



INTERNATIONAL RESCUE COMMITTEE (IRC)

CHILD SURVIVAL GRANT KONO DISTRICT SIERRA LEONE

Cooperative Agreement #GHS-AA-00-03-00012-00

October 2003 – October 2008

DETAILED IMPLEMENTATION PLAN

This draft submitted to USAID Bureau for Global Health, Office of Health, Infectious Disease and Nutrition, USAID/GH/HIDN, June 30, 2004

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LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|-----------------|--|
| AIDS | Acquired Immune Deficiency Syndrome |
| ACT | Artesunate-containing treatments |
| ARI | Acute Respiratory Infection |
| BCC | Behavior Change Communication |
| BFV | Blue Flag Volunteer |
| CARE | Cooperative for Assistance and Relief Everywhere, Inc. |
| Chiefdom | Third level administrative unit in Sierra Leone, under the District |
| CBO | Community Based Organization |
| CHW | Community Health Worker (include TBA, VHC, BFV, etc.) |
| C-IMCI | Community-Based Integrated Management of Childhood Illnesses |
| CM | Case Management |
| CS | Child Survival |
| CSSA | Child Survival Sustainability Assessment |
| CSTS+ | Child Survival Technical Support |
| DHMT | District Health Management Team |
| DHO | District Health Office |
| DIP | Detailed Implementation Plan |
| District | Second level administrative unit in Sierra Leone, under the Region and above the Chiefdom |
| DMO | District Medical Officer, in charge of DHO |
| DTP | Diphtheria, Tetanus, Pertussis |
| HF | Health Facilities Training |
| HMIS | Health Management Information Systems |
| HIV | Human Immune Deficiency Virus |
| HQ | Headquarters |
| IDP | Internally Displaced Persons |
| IEC | Information Education and Communication |
| IMCI | Integrated Management of Childhood Illnesses |
| IRC | International Rescue Committee |
| ITN | Insecticide Treated Mosquito Net |
| KAP | Knowledge, Attitude and Practice |
| KPC | Knowledge, Practice and Coverage |
| LQAS | Lot Quality Assurance Sampling |
| M&E | Monitoring and Evaluation |
| MNC | Maternal and Newborn Care |
| MOHS | Ministry of Health and Sanitation, Government of Sierra Leone |
| NGO | Non-Governmental Organization |
| OFDA | Office of Foreign Disaster Assistance |
| ORS | Oral Rehydration Solution |
| ORT | Oral Rehydration Therapy |
| PHU | Peripheral Health Unit |
| PVO | Private Voluntary Organization |
| QA | Quality Assurance |

| | |
|-------------------------|---|
| QOC | Quality of Care |
| Region | The largest administrative unit at the sub-national level; there are four regions in Sierra Leone. |
| Reproductive age | In this proposal, refers to women aged 15-49 years |
| TA | Technical Assistance |
| TBA | Traditional Birth Attendant |
| TT | Tetanus Toxoid |
| UNICEF | United Nations Children's Fund |
| USAID | United States Agency for International Development |
| VHC | Village Health Committee |
| WHO | World Health Organization |

LIST OF PARTICIPANTS IN THE DIP WRITING PROCESS

In Kono District

| | Title | Institution |
|----------------------|------------------------------------|-------------|
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| Amara S Mioba | District HIV/AIDS Focal Person | DHMT |
| Sister Mariama Momoh | District Health Sister (assistant) | DHMT |
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The IRC gratefully acknowledges the technical assistance from the Child Survival Technical Support project.

1. EXECUTIVE SUMMARY

The people of Sierra Leone have begun rebuilding their country, after ten years of a vicious war in which civilians were targeted and the infrastructure devastated. Kono district, on the country's Eastern border with Guinea, was at the epicenter of the conflict. Peace was formally declared in January 2002 after United Nations and British troops intervened. Since then, hundreds of thousands of refugees and internally displaced people have returned to Kono, to find their homes, schools, and most health clinics destroyed.

Sierra Leone has the highest child and maternal mortality in the world, with close to a third of children dying before their fifth birthday, and 1,800 mothers dying for every 100,000 live births. The situation is even worse in Kono, which had poor infrastructure before the war, and where nearly all curative and preventive health services were interrupted for the last few years. Malaria, diarrhea, and pneumonia are major causes of disease and death in the area. Coverage for most key preventive and curative services is very low. Very few women are literate.

Yet there is cause for optimism. The IRC and other organizations are working with the Ministry of Health and Sanitation (MoHS) to rebuild clinics in the District; twenty-two are operating in the program area. Returnees have benefited in the Guinea camps from education and other health services. Many mothers use ORS when their child has diarrhea. The MoHS is developing policies oriented towards empowering Community Health Workers. There is a large network of Traditional Birth Attendants, most of them trained. A number of community organizations are well-placed to promote community health.

The Child Survival program will focus on preventing deaths from malaria, diarrhea, pneumonia, and vaccine-preventable diseases, and on improving outcomes for mothers and newborns among the estimated 16,300 children under five years of age and 21,200 women of reproductive age in the program area. The program also has the potential to benefit some of the other 150,000 women and children in Kono District. To achieve its goal, the program will use three major inter-related strategies: **integrated management of childhood illnesses** at the community, and household level; **use of data from health information systems** to identify priorities and measure progress; and **use of quality assurance tools** to improve the quality of care and the performance of systems.

At the **District** level, the IRC will work to build the capacity of DHMT members to collect and manage information. DHMT members will gradually take over all aspects of the information system, and take the lead in organizing and motivating PHU staff.

At the **Primary Health Unit (PHU)** level, IRC and the District Team will work, through on-the-job training quality improvement, and other methods, to build the PHU staff's ability to deliver quality care and immunization and to support community health activities. PHU staff will participate in the information system, will participate in quality assurance processes, and will organize and supervise Community Health Workers in their catchment area.

At the **community** level, District and PHU staff, with IRC support, will work with local leaders, women's groups, and community health workers in each village to implement a community

health information system, to organize outreach immunization and prenatal clinics, to make vitamin A, iron, zinc, mosquito nets and ORS available, and to refine and disseminate a set of key health messages. Community Health Workers will provide basic services and report regularly; community groups and leaders will organize the community to support them.

Through all of its interventions, IRC will focus on building the capacity of its local partners to continue activities after the end of USAID funding. Progress towards sustainability will be measured through a series of indicators developed using the Child Survival Sustainability Assessment Tool.

The CS interventions, primary objectives, strategies, and estimated proportion of effort are shown in the following table:

| Goal: Sustainable reduction in child and maternal mortality in twenty-two health facility catchment areas | | |
|--|---------------------|--|
| CS Intervention | Total effort | Main Objectives |
| Immunization | 20 % | Increased % of completely immunized children |
| | | Increased % of children receiving vitamin A |
| Control of diarrheal diseases | 20 % | Increased hand-washing with soap |
| Pneumonia case management | 15 % | Improved recognition of danger signs |
| Control of malaria | 25 % | Increased use of bednets for children |
| | | Increased treatment for pregnant women |
| Maternal and Newborn Health | 20 % | Increased % of women receiving TT vaccine |
| | | Increased % of women experiencing obstetric complications who receive skilled care |

The program will begin October 1, 2003 and end on September 30, 2008. It has a budget of \$1,955,921, including \$1,456,795 of CSHGP funding under the standard category.

IRC has discussed this program with Kathy Jacquart, the USAID Health Officer responsible for Sierra Leone; Julie Koenen-Grant, the USAID representative in Sierra Leone; and Edward Benya, the Team Leader directly responsible for oversight of this program at USAID in Freetown.

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2. CSHGP DATA FORM

Child Survival Grants Program Project Summary

DIP Submission: Jun-14-2004

IRC Sierra Leone

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Project Information:

Project Description:

The people of Sierra Leone have begun rebuilding their country, after ten years of a vicious war in which civilians were targeted and the infrastructure devastated. Kono district, on the country's Eastern border with Guinea, was at the epicenter of the conflict. Peace was formally declared in January 2002 after United Nations and British troops intervened. Since then, hundreds of thousands of refugees and internally displaced people have returned to Kono, to find their homes, schools, and most health clinics destroyed. Sierra Leone has the highest child and maternal mortality in the world, with close to a third of children dying before their fifth birthday, and 1,800 mothers dying for every 100,000 live births. The situation is even worse in Kono, which had poor infrastructure before the war, and where nearly all curative and preventive health services were interrupted for the last few years. Malaria, diarrhea, and pneumonia are major causes of disease and death in the area. Coverage for most key preventive and curative services is very low. Very few women are literate. Yet there is cause for optimism. The IRC and other organizations are working with the Ministry of Health and Sanitation (MoHS) to rebuild clinics in the District; twenty-two are operating in the program area. Returnees have benefited in the Guinea camps from education and other health services. Many mothers use ORS when their child has diarrhea. The MoHS is developing policies oriented towards empowering Community Health Workers. There is a large network of Traditional Birth Attendants, most of them trained. A number of community organizations are well-placed to promote community health. The Child Survival program will focus on preventing deaths from malaria, diarrhea, pneumonia, and vaccine-preventable diseases, and on improving outcomes for mothers and newborns among the estimated 16,300 children under five years of age and 21,200 women of reproductive age in the program area. The program also has the potential to benefit some of the other 150,000 women and children in Kono District. To achieve its goal, the

| | |
|--------------------------|---|
| | <p>illnesses at the community, and household level; use of data from health information systems to identify priorities and measure progress; and use of quality assurance tools to improve the quality of care and the performance of systems. At the District level, the IRC will work to build the capacity of DHMT members to collect and manage information. DHMT members will gradually take over all aspects of the information system, and take the lead in organizing and motivating PHU staff. At the Primary Health Unit (PHU) level, IRC and the District Team will work, through on-the-job training quality improvement, and other methods, to build the PHU staff's ability to deliver quality care and immunization and to support community health activities. PHU staff will participate in the information system, will participate in quality assurance processes, and will organize and supervise Community Health Workers in their catchment area. At the community level, District and PHU staff, with IRC support, will work with local leaders, women's groups, and community health workers in each village to implement a community health information system, to organize outreach immunization and prenatal clinics, to make vitamin A, iron, zinc, mosquito nets and ORS available, and to refine and disseminate a set of key health messages. Community Health Workers will provide basic services and report regularly; community groups and leaders will organize the community to support them. Through all of its interventions, IRC will focus on building the capacity of its local partners to continue activities after the end of USAID funding. Progress towards sustainability will be measured through a series of indicators developed using the Child Survival Sustainability Assessment Tool.</p> |
| Partners: | District Health Management Team, Village Development Committees, CARE, International World Vision, UNICEF |
| Project Location: | Kono District, Eastern Province, Sierra Leone |

Grant Funding Information:

| | | | |
|------------------------------|-------------|--------------------------|-----------|
| USAID Funding:(US \$) | \$1,456,795 | PVO match:(US \$) | \$478,795 |
|------------------------------|-------------|--------------------------|-----------|

Target Beneficiaries:

| Type | Number |
|------------------------------------|--------|
| Infants (0-11 months): | 3,500 |
| 12-23 month old children: | 3,300 |
| 24-59 month old children: | 9,500 |
| 0-59 month old children: | 16,300 |
| Women 15-49: | 21,200 |
| Estimated Number of Births: | 4,300 |

Beneficiary Residence:

| Urban/Peri-Urban % | Rural % |
|--------------------|---------|
| 5% | 95% |

General Strategies Planned:

- Advocacy on Health Policy
- Strengthen Decentralized Health System
- Information System Technologies
- M&E Assessment Strategies:
- KPC Survey
- Health Facility Assessment
- Organizational Capacity Assessment with Local Partners
- Participatory Learning in Action
- Lot Quality Assurance Sampling

Appreciative Inquiry-based Strategy
 Community-based Monitoring Techniques
 Participatory Evaluation Techniques (for mid-term or final evaluation)
 Behavior Change & Communication (BCC) Strategies:
 Mass Media
 Interpersonal Communication
 Peer Communication
 Support Groups
 Capacity Building Targets Planned:

| PVO | Non-Govt Partners | Other Private Sector | Govt | Community |
|---|--------------------------|-----------------------------|--|--------------------|
| US HQ (General) US HQ (CS unit) Field Office HQ | PVOs (Int'l./US) | (None Selected) | National MOH Dist. Health System Health Facility Staff | Other CBOs CHWs |

Interventions:

| |
|---|
| Immunizations 20 % |
| ** IMCI Integration |
| ** CHW Training |
| ** HF Training |
| *** Classic 6 Vaccines |
| *** Vitamin A |
| *** Surveillance |
| *** Cold Chain Strengthening |
| *** Injection Safety |
| |
| ** IMCI Integration |
| ** CHW Training |
| ** HF Training |
| |
| ** CHW Training |
| ** HF Training |
| Acute Respiratory Infection 15 % |
| ** IMCI Integration |
| ** CHW Training |
| ** HF Training |
| *** Pneum. Case Mngmnt. |
| *** Recognition of ARI Danger Signs |
| Control of Diarrheal Diseases 20 % |
| ** IMCI Integration |
| ** CHW Training |
| ** HF Training |

| |
|---|
| *** Water/Sanitation |
| *** Hand Washing |
| *** ORS/Home Fluids |
| *** Feeding/Breastfeeding |
| *** Care Seeking |
| *** Case Mngmnt./Counseling |
| Malaria 25 % |
| ** IMCI Integration |
| ** CHW Training |
| ** HF Training |
| *** Training in Malaria CM |
| *** Adequate Supply of Malarial Drug |
| *** Access to providers and drugs |
| *** Antenatal Prevention Treatment |
| *** ITN (Bednets) |
| *** Care Seeking, Recog., Compliance |
| Maternal & Newborn Care 20 % |
| ** IMCI Integration |
| ** CHW Training |
| ** HF Training |
| *** Emerg. Obstet. Care |
| *** Neonatal Tetanus |
| *** Recog. of Danger signs |
| *** Newborn Care |
| *** Post partum Care |
| *** Integr. with Iron & Folate |
| *** Normal Delivery Care |
| *** Birth Plans |
| *** STI Treat. with Antenat. Visit |
| |
| ** IMCI Integration |
| ** CHW Training |

| Indicator | Numerator | Denominator | Estimated Percentage | Confidence line |
|---|-----------|-------------|----------------------|-----------------|
| Percentage of children age 0-23 months who are underweight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population) | 29 | 188 | 15.4 | 5.4 |
| Percentage of children age 0-23 months who were born at | 168 | 189 | 88.9 | 4.8 |

| | | | | |
|---|----|-----|------|------|
| least 24 months after the previous surviving child | | | | |
| Percentage of children age 0-23 months whose births were attended by skilled health personnel | 23 | 95 | 24.2 | 9.1 |
| Percentage of mothers of children age 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child | 37 | 95 | 38.9 | 10.2 |
| Percentage of infants age 0-5 months who were exclusively breastfed in the last 24 hours | 7 | 50 | 14.0 | 10.5 |
| Percentage of infants age 6-9 months receiving breast milk and complementary foods | 28 | 37 | 75.7 | 14.7 |
| Percentage of children age 12-23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday | 25 | 95 | 26.3 | 9.3 |
| Percentage of children age 12-23 months who received a measles vaccine | 32 | 95 | 33.7 | 9.9 |
| Percentage of children age 0-23 months who slept under an insecticide-treated bednet the previous night (in malaria-risk areas only) | 1 | 190 | 0.5 | 1.5 |
| Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment | 26 | 95 | 27.4 | 9.4 |
| Percentage of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks | 15 | 115 | 13.0 | 6.6 |
| Percentage of mothers of children age 0-23 months who cite at least two known ways of reducing the risk of HIV infection | 15 | 115 | 13.0 | 6.6 |
| Percentage of mothers of children age 0-23 months who wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated | 8 | 190 | 4.2 | 3.2 |

Comments

We did parallel sampling using LQAS. Confidence intervals were calculated using EPI info. TT, delivery assistance, and danger signs: asked only of mothers of children age 0-11 m. Vaccination and HIV: asked only of mothers of children age 12-23 m.

