessions and could be the subject of role-plays at meetings with groups of CHWs. In addition, the project could consider including columns in the clinical register for “instructed in home care,” “instructed about follow-up,” and “asked whether understood and if any questions.” Conducting exit interviews with mothers also may provide useful information regarding the effectiveness of communication and whether the messages that are being delivered are understood by the mothers.

b CHW incentives

The concept underlying most community-based programs that use CHWs is that they are volunteers who are selected by the community, provide health education, and are rewarded by the respect of the community and small in-kind tokens. In some programs, CHWs are taught income-generating activities. Opposition to paying CHWs has been both philosophical and practical – that sustaining a system that pays CHWs requires a continual source of funding.

In this program, CHWs are expected to not only provide health education but also to provide curative services and to work at the community pharmacy. Time requirements vary but, in focus group discussions, many CHWs indicated that it takes about half of their time currently, even before substantial emphasis has been placed on health education activities. CHWs participating in the focus groups also indicated that they are sometimes expected by their families to generate income, that they may not have enough money to buy medicine for their own family, and that it is difficult to collect money from others but keep none of it. CHWs, mothers, Village Elders, and Assistant Chiefs all indicated that they felt that CHWs should receive incentives for the work that they perform. Most estimates ranged between 500 and 1500 Ksh per month. Many mothers already believed that CARE was providing incentives to CHWs.

Evaluating CHW dropout during the project by 6 month periods shows 30 dropouts between January and June 1997, with most occurring during training. During the subsequent 6 months only 3 CHWs stopped working. But during 1998, 27 and 20 CHWs dropped out during the first and second halves of the year. Based on discussions with project staff, these were primarily due to monetary issues or to changes in family circumstances.

Based on data collected during the evaluation, it seems important that incentives be provided to CHWs to maintain and improve motivation and assure retention. In addition, this would be widely recognized as fair by all levels in the community. Providing incentives, however, would create several difficulties. Sustainability would require a constant source of funding. As suggested above, these funds could be generated by the community pharmacies, the communities, and the MOH. A second issue is that if CHWs are provided incentives, other volunteer workers (e.g., VHC members) also are likely to expect some compensation. Because VHC members currently spend far less time than CHWs performing project activities, this amount could be minimal, could be tied to level of activity (for example, could be based on

bednet sales), or could be provided in-kind

Two approaches to providing monetary incentives for CHWs can be envisioned one where the incentives are tied to level of activity and a second where they are provided as a salary, unrelated to specific activities. In several sub-locations, CARE is providing 10% of the profit on sale of medications to the CHWs but the amounts received by CHWs tends to be small and variable. CARE may wish to evaluate whether activity-based incentives or a salary are more acceptable to the community and the CHWs or field test each strategy in different areas, making sure that the average amount received by an active CHW in an incentive system would be comparable to what might be provided as a salary and that it be in the range suggested as reasonable by the CHWs and the community

c Community pharmacies

The pharmacies were recognized in focus group discussions at all levels as an important part of the program. Maintaining pharmacies in all sub-locations is important as a focus for child survival activities, immunization clinics and meetings, as well as providing a source of medications for the CHWs and the community. When participants were asked what aspects of the program were important to sustain, the pharmacies were mentioned first or second (along with the CHWs). Many participants suggested that the range of products at the pharmacies should be expanded. Some suggestions included providing medications for adults, providing first aid products, and expanding to include the entire range of products that might be found at a commercial pharmacy. Some also suggested that the activities at the pharmacies be expanded from diagnosis of children, sale of medications, maintenance of health data, and periodic vaccination clinics to also include providing health education and serving as a focus for all community health activities. Several persons suggested that the pharmacies should be open on Sundays when the Dispensaries are not. The pharmacies also have been important as venues for meetings of CHWs and Village Health Committees. In several sub-locations, the community has provided land and built its own pharmacy to avoid having to pay rent and other sub-locations are considering this option.

In discussions involving project staff and the evaluation team, it was felt important that the pharmacies not be viewed as a site where any medication can be purchased but as one where care may be provided to children who are sick. Since the CHWs have not been trained to provide care for adults, selling therapeutic medications for adults (such as for hypertension) was felt not to be optimal whereas selling antacids, first aid supplies, and feminine products may be reasonable. Such products could be sold with a larger profit margin to improve financial sustainability while not threatening the child survival goals. As more products are sold, it will be important to assess whether this increasing complexity, perhaps requiring additional sources of supply creates a stress to the system that might lead to its failure or whether the additional revenue generated leads to greater sustainability. Pilot testing expanded pharmacy services in several sub-locations before recommending this generally would be reasonable.

Medication supply and financial management were identified as two potential problems

affecting the community pharmacies CHWs and parents reported that occasionally, medications have not been available to treat sick children It is unclear how often this reflects CHWs not having the medicines in their kit or at home or whether there also is no supply at the community pharmacy Lack of needed medicines can erode confidence in the system and lead parents to look for alternative sources of care In addition, pyrimethrin for dipping bednets has been unavailable in many sub-locations for a prolonged period

Currently, drugs are purchased from the Diocese of Maseno West (DMW), which obtains their supplies from the Mission for Essential Drug Services (MEDS) The cost to the project is 2% greater than the cost to DMW The Medical Director of DMW indicated his interest in collaborating with the project and his commitment to providing needed medications For example, he mentioned that if drugs were not available from MEDS he would purchase those drugs from a supplier in Kisumu and sell them to the project at the agreed price, even if this was less than their actual cost While some medications have been out-of-stock, it was unclear how often purchase from an alternative source actually occurred The Medical Director shared some of his beliefs about possible side effects of sulfa-drugs (including both Fansidar and cotrimoxazole), the ability of CHWs to appropriately dispense them, and his belief that CHWs were selling the medications outside of the project Despite these negative (and to our knowledge unfounded) beliefs, there is no evidence that they have interfered with a willingness to supply medications as ordered

A discussion with the pharmacist at DMW clarified the process through which medications are ordered He identified several problems with how medications are ordered and received Ordering medications occurs in a 4 step process First, the VHC writes a letter specifying what is needed (this letter generally was not available at DMW) Then they obtain a check for that amount made to DMW At DMW they complete an order form which lists only those medications that are in stock (i.e., one cannot ascertain what was needed but not available) Finally, they give the check to DMW with any excess (e.g., because some medications are out-of-stock) being credited to the community Potential problems with this approach, and possible solutions are listed in the table

**Table 20 – Problem and Solutions to Medicine Ordering**

<b>Potential problem</b>	<b>Possible solution</b>
VHC members are unaware of the number of pills in each “tin” so they order amounts that are excessive	Assure that all VHCs have a current list of the size of tins for each medication Provide additional instruction on ordering
The letter from the VHC that lists what drugs are needed is not kept by DMW or CARE and therefore cannot be used to determine what items are out of stock at DMW and cannot be reviewed by project staff to determine whether orders are appropriate	VHCs should fill out the order form listing each drug being ordered and the amount before arriving at DMW Where drugs are out of stock, DMW should indicate this on the form and a copy should be retained by DMW, the VHC and CARE

The amount of the check generally is in excess of what is needed because of out of stock medications and because, occasionally, amounts ordered are decreased after discussions with the pharmacist	Ordering smaller quantities of medications would be beneficial because less money would remain in an account if medications were not available
Medications may be returned to MEDS if a tin is unopened and is more than 6 months from expiration, however, when tins contain a large numbers of pills, a pharmacy may need to open a tin to supply a single CHW making return impossible	Discuss with DMW and MEDS the possibility of purchasing medications in tins that include fewer pills Even if the cost were greater, the ability to return nearly expired drugs would be useful
supplies unavailable for extended periods	Identify alternative sources of supply

In addition to the system by which medications are ordered, improvements should be made in the financial management of pharmacies. Processes should be in place to assure no "leakage" of drugs or money either at the CHW or VHC level. Records of funds collected and disbursed should be reviewed to assure appropriate management and to allow calculation of revenues that could be applied to CHW incentives. Because project staff may not be trained in financial management, one approach would be for a financial expert from CARE Nairobi to review the system and make recommendations.

d Health information systems and community use of data

Changes have been made in the data collected by CHWs based on recommendations from a CDC review following the mid-term evaluation. The major change was moving from a household data form to a form where information is collected only on families with young children (the maternal and child registers). A list of the types of data collected is shown below.

**Table 21 – Types of Data Collected**

<b>Data source</b>	<b>Who collects?</b>	<b>Who uses?</b>
Chalkboard	CHW, VHC	Chief, Subchief, Village elders, PHT
Verbal autopsy and careseeking before death	CHE	CARE project staff
Referral charts	CHW, Health facility staff	Health facility staff, CHW, FHS
Supervisory forms	CHE	CHE, FHS
Clinical Registers	CHW	CHE

Maternal and Child Registers	CHW	CHE, FHS
Financial records of drug sales	CHW	VHC

It is noteworthy that excessive data collection has been identified as a problem at various levels within the project in multiple evaluations. Possible explanations for this include the actual volume of data that are collected, the limited literacy of some CHWs who actually collect most of the data, and the sense that much of the data collected are not used. One additional explanation may be that the people who are collecting the data are rarely those who are using the data. Therefore, they look at this as a chore or as something that may lead to repercussions from supervisors rather than as an opportunity to learn or a reinforcement of positive behavior or accomplishment. Results of the focus group discussions with the CHWs support this observation. The only data collection they mentioned was the referral charts. They described how they appreciated getting information back from the health facilities, that their diagnoses usually were confirmed, and how having a patient referred back to them increased their feeling of competence. Developing approaches where data can be used for problem solving by the CHWs or where they participate in summarizing and communicating the data to the community may be useful. For this to be useful, however, it must be viewed as an opportunity and not as another time consuming chore. Discussing options with the CHWs and seeing whether any are viewed positively may be useful.

In considering the types of data collected, each can be useful in monitoring, evaluating, and improving program activities. Because one of the important issues (or missed opportunities) identified by this evaluation is using data to answer questions and solve problems, CARE project staff should, in writing, describe how each type of data will be used. This document should include a description of 1) the source of data, 2) who is responsible for collecting the data, 3) who is responsible at the project level for checking the data, 4) how the accuracy or completeness of the data can be assessed, 5) how often the data are aggregated and analyzed, 6) the types of analyses that will be done, 7) the questions that these analyses will answer, and 8) who will use the data (CHWs, CHEs, communities, etc). Once this plan is developed, someone must assure that the process works and that the activities are being completed as planned. While the Monitoring and Evaluation Officer should have primary responsibility for this, the Program Manager should be responsible for assuring that the process works. Regular group meetings should be held with project staff to discuss the data, analyses, and the implications of what has been found. As needed and appropriate, similar meetings should be held with CHEs, and with community leaders and Assistant Chiefs. Although not all the data collection or analyses may be sustainable once primary responsibility for project activities has shifted away from CARE, this approach to data collection, analysis, and feedback is important for quality assurance and will result in better performance at all levels of the project. Planning what is sustainable and how information will be collected, aggregated, analyzed, and communicated in a sustainable way also needs to be done.

**Table 22 – Sources of Data and Types of Analyses Needed**

Data source	Types of analyses
Chalkboard	<ol style="list-style-type: none"> <li>1) Trends in number of deaths – is the program working overall?</li> <li>2) Number of births – are births being detected and recorded? If not, suggests a problem with activity or access, link with data on whether CHWs are treating infants &lt;2 months old from clinical register</li> <li>2) Number of cases treated by CHWs, aggregate and by diagnosis – are the CHWs active? Is the activity of CHWs in this sub-location much lower than in other sub-locations? If so, why? Is there an outbreak of diarrhea or measles?</li> <li>3) Number of CHWs per village – are CHWs dropping out? If so, why? Are they being replaced?</li> <li>4) Number of bednets sold – is this approach to prevention working?</li> <li>5) Vaccination rates – evaluate especially in relation to whether measles cases are being diagnosed</li> </ol>
Verbal autopsy and careseeking before death	<p><u>Note</u> the report from CDC provides an excellent description of the types of analyses that can be completed from these data</p>
Referral chits	<ol style="list-style-type: none"> <li>1) Number of referrals made by CHWs – are CHWs referring appropriately? Link with data on referrals from the clinical register</li> <li>2) Number and proportion of referral chits returned – Are referrals being completed? Are facility staff returning the chits?</li> <li>3) Comparison of diagnoses made by the CHW and health facility staff – are CHWs making correct diagnoses and referring appropriately?</li> <li>4) Are CHWs conducting appropriate follow-up of children who are referred back to them?</li> </ol>

Data source	Types of analyses
Supervisory forms	<p><u>Individual</u></p> <p>1) Does each CHW have supervisory forms completed? Is every CHW participating in in-service training and being evaluated?</p> <p>2) Comparison of CHW and CHE case management – is case management being performed appropriately?</p> <p><u>Aggregated</u></p> <p>1) Determine where most errors in case management occur – are there common weaknesses that may require refresher training? Are there some CHEs whose CHWs make errors more frequently who may need support in providing appropriate supervision?</p> <p>2) Assess whether health education and follow-up messages are being given appropriately – are existing communication problems being solved?</p>
Clinical Registers	<p><u>Individual</u></p> <p>1) Number of children treated – is the CHW active?</p> <p>2) Number of children &lt;2 mo – is there access to young infants?</p> <p>3) Consistency of assessment, classification, and treatment – is case management correct?</p> <p>4) Proportion of RRs &gt;50 – is the CHW counting resp rates accurately?</p> <p>5) Proportion of children with &gt;1 diagnosis – are CHWs assessing all illnesses or just what is related to the chief complaint?</p> <p>6) Referrals – are referrals being made appropriately? (Need to assure that referrals are being recorded in the registers since there is no specific column to do so )</p> <p><u>Aggregated</u></p> <p>1) Evaluate activity and performance of CHWs combined by sub-location – is the CHE motivating the CHWs to perform? Does the CHE need assistance assuring the quality of case management? Are there other problems that would result in low activity levels in an area?</p> <p>2) Compare proportion of children with multiple diagnoses from clinical registers with the proportion from the supervisor checklists - - are CHWs assessing and classifying all illnesses when they are not being supervised?</p>

Data source	Types of analyses
Maternal and Child Registers	1) Completeness – are CHWs appropriately visiting, and collecting and recording data on families with young children? 2) Immunizations and Fansidar prophylaxis of pregnant women, vitamin A to nursing mothers – are preventive strategies being applied? 3) Immunization of children – are vaccinations timely (given at appropriate age) and up-to-date? If not, why? 4) Use of bednets – do young children sleep under bednets?

One of the findings of the interviews with the Chiefs and Subchiefs is that they, generally, are aware of the community chalkboards and occasionally communicate data from the chalkboards at barazas. The information most frequently mentioned as being used includes vital statistics, availability of water, and sanitation. The public health technicians also reported using data on water and sanitation from the chalkboards. It is likely that these data would be more widely used if important health data were summarized and key messages shared with community decision makers. For example, data on the occurrence of malaria could be presented along with a discussion of the importance of prevention with bed-nets. Or as the number of ARI cases increases at the beginning of the ARI season, these data could be highlighted and lead to a discussion of the importance of timely care seeking and appropriate therapy. One possible approach to better communicating the data would be for the project to write a newsletter at regular intervals with each issue presenting summaries of key data by sub-location, and including several short articles that provide key health messages that Chiefs, Sub-chiefs or Village Elders can present at their meetings.

## Chapter Seven Innovations and Lessons

Many of the approaches used in this program have been used widely in other NGO child survival programs. Approaches to identifying CHWs, creating supervisory systems with several levels, providing services at community pharmacies, and combining treatment and health education all are familiar. However, I know of no other programs that have had an impact on child mortality as seen in this program. What is responsible for this success?

### a Development of case management materials and training for CHWs

WHO has promoted integrated case management as the optimal approach to providing care for common childhood illnesses at first level health facilities. However, the materials developed are designed for trained health care workers who often are not available in rural areas. Moreover, even if available, access and utilization of health services may be limited. For this project CARE has used the case management model and modified the algorithm making it appropriate for use by CHWs. Materials were reviewed by consultants including from WHO, modified as needed, and have been implemented. In addition a training course was developed and modified based on problems identified among the first group of trainees.

### b Use of effective medications to treat childhood infections

For case management to be successful in decreasing morbidity and mortality, appropriate treatment modalities need to be made available. In this project, obtaining permission to treat children with Fansidar in this high prevalence area for chloroquine resistant falciparum malaria was a key factor. Also, important was the permission that was obtained to allow CHWs to provide cotrimoxazole to children diagnosed with pneumonia. This combination of therapies provided CHWs the ability to treat most treatable infections in children — a capacity not even possessed at the health facilities where Fansidar was not available.

### c Appropriate use of technical consultants and evaluations

Keys to the development of a successful system included talented and dedicated project staff, the appropriate use of technical consultants, and collection of appropriate and sufficient data to facilitate evaluation of the program and to identify problems that could be solved through modifications of the program. Whereas many NGO programs may try to limit technical input feeling that funds are better spent on programming and to limit data collection fearing that this takes time away from other activities, in fact, these two factors are crucial in developing an effective program.

## Chapter Eight Achievement and Constraints

Achievements and constraints of this project are described in Section 1 of this report where accomplishments are highlighted and recommendations presented to overcome identified constraints to program success and sustainability

Overall, the project was very successful in achieving the primary objective of improving child survival. This was accomplished in a way that also resulted in empowering the community to improve and monitor the health of their children and which provided training and education in health care and, to a lesser extent, disease prevention to some community members. The trained personnel and the community pharmacies represent valued community resources, as was mentioned repeatedly by respondents in surveys and focus groups.

The project experienced greater difficulty implementing some of the health education and communication objectives compared with the case management objectives. This may reflect the amount of effort that was required to implement case management. While the mortality impact justifies the decision to focus on curative care, increasing health education and disease prevention activities in the next phase of the project would be appropriate. Education concerning sexually transmitted infections and HIV prevention may be particularly important since HIV and AIDS could threaten all the achievements made thus far.

Another facet of the program that appears to have been less successful than hoped was involving health facility and MOH staff in supporting CHW activities and assuming responsibility for supervision in a sustainable system. While many health facility staff were trained in case management, and some provided supervision to CHWs during training at health facilities, the facility staff provided only a small fraction of the supervision during these sessions. When asked about greater participation in the program, many health facility staff indicated that they needed incentives to do so. These findings indicate that there is still a dichotomy between the CARE project and the MOH health system. During the next phase of the project, efforts must be made to overcome this separation, perhaps through greater involvement of MOH personnel in project direction and activities and through more attention to supporting the training and material needs of health facility staff.