3. DESCRIPTION OF THE DIP PREPARATION PROCESS

The following steps were taken to prepare the Detailed Implementation Plan:

- A baseline survey was conducted in February 2004 by the IRC Child Survival staff and its MoHS partners, including DHMT members and PHU managers. The DHMT was involved at every step of the survey, from questionnaire design to final tabulation. The NY-based Technical Advisor arrived after the survey to assist with data entry and computer analysis of survey results.
- The survey team manually tabulated the results the day after the survey, and spent two days reviewing and discussing the information. This constituted an important first step in DIP preparation.
- On March 9, a team from IRC and from the DHMT met to discuss the sustainability planning process, and began drafting a sustainability vision.
- On March 11, the team traveled to Koinadugu District to meet with their counterparts from the CARE-supported Child Survival Program, and to draft a joint vision statement.
- From March 24 to March 26, the IRC and CARE Program Managers, along with the CARE Technical Advisor and a consultant from CSTS+, planned and prepared for a sustainability workshop.
- The workshop was held from March 29 to 31. Details of the output are included in the sustainability section of this document. The workshop was attended by all the IRC Child Survival staff, as well as by a partner from the DHMT and the IRC Technical Advisor.
- The Technical Advisor then stayed with the field-based Program Manager, and was later joined by the NY-based Program Manager. They worked with the field staff to draft a written summary of the baseline assessments. They then worked with the staff and with DHMT members to outline plans for each intervention, based on the assessments. The input from the DHMT was mostly solicited during informal, smaller meetings, and during a long meeting on April 13.
- After the departure of the Technical Advisor and NY-based Program Manager, major writing began on the DIP. Drafts were exchanged by email, and comments solicited by email and phone.
- The total period of DIP preparation was about nine weeks, from tabulation and analysis of the KPC findings to final drafting.

4. REVISIONS FROM ORIGINAL PROPOSAL

There were a number of changes from the original proposal, to reflect changing conditions and the increasing familiarity of the IRC with its partners and with the situation in Kono. However, the major elements of the proposal have remained the same, including:

- Program site
- Partners
- Choice of interventions
- Major strategies, such as use of quality assurance, the use of health information to improve decision-making, and community Integrated Management of Childhood Illness.

Some changes include:

Number of beneficiaries

A village-by-village census done to prepare for the KPC survey revealed that the population in the program area was approximately 46,000, rather than the 100,000 estimated during proposal development. The IRC has addressed this discrepancy by working with the DHMT to add more health facilities to the program's catchment area. The District Medical Officer has accepted this solution and assigned nine more PHUs to the Child Survival Program.

The IRC will begin work in the thirteen PHUs mentioned in the original proposal. The other nine PHUs will be added around the time of the mid-term. The original program area will act essentially as a pilot site. Also, the KPC survey will continue to use the same program area, so that subsequent surveys can be compared to the original. Program data from the facility and community reports will be used to insure that the areas added later are also progressing. The field team may also decide to do a second KPC survey in the new area.

Objectives

- The number of major objectives has been reduced from 10 to 8.
- Seven objectives were kept
- Two objectives were removed. They include:
 - An objective to increase the proportion of children who receive oral rehydration fluids during episodes of diarrhea. This proportion is already high at baseline. The program will work to maintain and further increase this proportion, but it will no longer be listed as a priority objective.
 - An objective to increase the proportion of mothers who receive a post-natal visit. The proportion is already relatively high. However, most of those visits did not include key actions, such as checking the mother for anemia and checking the newborn's respiratory status or weight. The program will thus now focus on increasing the proportion of women and children who have key actions taken in the week after birth.
 - One objective was changed. Originally, the second maternal and newborn care objective referred to improving the proportion of women with access

to skilled care. However, analysis of the baseline data showed that socio-economic status played a much bigger role than complication in accessing skilled care. The program will thus focus on getting women with complications to skilled care in time, and the objective was revised accordingly.

- Strategies and activities:
 - The program's other objectives, strategies and activities have been revised as new data became available, a new Program Manager and staff came on board, and the new team worked more closely with the DHMT. However, the substance of the activities, and the general strategies, are mostly the same.

5. DETAILED IMPLEMENTATION PLAN

Summary of Baseline and Other Assessments

Sources of Information

- **KPC using LQAS methodology** in February 2004. There were 5 supervision areas and 190 respondents.
- **Population census for each village** in January 2004.
- **Review of data from health center reports** in April 2004.
- **Health facility assessment** in March 2004. Staff visited each of the 13 peripheral health facilities in the program's original work area and filled out a standard questionnaire.
- **Mortality survey** in April 2004 to serve as a baseline for all of IRC's health interventions for the next few years. The survey included 450 households in 30 clusters and covered the original work area.
- **Knowledge, attitudes, and practice survey** conducted in May 2003 by the staff of IRC's clinic support program in Kono. The survey included 900 respondents sampled through thirty clusters, including 444 women and 456 men.

Summary of Major findings

- **Extremely high childhood mortality** with an estimated one-third of children dying before their fifth birthday.
- **Malaria, pneumonia, and diarrhea** are the chief causes of morbidity. Febrile illnesses – most of which are presumed to be malaria– accounts for over half of all deaths. **Vaccine-preventable illnesses** such as measles and tetanus are also common causes of death, as are diarrheal and respiratory illnesses.
- **Malnutrition prevalence is moderate** with 15% of children under 2 underweight.
- **Utilization of curative health services is low**, due to a variety of factors including cost-recovery and staff absences.
- **There is low use of skilled obstetric care** at 24%, although use of trained traditional birth attendants is very high at 57%. Socio-economic status, and not actual need during delivery, seems to be the biggest determinant of who uses skilled care.
- **Coverage is low for key preventive services** including immunization, vitamin A supplementation, preventive malaria treatment and iron supplementation during pregnancy.
- **The prevalence of some key household practices is relatively high** including ORS use and hand-washing with soap, although there is room to improve.
- **The prevalence of other key household practices is very low** including treated bednets, use of clean latrines, exclusive breast-feeding, and immediate breast-feeding after birth
- **Knowledge of key obstetric and pediatric danger signs was very low**

Major findings

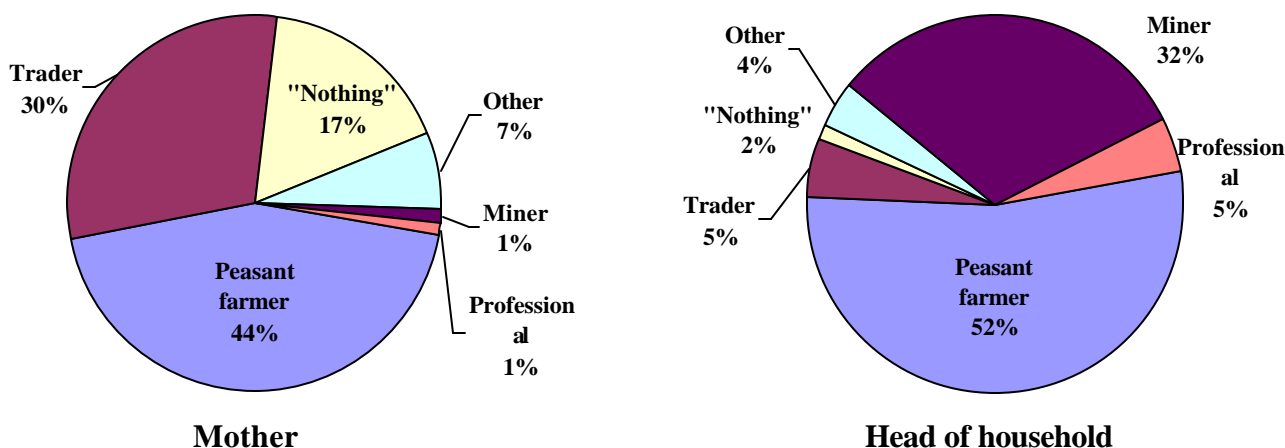
Socio-Demographic Data

Literacy among women is very low. Only 8% of mothers in the KPC survey said they could read and write. Staff and partners attribute this to the breakdown of the educational system during a decade of war, but also to the poor state of this system in eastern Sierra Leone before

the war. Literacy was highest among mothers less than 20 years old, at 21%. This is probably due to education programs in refugee camps in Guinea, where many of Kono’s current inhabitants lived before returning in the last year.

Occupation The most common occupation in the program area is peasant farming, for both women and men (the vast majority of heads of household are men). Trading was the next most common occupation for women, whereas for men it was mining. The program area covers most of Kono’s diamond mining zone, and program staff believe that the proportion of household heads who are miners may in fact be much higher—some women may be reluctant to reveal that their husbands are miners, because of security concerns. More than 60% of women who reported doing “nothing” lived in households headed by a miner. One possible explanation is that mining families have more disposable income, allowing women to give up farming.

Chart 1: occupation of mother and head of household



Please note that all Charts and data are from the 2004 KPC unless otherwise noted.

Gender Battery appears to be common: according to the 2003 KAP, 35% of women reported being beaten. Half (53%) of women and two-thirds (68%) of men said there are occasions on which beating one’s wife is justified. A quarter of men reported being polygamous; interestingly, there was no difference in the prevalence of polygamy between Muslim and Christian men.

Religion According to the 2003 KAP, Islam is the most common religion in Kono, practiced by 53% of respondents, with another 46% practicing Christianity.

Mortality

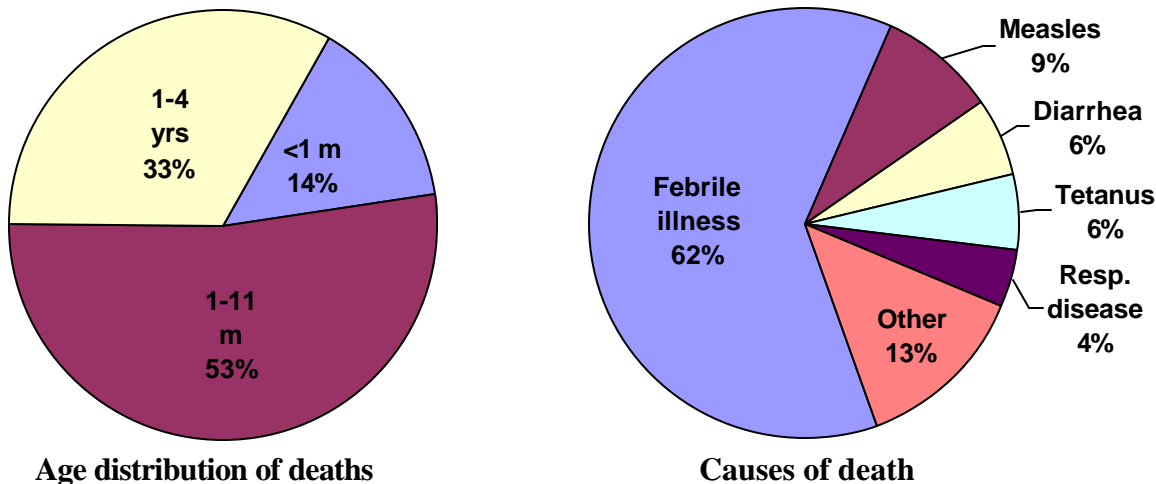
A mortality survey conducted in April and May 2004 in part of the program area (the area served by the thirteen health centers described in the original application) showed a high overall crude mortality rate, and a particularly high crude mortality rate for children under 5:

- There were 120 deaths recorded, of which 69 (58%) were in children under 5, for a population of 3,489 people including 685 children under 5 (20% of the total).
- The overall crude mortality rate was 2.2 deaths/ 1,000 people/ mo (95% C.I., 1.7-2.7). The baseline for sub-Saharan Africa as a whole is estimated at 1.3 deaths/ 1,000 people/ month.
- The crude mortality rate for children under 5 was **6.0 deaths/ 1,000 children/ month** (95% C.I., 3.0-9.0). The baseline for sub-Saharan Africa –already the highest in the world– is 3.4 deaths/ 1,000 children/ month, and the emergency threshold is 6.9 deaths/ 1,000 people/ month.

This mortality rate translated, means than an estimated **303 children out of 1,000 do not reach their fifth birthday**. This is slightly higher than the figure cited by UNICEF for Sierra Leone as a whole (284 deaths/ 1,000 live births), and it is close to the threshold for a humanitarian emergency. This situation, however, is the “baseline” state of affairs, the result of a highly malarious environment, as well as decades of war and underdevelopment.

The age distribution of the deaths is similar to that seen all over sub-Saharan Africa: two-thirds of deaths are in the first year of life, with one in seven deaths occurring in the very first month of life. Febrile illness without localizing symptoms accounted for three in five deaths. Nearly one quarter of those deaths due to febrile illness (10 out of 43) were associated with convulsions, suggestive of cerebral malaria, although meningitis cannot be ruled out. Vaccine-preventable illnesses also took a heavy toll, accounting for one in seven deaths.

Chart 2: Age and causes of deaths in the Kono program area, for children under 5 yrs



Morbidity

Table 1: Major causes of morbidity, according to reports and surveys.

| Main outpatient diagnosis (Source: facility reports 2003) | % of children with this symptom in the last 2 weeks, according to their mother (source: KPC 2004) | | |
|--|---|---------------------|--------------|
| | | % 0 to 11 m | % 12 to 23 m |
| For children < 5 | % | | |
| Malaria | 50% | Fever | 41% |
| ARI/Pneumonia | 19% | Respiratory illness | 16% |
| Diarrheal diseases | 9% | Diarrhea | 17% |
| Malnutrition | 1% | | |
| Other diagnoses | 21% | | |

The rates above confirm that malaria, pneumonia, and diarrhea are common childhood illnesses in Kono as elsewhere in sub-Saharan Africa. Malaria imposes a particular high burden in this area of high temperatures and abundant rainfall.

Utilization of curative services

The utilization rates in Kono for health facilities have been below the usual benchmark of 0.5 visits / child / year for the last few month. Utilization rates began a steep fall at the end of 2003 (see graph below) as cost-recovery was implemented, and as IRC staff progressively stopped filling in during the absences of clinic workers. Frequent absence of staff from peripheral health units is a problem, and a major factor affecting utilization, according to IRC and DHMT staff. It is clear, however, that implementation of cost-recovery also has a significant impact on utilization. Utilization rates are higher for children under 5 than for older children and adults, appropriately given the higher burden of disease for that age group. Among adults and older children, females consult more often (36% more often in this case), as is seen in most sub-Saharan African countries.

Chart 3: utilization rates for children < 5, IRC-supported PHUs, 2003-2004

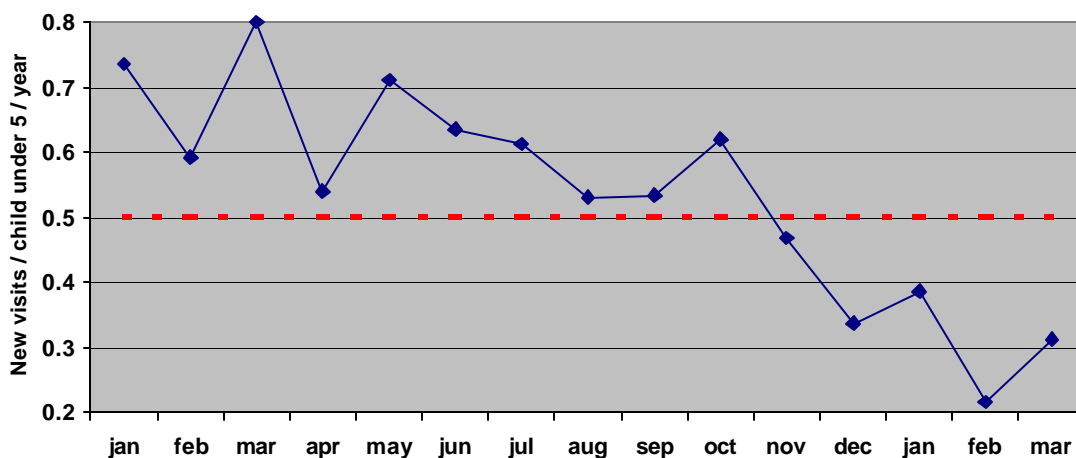
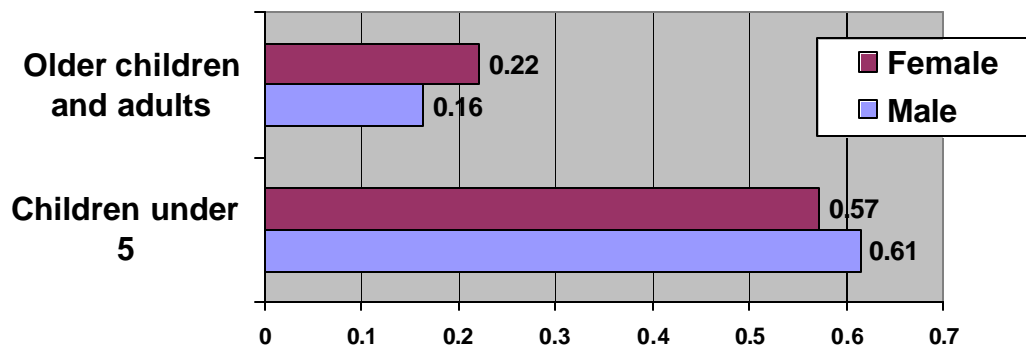


Chart 4: utilization rates for 2003, by subgroup



Immunization

Immunization coverage is low, as the table and Chart below indicates. The patterns above suggests a number of different causes for the low coverage:

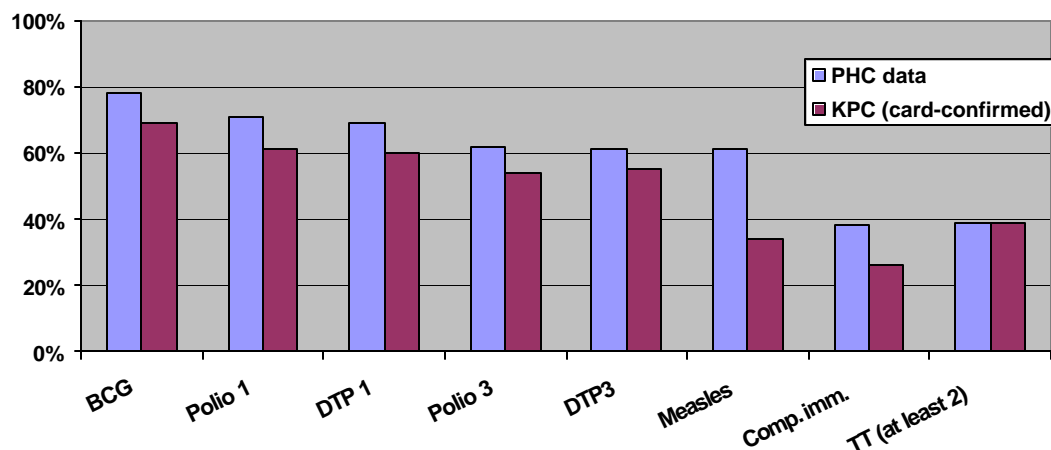
- More than 20% of children never have an initial contact, suggesting that some **villages may not be reached by current outreach routes**. This problem could also be due to **caregivers that are not informed or motivated** to vaccinate their children.
- Almost 30% of measles immunizations are given at 12 months of age or later, suggesting that **inadequate frequency of outreach may be a major problem as well**. Measles vaccine has a short window of correct administration (3 months), so that measles coverage is vulnerable when immunization sessions are not frequent enough.
- Some **immunizations are not properly recorded**, particularly during campaigns.
- There is relatively little drop-off between DTP1 and DTP3, suggesting that, once informed and reached, mothers follow through.

Differences in coverage between different health facility catchment areas are hard to assess, because the demarcation between areas has changed during the past year.

Table 2: Children correctly immunized before 12 months of age

| | KPC (card) | Facility reports |
|----------------------|------------|------------------|
| BCG | 69% | 78% |
| DTP1 / Polio 1 | 60% / 61% | 69% / 71% |
| DTP3 / Polio 3 | 55% / 54% | 61% / 62% |
| Measles | 34% | 61% |
| Completely immunized | 26% | 38% |
| TT (at least 2) | 39% | 39% |

Chart 5: Children correctly immunized before 12 months, program data vs. KPC



Accuracy of the data There is good concordance between KPC facility data for most antigens. KPC data coverage is 6 to 9% lower than that reported by facilities, most likely due to card loss or unavailability (5% of mothers interviewed for the KPC had a card but could not produce it for the interviewer). Also, computer analysis of the KPC data excluded a few children because intervals were too short (e.g. DTP3 too close to DTP2). In contrast, there was a large difference for measles immunization: KPC coverage is 27% lower. The “extra” 20% or so loss may be due in part to early immunizations (measles vaccine given before 9 months of age, 9% of all children), and to measles mini-campaigns. Children immunized during these campaigns are tabulated in facility reports, but the immunization is often not recorded on their individual cards.

Cold chain and equipment overall is decent but could be improved. Availability of refrigerators is a major problem: only 5 of 10 target facilities have a working solar refrigerator. UNICEF is due to provide five more refrigerators in the next few months. Of these five, all have thermometers and four have a filled temperature chart. Ten of the thirteen facilities have cold packs for vaccine transport.

Other equipment and supply appears good. All five facilities with refrigerators had an adequate supply of unexpired vaccines. All centers had one-use syringes, twelve had safety boxes, and ten had cards to give mothers. However, vaccine stock-out has been a problem in the past year, due to delays in arranging transport from Freetown to Kono.

Outreach systems are in place. Twelve of the facilities have outreach maps displayed and schedules in place. Outreach vaccinators are not on the MOH payroll, but in all thirteen facilities they receive a share of clinic receipts. However, most of the clinic managers do not how to calculate their targets and coverage.

Major partners for immunization include:

- **UNICEF**, which provides vaccines and supplies.
- **Ministry of Health and Sanitation**, which transports vaccines to Kono.

Diarrrhea

Prevalence and incidence Diarrhea was the third largest cause of consultation at health facilities in the program area, accounting for 9% of consultations for 2003. It was the second most prevalent childhood illness according to the KPC, with 17% of mothers reporting their child had diarrhea in the last 2 weeks. Diarrhea incidence appears to be lowest in the rainy season (April to September, shaded on Chart 5). Children’s risk of diarrhea increases as the age up to about a year. Diarrhea incidence climbs after six months, peaks at a year of age, and declines after 17 months. This age pattern is strongly associated with the introduction of solid foods, as shown in Charts 6 and 7. No cholera cases have been reported in the last year.

Chart 6: Seasonal pattern of diarrhea

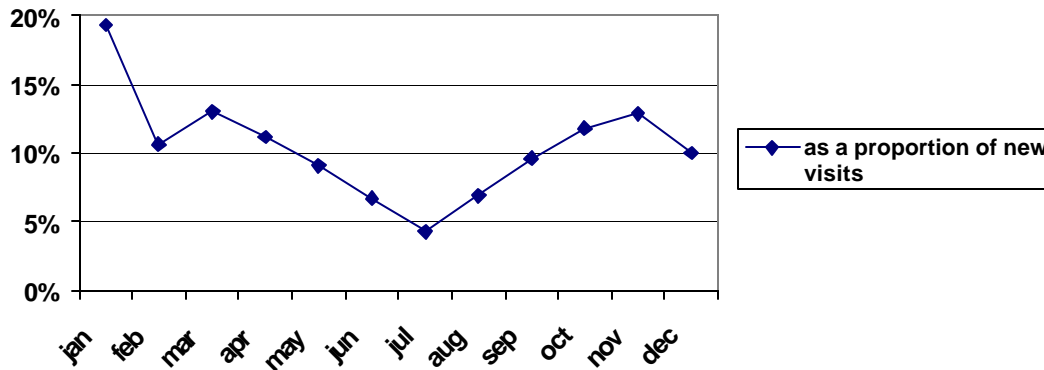


Chart 7: Diarrhea prevalence by age group

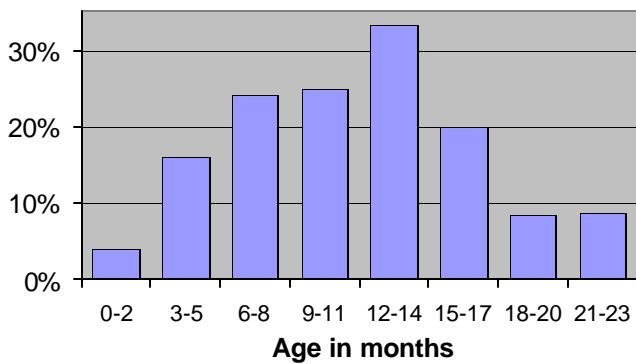
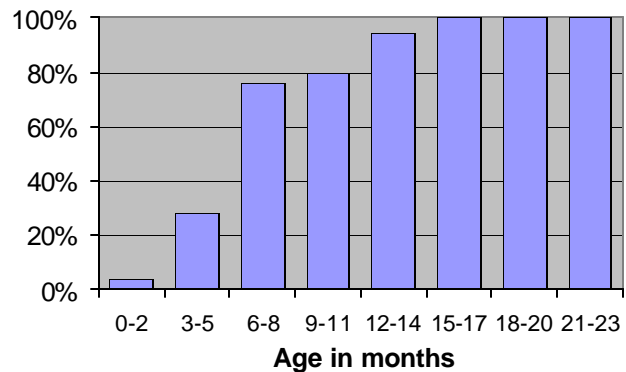


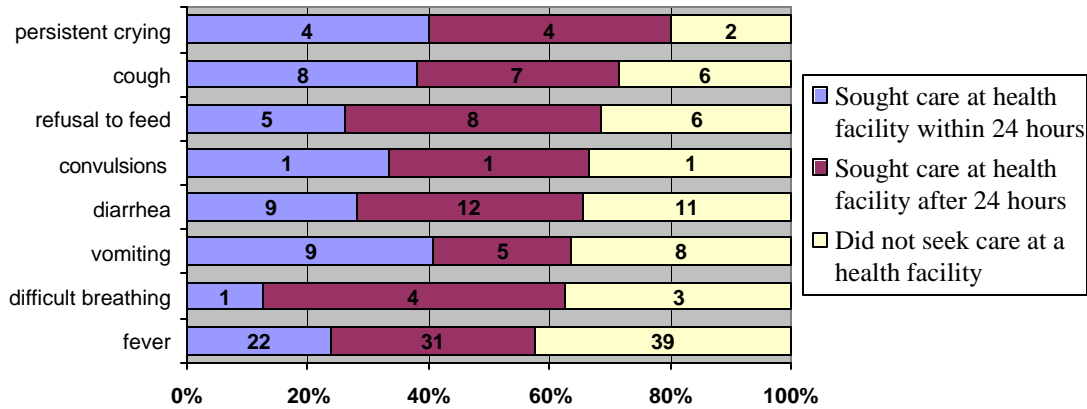
Chart 7a: Proportion eating solid food by age group



Treatment and treatment-seeking More than a quarter of mothers (28%) whose child had diarrhea reported seeking treatment at the health center within 24 hours, with another 38% getting treatment at a clinic with a longer delay. This relatively high number is probably the result of mothers giving the answer they think is expected of them, rather than actual treatment-seeking behavior. The survey findings would translate into over 400 children with diarrhea presenting to health facilities each month, whereas facility records show between 50 and 150 presenting each month. However, the survey responses on treatment-seeking are still useful in determining the relative urgency to caregivers of different symptoms, as shown in Chart 8. The Chart should be interpreted

with caution as some of the numbers are very small. The comparison indicates that diarrhea appears to be of more concern to mothers than fever, but less than cough.

Chart 8: Care-seeking patterns for different symptoms



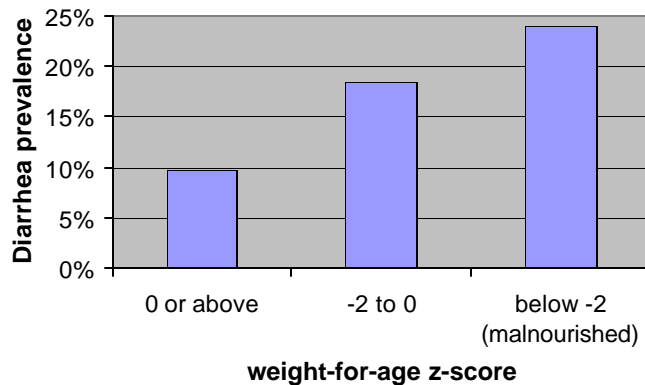
ORS use is high, with 79% of mothers citing ORS or home-made salt-and-sugar solution as a preferred treatment if their child had diarrhea. ORS was more commonly cited than home-made solution: 70% vs. 14%. No mother cited coconut water as a treatment for dehydration. Most mothers (75%) know that the ORS packet should be used with a liter of water. The fact that ORS is widely available in villages, at a market value of 500 Leones (about 18 US cents), further corroborates the notion that ORS is accepted and widely used. However, Only 11% mothers have ORS in their homes. Twelve out of thirteen health facilities in the program area had ORS available for patients.