## LIST OF APPENDICES

- Appendix 1 Final Evaluation Schedule
- Appendix 2 Final evaluation Team Members
- Appendix 3 Logical Framework
- Appendix 4 Questions for Chiefs and Assistant Chiefs
- Appendix 5 Interviews with Chiefs and Assistant Chiefs
- Appendix 6 Focus Groups with Village Health Committee Members
- Appendix 7 Interview Guide for Village Health Committee
- Appendix 8 Village Elder' Interview and Discussion
- Appendix 9 Findings of the Focus Group Discussions for Mothers
- Appendix 10 Focus Group Discussion for Mothers
- Appendix 11 Health Facility Staff in Depth Interview
- Appendix 12 Summary of CHW Focus Groups
- Appendix 13 Sustainability Table
- Appendix 14 Collaboration and Formal Agreements

## APPENDIX 1

### Final Evaluation Schedule

- July 6 Met with stakeholders in Nairobi (Victor Masbayi, Child Survival Specialist, Office of Health and Population, USAID, Dr Hassan, Head of Primary Health Care, MOH, Leo Roozendaal, Acting Country Director, CARE)
- July 7 Travel to Siaya, met with CICSS project staff, reviewed project components and implementation
- July 8 Met with Samuel Oreta, Siaya District Commissioner Discussions with CICSS project staff and evaluation team on quality and quantity of case management, IEC, preventive services, and sustainability
- July 9 Conducted interviews with parents at a market in the project area and in 4 villages
- July 10 Conducted focus group discussions with mothers from 8 sublocations
- July 11 Analyzed supervisor forms and KPC survey, reviewed focus group findings
- July 12 Conducted interviews with Chiefs, Assistant Chiefs, and Village Elders
- July 13 Conducted focus group discussions with CHEs
- July 14 Conducted focus group discussions with CHWs and VHC members from 10 sublocations Reviewed data from CHW clinical registers
- July 15 Met with Dr Akala (Medical Director, Diocese of Maseno West) and with the DMW pharmacist to discuss drug supply Attended a health field day in Udenda sublocation
- July 16 Met with the District Commissioner to present evaluation findings Conducted debriefing with CICSS and CARE Kisumu staff
- July 17 Report writing
- July 18 Travel to Nairobi, report writing
- July 19 Debriefing with personnel from MOH, USAID, UNICEF, CARE

## **APPENDIX 2**

### **Final Evaluation Team Members**

Grace Miheso - CICSS Acting Project Manager

Benta Ruth Osamba - CICSS Training Officer

Julius Were Gwadah - CICSS Field Supervisor

Lilian Akinyi Omollo - CICSS Field Supervisor

Manasses Owade Nyanjom - CICSS Field Supervisor

Washington Omwomo- CICSS DMIS Coordinator

Jane Muta - UNICEF

Steven Miheso - MOH, Nairobi

Sam Ocholla - DMOH, Siaya

Moses Kigani - MOH, Siaya

David Newberry - CARE U S Child Health Advisor

Ben Schwartz - CDC Atlanta USA

### Appendix 3

#### Project Goals

- 1 To reduce morbidity and mortality among mothers and children under five years in age  
To utilize disease prevention-, treatment- and community-based activities that are initiated, supported, financed, owned and sustained by the community

<u>(1)</u> <u>Project Objectives</u>	<u>(2)</u> <u>Measurement Method for Objectives</u>	<u>(3)</u> <u>Major Planned Inputs</u>	<u>(4)</u> <u>Outputs</u>	<u>(5)</u> <u>Measurement Method for Outputs</u>
Increase from 50% to 90% the percentage of mothers who recognize rapid and difficult breathing as danger signs of pneumonia	<ol style="list-style-type: none"> <li>1 KPC Survey Baseline</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 Training with MOH staff, CHWs, community committees and teachers in use of Standard Case Management of severe and mild pneumonia, colds and coughs (2400 CHWs )</li> <li>2 Education of mothers, adolescents (siblings), caretakers and grandmothers in use of Standard Case Management of mild pneumonia, colds and coughs Training and skill development in respiration counting will be provided Watches with “second hand function” will be used to count respirations</li> </ol>	<ol style="list-style-type: none"> <li>1 SCM trained MOH TOT staff, CHWs, community committees, child caretakers and school teachers</li> <li>2 Community IEC activities planned and performed</li> <li>3 Appropriate home care for ARI and increased ALRI awareness</li> <li>4 Appropriate use of medications for colds and coughs</li> </ol>	<ol style="list-style-type: none"> <li>1 Training Test results e g accurate respiration counts</li> <li>2 Household interviews</li> <li>3 CHW home visit records and activities report</li> <li>4 Facility records</li> <li>5 Assessment of ARI and ALRI referrals and response</li> <li>6 KPC survey</li> </ol>
Increase from 23% to 63% the percentage of mothers who seek medical treatment for children with rapid and difficult breathing within 24 hours	<ol style="list-style-type: none"> <li>1 KPC Survey Baseline</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> <li>4 Facility treatment records</li> <li>5 Special surveys</li> </ol>	<ol style="list-style-type: none"> <li>1 Training with MOH staff, MOH clinic staff, CHWs, TBAs, community leaders and teachers in use of SCM to aid in the diagnosis of severe and mild pneumonia, colds and coughs (2400 CHWs)</li> <li>2 Education of mothers, adolescents (siblings), caretakers and grandmothers in use of Integrated Case Management of diagnosed mild pneumonia, colds and coughs</li> <li>3 Awareness training for ALRI treatment within first 24 hours</li> </ol>	<ol style="list-style-type: none"> <li>1 Trained MOH TOT staff, CHWs, TBAs, community leaders, child caretakers and school teachers</li> <li>2 Community IEC activities planned and performed</li> <li>3 Appropriate home care for ARI and increased ALRI awareness</li> <li>4 Appropriate response to pneumonia signs including referrals and treatment with 24 hours</li> </ol>	<ol style="list-style-type: none"> <li>1 Training Test results</li> <li>2 Household interviews</li> <li>3 CHW home visit records and activities report</li> <li>4 Facility records</li> <li>5 Assessment of ARI and ALRI referrals and 24 hour response</li> <li>6 Appropriate use of medications for colds and coughs Appropriate antibiotic use and facility treatment of severe pneumonia</li> </ol>

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(1) <u>Project Objectives</u>	(2) <u>Measurement Method for Objectives</u>	(3) <u>Major Planned Inputs</u>	(4) <u>Outputs</u>	(5) <u>Measurement Method for Outputs</u>
Increase to 90 % the percentage of CHWs who recognize two danger signs of pneumonia (no baseline data for CHWs)	<ol style="list-style-type: none"> <li>1 Mid-term Evaluation</li> <li>2 Final KPC Survey</li> <li>3 Supervisory assessments</li> <li>4 MOH referral records of individual CHWs</li> </ol>	<ol style="list-style-type: none"> <li>1 Training CHWs with MOH staff, MOH clinic staff (2400 CHWs)</li> <li>2 CHWs provide secondary training to mothers, TBAs, and community leaders in SCM of severe and mild pneumonia and ARIs such as colds and coughs including respiration counts</li> </ol>	<ol style="list-style-type: none"> <li>1 ALRI trained CHWs, TBAs, mothers and community leaders</li> <li>2 Appropriate home care for ARI and increased ALRI awareness and referral</li> <li>3 Appropriate response to pneumonia signs with treatment with 24 hours SCM guidelines correctly followed in treatment facilities and by CHWs</li> </ol>	<ol style="list-style-type: none"> <li>1 Training Test results</li> <li>2 Household interviews</li> <li>3 CHW home visit records and activities report</li> <li>4 Facility records</li> <li>5 Assessment of ARI and ALRI referrals and 24 hour response</li> <li>6 Supervisory assessments</li> </ol>
80% of children presenting ALRI who are taken to CHW receive appropriate medical treatment within 24 hours	<ol style="list-style-type: none"> <li>1 Special Survey or CHW treatment records</li> <li>2 Mid-term Evaluation ALRI assessment</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 Train CHWs (2400) in use of SCM</li> <li>2 Establish community pharmacies</li> <li>3 Regular supply of appropriate antibiotics</li> </ol>	<ol style="list-style-type: none"> <li>1 Trained CHWs and community health committees</li> <li>2 Appropriate home care for ARI and increased ALRI awareness and referral</li> <li>3 Pneumonia treated within 24 hours of diagnosis</li> </ol>	<ol style="list-style-type: none"> <li>1 Household interviews</li> <li>2 CHW records and activities report</li> <li>3 Community pharmacy records</li> <li>4 Mid-term evaluation</li> <li>5 ALRI Treatment records</li> </ol>

ALRI intervention activities will include increasing measles immunization coverage and early treatment and prevention of falciparum malaria. Local community health workers (CHWs) are essential to Child Survival projects but their efforts will be enhanced through community-operated pharmacies. Their diagnostic and treatment activities, which are listed elsewhere, will have significant impact on ARI. ALRI treatment protocol for standard case management (SCM) will be implemented as the basic approach. The CICSS emphasis will focus on community health workers use of the SCM for mild and moderate illnesses. The WHO Management of Childhood Illness chart is attached in ANNEX III, Exhibit 2.

<p>Increase from 19% to 40% the percentage of households with Impregnated Mosquito Nets (IMN)</p>	<ol style="list-style-type: none"> <li>1 KPC Survey Baseline</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> <li>4 Bed net treatment records</li> <li>5 Sales and inventory records</li> </ol>	<ol style="list-style-type: none"> <li>1 Education of mothers and households on malaria prevention benefits and 2400 CHWs</li> <li>2 Organize the system to purchase, distribute and re-treat bed nets</li> <li>3 Develop IEC and ed messages to promote bed nets</li> </ol>	<ol style="list-style-type: none"> <li>1 IMN - bed net promotion components working in the community</li> <li>2 Community IEC malaria and IMN activities planned and performed</li> <li>3 System to distribute, finance and purchase bed nets established</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 Community Health Worker records</li> <li>3 Household interviews</li> <li>4 CHW reports and activity logs</li> <li>5 IMN inventory distribution and sales registers</li> </ol>
<p>Increase from 17% to 40% total mothers and children less than 2 years sleeping under a bed net (IMN)</p>	<ol style="list-style-type: none"> <li>1 KPC Survey Baseline</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 Education of mothers and households on prevention against malaria from sleeping under an IMN (bed net)</li> <li>2 Organize the system to monitor and compare malaria in households using bed nets against others</li> <li>3 Develop IEC and ed messages to promote sleeping under bed nets</li> </ol>	<ol style="list-style-type: none"> <li>1 Sleeping under bed nets promoted</li> <li>2 Community IEC emphasizes bed net use to stop malaria and retreatment of IMN activities planned and performed</li> <li>3 System to monitor benefits of correct and persistent bed net use established</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment of bed net use includes frequency of use and household assessment of children bed net sleeping pattern</li> <li>2 CHW records and group promotion meetings focus on bed net use</li> <li>3 Household interviews</li> <li>4 CHW reports and activity logs regarding bed nets examined and usage rates</li> </ol>

<p>Increase from 1% to 40% the percentage of women correctly taking malaria chemo-prophylaxis during pregnancy</p>	<ol style="list-style-type: none"> <li>1 KPC Survey Baseline</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 CHWs supplied with adequate anti-malarial medications (2400 trained)</li> <li>2 Develop appropriate IEC strategy and implementation approach</li> <li>3 CHW household visits to promote chemo-prophylaxis during pregnancy</li> </ol>	<ol style="list-style-type: none"> <li>1 Improved compliance for chemo-prophylaxis instigated by CHWs</li> <li>2 IEC effectively targets understanding of benefits and compliance of chemo-prophylaxis</li> <li>3 Regular CHW supply and distribution of appropriate anti-malarial drugs</li> <li>4 Pregnant women receive and use correctly use anti-malarial</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment of malaria chemo-prophylaxis</li> <li>2 Community Health Worker records</li> <li>3 Household interviews</li> <li>4 Treatment logs and registers</li> </ol>
<p>Increase from 5% to 75% the percentage of mothers who seek appropriate treatment within 24 hours for their child's uncomplicated malaria from CHWs</p>	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 CHWs trained in SCM and available for consultation, treatment and referral</li> <li>2 IEC focus on appropriate malaria treatment</li> <li>3 Community pharmacies established and supplied with anti-malarials</li> </ol>	<ol style="list-style-type: none"> <li>1 Regular CHW and community pharmacy supply of appropriate anti-malarial drugs</li> <li>2 IEC effectively targets understanding of benefits and compliance</li> <li>3 Established community pharmacy and trained CHW system working</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment of malaria treatment</li> <li>2 Community Health Worker and pharmacy records and reports</li> <li>3 Household interviews</li> <li>4 Final Evaluation</li> <li>5 Community pharmacy records</li> </ol>

<p>Increase from 1% to 15% the percentage of infants less than 2 months exclusively breastfeeding</p>	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on exclusive breastfeeding</li> <li>2 Establish breastfeeding support groups</li> <li>3 Promote exclusive breastfeeding through women's groups</li> <li>4 CHWs trained and available for consultation and support</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC, including Mothercare breastfeeding materials, effectively targets understanding of benefits and overcoming BF difficulties</li> <li>2 Breastfeeding support groups, women groups and CHWs motivate new mothers and provide encouragement</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 Household and group interviews</li> <li>3 Final Evaluation</li> </ol>
<p>Increase from 50% to 80% the percentage of infants less than 24 months with diarrhea in the last two weeks who were given the same amount or more of breastmilk</p>	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on home management of CDD</li> <li>2 Promote improved home management practices through women's groups</li> <li>3 CHWs trained in SCM and are available for consultation, support and referral</li> <li>4 Increased local support for breastfeeding</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets breastfeeding children more during illness</li> <li>2 Women groups train, motivate and provide encouragement</li> <li>3 CHWs train, motivate, encourage more BF and</li> <li>4 CHWs provide breastfeeding support to mothers when indicated</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CHW records and reports</li> <li>3 Final evaluation</li> <li>4 Household interviews of mothers</li> </ol>

<p>Increase from 53% to 80% the percentage of infants less than 24 months with diarrhea in the last two weeks who were given the same amount or more of fluids other than breastmilk</p>	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on home management of CDD</li> <li>2 Promote improved home management practices through women's groups</li> <li>3 CHWs trained in SCM and are available for consultation support and referral</li> <li>4 CHWs and women's groups identify suitable fluids and train mothers in their preparation and administration</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets giving home fluids more during diarrhea episodes</li> <li>2 Women groups train, motivate and provide encouragement for other appropriate fluids</li> <li>3 CHWs train, motivate, encourage more home fluids and provide treatment or refer when indicated</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CHW and pharmacy records</li> <li>3 Final evaluation</li> <li>4 Household interviews of mothers</li> </ol>
<p>Increase 44% to 60% the percentage of infants less than 24 months with diarrhea in the last two weeks who were treated with ORT</p>	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on ORT and home management of CDD</li> <li>2 Promote improved use of ORT and home management practices through women's groups</li> <li>3 CHWs trained in SCM and are available for ORT consultation, support and referral</li> <li>4 Increased use of national CDD materials, media and local drama groups</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets use of ORT during diarrhea episodes</li> <li>2 Women groups train, motivate and provide encouragement in using ORT</li> <li>3 CHWs train, motivate, provide treatment and referral</li> <li>4 Community conducts CDD dramas</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CHW and pharmacy records</li> <li>3 Final evaluation</li> <li>4 Household interviews of mothers</li> </ol>

<p>Increase from 30% to 75% the percentage of infants less than 24 months with diarrhea in the last two weeks who were given the same amount or more of solid or semi-solid foods</p>	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on home management of CDD</li> <li>2 Promote improved use of solid and semi-solid foods during diarrhea and home management practices through women's groups</li> <li>3 CHWs trained in SCM and are available for consultation, support and referral</li> <li>4 Increased use of national CDD materials and local drama</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets improved use of food during diarrhea episodes</li> <li>2 Women groups train, motivate and provide encouragement in the use of solid and semi-solid foods</li> <li>3 CHWs train, motivate, encourage provide treatment and referral</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CHW and pharmacy records</li> <li>3 Final evaluation</li> <li>4 Household interviews of mothers</li> </ol>
<p>Increase coverage of children 12 to 23 months with DPT1 from 62% to 80%</p>	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on completed immunization</li> <li>2 CHWs to use their registers to monitor child through the immunization series</li> <li>3 Promote immunization through women's groups</li> <li>4 Facilitate govt immunization activities and EPI schedules</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets infants to start their immunizations</li> <li>2 CHWs track and monitor immunization of eligible children</li> <li>3 Women groups effectively promote and track fully immunized children</li> <li>4 Govt immunization schedules are appropriately met</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CHW records at the pharmacy</li> <li>3 Final evaluation</li> <li>4 MOH EPI records</li> </ol>
<p>Increase coverage of children 12 to 23 months with DPT3 from 57% to 70%</p>	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on completed immunization</li> <li>2 CHWs to use their registers to monitor child through the immunization series</li> <li>3 Promote immunization through women's groups</li> <li>4 Facilitate govt immunization activities and EPI schedules</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets children to complete their immunization series</li> <li>2 CHWs track and monitor immunization of eligible children</li> <li>3 Women groups effectively promote fully immunized children</li> <li>4 Govt immunization schedules are appropriate</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CHW records at the pharmacy</li> <li>3 Final evaluation</li> <li>4 MOH EPI records</li> </ol>

<p>Increase coverage of children 12 to 23 months with measles immunization from 45.7% to 70%</p>	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on completed immunization</li> <li>2 CHWs to use their registers to monitor child through the immunization series</li> <li>3 Promote immunization through women's groups</li> <li>4 Facilitate govt immunization activities</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets immunization completion through measles</li> <li>2 CHWs track and monitor immunization of eligible children</li> <li>3 Women groups effectively promote completion of immunization series</li> <li>4 Govt immunization schedules are appropriately met</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CHW records at the pharmacy</li> <li>3 Final evaluation</li> </ol>
<p>Maintain drop out rate for DPT1 to DPT3 at less than 10%</p>	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on completed immunization</li> <li>2 CHWs to use their registers to monitor child through the immunization series</li> <li>3 Promote immunization through women's groups</li> <li>4 Facilitate govt immunization activities and EPI schedules</li> <li>5 Develop "missed immunization" response system for each child</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets completed immunization series</li> <li>2 CHWs track and monitor immunization of eligible children through measles immunization</li> <li>3 Women groups effectively promote completion of all immunizations</li> <li>4 Govt immunization schedules are appropriately met</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CHW records at the pharmacy</li> <li>3 Final evaluation</li> <li>4 MOH EPI records &amp; reports</li> </ol>
<p>90% of women bearing a child will receive at least one dose of TT during most recent pregnancy (KPC survey results were 86% for one or more TT doses)</p>	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on completed TT immunization for pregnant mothers</li> <li>2 Promote immunization through women's groups</li> <li>3 Facilitate govt immunization activities for TT schedules</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets pregnant women to receive one or more TT doses</li> <li>2 Women groups and CHWs effectively promote TT during pregnancy</li> <li>3 Govt immunization schedules are appropriately met</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CHW records at the pharmacy</li> <li>3 Final evaluation</li> <li>4 MOH EPI records and Reports</li> </ol>

Increase from 14 1% to 31% the rate of modern contraceptive users among women who wish to delay pregnancy for two years or more	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on modern family planning methods</li> <li>2 Promote family planning for healthy mothers and infants through women's groups</li> <li>3 Promote CBD counseling and contraceptive distribution</li> <li>4 Facilitate strengthened contraceptive supply</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets</li> <li>2 Women groups effectively promote FP</li> <li>3 CBDs effectively counsel and distribute contraceptives</li> <li>4 Consistent contraceptive supply maintained</li> <li>5 Backup logistics system facilitated</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CBD records at the pharmacy</li> <li>3 Final evaluation</li> <li>4 CBD records and reports</li> </ol>
Total number of condoms distributed during the previous 12 months per population age 15 to 49 years (percent who practice prevention)	<ol style="list-style-type: none"> <li>1 MOH records and survey for base distribution pattern</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on HIV/AIDS prevention</li> <li>2 Promote CBD counseling and condom distribution, including to high risk settings</li> <li>3 Facilitate strengthened contraceptive supply</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets</li> <li>2 CBD effectively counsel and distribute, including to high risk settings</li> <li>3 Consistent condom supply maintained Backup logistics system facilitated</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CBD and pharmacy records</li> <li>3 Final evaluation</li> </ol>
*Percent people age 15 to 49 who report not having had a sex partner other than a regular sex partner in the last three months ( Zero Grazing)	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on HIV/AIDS prevention through "zero grazing"</li> <li>2 Promote CBD counseling on zero grazing to prevent HIV/AIDS</li> <li>3 Promote "zero grazing" as a means of HIV/AIDS prevention through women's groups</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets zero grazing</li> <li>2 CBDs effectively counsel and encourage women Women's groups promote 'zero grazing' as another means of HIV/AIDS prevention</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CBD and pharmacy records</li> <li>3 Final evaluation</li> </ol>
*Percent people age 15 to 49 who report the use of a condom during the most recent sexual intercourse with a non-regular sex partner  *Target to be determined	<ol style="list-style-type: none"> <li>1 Baseline KPC survey</li> <li>2 Mid-term Evaluation</li> <li>3 Final KPC Survey</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC focus on HIV/AIDS prevention through condom use with non-regular sex partners</li> <li>2 Promote CBD counseling advice and condom distribution, including to high risk settings</li> <li>3 Facilitate strengthened contraceptive supply</li> </ol>	<ol style="list-style-type: none"> <li>1 IEC effectively targets HIV/AIDS prevention</li> <li>2 CBDs effectively counsel and distribute, including high risk settings</li> <li>3 Consistent condom supply maintained</li> <li>4 Backup logistics system facilitated</li> </ol>	<ol style="list-style-type: none"> <li>1 Mid-term evaluation assessment</li> <li>2 CBD and pharmacy records</li> <li>3 Final evaluation</li> </ol>

## APPENDIX 4

### Questions for Chiefs and Assistant Chiefs

Interviewer \_\_\_\_\_

Chief *or* Assistant Chief (*circle*) name \_\_\_\_\_

Location *or* Sublocation (*circle*) name \_\_\_\_\_

Time in position \_\_\_\_\_

- What do you see as the most important health problems among children? What projects exist in your area to address those problems?
- Are you familiar with the CARE child survival project? How have you been involved with the project so far?  
**Probe** Were you involved in the planning? Selecting VHCs? CHWs? Discussions at barazas? Field days? Have you had to replace any CHWs or VHCs? How did that process work? Have you been involved administratively?
- How have your communities benefitted from the project?  
**Probe** Have you seen any changes in the health of children? If so, what? Have you seen changes in the knowledge of mothers and families on how to prevent illness among their children? If so, what?
- Have people in your Location/SL talked with you about the child survival project?  
**Probe** Who have you talked with? What types of things have they said? What is the opinion of the people regarding the project?
- How have the community pharmacies benefitted the people in your Location/SL? Do you have suggestions for any changes in the pharmacies?
- Currently, most of the pharmacies are in rented buildings, which can be expensive. Do you think that the community would contribute to building a pharmacy that would be owned by the community? What do you think of this option?
- Are you familiar with the chalkboard in the community pharmacy? Have you used any of the information from the chalkboard?  
**Probe** If so what? How? How has it been helpful to you? What could make it more helpful?
- What do you think are the successes of the child survival project?

- Have there also been problems with the project? What would you suggest be improved?
- What characteristics do you think are important for someone to be a good CHW? Do you have any suggestions that would help communities select the best people for these positions? What about qualities of VHC members? How can they best be chosen?
- What do you think has motivated people to serve as CHWs and VHC members? How can these people best be motivated to continue in these roles?
  - Probe** What do you think about CHWs being paid or given incentives? What amount seems fair to you?
- What do you think should be done to assure that the CHWs, VHCs, and community pharmacies will continue to work when CARE funding is no longer available?
  - Probe** Can villages be relied on to contribute money? Do you think that all or only some be willing to contribute? What mechanism might villages use to raise money? What would *you* be willing to do to help support continued activities?
- Are there any other services or activities that you think are important and can be supported even after CARE funding isn't available?
- What involvement do you have serving on committees at the Divisional or Health Center level? What do you think might be the willingness and capacity of the MOH to help support continued child survival activities? Is this something *you* might be willing to help promote?
- Do you have any additional ideas or suggestions for us?

## APPENDIX 5

### Interviews with Chiefs and Assistant Chiefs

#### 1 Important health problems

- malaria, measles, diarrhea, vomiting, abdominal distension, jaundice, pneumonia, skin problems, malnutrition, blood in urine
- poverty, access to health facilities, lack of knowledge, lack of clean water, lack of immunization, inability to identify diseases
- Chiefs most interested in malaria, measles, immunization, diarrhea, clean water
- Most important overall malaria, measles, diarrhea, clean water

#### 2 Existing projects in area

- CARE SHEWAS, CARE child survival, MOH mobile clinics, Diocese of Maseno West, Inst of Cultural Affairs, CBD program
- All Chiefs and Assistant Chiefs know of CARE child survival project
- View major functions as development and public security, nobody mentioned health

#### 3 Involvement in the CARE child survival project

- mobilize the community (barazas), selection and replacement of CHW and VHC, advocacy, selection of the pharmacy site and security, promotion of CHWs, participation in field days, arbitration of disputes over pharmacy
- member of VHC (Chief x 1)
- Chiefs most involved in mobilization and advocacy, and CHW/VHC selection and replacement
- Chiefs and Assistant Chiefs included in discussions (training) at onset of project on mobilization and including the community
- Role in CHW selection call/facilitate meeting, explain CHW role, describe criteria (literate, dedicated, honest, respected, has time available), suggest who might be best (x 1)
- Dropouts currently CHE informs administration, unclear whether identifying dropout and replacement will occur without CARE

#### 4 Benefits to the community

- Fewer children die (Chief 3/4, Assistant Chief 9/10)
- Improved sanitation/hygiene, mosquito nets, vit A knowledge, improved immunization, knowledge of prevention
- Drugs available in community at low cost, reduction of disease
- Brought together the community
- Most common answers fewer deaths, sanitation and hygiene, available and cheap drugs, immunization, knowledge of prevention, and bednets

#### 5 Talked about the project (what had they heard from the people in their community)

- Community ownership, linkage with water and sanitation
- Pharmacy services (available drugs and nets), expand and upgrade activities, build building
- Extend project (sustainability)
- Bed net prices too high
- General praise of the project
- Most common praise (drug affordability & availability), pharmacy building and expansion

#### 6 Community pharmacy

- Benefits available and cheap drugs and bed nets, center for immunization, treatment of sick children, center for health education, chalkboard, generation of income
- Suggestions expand available drugs, services for adults, build own pharmacy, more training for CHWs, incentives for CHWs at pharmacy, increase MOH staff at immunization clinics
- Most common suggestions build pharmacy, expand available drugs (Chiefs 3/4), expand services
- Funding to build pharmacy community (household) contributions (x 5), harambee (x 7), CARE to provide money (x 2)

## 7 Chalkboard

- Familiar Chief (3/4), Assistant Chief (10/10)
- Useful Chief (2/3), Assistant Chief (5/10)
- Uses information on latrines, trends, nets, population, data on deaths & births, use information to present at baraza (considered readily available and reliable source of information), investigate causes of death
- Most common Vital statistics, available information to present at meetings
- Suggestions Head of VHC should summarize information and send to chief, too much information - should summarize, make user friendly (most common), carry to baraza

## 8 Problems and suggestions for improvement

- Mobilization was too fast – need time to internalize and learn
- Treasurer abscond with money, returns from drug sales not balancing, debts of community members for drugs (financial problems and incentives most commonly mentioned)
- CHW dropout, lack of CHW incentives, pharmacy not open, pharmacy rent

## 9 Characteristics for good CHW

- Dedicated, responsible, respected, clean, honest, not too busy with other community jobs, willing to go out at anytime, self-reliant financially, able to communicate

## 10 Motivation for CHW and VHC

- Appreciation of the mothers, “small doctors”, community responsibility, recognized at barazas, success of their work
- Frequent meetings of CHWs maintains their motivation, working with CARE staff, motivation from attending seminars
- Expectation for eventual payment, opportunity to get job in the future, hope for incentives
- How can motivation be sustained? Incentives (most KS ~1000-1,500 per month, one suggested token amount), income generating activities (IGA), uniforms or badges, certificate, party and gifts from community, refresher course/more training

## 11 What can be done when CARE no longer funds?

- VHC and CHWs know what to do and can keep going (not appreciate importance of funds or of supervisors) \*\*\*\*\*Need to educate about what is needed for sustainability – have unrealistic expectations, still need to impress on the community what the project has accomplished and what will be needed to sustain it\*\*\*\*\*
- Community will keep pharmacy going
- Good CHWs can serve as trainers, good CHWs should be trained as nurses
- CARE should leave money in an account (1 million KS)
- Income generating activities (farming, sale of medications at pharmacy [expand drugs], user fee, routine assessment of the community [as is done for schools]) Note Chief said that people are poor and that they are assessed for other development projects and he wasn't confident that the community could financially support the project Many

respondents villages cannot be relied on for continuing support, a lot of other demands for money

- Need training to oversee project and pharmacy
- MOH should take over supervisory role (Chiefs and Assistant Chiefs, in general, didn't recognize the importance of supervision [CHEs] or need to sustain it)
- Role of Chiefs and Assistant Chiefs seemed to have little idea that they personally need to have a role and what that role would be

#### 12 Involvement of Chiefs and Assistant Chiefs with MOH

- Chiefs 4/4 on MOH or development committees Mentioned could promote immunization and raise funds, can strengthen MOH capacity to provide training and monitoring
- Assistant chiefs 5/8 involved with health but are unclear regarding their roles
- Need to provide to MOH a statement of the problem, achievements, and what needs to be done Several think that MOH can take over and would promote this

#### 13 Other suggestions

- Certificate for Assistant Chief for participating in training
- Certificate for children who are completely immunized
- Need for survey to identify other diseases for which drugs can be made available
- Standard plans for construction of pharmacy and procurement of drugs
- More training-of-trainers from the MOH or should be left by CARE
- When CARE leaves it should find other NGOs to support
- Need for continued community mobilization
- CARE should support building pharmacies
- Change name from pharmacy to "child survival center"
- Amazed at the level of commitment by CARE staff Where does CARE find such good people?

## APPENDIX 6

### Focus groups with Village Health Committee Members

#### ROLES/ACTIVITIES

Supervision of CHWs as they treat children  
Accompanying CHWs during  
Advocate for CHW services and project objectives home visits  
Share info in ,meetings e g reduction of mortality in children  
Summarise reports on CHW activities  
Follow up on remission and banking of money collected  
Formulate rules and regulations – Policy making  
Carry out promotion services e g vitamin A promotion, mosquito net use  
Drug price setting and sharing in Barazas  
Linking community with HF for immunization  
Use and sharing of chalkboard data to make decisions

#### Discussion

*There has been a definite improvement since MTE that most of the VHC now have a greater sense of their expected roles Highlights include Increase net advocacy and using and sharing of chalkboard data*

The time spent carrying out these activities was variable for the main reason being that most VHC members were not specific on the number of hours spent doing a particular activity but mentioned the days spent instead The hours mentioned include

- 3 hrs per month spent on meetings
- Home visits – 30 min to one hr
- Merry go round – 3 hours/month
- Immunization – 4 hrs/month
- Promotion, advocacy and health education – 2-3 hrs
- Summary of reports – 2 hrs

Notably, there were three types of home visit done by the VHC – follow up of a CHW at her home, accompanying CHW as she does her home visits in difficult homes, and for advocacy and support of the CHW

#### SELECTION PROCESS

All were aware of the process used in their selection namely  
Awareness creation by the assistant chief  
Meetings in villages

Selection using set criteria developed by assistant chief and CARE staff. Notably the consensus was that the MOH were not involved.

A different process was used for VHC replacement where the VHC and CHWs from the affected villages took the lead involving the village elder. They then initiated Barazas and selections done. It was noted that it was sometimes difficult to replace the VHCs due to reluctance by community members.

Most VHC were satisfied with the selection procedure. Suggestions for improvement included secret balloting and a written exam for prospective VHC members.

## **TRAINING**

The types of training undertaken include PHC/CBHC, orientation of the tools they were to use, Financial Management and vitamin A training. The general felt training need was for further training in financial and overall management and IGA creation to be able to supervise effectively. They also wanted to be trained in case management so as to know how best to supervise the CHWs.

## **WHO IS A VHC MEMBER?**

They all knew the distinction of a VHC in that the VHC member did not have drugs, did not treat, called for meetings and is a policy maker – pricing of drugs and decision-making and must demonstrate leadership qualities. When asked if the community knew what the VHC did, many received reports from the community about the CHWs. Some VHC were also thought to be CHWs and could sometimes be consulted for case management and that is why they felt that they should receive some training in case management.

## **WHO DOES THE VHC REPORT TO?**

Three out of four groups said that they reported to CARE, the VHC chairman and the Assistant chief/chief. Two of the groups mentioned the community.

## **NUMBER OF MEETINGS**

Twice in general with the CHEs or assistant chief is occasionally present. The agenda for the meetings included -

- Drug situation – drug distribution/use
- Future plans
- Sustainability – Advocacy for sustainable
- Disease surveillance
- Absent CHWs
- Conflict resolution
- Discuss reports and compile

They all said that they had minutes but did not have them at hand because they were unaware that they would be required to show them.

### **Observation**

*VHC were now discussing topics that face towards more project objectives and not just money issues*

### **USE OF CHALKBOARD INFORMATION**

There was a great improvement of the awareness of how chalkboard information was used. This included,

- Planning
- Sent to CARE for use
- Health education and emphasis on morbidity trends 2/4
- Monitoring of Population trends – births and deaths – 3/4
- Share with MOH if necessary
- Assist in knowing target pop
- Major events also written chalkboard –2/4
- Tracking immunization

### **WORKING WITH PARTNERS**

The amount of collaboration with partners was impressive. This included working with the Assistant chiefs for mobilisation of communities for immunization, mentioned by 2/4 groups, working with the MOH for referral, immunization, outbreak notification mentioned by 3/4 groups and working with CARE SHEWAS in the area of water and sanitation.

### **SUCESSES**

The successes the VHC could mention in their sublocations was the notable decline in childhood deaths, improved drug availability and a greater transparency of financial issues.

### **SUPPORT TO VHC**

It was unanimous that the VHC require incentives to better function in the community. These included a cash incentive (one group mentioned 1000/-) and the overall feeling that this was to be provided by CARE. They also felt that CARE should link them up with credit facilities and introduce them to IGA activities. They also requested that CARE provide them badges and certificates and uniforms for greater visibility. At the moment, all but one group of VHC were not compensated for their work. The group that received compensation received 5% of the profits from the sale of mosquito nets.

### **DIFFICULTIES/CHALLENGES**

There were many challenges and difficulties felt. These included poor attendance of meetings because of VHC who were not motivated. Other difficulties faced include

- 1) Difficult drug procurement process through the DMW. *A solution from the VHC was to liaise them with MOH for drug procurement*
  - 2) Debt recovery was faced by ¾ of the groups. *Solutions suggested were to involve administration to recover debts*
  - 3) Equity - How to assist those unable to pay for treatment. *Presently, CHW are incurring this expense. Also when they provide transport for those referred, many times they are not refunded the money*
  - 4) Non performing executives difficult to remove
  - 5) Lack of transport to get to the BI, take sick child to hospital – *Would like CARE to provide the pharmacy with a bicycle*
  - 6) Low sales from their drugs- *suggested solutions were to expand role of pharmacy to include stationary and other items that are fast moving*
  - 7) Low understanding by community of the project where they think that drugs should be given free and that VHCs are paid. *Suggestions include a greater advocacy of the project objectives and role of the VHC/CHWs*
  - 8) Some VHC talked about using their own money to bank monies
  - 9) Some VHC wished that treatment would be extended to adults
  - 10) Lack of incentives. *Suggestions included the VHC receive a percentage from the sale of drugs*
- Other suggestions to improve the difficulties faced by the VHC included training the CHWs and VHCs equally so that they provide the same services, and also more continuous education sessions to be arranged by CAE*

## **VHC DROPOUT**

All four sublocations apart from one had VHC dropout and the main reason was the lack of incentives. Malanga – 3/12, Randago – none, Komenya K – 3/ , Kodiere - 3/  
Kalkada Uradi – 5/ , Kabura Uhuyi – 2/

## **IMPORTANCE OF PROJECT TO COMMUNITY**

All felt that the project was important to the community. This was because of the reduction in mortality, availability of cheap drugs and nets and health care, the general increase in good health behaviour, the community have a greater sense of ownership and hence will quickly complain of non-performing CHWs and demand replacement. Most notable is even though other shops in the vicinity are broken into and goods stolen, this has never happened to the community pharmacy in spite of the expensive goods in the stores.

## **SUSTAINABILITY BEYOND PROJECT PERIOD**

For project sustainable beyond the project period, the VHC requested for training of selected CHWs and VHCs as TOT, more Supervisory support from the MOH, to expand CHW training in other disease and first aid, CARE to link them up with credit facilities and IGA opportunities. It

was unanimous that the community could not be relied on to support the CHWs and VHCs with cash incentives

### **OTHER SUGGESTIONS**

Streamline drug procurement procedure

Link up with MOH

Retain CHE

Involve other stakeholders/NGOs for support

Involve community in the issues affecting them



Who is a village health committee member? *(Probe for training received, is it adequate)*

What role does the VHC play in the community? What specific activities does the VHC undertake? *(Probe for how each activity is carried out)*

How was the VHC constituted? *(Probe for whether that was the right way, are there alternative ways, what method do they think works best?)*

Who does the VHC report to? *(Probe whether this is satisfactory what other alternatives exist?)*

How many meetings does the VHC hold in a month? *(Probe What is the usual agenda / Are there minutes ask to see any minutes if available )*

How is information obtained in the project e.g what is on the chalk and board used? *(probe for any other ways it could be used?)*

How does the community recognize the services of the VHC?

How does the VHC work with other partners *(MOH, Provincial Administration, other projects, CHWs other CBOs)*

How much of the members time is taken up by community activities? *(use last month as example)*

How has the VHC assisted communities and CHWs? What successes can the VHCs report in their sub-locations?

What difficulties/challenges have VHCs faced in carrying out their work? *(Probe for how they have overcome the challenges)*

What suggestion do they have for improvement?

How is the VHC compensated for its work? *(Probe for any suggestions they have for improvement)*

Are there some VHC members who have dropped out? Why?

Do the VHCs consider this project very important to the community? In which way?

If the answer to 15 is yes in their opinion how can this project be sustained beyond the project period?

17

Do you have any questions/suggestions or issues that we did not address?