The current IRC District-support program has been establishing “ORT corners” in villages in the program area. The program trains and equips a Blue Flag Volunteer to provide ORS packets and advice to caregivers of children with diarrhea. Currently, about a third of the villages in the program area have a trained Volunteer.

Diarrhea and malnutrition. There is an association between malnutrition and diarrhea, although it did not reach statistical significance between of the relatively low prevalence of both malnutrition and diarrhea ($p=.15$).

Chart 9: Nutrition and diarrhea prevalence

The association did reach statistical significance among the 12 to 17 month age group, which had a higher prevalence of both malnutrition and diarrhea. Malnourished children in that age group had a 2.7 higher risk of having diarrhea in the last 2 weeks (95% CI 1.1-6.7, $p<.03$). There appears to be an association between nutritional status and diarrhea even among children who are not frankly malnourished (see Chart 9).



Hygiene Hand-washing with soap is

relatively prevalent, due to the widespread manufacture and use of traditional soaps. The vast majority of mothers (83%) use soap on at least one of four key occasions¹ and a majority (55%) do so on at least two occasions, although only 4% of mothers do on all four occasions. Hand-washing appears to be least common for activities directly relating to the child. Children of mothers who wash their hands more frequently are less likely to have diarrhea (20% vs. 14%), although due to the relatively low prevalence of diarrhea this difference is not statistically significant. The benefits to the child of maternal hand-washing appear to be concentrated between the ages of 9 and 14 months (see Chart 11).

Chart 10: Prevalence of hand-washing with soap

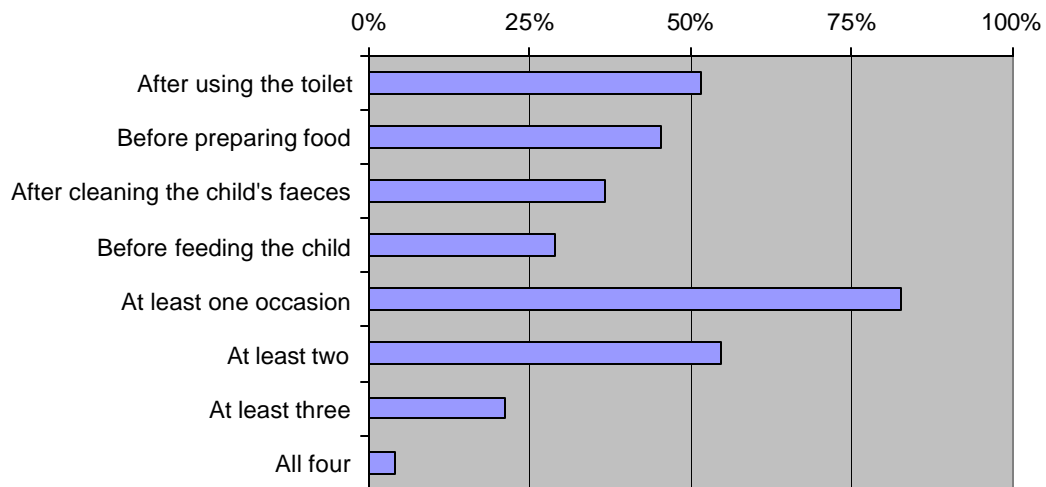
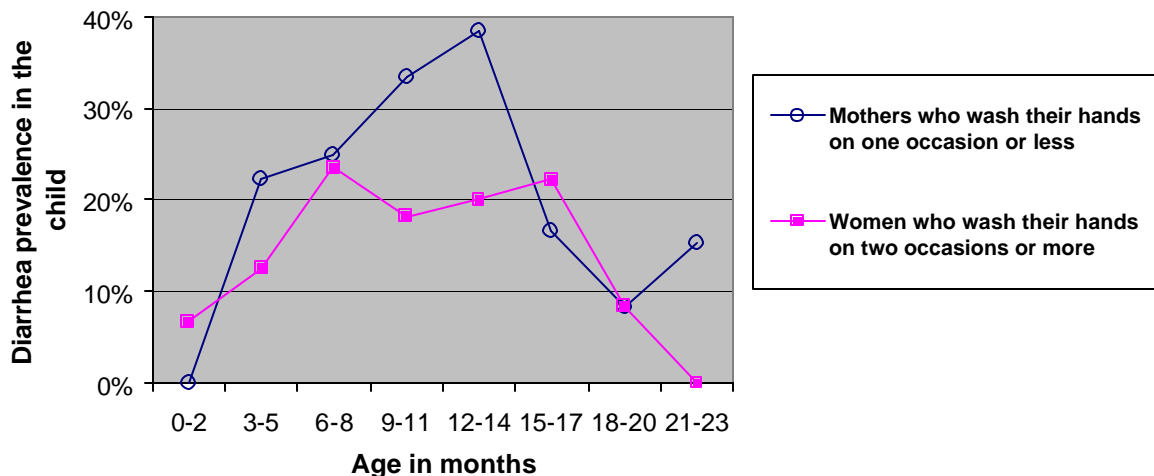


Chart 11: Maternal hand-washing and child's chance of having diarrhea

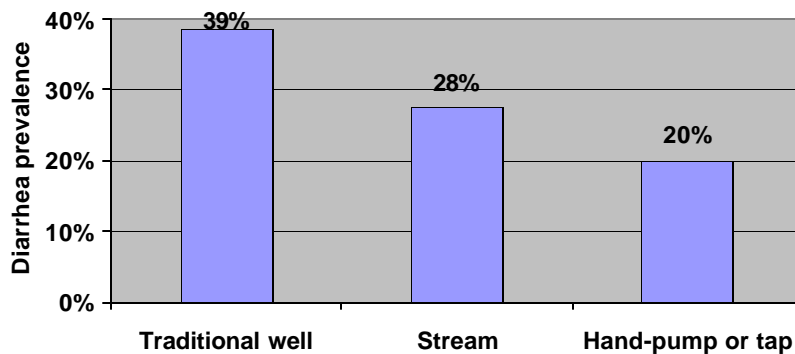


Water and sanitation Most households (90%) have a toilet, but only 11% of these toilets are closed (or VIP type) and only 6% are free from flies. The majority (81%) of mothers say they dispose of children's feces in the toilet. Unexpectedly, there was no difference in the child's diarrhea prevalence between households with a clean, closed toilet and

¹ after using the toilet, after cleaning the child, before preparing a meal, and before feeding or breast-feeding the child

those with a dirty or nonexistent toilet—possibly due to the small numbers of those with a closed toilet. In contrast, children of mothers who dispose of feces “in the garden” or “anywhere” were much more likely to have diarrhea (46% vs. 16%) than children of mothers who used the toilet for this purpose. Most families get their water from streams or traditional wells (47% and 23% respectively) but a significant minority gets their water from a protected hand-pump well (27%). This likely reflects the impact of an IRC water and sanitation program which has been operating in the area for the last 18 months. There was no significant difference between diarrhea prevalence and source of drinking water, except for children age 9 to 14 months, the group with the highest diarrhea prevalence (see Chart 12).

Chart 12: Diarrhea prevalence and water source among children 9 to 14 months



Cultural factors There are many traditional beliefs about diarrhea in Kono culture: The most commonly held is that diarrhea is a consequence of a mother being sexually active during the breast-feeding period. This has a number of potentially harmful consequences. One is that fathers often have sex with other women when their young children are breast-feeding, and spend less attention and resources on both mother and child during that period. Another negative consequence is that mothers may seek to stop breast-feeding early so that they can resume sexual activity. There is no evidence of this happening on a major scale, however: 90% of children 15-17 months are still breast-feeding, as are 61% of children 20 to 23 months. A third negative consequence of this belief is that mothers whose child have diarrhea may be tempted to “hide” the child’s diarrhea by not giving the sick child any fluid or food. This is harmful to the child, but in the short term may reduce stool output. One positive consequence of the belief in diarrhea as a sign of maternal infraction is that mothers are motivated to prevent their children from having diarrhea, but it is clear that mothers would have ample motivation even without this belief.

There are also a number of beliefs about signs of dehydration. Depressed fontanel is considered a sign of serious trouble, but it is often treated by traditional treatment, including administration of cow dung or attempted surgical fusion of the cranial plates. Likewise, oliguria is considered as a danger sign, but the response is to stop giving any food or fluids because of a belief that something is caught in the child’s stomach.

Malaria

Prevalence and incidence. Malaria is the leading cause of consultation at the health centers, accounting for 50% of health center visits in 2003. This finding is corroborated by the results of the KPC survey, which shows that fever is the most commonly reported symptom for children under 2, cited by 48% of mothers for the previous 2-week period. Fever was a lone symptom in about a third of cases (15% of all children). Commonly associated symptoms were diarrhea (24% of fever cases), vomiting (19%), cough (19%), and refusal to feed (18%).

Epidemiological pattern. Surprisingly, malaria incidence appears to be fairly constant, with little variation by season. Fever prevalence is also constant across age groups, with the exception of children below 3 months of age. This is probably because young infants are less able than older children to mount a fever in response to infection.

Chart 13: Seasonal pattern of malaria

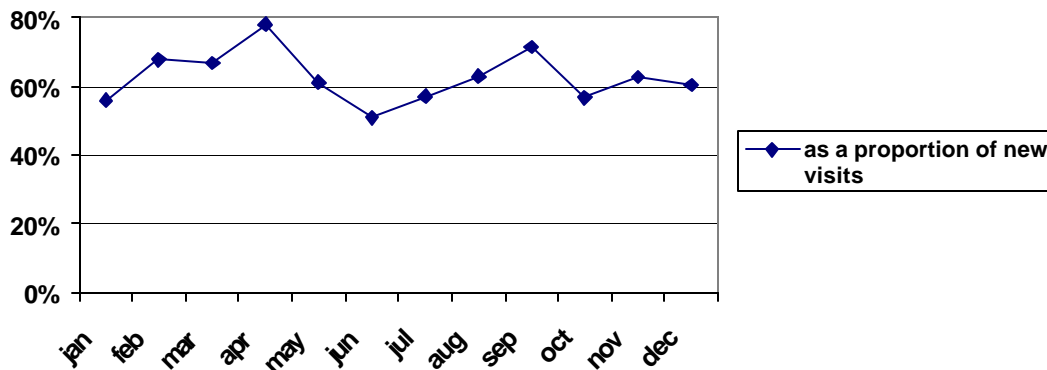


Chart 14: Fever prevalence by age group

Resistance to antimalarials is common. No studies have been done in Kono District, but studies done in neighboring Koinadugu and Kailahun Districts between in 2002 and 2003 show resistance to both chloroquine and sulfadoxine/pyrimethamine that is close to or above the threshold for changing treatment, as Table 3 shows.

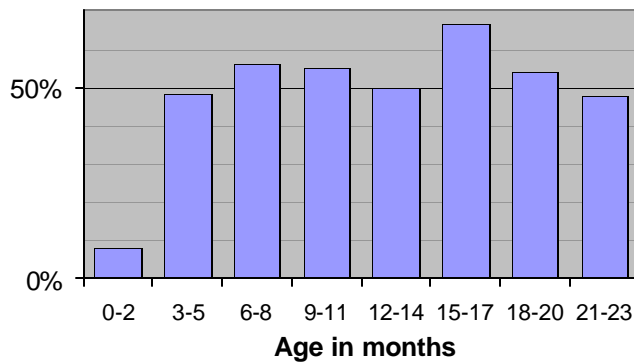


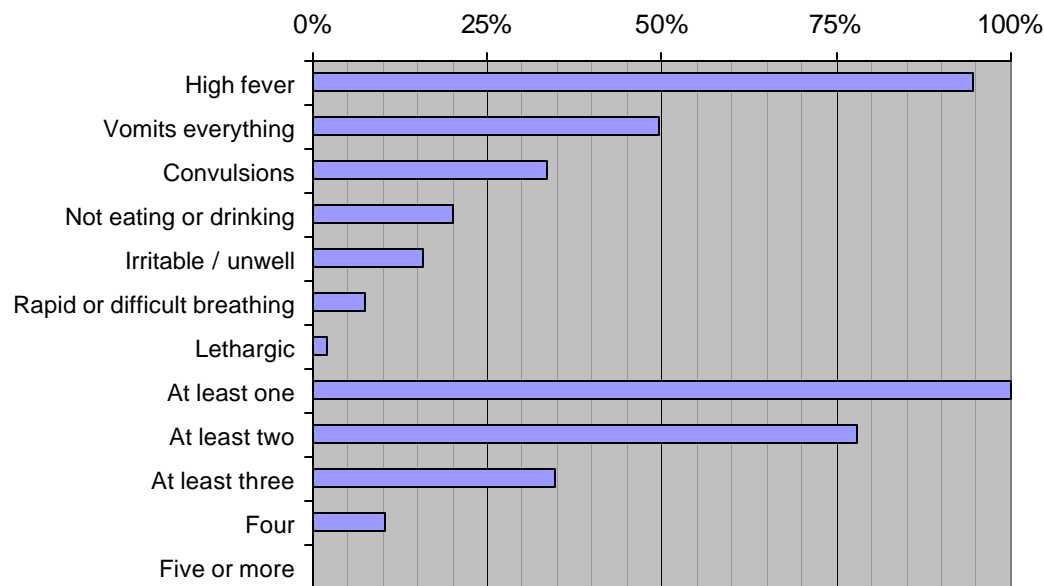
Table 3: Resistance to common antimalarials

| | Chloroquine | S/P | Amodiaquine |
|-----------|-------------|-----|-------------|
| Koinadugu | 40% | 23% | 18% |
| Kailahun | 78% | 46% | 30% |

The Ministry of Health changed its treatment policy in March 2004, switching from chloroquine to artesunate-containing combinations as first line treatment. However, artesunate-containing treatments are only available in private pharmacies, at high cost. Health facilities, including those in IRC's program area, continue to distribute chloroquine. Only one of thirteen facilities has sulfadoxine/pyrimethamine in stock. Quinine is commonly used as a second-line agent.

Treatment and treatment-seeking Less than a quarter of mothers (24%) whose child had fever reported seeking treatment at the health center within 24 hours, with another 34% getting treatment at a clinic with a longer delay. As with diarrhea, these numbers should be considered with caution; the number who actually seek care in health facilities is probably lower. The survey findings would translate into over 1,100 children with fever presenting to health facilities each month, whereas facility records show between 140 and 380. Fever is the symptom for which facility care is sought the least, as shown in Chart 8, despite the fact that fever is the symptom most frequently cited by mothers as a danger sign (Chart 15). This may reflect the fact that fever is a common symptom.

Chart 15: Recognition of danger signs for childhood illness



Insecticide-treated bed net coverage is very low. Out of 190 children surveyed for the KPC, 12% slept under a bednet, of which only one was treated within the last 6 months. Net use among pregnant women is only slightly higher: 23% of women reported sleeping under bednets at least 3 months of the most recent pregnancy. Net use is low even in health facilities: none of the PHUs in the program area have treated bednet for hospitalized patients. The survey results allow us to evaluate the relative impact of several common obstacles to correct net use for children. These findings are summarized in Table 4.