**APPENDIX 8**

**Village Elder's Interview and Discussion**

**INTRODUCTION**

Name of Interviewer Benta		Date 12/7/99	
Names of Elders 1	2	3	
4			
5	6	7	
Name of Village 1		2	
3		4	
5		6	
7			

5 Are you familiar with the CARE Child Survival project? YES = 7 NO = 0

6 Have you been involved in the Child Survival project? YES = 7 NO = 0

7 If Yes – What kind of activities?

- Calls for Baraza to inform and mobilize the community about the Child Survival project and CHW treatment services # 5/7
- Does follow up visits to Households to assure families are satisfied with services # 2/7
- Promotes CHW services for children to families # 5/7
- Promotes use of the village pharmacy # 1/7
- Encourages community to plant vegetable gardens # 1/7
- Uses Baraza to talk and inform community member about prevention aspects of diseases (Safe water, latrines, etc) # 3/7
- Mobilization for child immunization & vitamin A # 5/7
- Security of CHWs on their rounds # 3/7
- Collects and follows up on payments for CHW services and drugs Established the community bank account # 2/7
- Selection of CHWs #1 /7

8 Have families talked to you about the project? YES = 7/7

**What did they Say?**

- Add more CHWs
- Add adult care
- Continue project after CARE leaves
- Promote safe water
- CHWs perform and provide valuable services Their presence is greatly appreciated CHWs do a good job CHW drug kits are really good
- Appreciate the home care aspects of CHWs particularly related to diarrhea
- The project has resulted in fewer children dying A repeated observation

- Increase access to medication and treatment services was a repeated observation from families Strong community support One Elder reported that people even brought their payments to his house
- Referral aspects and related services are very good Many express their appreciation for this life saving project

**What do you think of the project?**

- One new project location Elder reported that he was concerned because it was well known that where the CHW project operated, fewer child deaths occurred while in this new project location deaths were the same or higher
  - "This project has made my job easier because now I don't have to go chasing after the Assistant Chief for burial permits"
  - "The project is not yet owned by the people in the community but if we work together it will belong to the community "
  - Need to plan for continuous training and security for CHWs Impregnated bed net sales are too slow
  - Likes the project but wants it to be improved and expanded
  - Implementation timing has been good Sustainability is going to be difficult without CARE The CHWs do a very good job
  - The project is viable and needs to be sustained As a village elder, he will do whatever is needed to make is sustainable
- 9 In what ways have families, in your village benefited from this project?
- There was a repeated observation that the project has reduced child illness and deaths (five of seven) The project has resulted in diarrhea case prevention
  - Mosquito nets are now available at a reasonable cost Medication is available for children less than 5 years in age Children may get sick but they don't die because of the project
  - Has not seen one child death since the project became operational with a trained CHW
  - During a community baraza, a villager reported that a woman was dying of cholera and the chief sent one of the CHWs to treat her The CHW saved that woman's life
  - CHWs know how diseases are prevented They can inform and train mothers on prevention actions and what to do when children are ill

10 How were CHWs selected?

- Public baraza with open nominations and community-wide election reported by all 7 elders

**Were you involved? Yes reported by all 7**

What are the services that CHWs provide well?

- Treatment services of children which are done any time day or night All elders reported good treatment services
- Willingness and commitment to serve the people Immediately respond to calls for help when children are ill - at any time
- Teach at barazas and provide valuable home visit services Provide health education messages Formed teams with the Village Elders for health purposes Participated in the vitamin A Day activities
- All services are being done well! Especially grateful for their willingness to treat cases at night

11 In what ways can CHW services are to be improved?

- Consider giving incentives Provide incentives to motivate CHWs were reported by 2 elders

- Ensure regular drug supply was reported by 4/7
- Train CHWs to treat adults was expressed by several elders
- No need to improve services
- "The better the CARE Project work the better the CHW"
- Increase the number of home visits performed by CHWs and include vitamin A distribution
- Ensure that each child has been immunized

12 Have you been involved in supporting CHWs? YES = 7/7

How have you supported them?

- Fund raising
- Open support during barazas and encouragement by recognition until incentives can be offered Serves as both VHC secretary and CHW
- Resolves disputes and issues arising between clients and CHWs
- Assures that regular VHC meetings are conducted to further the project and support for CHWs Provides appreciation of CHWs and their services As Village Elder informs the community to support their CHWs Helps collect money
- Accompanies them on their home visits and general rounds on a regular basis Provides prevention talks, messages and information to the community in conjunction with the CHW
- Assembles the community any time the CHW requests
- When he notices health problems from the chalk and board, he activates the CHWs and community Promotes use of the pharmacy Helps collect money owed to the CHW Openly supports the use of mosquito nets

13 Are there people in this community that cannot pay for CHW services? YES 6/7

**Are they being assisted in order to benefit from these services? How?**

- Establish credit system to help these people pay over time Some cannot pay at all while others are short of cash and just need time to pay
- Individual community members contribute to cover such costs
- Community has set up a fund
- Has set up a debt guarantee system

14 Have you used the CHWs? YES 6/7 The one lives in a new project community and they have not trained the CHWs yet

**For what type of services?**

- CHWs have treated his children for malaria and provided referral
- Malaria, difficult breathing episodes, diarrhea, mother with cholera, and measles
- Yes many times when any child was sick Treated wife with diarrhea

15 As Elders, are there situations when families seek your advice over matters affecting the Health of their children? YES 4/7

**What were these concerns?**

- Disputes between clients and CHWs
- Cost of drugs
- Baraza assistance
- Open dialogue on these issues during barazas
- Request for safe water
- Came to report good services being provided by CHWs

**What kind of advice did you give in such situations?**

- Provided health education and health information

- Used barazas to resolve issues
- Settled all disputes
- Organized the community for information and health education
- Provided advice about home gardening and money
- 16 What do you think should be done to assure the CHWs, VHCs and community pharmacies will continue to work when funding is no longer available?
  - Within the next 4 years assure that the pharmacy can sustain itself
  - Ensure, from now forward, we start saving to establish a cash reserve
  - The community would support an insurance approach as long as it was well presented and benefits clearly drawn (Ks 5 to 20 per month)
  - Strengthen the VHC so each member is aware of his/her role
  - Roles and regulations should be written out so they can be followed
  - Form a group of VHCs and CHWs to raise funds and to form Income Generation Activities
  - Start the take-over with a collection from each HH of Ks 10 as a one-time start-up fund
  - Conduct community fund raising
  - Training of Trainers to assure continuation of trained workers
  - Establish a community built and owned pharmacy building to reduce rental costs
  - Initiate income generation activity to support the pharmacy
  - Provide intensive supervision of CHWs
  - Regular dialogue with communities regarding sustainability
  - CHWs and VHC need to receive incentives as a part of sustainability
  - Insurance type approach for funds would be accepted as long as the funds are collected to assure a resource pool of funds in advance of the project takeover
  - Strengthen the VHCs and their roles Leaders and the Village Elders should make it very clear what they should do to support the project beyond CARE
  - Based on the fact they already have a bank account they could establish themselves as a sublocation
  - Establish a system to collect Ks 20 per household per month and add in pharmacy profit to support take-over
- 17 Should CHWs be paid? YES 6/7
  - If Yes How much should they be paid per month?
  - Ks 600, 200, 300, 200, 500, and one Elder reported CHWs should be paid a sum based on their performance
- 18 Have you suggestions for strengthening this project?
  - Intensify mobilization to ensure that everyone in the community owns the project
  - Conduct TOT preparation to ensure skills are transferred
  - Train community leaders to be very clear of what they must do and be supportive of that
  - Incentive issue needs solution
  - Community and project should sit together to draft a plan of action and resolve all issues raised
  - Community members need to meet and be educated on the benefits and consequence for continuing or not continuing the project The community must own the project, as this is the most important component of sustainability
  - Must raise money during the extension period

- A repeated message concerned needs for TOT, funds, community ownership, and a reasonable time schedule for take-over and full understanding by all community members Trainers should be selected from VHCs, CHWs, and other intelligent community members who are literate and hard workers
- CARE should work with the community very carefully in a step-by-step process that develops skills and training in management Let them make mistakes and learn from these experiences CHWs and VHCs should agree on pharmacy hours
- Newly selected VHC should make rules and guidelines to guide them
- Ensure that guidance does not need Siaya leadership
- Good planning and close coordination will prevent problems (especially for money)

**Other Notes**

- One elder reported that the chalk and board was valuable He reported that seeing the board motivates some mothers to immunize their child and to take the sick child to the CHW
- Another Village Elder stated about the chalk and board "Why are you asking me whether collecting information and recording it on a chalk and board is important It is obvious!"

**APPENDIX 9**

**FINDINGS OF THE FOCUS GROUP DISCUSSIONS FOR MOTHERS**

**Conducted on July 9 1999**

A total of 4 focus group discussions with mothers from 8 sub-locations and 12 villages were carried out Table 4 shows the characteristics of the mothers interviewed Their ages ranged between 17 and 42 years Majority being in the age range 15 - 30 years All the mothers had lived in the area for more than 6 months Majority had children 2-5 years old

Sub-locations covered & No of villages represented		Distribution of mothers by age group in years	
Sub-locations	Villages		
Ording		20	
Op Oriang		25	
Umba		30	
Adorera		35	
Menya Kalaka		5	
Diere			
Ambo			
Nyaboli			

**8 What actions do you take when your children fall sick in the home?**

The consensus from all the four FGDs was that mothers take their children to the CHW when they fall sick However 3 FGDs reported that mothers take their children to the health facility when the illness is persistent or severe and for very young children

Other responses included home medication, consulting the CHW for advice or purchase drugs from the CHW

**The conclusion was that the CHW was identified as the first source of health care. The health facilities were noted to be important for severe illness and care of very young children**

**Observations -**

*Although the answers were spontaneous they may have been influenced by the proximity of the participants to the CHW*

**9 How do you decide what to do when or where to go?**

Wait and see if the condition gets worse visit the CHW, CHW is near and accessible, If children get ill at night CHW is the only source of care, CHW has drugs, CHW can help when a child has fast breathing, fever and convulsions, after administering home remedies such as tepid sponging we consult the CHW, mothers make the decision themselves

**Conclusion**

**Mothers decide to consult the CHW when they think that the illness is getting worse based on their own assessment. This decision is made because the CHW is accessible, has drugs and can also refer the children to the health facility**

**Observation,**

This question was not well understood and hence the questions were none specific

**10 Which health service providers do you know exist in your area?**

CHW (4), Quacks (unqualified staff) (1), Health workers (nurses, Clinical officer)(1), Teachers(1), Traditional healers(4), Traditional birth attendants(3), Faith healers (2), VHCs (1) Hygiene promoters(1), dispensary (1)

**Conclusion**

**The CHW was identified as the main health care provider in the area followed by the Traditional healer, the traditional birth attendant and the faith healer**

**Observation -**

*The name 'Nyamrerwa' in Luo means "one who takes care to sick people" hence it is not specific for CHW. The name could be applied to all the above health providers. In future assessments the distinction should be made*

**11 Who of these health care providers do you trust/have confidence to find out what is wrong with your child and to treat your child**

The CHW (4)  
Ministry of health staff (3)  
TBA (1)

**Conclusion -**

The mothers' trust the CHW and the Ministry of health staff

**Observation -**

This questions was rather difficult In future it should be combined with the reverse Which one do you not trust or trust the least?

**12 Have you ever taken your child to the CHW for treatment ? If yes for what diseases/ when was the last time? Did the CHW have the medicine you needed? Did they tell you how to give it? What else did they tell you? Would you recommend that your friends and relatives go to the CHW, If no why not?**

Most of the mothers had consulted the CHW within in the period 1 day to 6 months The diseases they consulted for were Malaria/fever (2) pneumonia (3), diarrhoea (3), cough (1), convulsions (1), poor appetite, child irritability (1), measles (1), rashes (1), stomach upset(1)

In most of the cases the CHW explained how the medicine should be taken but sometimes they did not The CHW informed them to come back if the child does not improve other information was related to disease management such as increase fluids during diarrhoea

All mothers indicated that they would recommend the CHW to others because they provide vitamin A, they always have drugs, had provided help to them, are always in the community, can refer patients to the health facilities and that they can give credit

**Observation**

The CHW provides information mainly on case management There is a lot opportunity lost for preventive health care None of the mothers were given information on bed-nets, hygiene and sanitation or nutrition It was also clear that the case management is based on signs and symptoms that the child presents with In the next phase there should be emphasis on treatment of the whole child The CHW should ask about other illnesses and examine the child to confirm absence

**Roles of CHWs**

**13 What does the CHW do in your village? What is their most important role? Why do you think so? What else do you think a CHW should do?**

CHWs teach mothers on health issues such as nutrition, immunization, environmental sanitation, hygiene, bed-nets, malaria prophylaxis in pregnancy, vitamin A, Antenatal Care, family planning

They treat sick children, sell drugs and bed-nets

Most important role of the CHW is

Treatment of sick children (3) *Because they save lives, have drugs, health facilities are far and they provide credit*

Prevention of diseases and promotion of health (1) *Because - Prevention would reduce diseases thus reducing expenditure on health, people would learn about other disease conditions and mothers would learn what to do*

CHWs could also conduct deliveries, carry out ANC, educate on child care (Breastfeeding, weaning diets), carry out disease surveillance, advice on referral, expand scope of treatment, give injections and provide family planning services

#### **Observation**

Mothers indicated that there is need to provide an enabling environment for CHWs to carry out their work (e.g. provide them with bicycles for transport and umbrellas)

*Has the CHW talked to you about the illnesses in children/how to prevent illness in children? What do you remember?*

All indicated that the CHW had talked to them about child illness. Majority indicated issues related to case management and not prevention. More than 50% could not remember what they were told but a few mentioned Vitamin A after delivery, environmental care for malaria prevention and only one who had a malnourished child was given advice on how to manage the child.

#### **Observation**

Very little information on disease prevention. There is a need to look at the training for IMCI to strengthen the component of nutrition and other prevention aspects.

*15 what do you think is the best way for mothers to be educated about illness and prevention/*

Home visits (3) - *the mothers are free to discuss with the CHW they should however have some IEC materials*

Group Education

IEC materials distribution

Health field days (2)

School children

Clinics

## Barazas

The mothers indicated that in the barazas CHW, village elders and chiefs could be used to provide the health education. They however felt that barazas are not a good venue for health education.

### **Conclusion -**

Home visits were identified as the most important approach to educate mother on health issues.

**16** *If you were responsible for selection of the CHW what qualities would you look for/ Does the CHW in your village have these qualities*

### Qualities

Literate (>6years of primary school)(2), good communicator(2), clean (3), grown up, respected, influential, confident, social, understanding, someone who can volunteer, loving, polite, humble, interested in the work, responsible, not greedy, role model, should not have evil eye should not be a home wrecker

In summary the persons should be of very good character and be socially responsible (i.e. able to carry out a service to the people). On the questions regarding the current CHWs, they said that some had all characteristics, some did not have, other had the characteristics but do not use them, some wish to have some incentives.

### **Observation**

Most of the characteristics fitted the female gender.

*were you involved in the selection of the CHW in your village, if no how were they selected?*

Majority of the members were not involved in the selection. Only 2 out of the 23 women said yes. One described the process as in a baraza nominations were made, names proposed and voting by a show of hands.

Some who did not participate said they were selected by chiefs. Some members felt that the Baraza may not be the right place for selections many women do not attend, more mobilization is necessary to make women come or they should be conducted in the market place where most women are found.

**16** *Do you think the CHWs are paid for the services they provide in the community?*

22 out of 23 said no, one member said she thinks they are paid 500 ksh per month by CARE

- 17 *Do you think they should be paid for the time they spend treating children in the village and serving at the community pharmacy? If yes where do you think the money should come?*

Yes they should be paid

By the community can, they can raise funds through a harambee, mothers can pay the CHW for home visit (5-10 ksh per home visit), household can contribute 5-10 ksh per month (CHW to collect), CARE should pay, from sale of drugs, VHC could spearhead collection of money from households

Poverty was noted to be high in the area and households would have problems contributing. However, a household levy of 10-20 ksh shillings could be collected by the village elders and submitted to the VHC's to pay the CHW

The range of payment per month was 300-5000 ksh per month. Majority were in the range of 1500-2000 ksh

### ***Observations***

The current payment for a casual worker in the area is 100 ksh per day which would work out to about 2000 ksh per 20 day working month. There is a need to work out the calculation of how much would be collected from households given a contribution of 10 ksh per month

The information on community contribution was not given spontaneously and needed probing. The members expressed uncertainty as to whether the communities would willingly contribute. There is need for further discussions on this issue with all other groups that will be interviewed

### ***Observation -***

The option of insurance was mentioned to one group. They thought it was a good idea but they did not understand the concept well

- 19 *Do you know the VHC member in your community? What has the VHC member done in your village? Do you know what the VHC member is supposed to do? If you were responsible for selecting the VHC members what qualities would you look for? Were you involved in selecting the VHC in your village?*

Less than 50% of the participants knew the VHC member in their village. Some said that the VHC gives information on mosquito nets, vitamin A and they hold meetings.

They are supposed to create awareness of their own functions, avail drugs to the pharmacy, create awareness on hygiene, hold meetings to assess health problems in the area, supervise CHWs and attend village meeting.

Qualities of a VHC member

Friendly, not biased, firm, good decision maker, good communicator, a good man, resident in the village, literate and has time.

Very few of the members participated in the selection of the VHC. The process was not described.

***Conclusion,***

The qualities of the VHC member seem to describe a male. The roles of the VHC are not very clear and the members are not very visible in the community. There is a need to enhance their skills in coordination, surveillance and prevention of diseases.

20 ***Have you used the community pharmacy? What for? Do you feel it has an important purpose in the community?***

More than 75% of the participants had used the Community Pharmacy. For purchase of drugs & bed-nets, treatment and referral.

The pharmacy has an important role since it is near, makes drugs available, acts as an immunization point, place for sale of bed-nets, it is near and in some one can purchase weaning flour.

***Observation***

Sale of bed-nets does not stand out as an activity of the Community Pharmacy. It is suggested that nets are not bought because of the cost.

IEC materials are suggested that show the cost saving effect of a net through reduction in cost of treatment.

21 ***Do you have any suggestions for us on how to improve the services at the community pharmacy?***

Expand the pharmacy (building), conduct deliveries , give first aid, run a posho mill and uniform making as IGAs, run MCH clinic, increase the variety of drugs and other supplies (syrups, hedex, chloroquine, cotton wool, injectable drugs sanitary products for women)

***Observations,***

Some of the drugs suggested are for use in adults

Except for the caution on sale of septrin the other pain killers and fansidar could be sold to adults at a higher price Sale of antibiotics should be limited and rational use of drugs emphasized

***Have they seen the chalkboard in the pharmacy? Do you understand the information on it? Has it helped you in your sublocation?***

Only 2 mothers out of the 23 had not seen the board Only one understood that there was data on disease trends and number of children dying in the area

They believed it had helped the sub-location in knowing the numbers of children dying the no of CHWs and number of children they had seen

***Observation***

The mothers have a problem understanding the information on the board It is necessary to have the information made more user friendly and to be used during health days for education and by VHCs to make decisions

***Traditional healers***

***Have you used the traditional medicines to treat your child Who advised you?***

More than 90% had use traditional medicine and were advised by the grandmother, some by friends

They used Traditional medicine to treat - infertility, measles, mucoid, greenish diarrhoea, oral thrush and for massage

***Observation,***

There was some embarrassment as the participants answered questions related to traditional medicine The signs indicating use of traditional medicine were seen from the materials on children hands, neck and waist of children

24 **Have you used the services of the TBA of Traditional Healer? Why did you seek their services? Are there specific childhood illnesses that make you use their services**

Majority indicated they had used the TBA for child birth related issues. The Traditional healer was consulted by few for evil eye, children who cry too much (for him to talk to the ancestors and name the child), children with mucoid, greenish stool

**Overall conclusions**

CHWs have found their place in the health care delivery systems. Communities are at ease with them and have confidence in their services.

- \_ It was suggested that very young children (0-3 months) are not taken to the CHW. There is need to find out who takes care of this age group of children.
- \_ The TBA could be targeted to transmit preventive health education to mothers including prevention of childhood illnesses.
- \_ There is need to strengthen the preventive health care capabilities of the CHW.
- \_ The role of the VHC needs to be re-emphasized.
- \_ Functions of the BI could be expanded (consider treatment of adults, better use of information, wider range of supplies).
- \_ The role of communities and other stake-holders in the sustainability of the project needs to be explored with all other groups that will be interviewed.

**APPENDIX 10**

**FOCUS GROUP DISCUSSION FOR MOTHERS**

**Interviewer** \_\_\_\_\_

**Name of Mothers** 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_  
4 \_\_\_\_\_ 5 \_\_\_\_\_ 6 \_\_\_\_\_

**Sub-location** \_\_\_\_\_

**Village/s** \_\_\_\_\_

**Ages of Mothers** \_\_\_\_\_ (Age range 15-45 years)

**Duration of stay in area** \_\_\_\_\_ (Minimum 6 Months)

**Do you have children aged 2 months** \_\_\_\_\_ **5 Yrs** \_\_\_\_\_ **Y** \_\_\_\_\_ **N** \_\_\_\_\_  
**IF YES go to No 8 IF NO go to No 9**

**What Do You Do When Your Children Falls Sick In The Home?**  
**Which Health Service Providers do you know exist in the village?**  
**Who among the service providers would you wish to learn from about the child's illness?**

**Do the CHW talk to you about the illness of children** Y \_\_\_\_\_ N \_\_\_\_\_

**How frequent do CHWs talk to you about child's illness?**

**What child illness did the CHW talk about?**

**What else do you think the CHW could have to talk about?**

**Which advice do you remember helps you prevent childhood illness**

**Do you think the CHWs in the village help mother understand the child illness better** Y \_\_\_\_\_ N \_\_\_\_\_

**What qualities do you expect of good CHW? (One who can help mothers better)**

**How can the community (sub location) support the CHW to do a better job?**

**Do you think the CHWs should get paid something for the time they spend treating children in the village and serving at the community pharmacy? If yes, where do**

**you think the money should come from to pay the CHW? Do think that the families in the village should be asked to contribute? How much might you be willing to pay to help make sure that the CHW and community pharmacies continue to work in your area?**

**Do you know the VHC member in your community? What has the VHC member done in your village? Do you know what the VHC member is supposed to do? Do you have any suggestions for us on how to improve the services to the community pharmacy?**

**APPENDIX 11**

**HEALTH FACILITY STAFF IN DEPTH INTERVIEW**

The next two questions asked about whether the health facility staff had been involved in training or supervision of CHW/VHCs

	N		RVISE	
	VHCs/CHWs	R	VHCs/CHWs	R
INGA				
MBA		OH CHW		
GOMA				
WANGI				

If not busy goes with CHW to supervise  
 Sometimes but not continuous  
 Rational use of drugs, in-service at facility

**REFERRED**

**REFER TO CHW**

HAWINGA	Y 1,5	Y9
RW	Y 2,7	Y10
NY	Y 3,6,8	Y11
TI	Y4	N

- 1 DX generally correct
- 2 75% correct (before ref 50%)
- 3 Malaria/Diarrhoea correct pneumonia – no therefore should be classified not pneumonia
- 4 Classify pneumonia if inc RR but no cough
- 5 if incorrect DX tell CHE who follows up with CHW
- 6 Dosages correct
- Refer back to CHW to monitor child
- Many refer on to SDH
- Won't refer because reduced trust in facility
- Fansidar has increased image of CHW in the community
- Mosquito nets expensive

**13 DUTY TO SUPERVISE**

All staff felt it was their duty to supervise the CHWs but the levels of motivation was varied

#### MOTIVATED

HAWINGA, Y

No

RWAMBA, Y

YES because training has increased his skills, CARE vehicles deliver supplies

NYANGOMA yes but has  
Not because not trained

YES CHW make correct dx/rx, CHWs reduce workload

TINGWANG'I, YES

NO, Trained but not motivated – needs transport, also because of backlog of patients

#### 17 ROLE AS AN MOH staff in CICSS project activities

HA – Supervision of CHWAS, checking for drug expiry dates at the BI

RW – Supervising and training if CHWs

NY Handling referral cases, in-service training of CHWs

TINGW – Immunization, supervision of CHWs, Vitamin A awareness, promotion of the correct use of FANS, Health education to mothers

#### Observation

*Most health facility staff were clear on their role in CICSS project activities They all mentioned supervision and training of CHWs as the main role*

#### 17 Problems encountered with dealing with project CHWs and VHCs include

HA – 1) CHWs and VHCs are not free with MOH staff and the MOH staff refers to them as belonging to CARE

2) Transportation of Mobile clinics inadequate

RW – 1) No CHW incentive has led to CHW dropout

2) Poor CHW/VHC because of administrators influence in selecting

Nyangoma and Tinwangi mentioned no problems

#### 18 Immunisations

**Observation**

*All the health facility staff were in support of the CHW driven immunization procedure which helped increase immunization coverage. Some staff felt that there was need for the equipment for KEPI to be updated - refrigerators and vaccines. That also felt that there was a need to include antenatal services. The issue for some incentive for the health staff came up. Currently the community paying 200/= per session but they hope to increase it to 500/- to be paid by CARE*

On what activities should be continued when CARE leaves, all felt that the community pharmacies must be continued with supervision to maintain standards. They felt that there should be support by the MOH do assure continuity of drugs.

Linking the CHW/VHC activity with existing MOH structures, development of IEC materials that could be used by CHWs. Should become a requirement for the CHWs and VHCs to summary report of activities to the health facility. Chalkboard info bypasses them currently.

NY Sustained act – Immunisation, RX, availability of Amos NETS

Immunisation – hand over to MOH

For sales of drugs and nets – close supervision by ???

Individual support – she can give the immunisation

TING – SUSTAINED – IMMUN, RX, availability of drugs, training of CHWs/VHCs

How sustained - Immunisation – Communities should be mobilised to contribute resources – bicycles to collect vaccines from health centres, Allowance for staff, supply of vaccines from MOH

Training – Community should support TOT

Drugs – Community should but – since Feb, MOH not supplied drugs

20 suggestions

HA strengthen link between facility and CHW

VHC should work with MOH (MOH takes per CHE role)

Health workers in facility should promote image of CHWs

Training of new staff to improve and sustain CS activities in catchment area

RW – Seconding MOH staff to project

Increase mobility – bicycles

Increase materials and equipment currently lacking in RHF

Involvement of MOH in reporting FXN

HF closed over weekend so BIs should be open over the weekend

NY – More CHW to be trained to reduce the workload. And there will be a pool of people to consult each other.

TI – More drugs to be made available

CHWs to be motivated – 2000/= per month

Training of more MOH staff on CS  
Retraining of CHWs to update them  
Transport

21 – Drug supply/situation

HA – Situation not bad – had Fansidar and Septrin – Fansidar not supplied in drug kit but able to get from District Hospital or neighbouring HCentre BUT not in sufficient quantities

Septrin – Available in adequate

RW – No Fansidar, none for last one month, patients referred to community pharmacy

NY – Septrin available but not always enough  
Fansidar available but does not know how procured

TING Septrin and Fansidar available but in last stock of Sep

Summary – anything else

Not sure of case MX being used  
Had watches but not sure if being used  
Case MX charts in HA and RW

If project could facilitate updating health workers on the management of malaria using Fansidar guidelines instead of chloroquine

#### Reflections of MOH

What can the link be like – DISP, CHWs, MOH

Stage been set, positive contributions outweigh the negatives  
Sup – some form goes on – at HF level and occasionally at community level – when immunization We need to strengthen structures in places especially those that do not require resources Can be exploited  
Uniform need for linkages between the existing structures – therefore more involvement and sustainable activities recognised by HW

THINGS NEEDED – Training of MOH, sharing of chalkboard info, sharing supervision, staffing pattern, improving the staffing of facilities and improving the capacity of MOH, joint planning and joint review

Steve

Some observations not necessary views of the MOH  
Health sector reform – integration, prioritising areas of investment – PHC

Capacity building

## OPPORTUNITIES OF HEALTH SECTOR REFORM

Decentralisation of decision making, authority

Want to increase efficiency in all operations of the health sector – has to do with resource management District will be given more autonomy in the planning of needs and resource utilization

May have funds, which may sit for six months in the treasury – not accessible

Training needs – recognised that various regions have different training needs 0 there for should have more say in type and cadre of training needed

Decentralisation - HF should have own management committees, ownership of HF should be internalised by beneficiary communities Easily link to VHC therefore strengthens linkage

Ministry restructuring drug procurement system – districts get drugs that they need and not a standard supply

District level – Hospital management team

DHMT – 5/6 core officers – overall function of planning health services in the district – DHAO

District health management board – inc DC

**Key points**

HEALTH SECTOR  
REFORMS

## APPENDIX 12

### Summary of CHW Focus Groups

#### Sublocations (Number of CHWs)

Kaugagi-Udenda (4) (1 male)

Nyadorera A (3) (1 male)

Kalkada-Uradi (3)

Kabura-Uhuyi (3)

Randago (4)

Mur Malanga (3)

Kadiere (3)

Komonya-Kalaka (2) (1 male)

#### 1 CHW activities

- treat children
- follow-up of treated patients
- health education on disease prevention
- referral to health centers
- report writing
- submission of money
- home visits
- promotion of immunization
- encourage pregnant women to take fansidar
- work at community pharmacy
- talk at barazas, women's groups, church meetings
- attend supervisory meetings

#### 2 Time commitment

- One group time commitment per month 12 h, 24 h, 8 h, 8h, 36 h, 8 h, time spent on treatment, education and follow-up, not enough time but because they don't get paid, they can't spend more time
- One group looked at time commitment by activity treatment 4 d per month (30 minutes per child treated), education 4 d per month (2 h per session), home visits 4 d per month (1 h per visit), immunization 1 d per month (4 h) = ~18 hours per month
- One group home visits 3 d per month for 5, 4 d per month for 2 – activities health education and other preventive activities, time spent on patient care varies from 30 min to 2 h – see 4-6 children per month
- One group home visits 2 d per week (5 h/day), treatment 30 min per child, health education talks 2-3 h per week, community pharmacy 3-5 days per month, meetings 2 per month, and paperwork 2-3 h per week – About half time total
- Wide ranges between groups, e.g., 3-8 days per month for home visits but consistent within groups – question on validity of the data

- Limitation is that not compensated for activities – leave home with nothing and return with nothing
- Comment should be spending more time with home visits compared with other tasks

### 3 Other activities should be doing

- IGA
- training as TBA (3 groups)
- training in family planning
- treat adults – injuries/first aid (2 groups)
- injections – because mothers believe that these are important (2 groups)
- should have flagyl and syrups for children (mentioned by several')

### 4 Adequacy of training

- received training on IMCI, prevention (PHC), communication with mothers, vitamin A, administering drugs, use of HIS tools, all received refresher training
- would like more training in all of these, one group specifically identified treatment of children <2 mo as difficult, and wanted training on treating children where referral was not possible
- should be trained on deliveries, first aid, injections, treating adults, refresher on vitamin A

### 5 Confidence and comfort providing services

- expressed confidence in case management and range of tasks
- don't have confidence in dealing with diseases for which they haven't been trained and expressed need for materials as for family planning

### 6 Support and supervision

- VHCs provide support by creating awareness about CHWs by presenting at barazas, assuring drugs are available, help with finances by checking balance and collecting debts, organize net dipping, and arbitrate disputes with the community
- community provides support – has confidence in CHWs
- CHEs but supervision isn't regular and may be unscheduled (one group), one group -- accompany during home visits (2x per month), review clinical register, supervision 1-4 times per month
- support from CHEs and health facility staff during assessment in health facilities, frequency of in-service at health facility during past month most had no in-services and few had 1 visit
- MOH supports by treating referrals – MOH staff welcomes them to health facilities and refers mothers to CHW to obtain medicine (increases mothers confidence in CHWs)
- Very consistent between groups

### 7 Selection of CHWs

- selection occurred at a village meeting
- when CHWs dropped out they were replaced by VHCs (one group) – not necessarily community consensus

- qualities of a good CHW – literate (not minimally but very literate), hard working, not short tempered, trustworthy, approved by entire community, respected, a volunteer who attends meetings for other development activities and would attend meetings where the project was described

#### 8 CHW dropout

- occurs because lack of incentives (major issue)
- lower literacy CHWs drop out
- some don't drop out but don't work either (lax, as if they had dropped out, become a liability)
- men dropped out
- woman dropped out to be with husband in town, family issues
- in one group 6/7 villages had 2 CHWs and 1 had one
- regular meetings are important for keeping CHWs going
- referrals from health facilities motivate CHWs to keep working

#### 9 Community impression of CHWs

- viewed as knowledgeable, helpers in treatment, education providers for health, "local doctors"
- initially most mothers would go to obtain drugs, after refresher training and with CHE supervision now insisting that children must be seen so mothers are taking children more often
- mixed responses on whether mothers bring children for diagnosis or to obtain drugs – change during project period toward diagnosis/treatment
- come for drugs because they are cheap or they can get drugs on credit

#### 10 Complicated cases and referral

- referral works well – children who are referred get preference at health facility (immediate service)
- referral chits work (if mother completed referral), some mentioned getting reinforcement from CO/nurse having same diagnosis as they did when the child was sent to the facility but some get no feedback
- CHWs do follow up for 2 days as are supposed to
- refer to other CHWs if don't have needed drugs
- Comment this is working very well!\*\*\*\*\*

#### 11 Successes

- decreased mortality (spontaneous report from all 4 groups) and morbidity (fewer children become sick because of improved prevention)
- when disease occur mothers know better how to manage them at home
- drugs are available in the community
- mothers changing from traditional beliefs to understanding causes of illness
- understand use of bed nets and importance of impregnation
- understand importance of immunization
- can treat their own children

## 12 Difficulties and challenges

- debt recovery – take to VHCs to deal with, CHWs say they would treat anyone who needs but VHCs will try to collect funds, some CHWs even pay themselves, others say that families that can't pay for medicine are referred to health facilities where they can obtain drugs for free
- lack of incentives – time consuming job, to work well need an incentive (see Q 14)
- sublocations where drug sales and nets are a way to get incentives (10%) -- very low compensation, feeling that this was a decision by CARE
- not welcome in some homes – don't believe in modern medicine
- difficult being woken at night to see a child
- neighboring communities get free nets
- large area, difficulty with transportation – want a pharmacy bicycle to help with referral, or bicycles for CHWs

## 13 Adequacy of drug supplies

- three groups - generally available but had run out of common drugs sometimes and hadn't been restocked, felt that this wasn't a problem with VHC ordering drugs but with supply in stock at Ng'ya (storehouse) – important issue to deal with\*\*\*possible alternative sources\*\*\*
- one group – drugs expired

## 14 CHW motivation

- privilege and honor to be a CHW, respect of community
- belief that there will eventually get something for their work
- regular meetings motivate continued work
- incentives materials such as torch for going out at night, boots, umbrellas, transportation
- money – need to get something for work, discussed whether community would pay – said that community already thought CHWs were paid so that they wouldn't contribute (4 groups), other ideas were sale of drugs and MOH
- one group suggested 1,000 per month

## 15 Interactions with civil administration and other health workers

- civil administration – meet at barazas, field days, etc -- when there is community mobilization – but seldom at other times
- health staff from facility at training sessions and immunization clinics
- 4 groups where the question was asked – never saw the PHTs\*\*\*\*\*
- traditional healers – good relationship – healers buy drugs from them for their families
- TBAs – CHWs see young infants, often attend deliveries since gave mother fansidar during pregnancy

## 16 Sustainability

- train good CHW to be like CHE (training of trainers ToT) – emphasized by all groups
- before CARE leaves, important to link them to a reliable drug supply – direct procurement

- link to hospital for supervision
- need to visit health facility more frequently before CARE leaves to perfect skills
- need to expand revenue base from income generating activities (but don't know what type of activity)
- build own pharmacy so as not to pay rent

#### 17 Suggestions

- badge of office – something to identify them as CHW

#### KEY LESSONS LEARNED

- Motivation and incentives – explore options, not just monetary
- Treatment of children has been successful – able to correctly manage cases – decreased mortality
- Success of referral system – positive feedback
- Issue of patients who cannot pay
- Importance of a reliable drug supply
- Supervision – ToT for sustainability

**Appendix 13**

**Sustainability Goals, Objectives, and Activities**

Sustainability Goals	Objectives	Activities Required
Transfer skills and knowledge to communities for the establishment of 500 operational local pharmacies	<ol style="list-style-type: none"> <li>1 500 local pharmacists and managers</li> <li>2 Establish revolving fees structure for drugs</li> </ol>	<ol style="list-style-type: none"> <li>1 Train 500 pharmacists and managers</li> <li>2 Collect fees and replace kits</li> </ol>
Transfer the control and treatment of six project interventions to empowered community structure	<ol style="list-style-type: none"> <li>1 2400 CHWs at the community level</li> <li>2 Village committees empowered</li> </ol>	<ol style="list-style-type: none"> <li>1 2400 CHWs trained over a 4 years</li> <li>2 480 villages committees functioning</li> </ol>
Transfer clinical and prevention skills to local communities	<ol style="list-style-type: none"> <li>1 WHO SCM utilized by CHWs</li> <li>2 Prevention practices established as needed</li> </ol>	<ol style="list-style-type: none"> <li>1 Co-ordinate training with DMOH</li> <li>2 Prevention skills transferred</li> </ol>
Develop community “modelling” skills such that needs assessment and problem solutions are used against future problems	<ol style="list-style-type: none"> <li>1 Community involvement in all assessments</li> <li>2 Achievements applied to all other problems</li> </ol>	<ol style="list-style-type: none"> <li>1 Train members in needs assessment</li> <li>2 Concepts used as models</li> </ol>
Transition community conditions are identified and resources planned to solve emerging problems	<ol style="list-style-type: none"> <li>1 New community needs are targeted</li> <li>2 Resources are planned</li> </ol>	Community needs expanded through increased local skills and development process

## APPENDIX 14

### Collaboration and Formal Agreements

The project site is located in an area where Ministry Of Health and Diocese of Maseno West have had health education and community-based distribution of contraceptives. These two organizations will be major collaborators both in training and sharing of experiences. The Provincial Administration, which is the government arm responsible for all projects, is the most effective channel for mobilization from the District Commissioner level to the smallest administrative unit, the sub-location.