- **Knowledge** does not appear to be a major factor since 91% of mothers had heard of bednets. Two in five mothers (40%) cited mosquitoes as the agent that

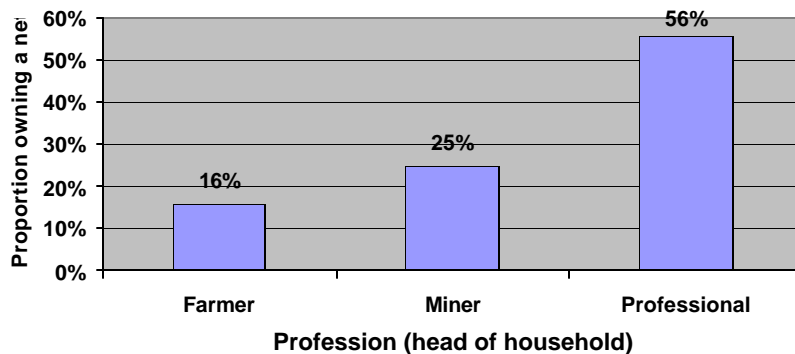
transmits malaria, a number that may appear low but is higher than in many communities in sub-Saharan Africa.

- **Cost** is likely to be a major reason that only 23% of who know what a bednet is actually have one, given the searing poverty. This hypothesis is supported by the fact that households headed someone with a more lucrative profession are much more likely to own a net (see Chart 15a).
- **Treatment** is a major obstacle, as only 15% of nets are treated at all; of treated nets, only 1 (13%) was treated within the last six months. In this sample, if all nets had been pre-treated with long-lasting insecticide, effective bednet coverage would be 15% instead of 1%.
- **Prioritizing the child** does not seem to be a major problem. Within families that have nets, 76% said that the child under 2 years of age had slept under it.

Table 4: Impact of various factors on treated mosquito net coverage for children

| | |
|--|-----------------------|
| If everybody knew about nets, coverage would be... | 1/10 higher |
| If young children were always given the priority, coverage would be... | 1/3 higher |
| If nets were free or everybody was rich, coverage would be... | 4 times higher |
| If all nets had long-lasting treatment, coverage would be... | 7 times higher |

Chart 15a: Profession and mosquito net ownership



Of note, the nets appeared to have some protective effect, even when not treated. Children who slept under a bednet had a much lower prevalence of fever than those who didn't (22% vs. 52%, $p < .005$). No other potential confounding factor, including socio-economic status (as indicated the occupation of the head of household) or nutritional status had nearly as strong an association.

Intermittent presumptive treatment is common, with two-thirds (66%) of women reporting at least 3 months of anti-malarial coverage during their most recent pregnancy. Unfortunately, almost all of this treatment occurred with chloroquine, which is not effective in this area. This may explain why mothers who took antimalarials for 3 months or more had no less malaria in pregnancy than those who didn't (64% vs. 59%, $p = ns$).

MOH policy regarding community and home treatment: MOH guidelines strictly proscribe treatment by community health workers, even when closely supervised.

Cultural factors affecting malaria in Kono District include beliefs about causes and recommendations about treatment. Eating sweet foods is considered the main cause of malaria; another cause is stepping barefoot on the urine of a patient with malaria. In contrast, fever in pregnant women is considered not as malaria but as normal sign of early pregnancy. Patients with malaria are discouraged from eating palm oil, which retards recovery.

Pneumonia

Prevalence and incidence. Pneumonia is the second leading cause of consultation at the health centers for children, accounting for 19% of diagnoses in 2003. The KPC found that 14% of mothers reported their child had cough, respiratory difficulty, or both in the last two weeks. There was no clear seasonal pattern, but there appears to have been an epidemic of respiratory diseases in July 2003, in the middle of the rainy season, followed by a persistently higher incidence of pneumonia. The vast majority (85%) of children with respiratory symptoms had an associated fever; this was true in particular for all eight of the children whose mother reported breathing difficulty. Prevalence appears to increase in the first year of life and decrease in the second.

Chart 16: Seasonal pattern of pneumonia

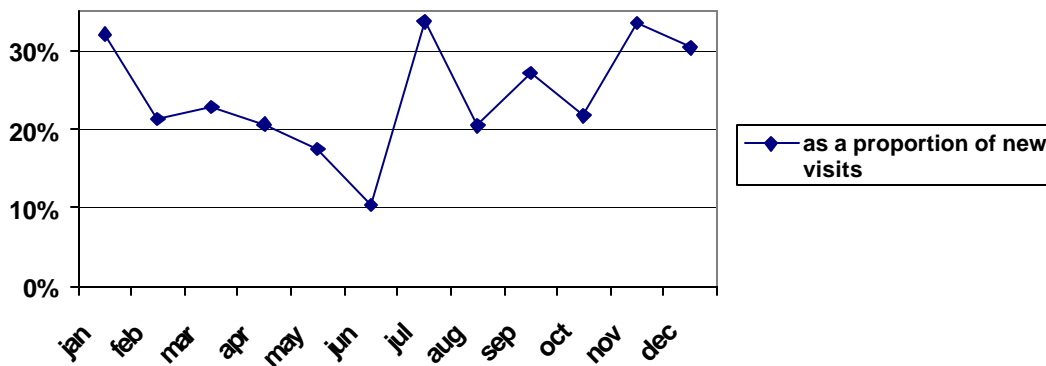
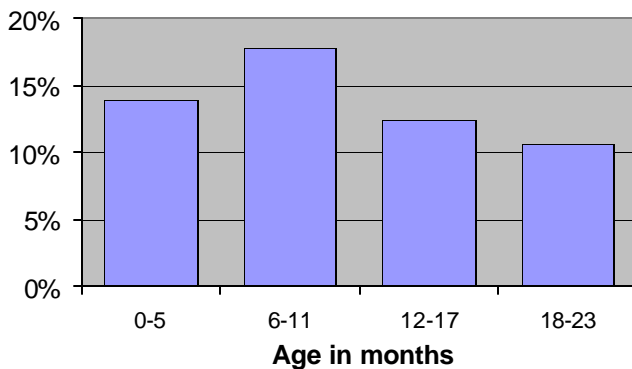


Chart 17: Prevalence of respiratory symptoms by age group

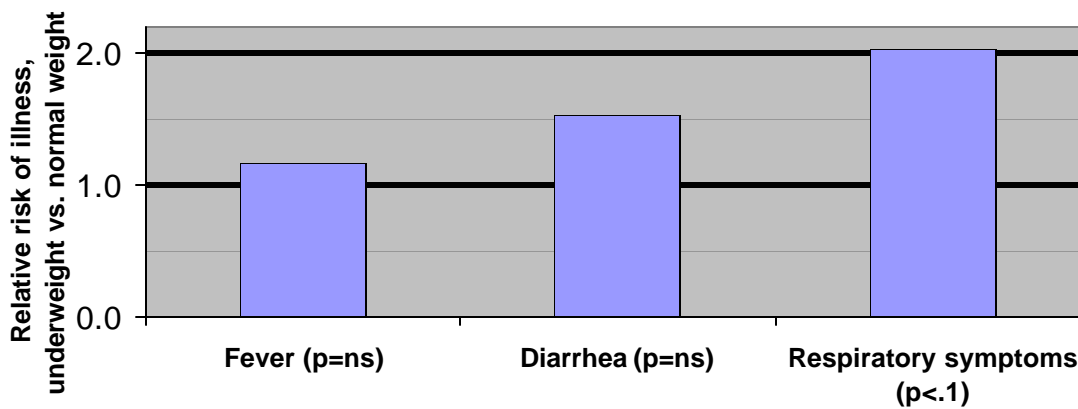


Treatment and treatment-seeking We have conflated the two major respiratory symptoms, cough and breathing difficulties, for the purpose of this analysis, but it is clear that mothers regard those two symptoms very differently. Cough is one of the symptoms that concern others the most (see Chart 8), whereas difficult breathing is one of the symptoms that concerns them the least. Only 20% of mothers said they sought assistance for their child's breathing difficulties within 24 hours. Only 7% of mothers cited difficult or rapid breathing as a danger sign for children. Twelve of thirteen facilities in the program area had trimethoprim and ampicillin available.

MOH policy The standard first-line treatment for lower respiratory tract illness is trimethoprim; ampicillin is a second-line treatment for children who fail to improve on trimethoprim or have an allergy. Treatment by community providers is explicitly forbidden, although treatment by unqualified pill-sellers and other private providers is widespread.

Nutrition and respiratory illness Nutrition appears more strongly associated than with respiratory symptoms that with fever or diarrhea, as seen in Chart 18. This may be due to the role of zinc deficiency, which is caused by nutritional factors and which impairs mucosal immunity, increasing the incidence of both respiratory and gastro-intestinal diseases.

Chart 18: Increase prevalence of illness associated with malnutrition



Cultural factors Uvulectomy, a common practice in many places in sub-Saharan Africa, does not appear to be common in Kono District.

Maternal and newborn care

Antenatal care Reported antenatal coverage is high, with 99% of mothers claiming to have had at least one visit in the last pregnancy, and 71% of women reporting four visits or more. Only 45% of mothers have at least one visit documented on a card, and only 24% have four visits documented. All thirteen health facilities have antenatal registers, and have weekly schedules displayed. Ten out of thirteen have a sphygmomanometer available.

Tetanus immunization Two in five mothers (39%) have two or more TT immunizations recorded, according to the KPC figure; which corresponds to the 39% TT2 coverage estimated from 2003 facility reports. Neonatal tetanus is common, not surprisingly given the low TT coverage. One in seven women (14%) of mothers reporting having lost at least one child to the disease. Nor were all of these children lost in the distant past: mothers less than 25 years old were as likely as older mothers to report losing a child to tetanus (20% vs. 23%, $p=ns$). Twelve of thirteen clinic managers knew correct the correct TT administration schedule

Intermittent preventive treatment for malaria See malaria section

Iron supplementation Most women (95%) reported taking iron during pregnancy, and 98% of women with an antenatal card had an iron prescription documented. Nearly two thirds of mothers (64%) reported taking iron at least three months, and a quarter of women (24%) reported taking iron for 6 months or more of their most recent pregnancy.

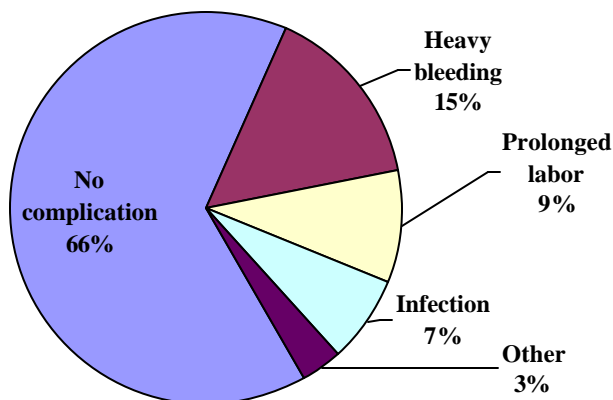
Deworming during pregnancy has recent been recognized as an intervention that has significant impact on maternal anemia in conjunction with iron supplementation². Decreasing maternal anemia in turn has a significant impact on the health of both mother and newborn. Eleven of thirteen clinics have deworming schedules displayed, and twelve of thirteen clinics have albendazole available.

Sexually transmitted infections Nine of thirteen clinics have a protocol available for treatment of sexually transmitted infections in pregnant and non-pregnant women. According to the 2003 KAP survey, 18% of pregnancies end in stillbirths, which suggests that syphilis may be very prevalent. There is currently no screening program for syphilis, although syphilis screening in high-prevalence areas has been identified as extremely cost-effective, more so even than childhood immunizations.

Delivery complications Mothers responding to the KAP survey were asked about complications experienced during the most recent pregnancy. The results show that, as expected, common complications include hemorrhage, prolonged labor, and infection (see Chart 19) Less than half of women with a complication (42%) report going to a health center or hospital for the complication, with another 28% reported being cared for by a traditional birth attendant.

² Antihelminthic treatment and hemoglobin concentrations during pregnancy, H Torlesse; M Hodges, *The Lancet*; Sep 23, 2000; pg. 1083

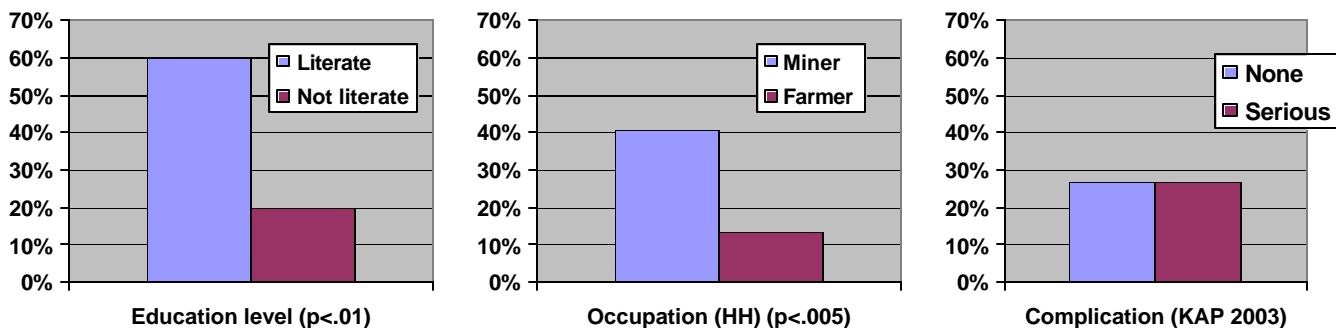
Chart 19: Most serious complication experienced during the last pregnancy (KAP 2003)



Assistance during delivery The use of traditional birth attendants is very common in the program area, as it is in Sierra Leone more generally. Many more deliveries are attended by Traditional Birth Attendants than by skilled personnel such as a physician or nurse (57% vs. 24%). This is similar to the pattern found in the 2003 KAP survey done 9 months earlier (56% vs. 27%). The main difference between the two surveys related to the level of training of the Traditional Birth Attendants: 2003 KAP survey data indicated 66% of the Traditional Birth Attendants are trained, whereas 2004 survey data suggested more than 90% of the Traditional Birth Attendants were trained. The difference may be due to intense Traditional Birth Attendant training activities during the intervening period, and to the progressive return of trained Traditional Birth Attendants from the camps in Guinea.

It is concerning, however, that the women getting access to skilled personnel are not necessarily those who need it the most, as illustrated in Charts 20-22: women experiencing serious complications during delivery are no more likely to have access to skilled care or even a trained Traditional Birth Attendant than women who do not. Access to skilled care appears much more related to education and household income than to actual need.