The Medical Officer of Health in charge of the District (DMOH) has approved the CICSS project and has assigned members of his staff to form part of the core training team at the local level. The district team is also designated as the first-level referral point for the CHWs. The Medical Officer of Health has initiated district-wide training of his health care service providers in the WHO/UNICEF Management of Childhood Illness (MCI) approach to manage illness in children. In both pre-DIP and DIP preparation meetings, the DMOH confirmed his commitment to broaden the base of primary health care treatment and prevention. The MCI training has been completed for about 75% of his staff and facility-based health care service providers. He assigned three of his staff to participate in the baseline KPC survey. The district medical officer is anxious to end the problem of sick children dying in the home unattended (before parents seek treatment) and instead wants to see sick children receiving appropriate treatment in a district health care facility staffed by competent, well-trained workers. The CICSS Child Survival XI project presents a unique opportunity for introducing the MCI approach to community leaders from community health workers. CHW supervision and support is most timely. The Bamako Initiative will complement training of all community-based workers in MCI. The Kenya Ministry of Health will review all aspects of increased community-level treatment of common illness, including revised drug and treatment protocols. This will work well in conjunction with training mothers and all community workers to recognize and intervene in treating mild and less severe child illness as documented in the WHO MCI materials.

The MOH, community, and CARE partnerships established through the development of this DIP are unique and sustainable. The district medical team will collaborate during the training phase as senior partners. They will provide continued supervision and in-service training and will assist in the validation and strengthening of the HIS system. Linkage with the MOH at the district level will establish the beginning framework for sustainability when the project ends. A collaborative meeting with seven major chiefs and 29 assistant chiefs was conducted as part of the DIP development and partnership process. These authorities have endorsed the CS XI project fully and will participate as leaders and 15 members of the Village Health Committees. They have agreed to actively participate in all phases of the project. Their primary objectives are to establish the revolving drug kit program and to provide support and training of carefully selected persons as CHWs who will be managing the 40 community pharmacies under the supervision of the VHCs.

The supplies given to 40 communities will form a start-up fund for approved treatment drugs (revolving essential drug kit) which will be renewed through drug charge fees collected and used to restock. A community-based surveillance activity will also be supported by the MOH, and the data collected will be used for planning, management, and local decision-making. A workable, but not cumbersome, mechanism will be developed to ensure that the government through its local development committee will monitor the way community funds are handled without taking control from the community committees.

National MOH and USAID offices participated and contributed ideas in developing portions of this CS XI DIP. National MOH officers will review the expanded implementation of the Bamako Initiative and the inclusion of key antibiotics and anti-malarial treatment compounds. The national malaria chief expressed interest and support of the Siaya District CS XI malaria treatment and prevention intervention (See Annex III, Exhibit 1 for malaria unit support letter). He expressed interest in visiting the project in its very early start-up stage. The MOH is now reviewing the use (and treatment limitations) of cotramoxazole for pneumonia and malaria.

**COMUNITY INITIATIVES FOR CHILD SURVIVAL IN SIAYA**

**(CICSS)**

**REPORT**

**ON**

**FINAL KPC SURVEY**

**CORE TEAM**

***DR. GRACE MIHESO***

***- Ag. Project Manager***

***BENTA OSAMBA***

***- Project Training Officer/Ag. APM***

***WASHINGTON OMWOMO***

***- Monitoring & Evaluation Officer***

**July 1999**

**INTRODUCTION**

**Background Information**

## Summary KPC Survey Results for the new areas

The mean age of the respondents in the old sites was 26 699 years old with 50% of them aged below 25 years Mean age for children was 9 893 months with over 50% of them aged below 9 months

Operational Indicators	Baseline data
% of children with ALRI taken to hospital or CHWs within 24 hours	23%
% of children with ALRI taken to CHW	7 7%
% of children with ALRI taken to CHW within 24 hours	3 8%
% of Hholds with bednets	20 3%
% of Hholds with bednets treated since December 1998	14 8%
% of Hholds with treated nets but not necessarily since December 1998	24 6%
% of mothers and children <2months sleeping under nets	16 7%
% of mothers and children <24months sleeping under treated nets	2 0%
% of mothers who took fansidar prophylaxis during last pregnancy	14 3%
% of children taken to CHW when had malaria	5 9%
% of children taken to CHW within 24 hours when had malaria	3 0%
% of children <2months exclusively breast fed	29 3%
% of children > 2months exclusively breast fed	18 9%
% of children given same or more of breast milk during last diarrheal episode	45 2%
% of children given same or more fluids during diarrheal episodes	57 4%
% of children given ORT during diarrheal episode	47 0%
% of children given same or more solids during diarrheal episodes	13%
% of EPI Access (DPT1)	94 0%
% of DPT2 Coverage	83 6%
% of DPT3 Coverage	77 6%
% of Measles Coverage	59 7%
% of mothers who received atleast 1 TT by either card or history	96 3%
% of mothers who received at least 1 TT as per card	85 2%
% of mothers who use Modern Contraceptive methods	17 8%
% of mothers who had sex with anyone with a protection	40 0%
% of mothers who had sex with anyone without a protection	60 0%

The goal of the CARE Community Initiatives for Child Survival in Siaya (CICSS) Project was to reduce morbidity and mortality among children under 5 years of age in approximately 201 villages in the 23 sub-locations, 3 Divisions of Boro, Uranga and Karemo, Siaya District in Nyanza Province, Kenya, with an estimated population of 63,083. The project's estimated beneficiaries per year were 14,609 Women 15 – 49 years, 2136 0- 11 months, 2299 children 12 – 23 months, 5766 children 24 – 59 months.

The project's main intervention areas focussed on the three major causes of child mortality namely malaria, acute respiratory infections (ARI) and diarrheal diseases as well as vaccine preventable diseases. Though intended to have intervened in the areas of FP/HIV/AIDS/STI, during the life cycle of the project much was not done in this particular area. Any change realized in the KPC Survey results therefore are the effects of other agencies operating in the same catchment area such as Diocese of Maseno West, CISS, Maendeleo Ya Wanawake and Ministry of Health.

The treatment of children through the project's CHWs focussed on the improved home care and expanded understanding and use of the WHO Standard Case Management Concept. The Objectives of the Interventions were:

**Malaria** - Increased community knowledge and use of prevention and treatment measures for uncomplicated malaria for pregnant women and children under five within the home environment as well as early recognition and quick referral for more severe cases.

**ARI** - Increased early recognition and quick referral of serious respiratory infection to appropriate health care facilities by mothers, other caretakers and community health workers (within 24 hours).

**Diarrhoeal Diseases** - Increased community knowledge and use of diarrhoeal disease prevention and treatment measures for infants and children within the home environment coupled with early recognition and referral to appropriate health care facilities for complicated cases.

**Vaccine Preventable Diseases (EPI)** - Increased immunization coverage and reduced drop-out rates for children and pregnant women through community surveillance and promotion (IEC).

**FP/HIV/AIDS/STI** - Increased community knowledge and use of methods and practices which are recommended for protection against STD/HIV/AIDS infections among sexually active individuals. Further to this, increased use of modern contraceptive methods among people aged 15 – 49 years.

### OBJECTIVES OF THE SURVEY

The objectives of this survey in overall were to assess mothers' KNOWLEDGE, PRACTICES and COVERAGE for the intervention areas below.

**Malaria** - Increased community knowledge and use of prevention and treatment measures for uncomplicated malaria for pregnant women and children under five within the home environment as well as early recognition and quick referral for more severe cases

**ARI** - Increased early recognition and quick referral of serious respiratory infection to appropriate health care facilities by mothers, other caretakers and community health workers (within 24 hours)

**Diarrhoeal Diseases** - Increased community knowledge and use of diarrhoeal disease prevention and treatment measures for infants and children within the home environment coupled with early recognition and referral to appropriate health care facilities for complicated cases

**Vaccine Preventable Diseases (EPI)** - Increased immunization coverage and reduced drop-out rates for children and pregnant women through community surveillance and promotion (IEC)

**FP/HIV/AIDS/STI** - Increased community knowledge and use of methods and practices which are recommended for protection against STD/HIV/AIDS infections among sexually active individuals. Further to this, increased use of modern contraceptive methods among people aged 15 – 49 years. Much was not done in the area of FP/HIV/AIDS/STI apart from the mobilization, and selection of CBRHSPs/VHCs in 5 sub-locations which were to act as pilot areas

#### SCHEDULE OF ACTIVITIES

- April 19<sup>th</sup> – 4<sup>th</sup> June 1999 – Questionnaire Development completed
- 31<sup>st</sup> May 1999 – Supervisors' training completed
- 3<sup>rd</sup> June 1999 – Field testing of the Questionnaire done and final adjustments completed on 4<sup>th</sup> June 1999
- June 1<sup>st</sup> – 4<sup>th</sup> 1999 – Interviewers Training completed
- June 7<sup>th</sup> – 16<sup>th</sup> – Data Collection Completed ( 600 Interviews of 63 Questions in 60 Clusters)
- June 11<sup>th</sup> - 17<sup>th</sup> – Data entry in EPI INFO Statistical Software completed
- June 21<sup>st</sup> - 23<sup>rd</sup> – Data Cleaning completed
- June 24<sup>th</sup> – 28<sup>th</sup> - Data Analysis completed
- June 29<sup>th</sup> – July 2<sup>nd</sup> – Draft Report produced

#### METHODOLOGY

#### KPC SURVEY QUESTIONNAIRE

Final KPC Questionnaire was composed of 63 questions, which were distributed as follows

- - Q# 1 – 6 deal with demographic, social and marital status data
  - Q# 7 – 8 deal with mother's occupation and caretakers
  - Q# 9 – 12 deal with breastfeeding and other nutrition practices

- Q# 13 –26 deal with diarrhoeal disease control ( Knowledge, Practice, Health seeking behaviour, treatment cost)
- Q# 27 – 33 deal with ARI
- Q# 34 – 38 deal with Child and Maternal Immunization
- Q# 39 – 42 deal with Family Planning
- Q# 43 – 53 deal malaria and treated mosquito nets
- Q# 54 – 56 deal with HIV/AIDS
- Q# 57 – 58 deal with Community Participation
- Q# 59 – 63 deal with STD

This Final KPC Questionnaire had some questions written in both English and Luo to maintain same understanding in terms interpretation amongst the supervisors, interviewers and the respondents Further clarity to the meanings of various questions were made during the training of both supervisors and interviewers and after its field testing The objective for asking specific questions were exhaustively explained

### **SAMPLE SIZE DETERMINATION**

The sampling methodology adopted for this survey is that of 30 cluster sampling according to the WHO/EPI model For the determination of the sample sizes, the following formula was used  $n=z^2 pq/d^2$

where n = the sample size, z = statistical certainty chosen, p= coverage rate, level of knowledge, and q=1 - p , d= degree of precision

The sample size was set up in the following way the degree of precision (d) was set up at 0.1 and the p was set at 0.5 Thus, the resulting minimum sample size was 210, which was increased at 300 taking non-respondents into account The number of clusters was 30 with a sample size equal to 300 resulting into 10 mothers with children less 2 years being drawn from each cluster for interviewing Though there were two surveys conducted, one in the Intervention area and the other one in the Non-intervention areas, this draft report will only discuss the findings for the Intervention areas

### **SAMPLE SELECTION**

The methodology used involved making a sampling frame of villages in all the sub-locations with their respective population figures The cumulative population figures for the villages was then calculated to generate the total cumulative population The total cumulative population was then divided by 30 clusters to get Sampling Interval A random number table was then generated in EPI INFO software Using the 20 shillings currency note, a random number was picked which was less than the sampling interval The village whose cumulative population equaled or was less than random number was picked as the first cluster The next clusters were then picked by adding the sampling interval to the random number and picking the village whose cumulative population figure was equal to or the resulting figure was within it

The methodology demands that the supervisor locates the central point within the cluster for the interviewers The central point in the cluster was determined by spinning a ballpen and the direction to be followed be determined by where the lid of the pen points Depending on where the lid of the pen pointed, the first household was then identified where a mother with a child less than 2 years lived Definition of a household was a house where people live, cook and eat from The next households for interview were then determined based on the direction where the door faced

The interviewers then interviewed 10 mothers from each cluster. In cases where the interviewers exhausted all households in a cluster without completing 10 interviews, they moved to nearest village. At this point a pen had to be spinned to determine which direction to take.

### **METHOD OF DATA ANALYSIS**

The data entry and analysis were all performed within the project offices using the EPI INFO version 6.0. Analysis involved the generation of frequency tables of various variables coupled with cross-tabulation of two variables. The analysis results were then compared with both baseline results and the set targets for the project. Much more advanced analysis will be performed during the evaluation exercise and report writing.

### **RAPID KPC SURVEY TRAINING**

There were 6 supervisors (3 senior district MOH officers and 2 Project Field Health Supervisors and 1 Project Community Health Extensionist). This team was beefed-up with two of the Core Team Members, who also ensured that all was well in the field including following the agreed upon procedures of the 30 cluster methodology. The enumerators were 16. This team was made-up of young men and women who demonstrated high experience in carrying out surveys. The project decided not to use its staff as a way of avoiding bias in data collection. The training duration for supervisors was 5 days while interviewers underwent a 4 day training session.

The training included the purpose of the survey, sample size, sampling methodology, starting point in a cluster, understanding of the meaning of each question and how to ask each question. Numerous one to one role plays were used to familiarize the interviewer with the technique to be used in asking different types of questions. Both supervisors and interviewers conducted numerous role plays while during field testing of the questionnaire. Both the supervisors and the interviewers were taken through their roles. They were asked in groups to brainstorm and come up with their responsibilities. These were then summarised with the trainers list of responsibilities. The specific tasks for supervisors included:

- selecting the starting point in each cluster so as to maintain the same procedure in all the clusters as is required in the WHO 30 Cluster Survey Methodology,
- Observing one interview each day per interviewer
- Checking (auditing) the completed questionnaires in each cluster location for accuracy and completeness and then to sign each when finished

The team then left for field testing of the questionnaire where each interviewer completed 3 interviews while the supervisors completed one. From the field, first the supervisors took the interviewers that they assigned through the field experiences, particularly with regard to questionnaire administration. The next day in the morning session, participants were allowed to raise issues that came up in the field. Finally, all adjustments were on the questionnaire and all was set ready for the day survey was to start.

### **SURVEY RESULTS**

#### **Age Distribution:**

The mean age of mothers surveyed was 26 years while that of children was 9.7 months. Out of the mothers in the survey, there were 47 (15.7%) mothers in the age of 35 years and above which represent a high-risk group because of the upper age curve. This compares relatively above the proportion of mothers in this group interviewed in the Baseline Survey (26 mothers). The range in mother's age was from 16 years to 48 years. The combined high

and low age mothers included 87 mothers (29.1%) who represent a high risk cohort of either too young or too old, while the teenage mothers numbered 76 (25.4%). The largest five-year cohort as in baseline was 20 to 25 years where 128 (42.8%) mothers were stratified. There were only 11 (3.7%) mothers in the age bracket of 40 to 48 years. Just as in the Baseline Survey, the most frequent caretaker recorded for children under two years was siblings 135/300 (45%), followed by the mothers themselves 99/300 (33%), then other family members (25.3%), grandmothers, husbands, maids, friends and then others in that order.

### **MALARIA**

One hundred and three mothers reported taking anti-malarials during their last pregnancy. 13 reported taking chloroquin but only 3 reported taking it correctly (weekly). 41/103 (39.8%) mothers reported taking fansidar during their last pregnancy while only 15/41 (36.6%) reported taking it correctly. Taking 103 mothers as the denominator, 15/103 (14.6%) of mothers correctly took chemoprophylaxis against malaria during their last pregnancy. The point prevalence of child malaria two weeks prior to the survey was found to be 149/298 (50%). During the malaria episode 44/149 (29.5%) were given chloroquin and 15/149 (10.3%) were given fansidar. 52/149 (34.9%) were taken to health care facility while 24/149 (16.1%) were taken to CHW. Out of the 24 children taken to CHW, only 12/24 (50%) were taken within 24 hours. Out of those who were taken to other health care providers, 31% of them were taken within 24 hours. This is attributed to the availability and increased accessibility to the CHWs in the community. In the entire project areas, there are 8 health facilities which are sparsely distributed while in every village there are 2 project CHWs.

Out of the mothers who sought treatment from the CHWs, 91% of them spent less than Kshs 100 while for those who sought treatment from other health care providers, 73% of them spent less than Kshs 100. This implies that the cost of health care being provided by the CHWs is still the most affordable. Out of the mothers who took their children to the CHWs, 86% who had malaria had fully recovered while for those who sought treatment from other health care providers 59% had fully recovered. This demonstrates how effective fansidar is compared to chloroquin. All the CHWs dispense fansidar while health care facilities dispense chloroquin which many people including children have developed resistance to.

80/297 (26.9%) households had mosquito nets while only 20/79 (25.3%) of the mosquito nets had ever been treated but not necessarily since December 1998. And since December 1998 to the time of the survey, 10/80 (12.5%) of the mosquito nets had been treated. 64/300 (21.3%) of mothers and their children who are less than two months old sleep under mosquito nets.

### **Breastfeeding and Nutrition**

The KPC survey sought to establish the mothers' knowledge on the proper age when weaning should start. This was found to be 33.0% (98/297) compared to 28.6% at the baseline. 45.5% (135/297) of mothers recorded that weaning should occur between the 1 month and 4 months which compares to 52.5% at baseline. 20.9% (62/297) of mothers reporting weaning children at an age less than 1 month. In overall, there is a 4.4% increment in the appropriate knowledge on weaning practices. There was also a reduction of 7.0% in the proportion of mothers reporting inappropriate weaning practices (between 1 and 4 months) when compared to baseline results.