Charts 20-22: Access to skilled care, stratified by various factors

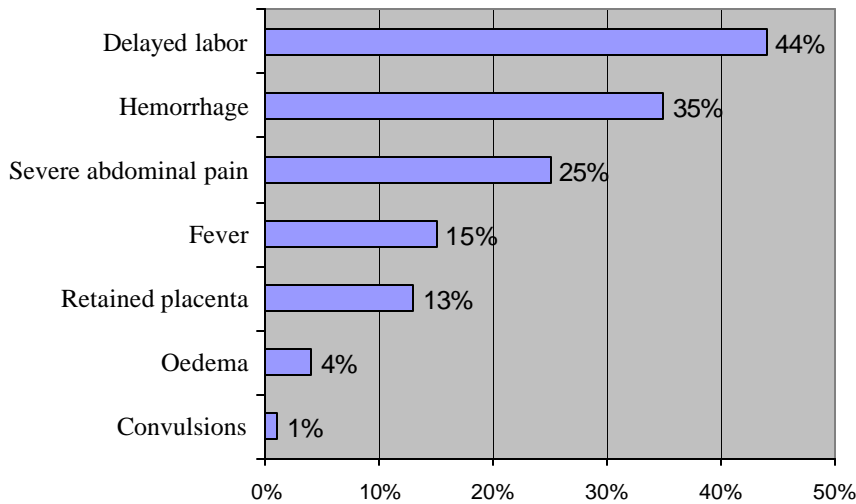


Most of the traditional birth attendants have received some western training, many of them in camps in Guinea where they may have received as much as six months of instruction and mentoring. Four in five mothers (83%) assisted by a Traditional Birth

Attendants report that a kit was used during the delivery. One in seven (13%) deliveries are attended by a relative or spouse, and three percent of women reported giving birth alone.

Mother’s knowledge of referral signs during pregnancy and delivery varied, but is generally low:

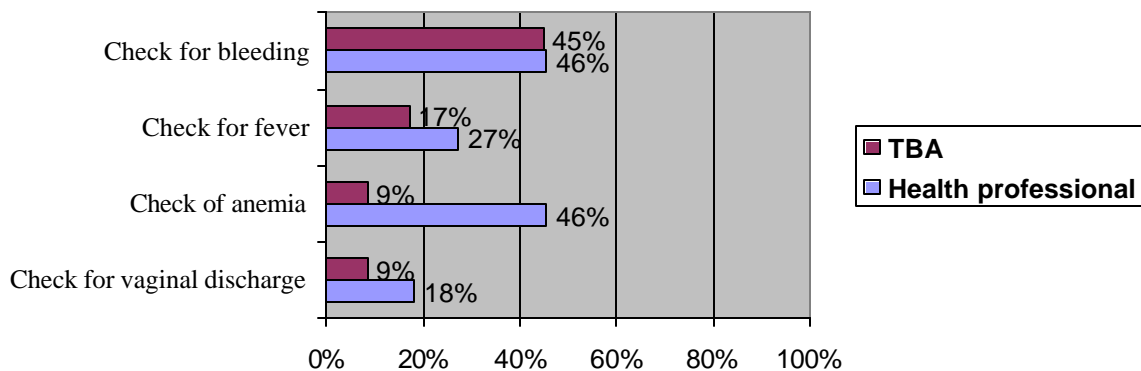
Chart 23: Signs of danger during pregnancy and delivery cited by mothers



Four out of thirteen facilities have plans in place to evacuate women experiencing labor complications towards Koidu hospital. None of the thirteen communities sampled during the health facility assessment had plans in place to evacuate women from the community towards the nearest health facility.

Post-delivery care for the mother Nearly three-fourths (72%) of mothers report having received a check-up within a week of delivering. Of these visits, 70% were done by a traditional birth attendant, and 16% by health personnel. Health personnel took certain actions, particularly checking for anemia, most often than traditional birth attendants, although both often failed to check important aspects of a mother’s health post-partum.

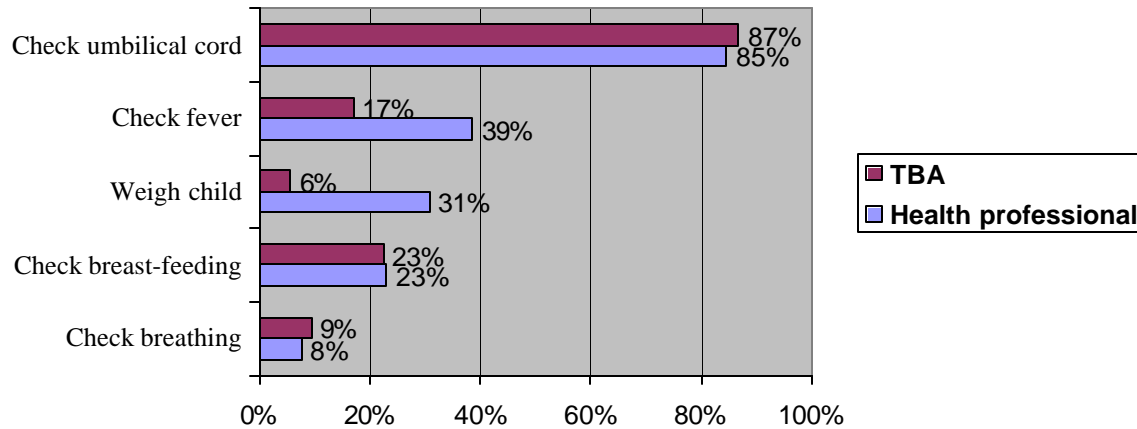
Chart 24: Actions taken during the mother’s post-partum visit



Post-delivery care for the child Less than one third (32%) of mothers reported breast-feeding their child within an hour of birth. Such feeding is traditionally discarded, as

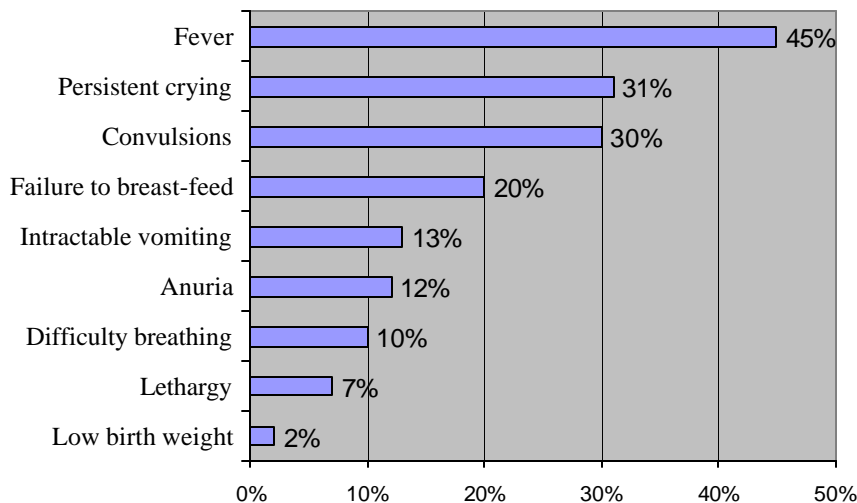
colostrum is considered “dirty” and of no benefit to the child. A quarter (27%) of mothers reported their child was weighed soon after birth. Of these, only half knew the results of the weighing. Four in five mothers (79%) reported that their child had a post-natal check. As with mother’s post-partum checks, most (72%) of the child’s visits after birth were done by traditional birth attendants, and only 18% by health personnel. Health personnel checked the child’s temperature and weight much more often than traditional birth attendants, although both paid little attention to the child’s breathing.

Chart 25: Actions taken during the child’s post-partum visit



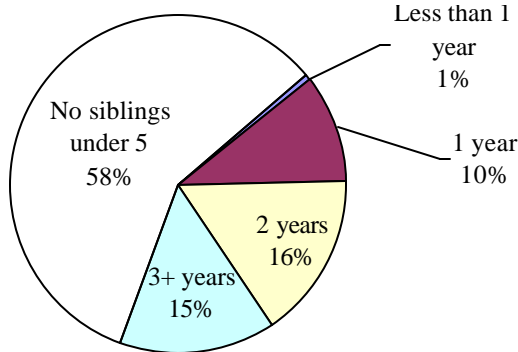
Mother’s knowledge of danger signs for the neonate after delivery varied but was generally low.

Chart 26: Signs of danger for newborns cited by mothers



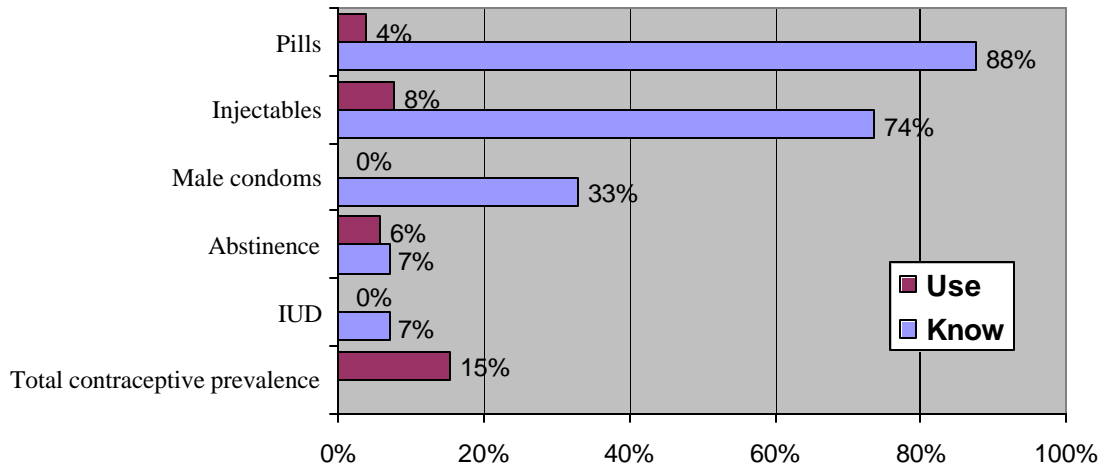
Child spacing and family planning Less than half (43%) of children in the KPC survey have another sibling under five years of age. In total, 1% of children have a sibling less than a year apart, and 27% have a sibling closer than the recommended 36-months spacing.

Chart 27 : Interval between interview child and next oldest living sibling, KPC 2004



There is little use of family planning: only 15% of women who would not like to become pregnant report using a contraceptive. The best-known methods are oral contraceptives and injectables, and they are also the most used. Only a third of women report having heard of condoms. Methods that women do not report knowing or using include Norplant, female condoms, vasectomy, tubal ligation, coitus interruptus and the “safe days” methods. Most of the women in the survey (92%) said they would prefer to access family planning services in a health facility, with only 3% citing traditional birth attendants. Of note, 18% of women in the KPC sample reported being pregnant.

Chart 28: Knowledge and practice of family planning methods

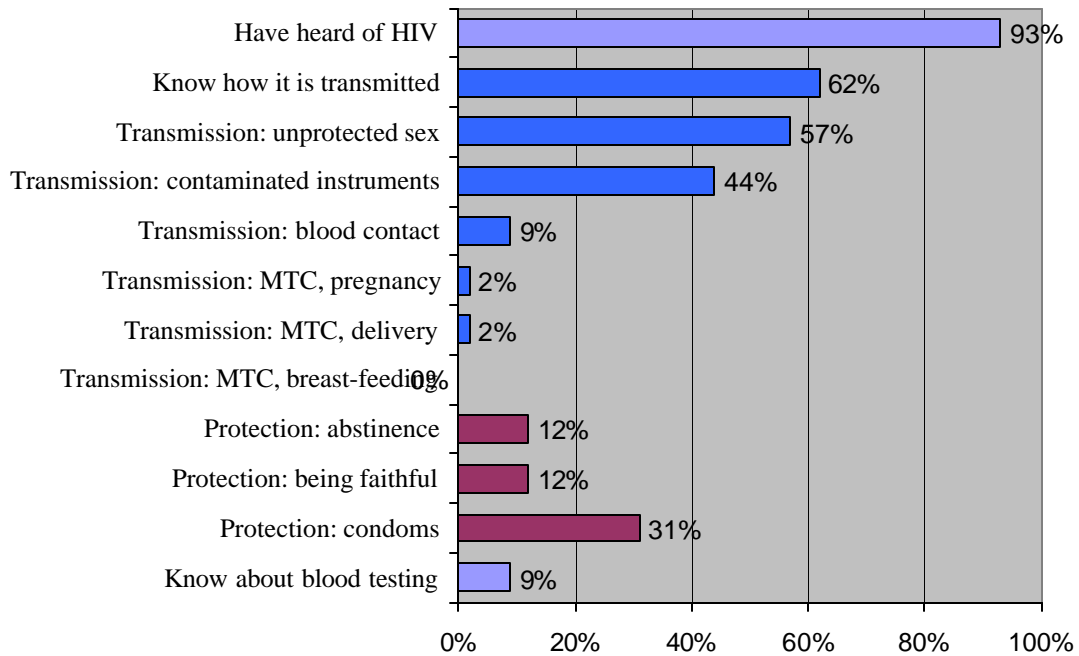


Family planning decisions are often delegated to others: Only 12% of women said they would make the decision on their own, with another 33% sharing the decision with their husband. Almost half (43%) delegate the decision to their husbands, with 12% leaving it to parents or to others.

Sexually-transmitted infections and HIV More than two-thirds (71%) of the women interviewed during the KPC survey report having heard of sexually transmitted infections. The most common cited symptoms include lower abdominal or other pain (39%), pus or foul-smelling vaginal discharge (35%), sores (8%), and bloody urine (7%). Nearly all the women (97%) said they would go to a health facility for treatment of these symptoms.

The vast majority of women have heard about HIV, and there is relatively good knowledge about some means of transmission, but knowledge of mother-to-child transmission is almost nil. Knowledge about protection is very limited.

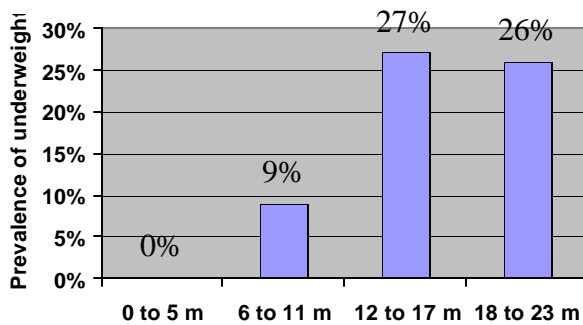
Chart 29: Knowledge of means of transmission and protection from HIV infection



Nutrition

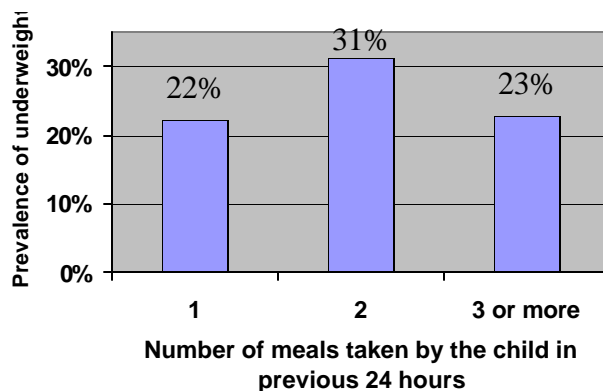
Malnutrition rates (weight-for-age) are relatively low, although high enough to account for a substantial portion of child mortality and morbidity: 15% of children are underweight, 4% severely so. Malnutrition increases with age, following a pattern similar to diarrhea (see Chart 30).