### **Diarrhoeal Disease**

In the question which sought to find out the proportion of mothers who could identify 2 key modes of prevention of diarrheal diseases, 197/300 (65.7%) of mothers indicated the use of

safe water as a means of preventing diarrheal diseases, 72/300(24%) of mothers indicated well cooked food as a way of preventing DD while only 56/300 (18.7%) of mothers reported exclusive breastfeeding as an important practice in preventing DD 11/37(29.7%) children less than 2 months old were exclusively breastfed while 45/263(17.1%) of children more than 2 months old were exclusively breastfed 104/299 (34.8%) of the children in the sample had diarrhea in the last two weeks and 89 (88.1%) mothers whose children had diarrhea during this period reported giving fluids to their children Out of this 89 mothers, 55(61.8%) of them reported giving same or more than usual amount of fluids during diarrhea episode On treatments used during the DD episode, 30/104(28.9%) used ORS Sachets, 11/104(10.6%) used SSS, 7/104(6.7%) used either porridge or tea 37/104(35.6%) of mothers reported using an anti-diarrhea medicine or antibiotic 63/100(63%) sought outside advice or treatments for their sick children 23/100(23%) took the child to health care facility, 30/100(30%) to the child to the CHW while the remaining 47/100(47%) of the mothers sought advice or treatments from TBAs, Traditional healers, chemists, friends and others Out of the mothers who sought treatment from the CHWs, 73% of them spent less than Kshs 100 while 75% of those who sought treatment from elsewhere spent less than Kshs 100 On recovery from illness, 67% of the children taken to CHWs had fully recovered while 56% of those who were taken to other health care providers had fully recovered The difference in recovery rate remains almost the same because CHWs do not provide any therapy for the management of diarrhea They only provide ORS which is not a medication for diarrhea but just for supportive purposes

50/104(48.1%) of mothers whose children had diarrhea two week prior to the survey, recognized diarrhea continuing without improvement as a serious sign of dehydration that requires referral a qualified health provider 27/104(26.0%) of mothers reported drowsiness and or weakness, 16/104(15.4%) mothers reported child refusing to eat and 15/104(14.4%) mothers reported sunken eyes as important signs of diarrhea that require referral to a qualified health provider Excessive thirst(dry mouth), loose skin, decreased urine, blood in stool and sunken fontanelle were all rated below 6.7% by the mothers

On the question that specifically sought to know from the mothers what signs would make them seek treatment from the CHW, 175/300(58.3%) mothers reported diarrhea continuing without improvement, 125/300(41.7%) mothers reported drowsiness/weakness, 79/300(26.3%) mothers reported sunken eyes, and 31/300(10.3%) mothers reported loose skin Bloody diarrhea, refusal to eat, sunken fontanelle, excessive thirst and decreased urine were all rated below 9.3% each

In overall , out of the 104 children who had diarrhea two weeks prior to the survey, 52.9% (55/104) were given same or more of the breast milk during the DD episode, while 71.2%(74/104) of the children were given same or more fluids during the DD episode 39/104(37.5%) were put on Oral Rehydration Therapy while 26.9%(28/104) of the children were given same or more solids during the diarrhea episode

## **RESPIRATORY ILLNESSES - ARI**

The point prevalence rate for ARI for the last two weeks prior to the date of survey was found to be 160/295(54.2%) while the point prevalence rate for ALRI was found to be 55.6%(89/160) for the two weeks prior to survey In overall 25.8% (23/89) of the children who had ALRI were taken to health care provider (hospital or CHW) within 24 hours 56/89(63%) of the children were taken to health care facility when they had ALRI 22.5%(20/89) of the children were taken to CHW when they had ALRI Out of the mothers who sought treatment from the CHWs when their children had ALRI, 50% of them did so

within 24 hours, while those who sought treatment from other health care providers, 26% of them did so within 24 hours. The availability and increased accessibility to CHWs even at night in the community contributes to this. Out of the children who were taken to CHWs when they had ALRI, 59% had fully recovered while 43% of those who were taken to other health care providers had fully recovered. This significant difference in recovery rates indicates how effective Septrin is in managing ALRI related conditions than other medications being dispensed by the other health care providers.

On the question which sought to find out what are all actions a mother should take when a child has rapid or difficult breathing, 228/300(76.0%) mothers reported taking the child to a health care facility, 120/300(40.0%) mothers reported taking the child to a CHW while 31/300(10.3%) mothers reported going to the chemist to buy drugs for the child. 45/300(15%) mothers reported others different actions that they could take, while TBA, Traditional healers, and friends were all rated below 4.3%. 243/295(82.4%) mothers reported that they would seek treatment for their children suffering from rapid or difficult breathing within 24 hours irrespective of whether the treatment is being sought from health care facility, CHW, TBA, Traditional healers or friends. The results on knowledge of the mothers contradict the reported practice by the mothers when their children had ALRI.

### IMMUNIZATION

Most mothers 166/282(58.9%) produced EPI cards for their children. From the EPI cards for mothers of children 12-23 months old, DPT1 card coverage was 87.3%(55/63), DPT2 card coverage was 88.9%(56/63), DPT3 card coverage was 84.1%(53/63) while card coverage for Measles was found to be 58.7%(37/63). This represents a DPT1 - Measles drop out rate of  $(DPT1\text{-Measles})/DPT1 * 100 = 32.7\%$ . Drop out rate for  $DPT1\text{-}DPT3/DPT1 * 100 = 3.6\%$

### MATERNAL CARE

A total of 77/297 (25.9%) mothers had TT cards available, 61.3% of mothers had lost their cards while 12.8% of mothers never had one. 92.2%(71/77) mothers had received at least one TT according to card while 98.7%(76/77) mothers received at least one TT either by card or history. One hundred and eighty out of 269 (66.9%) mothers excluding those who were pregnant in the sample did not want have a child in the next two years. Of those mothers who did not want to have a child, 15.8%(42/266) are using some family planning method to avoid and or postpone pregnancy. Among the most commonly used modern family planning method amongst the interviewed mothers were pill(19/33)57.6% and injection(11/33)33.3%. TL and Norplant were rated 6.1% and 3.0% respectively.

### HIV/AIDS

Most mothers 254/300(84.7%) reported sex as a way through which AIDS is transmitted, 90/300(30%) reported skin piercing by unsterile instruments as another way through which AIDS is transmitted. On the question which sought to find out what the mothers were doing to prevent themselves from getting AIDS, 185/300(61.7%) reported staying with one partner (Zero grazing), while 61/300(20.3%) indicated use of condom as ways through which they prevent themselves from getting AIDS. 55/300(18.3%) of mother reported avoiding skin piercing by unsterile instruments. Abstinence, avoiding unscreened blood, having reduced number of partners and STD treatment were all rated below 11.3% by the respondents.

## **COMMUNITY PARTICIPATION**

One hundred and forty six mothers were involved in at least one community groupings with most of them 89/132(67.4%) participating in Women Groups activities Church Groupings constituted 20.5%(27/132) of the total while PHC Groupings represented 8.3%(11/132)

## **STD AND SEX RELATED PRACTICES**

The information on the questions from this section were collected through the Envelope System, whereby the literate and able to read and write respondents were given questionnaires already enclosed in envelopes They were expected to read the questions, respond to them voluntarily and then seal the questionnaire in the envelope For the respondents who were illiterate, the interviewers asked these questions directly after assuring the respondents on the high level of confidentiality being maintained 21/294(7.1%) of the mothers indicated that they had had STD within the last one year When cross-tabulated with the duration within which treatment was sought, 10/19(52.6%) sought treatment within one month while 4/19(21.1%) sought treatment after a period of more than one month 5/19(26.3%) of those who reported having had STD either never sought treatment or did not know after how long they did seek treatment 13/295(4.4%) indicated that during the last one month, they had sex with someone other than their husbands or regular partner Only 5/12 (41.7%) used some type of protection during intercourse with non-regular partner

## **EDUCATION AND LITERACY**

The survey results indicate that 219/300(73.0%) of the mothers who participated in the survey were literate 57.9%(173/299) of them spent between 5 to 8 years in school, 13.0%(39/299) spent between 1 to 4 years in school 10.7%(32/299) spent between 9 to 12 years in school Most mothers 234/298(78.5%) were living with their husbands as at the time of survey

## **KEY NOTES ON THE SPECIFIC SURVEY RESULTS**

- 1 From the survey results, more children were put on chloroquin 44/149 than Fansidar 15/149 Despite the project's efforts in actively promoting the use of Fansidar lack of IEC materials to reinforce could have contributed to this Secondly, the MOH policy for the use of Fansidar as a front line in the management of malaria was just recently approved Before this policy came into force, chloroquin was much more accessible through the MOH health care facilities During the malaria episode, more children were taken to health care facilities as compared to those taken to the project's CHWs
- 2 Compared to the baseline, there was a slight increase in the number of households with mosquito nets The number of nets being treated (retreated) remains low due to lack of sensitization of the community members on the costs versus benefits of redipping Another reason is that communities are not very comfortable in mass dipping of nets so promotion of single net dipping is being done
- 3 There is generally an increase in knowledge amongst the mothers on the appropriate weaning practices There is also a reduction in the inappropriate weaning practices The knowledge on appropriate weaning practices could have increased if the CHWs and VHCs had IEC materials to back-up their promotion activities
- 4 The use of Safe Water as a way of preventing DD has considerably increased amongst the mothers compared to baseline results Though there was an increase in point prevalence of DD episode in the last two weeks prior to survey, it is known that the prevalence of DD is

seasonally characterized 30% of the children who had diarrhea were taken to CHW in the last two weeks as compared to only 16% of children who had malaria that sought treatment from the CHWs

- 5 The achievements realised in the FP/HIV/AIDS/STI component of the project resulted from the referrals made by the project CHWs to Diocese of Maseno West, MOH and Maendeleo Ya Wanawake CBRHSPs The project had not started active interventions on this particular area
- 6 The increase in percentage of mothers who seek treatment for their children with cough and difficult breathing within 24 hours is the effect of the health messages which the CHWs are giving on pneumonia because before many mothers were not associating cough and difficult breathing with pneumonia
- 7 Increase in number of households with mosquito nets is due to the advocacy for the use for their use as the most cost effective way of malaria prevention It is important to note here that the increase in the number of households using mosquito nets is below what the target was The same is realized in the indicators on the management of children during diarrhoeal episodes The proportion of mothers reporting the use of ORT and the giving same or more of solids and semi-solid foods during the diarrhoeal episodes dropped when compared to baseline findings This is attributed to lack of IEC materials that could back-up the health talks given by the CHWs

**PRESENTATION OF BASELINE, FINAL KPC, SET TARGETS AND VARIANCE FROM TARGETS**

**ARI INDICATORS**

INDICATORS	BASELINE %	FINAL KPC %	SET TARGETS %	PROJECT ACHIEVEMENT %
1 % of mothers who recognize rapid breathing as a sign of pneumonia in a child with cough or difficult breathing (Knowledge Indicator Question 32 CHW)	4	40	60	-20
1 % of mothers who recognize rapid breathing as a sign of pneumonia in a child with cough or difficult breathing (Knowledge Indicator Question 32 Hospital)	86	76	60	16%
2 % of children who were taken to health care facility when they had ALRI	69	63		
3 % of mothers who seek medical Rx for children with rapid and difficult breathing within 24 hours of noticing it	23	26	63	3%
4 % of children who were taken to health care facility with rapid and difficult breathing, who had recovered fully		43		
5 % of children with ALRI who are taken to CHWs	0	23		23%
6 % of children with ALRI who were taken to CHWs within 24 hours		11		
7 % of children with ALRI who were taken to CHWs with rapid and difficult breathing, who had recovered fully		50		
<b><u>MALARIA INDICATORS</u></b>				
1 % of households with mosquito nets	19	27	40	8%
2 % of households with treated mosquito nets		25		
3 % of households with mosquito nets		13		

treated since December 1998				
4 % of mothers and children less than 2 months sleeping under a mosquito net	17	21	40	4%
5 % of women who took fansidar during their last pregnancy		40		
6 % of women who correctly took malaria chemoprophylaxis during their last pregnancy	1	15	40	14%
7 % of mothers who consulted a CHW when child had malaria		16		
8 % of mothers who seek appropriate Rx within 24 hours of their child's uncomplicated malaria from CHWs	5	8	75	11%
<b>BREAST FEEDING , DIARRHEA</b>				
1 % of infants less than 2 months exclusively breast feeding	1	30	15	29%
2 % of infants <24 months with diarrhea in the last two weeks who were given the same amount or more of breast milk	50	53	80	3%
3 % of infants <24 months with diarrhea who were given the same amount or more of fluids other than breast milk	53	71	80	18%
4 % of infants <24 months with diarrhea in the last two weeks who were treated with ORT	44	38	60	-6%
5 % of infants <24 months with diarrhea in the last two weeks who were given the same amount or more of solid or semi-solid foods	30	27	75	-3%
<b>IMMUNIZATION</b>				
1 % of children 12 -23months with DPT1	62	87	80	25%
2 % of children 12 - 23 months with DPT3	57	84	70	27%
3 % of children 12 - 23 months with measles immunization	41	59	70	18%

4, Drop out rate for DPT1- DPT3		<3 6		-20
5 % of women bearing a child receiving at least 1 dose of TT during the most recent pregnancy	86	99	90	13%
<b>REPRODUCTIVE HEALTH</b>				
1 % of women using modern contraceptives	14	16	31	2%
2. % Of population 15 –49 years of age who report not having had a sex partner other than a regular sex partner in the last 3 months		4		
3 % of population 15 – 49 who report the use of a condom during the most recent sexual intercourse with a non-regular sex partner		42		

**COMMUNITY INITIATIVES FOR CHILD SURVIVAL IN SIAYA**

**(CICSS)**

**REPORT**

**ON**

**FINAL KPC SURVEY**

**CORE TEAM**

**DR. GRACE MIHESO**

**- Ag Project Manager**

**BENTA OSAMBA**

**- Project Training Officer/Ag. APM**

**WASHINGTON OMWOMO**

**- Monitoring & Evaluation Officer**

**July 1999**

**INTRODUCTION**

**Background Information**

The goal of the CARE Community Initiatives for Child Survival in Siaya (CICSS) Project was to reduce morbidity and mortality among children under 5 years of age in approximately 201 villages in the 23 sub-locations, 3 Divisions of Boro, Uranga and Karemo, Siaya District in Nyanza Province, Kenya, with an estimated population of 63,083. The project's estimated beneficiaries per year were 14,609 Women 15 – 49 years, 2136 0- 11 months, 2299 children 12 – 23 months, 5766 children 24 – 59 months

The project's main intervention areas focussed on the three major causes of child mortality namely malaria, acute respiratory infections (ARI) and diarrheal diseases as well as vaccine preventable diseases. Though intended to have intervened in the areas of FP/HIV/AIDS/STI, during the life cycle of the project much was not done in this particular area. Any change realized in the KPC Survey results therefore are the effects of other agencies operating in the same catchment area such as Diocese of Maseno West, CISS, Maendeleo Ya Wanawake and Ministry of Health

The treatment of children through the project's CHWs focussed on the improved home care and expanded understanding and use of the WHO Standard Case Management Concept. The Objectives of the Interventions were

**Malaria** - Increased community knowledge and use of prevention and treatment measures for uncomplicated malaria for pregnant women and children under five within the home environment as well as early recognition and quick referral for more severe cases

**ARI** - Increased early recognition and quick referral of serious respiratory infection to appropriate health care facilities by mothers, other caretakers and community health workers (within 24 hours)

**Diarrhoeal Diseases** - Increased community knowledge and use of diarrhoeal disease prevention and treatment measures for infants and children within the home environment coupled with early recognition and referral to appropriate health care facilities for complicated cases

**Vaccine Preventable Diseases (EPI)** - Increased immunization coverage and reduced drop-out rates for children and pregnant women through community surveillance and promotion (IEC)

**FP/HIV/AIDS/STI** - Increased community knowledge and use of methods and practices which are recommended for protection against STD/HIV/AIDS infections among sexually active individuals. Further to this, increased use of modern contraceptive methods among people aged 15 – 49 years

### **OBJECTIVES OF THE SURVEY**

The objectives of this survey in overall were to assess mothers' KNOWLEDGE, PRACTICES and COVERAGE for the intervention areas below

**Malaria** - Increased community knowledge and use of prevention and treatment measures for uncomplicated malaria for pregnant women and children under five within the home environment as well as early recognition and quick referral for more severe cases

**ARI** - Increased early recognition and quick referral of serious respiratory infection to appropriate health care facilities by mothers, other caretakers and community health workers (within 24 hours)

**Diarrhoeal Diseases** - Increased community knowledge and use of diarrhoeal disease prevention and treatment measures for infants and children within the home environment coupled with early recognition and referral to appropriate health care facilities for complicated cases

**Vaccine Preventable Diseases (EPI)** - Increased immunization coverage and reduced drop-out rates for children and pregnant women through community surveillance and promotion (IEC)

**FP/HIV/AIDS/STI** - Increased community knowledge and use of methods and practices which are recommended for protection against STD/HIV/AIDS infections among sexually active individuals. Further to this, increased use of modern contraceptive methods among people aged 15 – 49 years. Much was not done in the area of FP/HIV/AIDS/STI apart from the mobilization, and selection of CBRHSPs/VHCs in 5 sub-locations which were to act as pilot areas

#### SCHEDULE OF ACTIVITIES

- April 19<sup>th</sup> – 4<sup>th</sup> June 1999 – Questionnaire Development completed
- 31<sup>st</sup> May 1999 – Supervisors' training completed
- 3<sup>rd</sup> June 1999 – Field testing of the Questionnaire done and final adjustments completed on 4<sup>th</sup> June 1999
- June 1<sup>st</sup> – 4<sup>th</sup> 1999 – Interviewers Training completed
- June 7<sup>th</sup> – 16<sup>th</sup> – Data Collection Completed ( 600 Interviews of 63 Questions in 60 Clusters)
- June 11<sup>th</sup> - 17<sup>th</sup> – Data entry in EPI INFO Statistical Software completed
- June 21<sup>st</sup> - 23<sup>rd</sup> – Data Cleaning completed
- June 24<sup>th</sup> – 28<sup>th</sup> - Data Analysis completed
- June 29<sup>th</sup> – July 2<sup>nd</sup> – Draft Report produced

#### METHODOLOGY

##### KPC SURVEY QUESTIONNAIRE

Final KPC Questionnaire was composed of 63 questions, which were distributed as follows

- ● Q# 1 – 6 deal with demographic, social and marital status data
- Q# 7 – 8 deal with mother's occupation and caretakers
- Q# 9 – 12 deal with breastfeeding and other nutrition practices

- Q# 13 –26 deal with diarrhoeal disease control ( Knowledge, Practice, Health seeking behaviour, treatment cost)
- Q# 27 – 33 deal with ARI
- Q# 34 – 38 deal with Child and Maternal Immunization
- Q# 39 – 42 deal with Family Planning
- Q# 43 – 53 deal malaria and treated mosquito nets
- Q# 54 – 56 deal with HIV/AIDS
- Q# 57 – 58 deal with Community Participation
- Q# 59 – 63 deal with STD

This Final KPC Questionnaire had some questions written in both English and Luo to maintain same understanding in terms interpretation amongst the supervisors, interviewers and the respondents Further clarity to the meanings of various questions were made during the training of both supervisors and interviewers and after its field testing The objective for asking specific questions were exhaustively explained

### **SAMPLE SIZE DETERMINATION**

The sampling methodology adopted for this survey is that of 30 cluster sampling according to the WHO/EPI model For the determination of the sample sizes, the following formula was used  $n = z^2 pq/d^2$

where n = the sample size, z = statistical certainty chosen, p= coverage rate, level of knowledge, and q=1 – p , d= degree of precision

The sample size was set up in the following way the degree of precision (d) was set up at 0.1 and the p was set at 0.5 Thus, the resulting minimum sample size was 210, which was increased at 300 taking non-respondents into account The number of clusters was 30 with a sample size equal to 300 resulting into 10 mothers with children less 2 years being drawn from each cluster for interviewing Though there were two surveys conducted, one in the Intervention area and the other one in the Non-intervention areas, this draft report will only discuss the findings for the Intervention areas

### **SAMPLE SELECTION**

The methodology used involved making a sampling frame of villages in all the sub-locations with their respective population figures The cumulative population figures for the villages was then calculated to generate the total cumulative population The total cumulative population was then divided by 30 clusters to get Sampling Interval A random number table was then generated in EPI INFO software Using the 20 shillings currency note, a random number was picked which was less than the sampling interval The village whose cumulative population equaled or was less than random number was picked as the first cluster The next clusters were then picked by adding the sampling interval to the random number and picking the village whose cumulative population figure was equal to or the resulting figure was within it

The methodology demands that the supervisor locates the central point within the cluster for the interviewers The central point in the cluster was determined by spinning a ballpen and the direction to be followed be determined by where the lid of the pen points Depending on where the lid of the pen pointed, the first household was then identified where a mother with a child less than 2 years lived Definition of a household was a house where people live, cook and eat from The next households for interview were then determined based on the direction where the door faced

The interviewers then interviewed 10 mothers from each cluster. In cases where the interviewers exhausted all households in a cluster without completing 10 interviews, they moved to nearest village. At this point a pen had to be spinned to determine which direction to take.