Chart 30: Pattern of malnutrition by age group



Malnutrition and food security The pattern above is typical of situations in which weaning, rather than food security, is the main cause of malnutrition in young children. Over 90% of children ate at least two meals a day. Indeed, there was no significant association between malnutrition rates and number of meals taken the previous day, a proxy for food security.

Chart 31: Malnutrition and food security

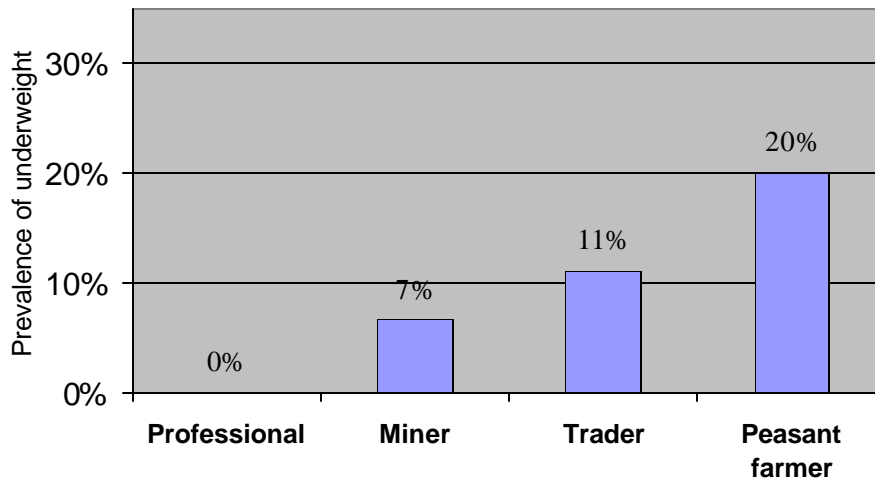


Malnutrition and disease The mutually reinforcing association between malnutrition and disease has been well-documented in children. Based on Chart 18, we can loosely estimate that, among underweight children, poor nutritional status is responsible for about a fifth of the febrile illnesses, a third of the diarrheal episodes, and half of the respiratory illnesses—a formidable burden.

Malnutrition and socio-economic status There was a significance difference between children of traders, miners, and professionals on one hand, and peasant farming and unemployed workers on the other. Interestingly, there was no association between maternal activity and malnutrition. People in Kono often assume that the wages that

miners receive is largely squandered, but it seems that some of it at least is spent in ways that protects the child from malnutrition.

Chart 32: Malnutrition prevalence and activity of the head of household



Vitamin A coverage 94% of children have received vitamin A at some time. Children receive vitamin A from a variety of sources: 56% at a health facility, 28% at an outreach post, and 16% during national immunization days. This suggests that the current regular program has good coverage, and campaigns are probably not needed.

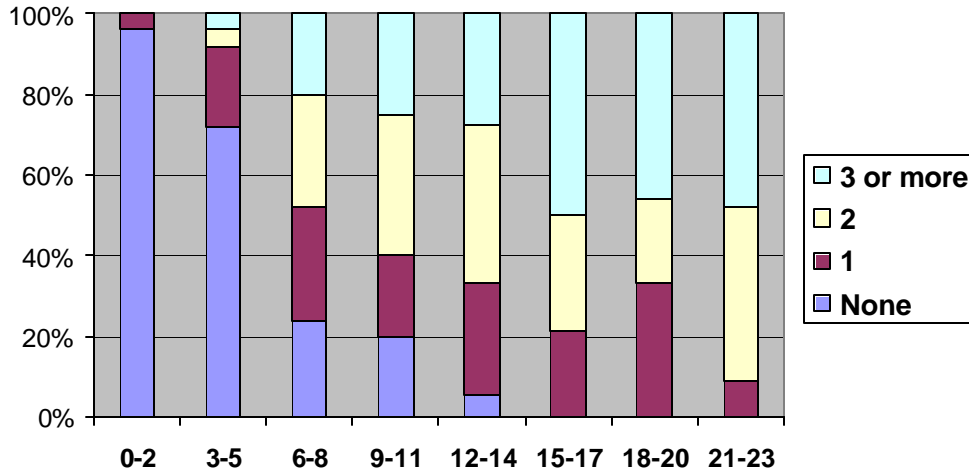
However, efforts are needed to make the coverage more frequent: in the past, children were given vitamin A at 9 months of age only. As a consequence, only 15% of children have received vitamin A within the last six months. Less than a third (31%) of mothers took vitamin A after delivery.

Government policy has recently changed to allow community health workers to distribute vitamin A. Traditional Birth Attendants have been chosen to take this role, because of their wide coverage –every village has at least one Traditional Birth Attendant– and because of their excellent knowledge of the ages of young children in the village.

Exclusive breast-feeding is infrequent. Among children less than six months old, 36% are reported to be exclusively breast-fed by their mother; but, looking at the actual dietary history of the children, it appears only 14% did so. By far the most common additional ingredient is water: the vast majority (88%) of children under 3 months have been given water in the last 24 hours. If mothers did not give water, the prevalence of exclusive breast-feeding before 6 months of age would rise to 84%. Eliminating water from the diet of young infants will not be easy, however, as it is a deeply rooted tradition. Water is considered a “source of life”, as valuable for infants as it is for older children and adults.

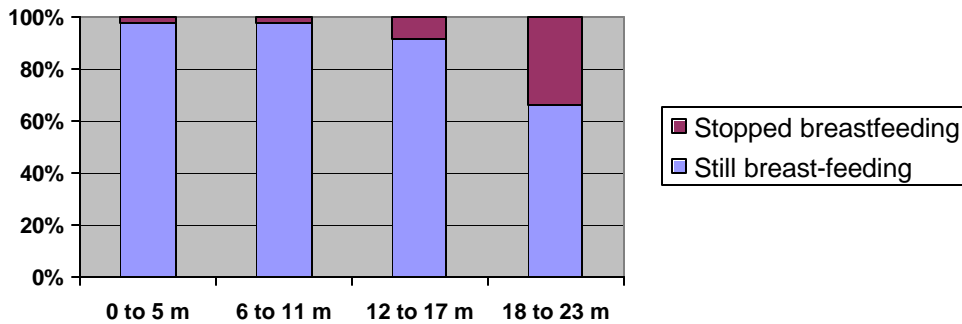
Introduction of weaning foods appears to take place at an appropriate age, although 30% are fed prematurely before six months of age, and 20% of children 6 to 11 months of age do not receive enough solid food (see Chart 33).

Chart 33: Number of types of solid foods eaten in the last twenty-four hours, by age.



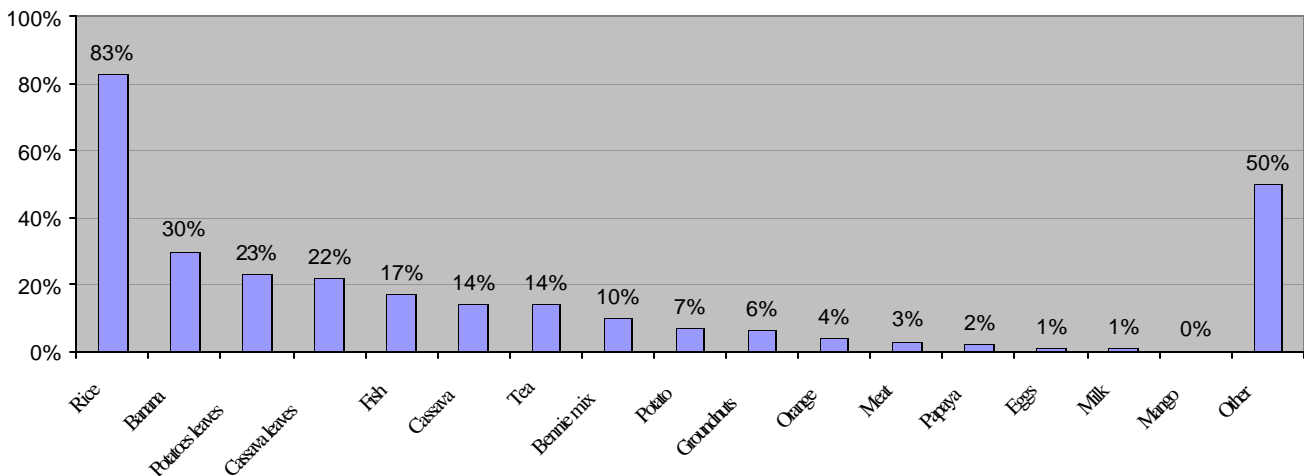
Breast-feeding duration is adequate: few children are weaned off prematurely.

Chart 34: Persistence of breast-feeding by age group



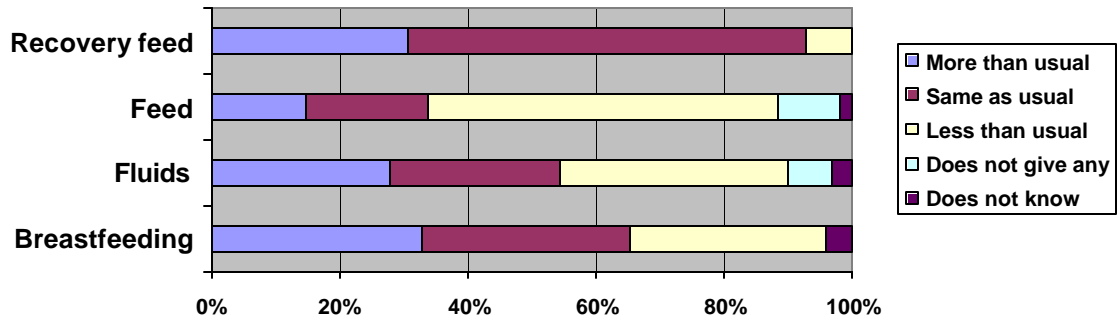
Choice of food is less optimal, however. Among children age 6 to 23 months, most are fed only rice with none or only one other food.

Chart 35: Most commonly eaten foods among children 6-23 months



Feeding during illness is problematic, as it is elsewhere throughout the world. More than 65% of children are fed less than usual during the illness, and less than half receive extra fluids during illness. Furthermore, only a third of children are given more food after illness.

Chart 36: Food and fluids during and after illness



Human Resources

All of the work of this program will be carried out by people—Traditional Birth Attendants and District Health Team members, clinic nurses and IRC staff. Human resources management will therefore be a key determinant of success: these people must be well motivated and skilled for the program to achieve sustained reductions in child and maternal mortality. The program's human resource strategy can be thought of as six major systems:

- **Recruitment:** how will the right workers be attracted to the program?
- **Training:** how will workers be given the skills necessary to perform well?
- **Motivation:** how will workers be motivated to do their best and stay in their jobs?
- **Monitoring:** how will the performance of workers be monitored?
- **Governance:** what decisions will workers be able to make?
- **Communication:** how will workers at all levels communicate with each other?

These systems interlock with each other: proper monitoring, for example, is an important motivating tool and can help orient and evaluate training. This section will outline the program's human resource strategy for each of these systems, at three different levels:

1. The community level including Traditional Birth Attendants and Blue Flag Volunteers
2. The facility level, from community health officers to vaccinators
3. The District level, including members of the District Health Management Team.

Recruitment

This issue is a primary concern for the community level, since workers at the facility and district level have already been chosen and are not expected to change often. There are two types of community workers who will play an essential role in carrying out the program's activities: Traditional Birth Attendants and Blue Flag Volunteers. There is expected to be at least one per village.

Job description: determining who the right person is Traditional Birth Attendants are community members who are trusted to assist women during pregnancy and delivery. Traditional Birth Attendants have a traditional role dating back centuries, but the MoHS has recently recognized their value in improving public health, and is working to organize and train them. Blue Flag volunteers are all-purpose community health workers; it is a position recently created by the MoHS to improve community health. In most communities, the Blue Flag Volunteer also happens to be Traditional Birth Attendants. The two types of workers will be treated as one for the purposes of this discussion and will be referred to as Community Health Workers.

Community Health Workers will play a key role in implementing the program, as shown in Table 5. They will need to have several attributes to take up this role well, including: being energetic; having the trust of the community; being a leading and organizing force in the community; being intrinsically motivated to improve the health of their community; and being receptive to new ideas and able to learn new skills.

Table 5: Tasks to be performed by Community Health Workers

1. Assisting the vaccinators during immunization outreach sessions
2. Following up with children who have missed immunizations
3. Distributing vitamin A to children and new mothers
4. Selling subsidized ORS packets
5. Distributing zinc
6. Selling treated mosquito nets
7. Distributing iron to pregnant women
8. Insuring that pregnant women receive intermittent malaria treatment
9. Identifying women who need emergency obstetric care
10. Passing on key health messages
11. Reporting cases of epidemic diseases
12. Submitting monthly reports to the closest PHU
13. Insuring that village birth and deaths registers are kept up

Recruitment process: finding and attracting the right people Community play the main role in identifying Community Health Workers. Traditional Birth Attendants are already present in the community; some inherit their position from their mother whereas others are self-selected, but all can be said to be chosen by the community because women choose who will assist them during labor, and Traditional Birth Attendants must practice regularly to keep that title. Blue Flag Volunteers are named by village chiefs, who have been asked to consult broadly before making a decision. This process does not guarantee that the Blue Flag Volunteer will have the support of the community, but the fact that most Blue Flag Volunteers so far are Traditional Birth Attendants is reassuring.

The recruitment process has favored people who are leaders and have the community's trust. They are also more likely to be motivated by their desire to improve the health of fellow community members, although it can't be ruled out that a few will be primarily seeking material gain. In this case, they are likely to be discouraged early on and will be gradually replaced. The process does not insure that the Community Health Workers will be able to learn. However, the experience to date with Traditional Birth Attendants and Blue Flag Volunteers has been encouraging. Most Community Health Workers are eager to learn new skills that can help them be more effective.

Most of the Community Health Workers have been chosen already. The same recruitment process will be used to replace existing Community Health Workers or find new ones as needed.

Training

Community Health Workers will be trained to do their job effectively, which will involve understanding the rationale of the different interventions, knowing proper technique and posology for ORS, vitamin A, iron, and zinc, recognizing epidemic diseases, recognizing signs of danger during pregnancy and labor, filling out reports correctly, and—last but certainly not least—communicating effectively with fellow community members. For example, Community Health Workers will be trained to assess and improve the perceived self-efficacy of caregivers. PHU staff will take the lead in

training Community Health Workers, assisted by DHMT and IRC staff. They will use a variety of occasions, including workshops, regular monthly meetings, and supervisory visits.