### **METHOD OF DATA ANALYSIS**

The data entry and analysis were all performed within the project offices using the EPI INFO version 6.0. Analysis involved the generation of frequency tables of various variables coupled with cross-tabulation of two variables. The analysis results were then compared with both baseline results and the set targets for the project. Much more advanced analysis will be performed during the evaluation exercise and report writing.

### **RAPID KPC SURVEY TRAINING**

There were 6 supervisors (3 senior district MOH officers and 2 Project Field Health Supervisors and 1 Project Community Health Extensionist). This team was beefed-up with two of the Core Team Members, who also ensured that all was well in the field including following the agreed upon procedures of the 30 cluster methodology. The enumerators were 16. This team was made-up of young men and women who demonstrated high experience in carrying out surveys. The project decided not to use its staff as a way of avoiding bias in data collection. The training duration for supervisors was 5 days while interviewers underwent a 4 day training session.

The training included the purpose of the survey, sample size, sampling methodology, starting point in a cluster, understanding of the meaning of each question and how to ask each question. Numerous one to one role plays were used to familiarize the interviewer with the technique to be used in asking different types of questions. Both supervisors and interviewers conducted numerous role plays while during field testing of the questionnaire. Both the supervisors and the interviewers were taken through their roles. They were asked in groups to brainstorm and come up with their responsibilities. These were then summarised with the trainers list of responsibilities. The specific tasks for supervisors included

- selecting the starting point in each cluster so as to maintain the same procedure in all the clusters as is required in the WHO 30 Cluster Survey Methodology,
- Observing one interview each day per interviewer
- Checking (auditing) the completed questionnaires in each cluster location for accuracy and completeness and then to sign each when finished

The team then left for field testing of the questionnaire where each interviewer completed 3 interviews while the supervisors completed one. From the field, first the supervisors took the interviewers that they assigned through the field experiences, particularly with regard to questionnaire administration. The next day in the morning session, participants were allowed to raise issues that came up in the field. Finally, all adjustments were on the questionnaire and all was set ready for the day survey was to start.

### **SURVEY RESULTS**

#### **Age Distribution:**

The mean age of mothers surveyed was 26.1 years while that of children was 9.7 months. Out of the mothers in the survey, there were 47 (15.7%) mothers in the age of 35 years and above which represent a high-risk group because of the upper age curve. This compares relatively above the proportion of mothers in this group interviewed in the Baseline Survey (26 mothers). The range in mother's age was from 16 years to 48 years. The combined high

and low age mothers included 87 mothers (29.1%) who represent a high risk cohort of either too young or too old, while the teenage mothers numbered 76 (25.4%). The largest five-year cohort as in baseline was 20 to 25 years where 128 (42.8%) mothers were stratified. There were only 11 (3.7%) mothers in the age bracket of 40 to 48 years. Just as in the Baseline Survey, the most frequent caretaker recorded for children under two years was siblings 135/300 (45%), followed by the mothers themselves 99/300 (33%), then other family members (25.3%), grandmothers, husbands, maids, friends and then others in that order.

### **MALARIA**

One hundred and three mothers reported taking anti-malarials during their last pregnancy. 13 reported taking chloroquin but only 3 reported taking it correctly (weekly) 41/103 (39.8%) mothers reported taking fansidar during their last pregnancy while only 15/41 (36.6%) reported taking it correctly. Taking 103 mothers as the denominator, 15/103 (14.6%) of mothers correctly took chemoprophylaxis against malaria during their last pregnancy. The point prevalence of child malaria two weeks prior to the survey was found to be 149/298 (50%). During the malaria episode 44/149 (29.5%) were given chloroquin and 15/149 (10.3%) were given fansidar. 52/149 (34.9%) were taken to health care facility while 24/149 (16.1%) were taken to CHW. Out of the 24 children taken to CHW, only 12/24 (50%) were taken within 24 hours. Out of those who were taken to other health care providers, 31% of them were taken within 24 hours. This is attributed to the availability and increased accessibility to the CHWs in the community. In the entire project areas, there are 8 health facilities which are sparsely distributed while in every village there are 2 project CHWs.

Out of the mothers who sought treatment from the CHWs, 91% of them spent less than Kshs 100 while for those who sought treatment from other health care providers, 73% of them spent less than Kshs 100. This implies that the cost of health care being provided by the CHWs is still the most affordable. Out of the mothers who took their children to the CHWs, 86% who had malaria had fully recovered while for those who sought treatment from other health care providers 59% had fully recovered. This demonstrates how effective fansidar is compared to chloroquin. All the CHWs dispense fansidar while health care facilities dispense chloroquin which many people including children have developed resistance to.

80/297 (26.9%) households had mosquito nets while only 20/79 (25.3%) of the mosquito nets had ever been treated but not necessarily since December 1998. And since December 1998 to the time of the survey, 10/80 (12.5%) of the mosquito nets had been treated. 64/300 (21.3%) of mothers and their children who are less than two months old sleep under mosquito nets.

### **Breastfeeding and Nutrition**

The KPC survey sought to establish the mothers' knowledge on the proper age when weaning should start. This was found to be 33.0% (98/297) compared to 28.6% at the baseline. 45.5% (135/297) of mothers recorded that weaning should occur between the 1 month and 4 months which compares to 52.5% at baseline. 20.9% (62/297) of mothers reporting weaning children at an age less than 1 month. In overall, there is a 4.4% increment in the appropriate knowledge on weaning practices. There was also a reduction of 7.0% in the proportion of mothers reporting inappropriate weaning practices (between 1 and 4 months) when compared to baseline results.

### **Diarrhoeal Disease**

In the question which sought to find out the proportion of mothers who could identify 2 key modes of prevention of diarrheal diseases, 197/300 (65.7%) of mothers indicated the use of

safe water as a means of preventing diarrheal diseases, 72/300(24%) of mothers indicated well cooked food as a way of preventing DD while only 56/300 (18.7%) of mothers reported exclusive breastfeeding as an important practice in preventing DD 11/37(29.7%) children less than 2 months old were exclusively breastfed while 45/263(17.1%) of children more than 2 months old were exclusively breastfed 104/299 (34.8%) of the children in the sample had diarrhea in the last two weeks and 89 (88.1%) mothers whose children had diarrhea during this period reported giving fluids to their children Out of this 89 mothers, 55(61.8%) of them reported giving same or more than usual amount of fluids during diarrhea episode On treatments used during the DD episode, 30/104(28.9%) used ORS Sachets, 11/104(10.6%) used SSS, 7/104(6.7%) used either porridge or tea 37/104(35.6%) of mothers reported using an anti-diarrhea medicine or antibiotic 63/100(63%) sought outside advice or treatments for their sick children 23/100(23%) took the child to health care facility, 30/100(30%) to the child to the CHW while the remaining 47/100(47%) of the mothers sought advice or treatments from TBAs, Traditional healers, chemists, friends and others Out of the mothers who sought treatment from the CHWs, 73% of them spent less than Kshs 100 while 75% of those who sought treatment from elsewhere spent less than Kshs 100 On recovery from illness, 67% of the children taken to CHWs had fully recovered while 56% of those who were taken to other health care providers had fully recovered The difference in recovery rate remains almost the same because CHWs do not provide any therapy for the management of diarrhea They only provide ORS which is not a medication for diarrhea but just for supportive purposes

50/104(48.1%) of mothers whose children had diarrhea two week prior to the survey, recognized diarrhea continuing without improvement as a serious sign of dehydration that requires referral a qualified health provider 27/104(26.0%) of mothers reported drowsiness and or weakness, 16/104(15.4%) mothers reported child refusing to eat and 15/104(14.4%) mothers reported sunken eyes as important signs of diarrhea that require referral to a qualified health provider Excessive thirst(dry mouth), loose skin, decreased urine, blood in stool and sunken fontanelle were all rated below 6.7% by the mothers

On the question that specifically sought to know from the mothers what signs would make them seek treatment from the CHW, 175/300(58.3%) mothers reported diarrhea continuing without improvement, 125/300(41.7%) mothers reported drowsiness/weakness, 79/300(26.3%) mothers reported sunken eyes, and 31/300(10.3%) mothers reported loose skin Bloody diarrhea, refusal to eat, sunken fontanelle, excessive thirst and decreased urine were all rated below 9.3% each

In overall , out of the 104 children who had diarrhea two weeks prior to the survey, 52.9% (55/104) were given same or more of the breast milk during the DD episode, while 71.2%(74/104) of the children were given same or more fluids during the DD episode 39/104(37.5%) were put on Oral Rehydration Therapy while 26.9%(28/104) of the children were given same or more solids during the diarrhea episode

## **RESPIRATORY ILLNESSES - ARI**

The point prevalence rate for ARI for the last two weeks prior to the date of survey was found to be 160/295(54.2%) while the point prevalence rate for ALRI was found to be 55.6%(89/160) for the two weeks prior to survey In overall 25.8% (23/89) of the children who had ALRI were taken to health care provider (hospital or CHW) within 24 hours 56/89(63%) of the children were taken to health care facility when they had ALRI 22.5%(20/89) of the children were taken to CHW when they had ALRI Out of the mothers who sought treatment from the CHWs when their children had ALRI, 50% of them did so

within 24 hours, while those who sought treatment from other health care providers, 26% of them did so within 24 hours. The availability and increased accessibility to CHWs even at night in the community contributes to this. Out of the children who were taken to CHWs when they had ALRI, 59% had fully recovered while 43% of those who were taken to other health care providers had fully recovered. This significant difference in recovery rates indicates how effective Septrin is in managing ALRI related conditions than other medications being dispensed by the other health care providers.

On the question which sought to find out what are all actions a mother should take when a child has rapid or difficult breathing, 228/300(76.0%) mothers reported taking the child to a health care facility, 120/300(40.0%) mothers reported taking the child to a CHW while 31/300(10.3%) mothers reported going to the chemist to buy drugs for the child. 45/300(15%) mothers reported others different actions that they could take, while TBA, Traditional healers, and friends were all rated below 4.3%. 243/295(82.4%) mothers reported that they would seek treatment for their children suffering from rapid or difficult breathing within 24 hours irrespective of whether the treatment is being sought from health care facility, CHW, TBA, Traditional healers or friends. The results on knowledge of the mothers contradict the reported practice by the mothers when their children had ALRI.

### **IMMUNIZATION**

Most mothers 166/282(58.9%) produced EPI cards for their children. From the EPI cards for mothers of children 12-23 months old, DPT1 card coverage was 87.3%(55/63), DPT2 card coverage was 88.9%(56/63), DPT3 card coverage was 84.1%(53/63) while card coverage for Measles was found to be 58.7%(37/63). This represents a DPT1 - Measles drop out rate of  $(DPT1 - Measles) / DPT1 * 100 = 32.7\%$ . Drop out rate for DPT1-DPT3/DPT1 \* 100 = 3.6%

### **MATERNAL CARE**

A total of 77/297 (25.9%) mothers had TT cards available, 61.3% of mothers had lost their cards while 12.8% of mothers never had one. 92.2%(71/77) mothers had received at least one TT according to card while 98.7%(76/77) mothers received at least one TT either by card or history. One hundred and eighty out of 269 (66.9%) mothers excluding those who were pregnant in the sample did not want to have a child in the next two years. Of those mothers who did not want to have a child, 15.8%(42/266) are using some family planning method to avoid and or postpone pregnancy. Among the most commonly used modern family planning method amongst the interviewed mothers were pill(19/33)57.6% and injection(11/33)33.3%. TL and Norplant were rated 6.1% and 3.0% respectively.

### **HIV/AIDS**

Most mothers 254/300(84.7%) reported sex as a way through which AIDS is transmitted, 90/300(30%) reported skin piercing by unsterile instruments as another way through which AIDS is transmitted. On the question which sought to find out what the mothers were doing to prevent themselves from getting AIDS, 185/300(61.7%) reported staying with one partner (Zero grazing), while 61/300(20.3%) indicated use of condom as ways through which they prevent themselves from getting AIDS. 55/300(18.3%) of mother reported avoiding skin piercing by unsterile instruments. Abstinence, avoiding unscreened blood, having reduced number of partners and STD treatment were all rated below 11.3% by the respondents.

## **COMMUNITY PARTICIPATION**

One hundred and forty six mothers were involved in atleast one community groupings with most of them 89/132(67.4%) participating in Women Groups activities Church Groupings constituted 20.5%(27/132) of the total while PHC Groupings represented 8.3%(11/132)

## **STD AND SEX RELATED PRACTICES**

The information on the questions from this section were collected through the Envelope System, whereby the literate and able to read and write respondents were given questionnaires already enclosed in envelopes. They were expected to read the questions, respond to them voluntarily and then seal the questionnaire in the envelope. For the respondents who were illiterate, the interviewers asked these questions directly after assuring the respondents on the high level of confidentiality being maintained. 21/294(7.1%) of the mothers indicated that they had had STD within the last one year. When cross-tabulated with the duration within which treatment was sought, 10/19(52.6%) sought treatment within one month while 4/19(21.1%) sought treatment after a period of more than one month. 5/19(26.3%) of those who reported having had STD either never sought treatment or did not know after how long they did seek treatment. 13/295(4.4%) indicated that during the last one month, they had sex with someone other than their husbands or regular partner. Only 5/12 (41.7%) used some type of protection during intercourse with non-regular partner.

## **EDUCATION AND LITERACY**

The survey results indicate that 219/300(73.0%) of the mothers who participated in the survey were literate. 57.9%(173/299) of them spent between 5 to 8 years in school, 13.0%(39/299) spent between 1 to 4 years in school. 10.7%(32/299) spent between 9 to 12 years in school. Most mothers 234/298(78.5%) were living with their husbands as at the time of survey.

## **KEY NOTES ON THE SPECIFIC SURVEY RESULTS**

- 1 From the survey results, more children were put on chloroquin 44/149 than Fansidar 15/149. Despite the project's efforts in actively promoting the use of Fansidar, lack of IEC materials to reinforce could have contributed to this. Secondly, the MOH policy for the use of Fansidar as a front line in the management of malaria was just recently approved. Before this policy came into force, chloroquin was much more accessible through the MOH health care facilities. During the malaria episode, more children were taken to health care facilities as compared to those taken to the project's CHWs.
- 2 Compared to the baseline, there was a slight increase in the number of households with mosquito nets. The number of nets being treated (retreated) remains low due to lack of sensitization of the community members on the costs versus benefits of redipping. Another reason is that communities are not very comfortable in mass dipping of nets so promotion of single net dipping is being done.
- 3 There is generally an increase in knowledge amongst the mothers on the appropriate weaning practices. There is also a reduction in the inappropriate weaning practices. The knowledge on appropriate weaning practices could have increased if the CHWs and VHCs had IEC materials to back-up their promotion activities.
- 4 The use of Safe Water as a way of preventing DD has considerably increased amongst the mothers compared to baseline results. Though there was an increase in point prevalence of DD episode in the last two weeks prior to survey, it is known that the prevalence of DD is

seasonally characterized 30% of the children who had diarrhea were taken to CHW in the last two weeks as compared to only 16% of children who had malaria that sought treatment from the CHWs

- 5 The achievements realised in the FP/HIV/AIDS/STI component of the project resulted from the referrals made by the project CHWs to Diocese of Maseno West, MOH and Maendeleo Ya Wanawake CBRHSPs The project had not started active interventions on this particular area
- 6 The increase in percentage of mothers who seek treatment for their children with cough and difficult breathing within 24 hours is the effect of the health messages which the CHWs are giving on pneumonia because before many mothers were not associating cough and difficult breathing with pneumonia
- 7 Increase in number of households with mosquito nets is due to the advocacy for the use for their use as the most cost effective way of malaria prevention It is important to note here that the increase in the number of households using mosquito nets is below what the target was The same is realized in the indicators on the management of children during diarrhoeal episodes The proportion of mothers reporting the use of ORT and the giving same or more of solids and semi-solid foods during the diarrhoeal episodes dropped when compared to baseline findings This is attributed to lack of IEC materials that could back-up the health talks given by the CHWs

**PRESENTATION OF BASELINE, FINAL KPC, SET TARGETS AND VARIANCE FROM TARGETS**

**ARI INDICATORS**

INDICATORS	BASELINE %	FINAL KPC %	SET TARGETS %	PROJECT ACHIEVEMENT %
1 % of mothers who recognize rapid breathing as a sign of pneumonia in a child with cough or difficult breathing (Knowledge Indicator Question 32 CHW)	4	40	60	-20
1 % of mothers who recognize rapid breathing as a sign of pneumonia in a child with cough or difficult breathing (Knowledge Indicator Question 32 Hospital)	86	76	60	16%
2 % of children who were taken to health care facility when they had ALRI	69	63		
3 % of mothers who seek medical Rx for children with rapid and difficult breathing within 24 hours of noticing it	23	26	63	3%
4 % of children who were taken to health care facility with rapid and difficult breathing, who had recovered fully		43		
5 % of children with ALRI who are taken to CHWs	0	23		23%
6 % of children with ALRI who were taken to CHWs within 24 hours		11		
7 % of children with ALRI who were taken to CHWs with rapid and difficult breathing, who had recovered fully		50		

**MALARIA INDICATORS**

1 % of households with mosquito nets	19	27	40	8%
2 % of households with treated mosquito nets		25		
3 % of households with mosquito nets		13		

treated since December 1998				
4 % of mothers and children less than 2 months sleeping under a mosquito net	17	21	40	4%
5 % of women who took fansidar during their last pregnancy		40		
6 % of women who correctly took malaria chemoprophylaxis during their last pregnancy	1	15	40	14%
7 % of mothers who consulted a CHW when child had malaria		16		
8 % of mothers who seek appropriate Rx within 24 hours of their child's uncomplicated malaria from CHWs	5	8	75	11%
<b>BREAST FEEDING , DIARRHEA</b>				
1 % of infants less than 2 months exclusively breast feeding	1	30	15	29%
2 % of infants <24 months with diarrhea in the last two weeks who were given the same amount or more of breast milk	50	53	80	3%
3 % of infants <24 months with diarrhea who were given the same amount or more of fluids other than breast milk	53	71	80	18%
4 % of infants <24 months with diarrhea in the last two weeks who were treated with ORT	44	38	60	-6%
5 % of infants <24 months with diarrhea in the last two weeks who were given the same amount or more of solid or semi-solid foods	30	27	75	-3%
<b>IMMUNIZATION</b>				
1 % of children 12 -23months with DPT1	62	87	80	25%
2 % of children 12 – 23 months with DPT3	57	84	70	27%
3 % of children 12 – 23 months with measles immunization	41	59	70	18%

4 Drop out rate for DPT1- DPT3		<3 6		-20
5 % of women bearing a child receiving at least 1 dose of TT during the most recent pregnancy	86	99	90	13%
<b>REPRODUCTIVE HEALTH</b>				
1 % of women using modern contraceptives	14	16	31	2%
2 % Of population 15 –49 years of age who report not having had a sex partner other than a regular sex partner in the last 3 months		4		
3 % of population 15 – 49 who report the use of a condom during the most recent sexual intercourse with a non-regular sex partner		42		