Table 6: Training for Community Health Workers

| Subject | Occasion |
|--|--|
| Rationale for interventions | 1-2 day workshops introducing each intervention |
| Posology for drugs | 1-2 day workshops introducing each intervention, followed up at monthly meetings and during on-the-job supervision |
| Recognizing danger signs during pregnancy and labor | 1-2 day workshops on emergency obstetric care, followed up by on-the-job teaching on maternity wards |
| Recognizing epidemic diseases and danger signs for childhood illnesses | 1-2 day workshops on childhood illness |
| Communicating effectively with caregivers | 1-2 day workshops with role playing |
| Filling out reports | 1-2 day workshops introducing each intervention, followed up during reviews of the reports at monthly meetings |

PHU staff will be trained to provide quality curative care, to provide preventive interventions at the health facilities, to train and supervise Community Health Workers, and to monitor the progress of public health interventions in their catchment areas. PHU staff will also be trained to participate in quality assurance and improvement. DHMT and IRC staff will provide this training, which will occur in workshops, during monthly meetings, and during supervisory visits. PHU staff will be trained in quality assessment and improvement by participating in district-wide quality assurance teams.

Table 7: Training for PHU staff

| Subject | Occasion |
|--|--|
| Providing quality curative and preventive care | Quality assurance process (identifying standards, assessing current performance, drafting and implementing recommendations, assessing follow-up performance) Supervisory visits |
| Training Community Health Workers | 1-day training-of-trainers workshop before each intervention training |
| Supervising Community Health Workers | Supervisory visits and on-the-job training |
| Public health monitoring | Training visits to review coverage calculations Supervisory visits Monthly meetings to review data from information systems |

DHMT staff will be trained to monitor public health interventions in the district as well as to train and supervise PHU staff. These are complex tasks, and doing them well will require building skills in a number of different areas: using computer spreadsheets for information management; leading the quality improvement process; and monitoring the performance of PHU staff as they supervise Community Health Workers.

Table 8: Training for DHMT members

| Subject | Occasion |
|--|---|
| Training of trainers in subjects above | Small group sessions with other DHMT members, IRC managers, consultants, and visiting advisors 1-2 day workshops |
| Supervising for quality curative and preventive care | Quality assurance process (identifying standards, assessing current performance, drafting and implementing recommendations, assessing follow-up performance) On-the-job training during visits |
| Public health monitoring | Small group sessions with other DHMT members, IRC managers, consultants, and visiting advisors One-on-one training with IRC staff and visiting advisors |
| Using computers for public health monitoring | One-on-one training with IRC staff and visiting advisors |

Motivation

Motivation is a major concern when, as in Kono, there is much work to be done and few financial resources to do it with. The motivations strategy at each level is informed by the IRC's experiences in other countries, and by the specific circumstances of its project in Kono District.

Community Health Workers will do the lion's share of the work, as noted earlier. They will not be paid, because such payments would make the program completely unsustainable. Also, research in this area³ and the IRC's own experience has shown that payments are often not an effective tool in the long-term. Instead, the program will rely on a variety of different factors:

- **Intrinsic motivation** Interest in community health has been and will continue to be a major factor in recruiting Community Health Workers, as noted earlier. The IRC's experience in Rwanda and DR Congo has shown that it sometimes takes two steps to recruit the properly-motivated individuals: initially, the glitter of a new project attracts people who are interested in monetary gain. These individuals quickly drop out when the nature of the work becomes clear, and are then replaced by others whose objectives are more in line with those of the CSP.
- **Training** is an enormous motivator in any context, but particularly so in a province which has been neglected for decades, and where education is rare and skills are at a premium.
- **Prestige** The activities carried out by Community Health Workers will include a number that may increase their status in the community. This is particularly true for activities that involve handing out pharmaceutical products such as iron, vitamin A, and zinc. This is in addition to the general prestige that may come from participating in immunization sessions, being invited to training, and being visited by PHU and DHMT staff.

³ Tien et al., *Community Health Worker Incentives and Disincentives: How They Affect Motivation, Retention, and Sustainability*, Working Draft, August 2000

- **Income-generation** The activities carried out by Community Health Workers will include some that will generate income for them, such as the sale of mosquito nets and ORS packets. This assumes that there continues to be supply of free ORS packets and subsidized nets, as most caregivers in need of the service will not be able to afford them at current market prices. In the future, distribution of curative drugs may also generate income if MoHS policy changes to allow Community Health Workers to distribute antimalarial medication or first-line antibiotics, as recommended by WHO.
- **Seeking community support** DHMT, IRC, and PHU staff will work together to make the benefits of Community Health Workers' work visible to community leaders, and to advocate that these leaders provide in-kind support to the Community Health Workers in return for their work.
- **Monitoring and feedback** The IRC's experience in other countries has shown that regular supervision—even the simple collection and discussion of monthly reports—is much more of a motivation than a burden to Community Health Workers. Such monitoring shows Community Health Workers that their work is appreciated and has an impact. Monthly meetings also allow Community Health Workers to discuss the problems they face in their work, which can often be alleviated by actions from the PHU or District staff. In Rwanda, simply setting up a simple and regular reporting system had a dramatic effect in improving the participation and performance of Community Health Workers.

PHU staff are also essential to the success of the program. First of all, they see hundreds of sick children each day, and the quality of their work has an immediate impact on clinical outcomes, and on communities' trust in health facilities and modern health care. Secondly, PHU staff are leaders of the Community Health Workers in their catchment area: a dynamic PHU in-charge can organize and motivate Community Health Workers to have tremendous impact at the community level. The IRC's work elsewhere has shown that a dynamic, committed clinic manager has an impact that can be measured in terms of Community Health Worker retention, increased bednet sales, and increased immunization coverage, among other indicators. The program will rely on the following factors to motivate PHU staff:

- **Monitoring and feedback** As with Community Health Workers, PHU staff can be motivated by the feeling that their work is noticed, and by the ability to see the impact of their work. The IRC and the DHMT will work together to insure that PHU in-charges meet every month to discuss reports and other data from child survival activities. Furthermore, IRC and DHMT staff will visit PHUs and meet with all staff to discuss reports and data.
- **Training** will allow PHU staff to improve their skills, to get more satisfaction of doing their job well, and to see the result of their work. As in Rwanda and Congo, the IRC will work with the DHMT to identify and sponsor high-performing PHU staff for occasional training opportunities at the national level.
- **Improved work conditions** The IRC has already started to provide bicycles to each PHU through its primary care program, which will help make transport much easier for immunization and other outreach activities.

- **Participation** in decision-making is widely recognized as an important determinant of job satisfaction. PHU staff will be given the chance to participate in important decisions through monthly staff meetings, and through participation in the quality assurance process.

The District Health Management Team plays a vital coordinating and motivating role. As with the PHU staff, the impact of a motivated District Team can be measured in improved quality of services and improved coverage. They will be motivated in similar ways:

- **Monitoring and feedback** The IRC staff, managers, and technical advisor will work with individual members to improve monitoring and data management skills, and increase their capacity to measure the impact of the District's work. The IRC managers will also help to increase the capacity of the District staff to present their work on a national and, if possible, international level.
- **Training** will include one-on-one interactions and formal training. The IRC will also seek out opportunities for participation of DHMT staff in national and international workshops. In its programs in Rwanda and Congo, the IRC has sent six of its District partners to international conferences and workshops, in about half the cases at little or no cost to the programs.

Monitoring

Monitoring the performance of Community Health Workers, PHU staff, and DHMT members is important because it allows the program managers to direct training and supervisory resources most efficiently, but also because it is an important source of motivation, as discussed in the previous section. Monitoring tools will vary with each level.

Community Health Workers will be monitored through:

- **Monthly reports and meetings** The information from monthly reports—and checking whether they are submitted at all—will allow PHU staff to assess the commitment and effectiveness of Community Health Workers. PHU staff will also assess Community Health Workers' attendance at monthly meetings.
- **On-site supervision** will be another important tool. PHU, IRC, and District staff will visit Community Health Workers in their villages, review registers, and spend time with them on the job to assess their competence and effectiveness. For example, PHU staff will verify that registers are kept correctly and medicines stored safely. Simple one-page monitoring checklists will help PHU staff be systematic in their supervisory assessments.

PHU staff will be monitoring through:

- **Monthly reports** DHMT and IRC staff will review information from the reports and analyze elements such as utilization rate and coverage for key preventive services.
- **On-site supervision** will allow DHMT and IRC staff to assess PHU staff performance in the clinic and during outreach activities. As with Community

Health Workers, supervisors will use simple checklists to insure that assessments are thorough and consistent.

- **Evaluation of Community Health Worker activities** It is essential for the success of the program that PHU staff understand that supervising Community Health Workers is an essential part of their job. IRC and DHMT staff will assess indicators such as proportion of Community Health Workers participating in meetings and giving reports, and the quality and timeliness of data collected by Community Health Workers, as well as coverage and quality of services provided by the Community Health Workers. These will be considered a reflection of PHU leadership.
- **Quality assurance surveys** will be used to assess the quality of preventive and curative services provided by PHU staff.

DHMT performance will also be monitored. IRC staff and managers do not have supervisory authority over the DHMT, but will follow key indicators of performance and communicate with the DHMT. These indicators will include the quality of written and oral reports, the degree to which DHMT members take the lead in initiating activities, and the degree of participation in these activities. Likewise, the DHMT will monitor IRC's performance. For example, DHMT members will assess the frequency of IRC staff's visit to the field, and the extent to which the IRC is coming through on its commitments to provide equipment and training.

Governance

The ability to make decisions is a key element in job satisfaction and motivation. The following are examples of decisions that workers at different levels will be allowed and encouraged to make:

Community Health Workers:

- Deciding when to initiate different activities in her or his own village
- Deciding when and how community leaders will be approached to improve their participation.
- Proposing and implementing solutions to problems identified through the analysis of program data.

PHU staff:

- Determining which activities to prioritize in their catchment area, based on monitoring data
- Determining how and when to expand activities within their catchment area
- Proposing and implementing solutions to problems identified through the analysis of program data
- Solving human resources issues related to the network of Community Health Workers in their PHU catchment area.

Communication

The communication system for the program will be essential as it serves a both a monitoring and a motivating function. The system will have several components:

- A written **community health information system** which will take information from village health events and Community Health Worker activities to the PHU and District level.
- A written **facility health information system** which will take information from PHU activities to the District level.
- Formal oral communication during monthly meetings between PHU staff and the Community Health Workers in their work area.
- Formal oral communication during monthly meetings between DHMT and IRC managers, and the PHU in-charges for the program area.
- Formal meetings between IRC and DHMT managers to review program progress and data. There will be at least two types of meetings: a general monthly meeting in which the IRC manager meets with the DMO or his representative, to go over general issues; and specific meetings with particular members of the DHMT. For example, the team member in charge of immunization will meet with one or two IRC staff once a month to go over immunization-specific activities.
- Informal communication during supervisory visits and other occasions, between all levels.

Behavior change and communication

The program's behavior change communication strategy will be multifold and will include the following elements, which will be similar across interventions:

- **Interpersonal communication at the community level.** For example, a Blue Flag Volunteer will teach a mother buying ORS packets about recognizing signs of dehydration; a Traditional Birth Attendant will counsel a pregnant woman about the best way to take iron supplements. The advantage of this method is that the person communicating is likely to know more about the person she or he is communicating to. Also, interactions between community members are a frequent occurrence.
- **Community theatre.** IRC and DHMT agents will work with community groups to organize short skits demonstrating key behaviors.
- **Interpersonal communication at the health center level,** during provision of curative and preventive services. Currently, little such communication takes place. The advantages of this method are that the person communicating has some authority and prestige, and, in the case of curative services, the mother of an ill child may be more receptive to advice. However, considerable training, mostly by example, will be needed to increase the health center staff's capacity to provide this advice.
- **Influential persons,** both religious and political, will be approached by the program staff. In Kono, it will be particularly important to gain the trust and cooperation of traditional chiefs at village and higher levels, as they can mobilize considerable community resources. This will be a challenge, as some chiefs have in the past been more committed to community improvement than others.
- **Visual support** in the form of laminated cards, posters, and leaflets with key messages will be designed and drawn by local artists and distributed to health centers and community leaders.

Messages and materials developed by the Child Survival Program will be based on formative research to understand key obstacles, opportunities, and motivators. This formative research will take several forms:

- **Individual interviews** with members of the target audience including mothers, fathers, other caregivers, and social leaders. The interviews will focus on obstacles and opportunities for current as well as desired behaviors. The DHMT and IRC will conduct these interviews under the close supervision of the Child Survival Program Manager.
- The manager will use the initial information gathered to organize a **Doer/Non-doer analysis** and to train staff in this technique. She will receive technical assistance from the Reproductive Health Senior Technical Advisor at the IRC headquarters who is an experienced practitioner.
- The manager and her staff will then work with Community Health Workers to implement **trials of improved practices**, in which those workers will counsel and negotiate with mothers to encourage adoption of behaviors that improve child survival, based on the insights from the previous inquiries.

The IRC will work with local World Vision staff to conduct this formative research. This will enable the staff of both organizations to gain practice in these important techniques. Joint work will facilitate sharing of the information, which will be important since both

organizations work in culturally similar areas, and most if not all of the research conducted by one organization is likely to be helpful to the other. Some of the research will be conducted in World Vision project areas, other parts in the IRC areas.

Once messages are developed, they will also be discussed with Village Health Committees and Community Health Workers, who will be expected to understand their rationale and to disseminate the messages during formal and informal encounters with fellow villagers. The Community Health Worker, in particular, will be expected to share messages during her clinical encounters, which is a time when caregivers may be particularly receptive to preventive advice.

Quality assurance and improvement

Quality assurance processes will play an important role, particularly at the PHU and District level. Quality assurance will serve as a participatory training tool to improve the quality of care at health centers, but also to improve preventive services at the community level and to identify and resolve important problems at the District level.

The quality assurance and improvement process is based on several key principles:

- A team approach: teams of 4 to 6 people will be formed to identify major issues and address specific problems identified during the process, such as the irregular supply of vitamin A to Community Health Workers or a chronic shortage of immunization antigens at the District level. The teams will be drawn from all the groups likely to be needed in implementing a solution.
- A systematic approach: teams will be trained in the use of tools, most notably the flowchart, to see processes in their entirety. The emphasis will be on analyzing systems rather than blaming people.
- Data gathering: this will serve several important functions. First of all, it will let team members know the scale of the problem, as well as specific areas in which intervention is needed. Secondly, it will set a baseline by which progress can be measured. Thirdly, it will serve in some cases as an advocacy tool.
- A client focus: this is a key component of quality assurance, and will be a considerable change from the current practice.

Teams will identify the problems that have the most impact on health. They will assess the scale of the problem through “quick and dirty” operational studies. They will then design solutions and test them on a small scale to measure effect. Finally, the team members will go from health center to health center to present the assessment data and implement solutions.

Quality assurance is both easy and difficult to teach. It is easy to teach because it is best learnt in a hands-on manner. It’s hard because, ideally, it requires experienced practitioners to spend considerable time coaching the process. The IRC will take the following steps to increase its capacity in this area, so that it can increase the capacity of its local partners:

- The IRC headquarters backstop, who has some quality experience, will continue to increase his skills through reading, interaction with specialists at the Quality Assurance project and time spent with quality teams in the field.
- The field program manager will increase her skills through interaction with the headquarters backstop, reading, and through actual practice.

Integrated Management of Childhood Illnesses

Integrated Management of Childhood Illnesses (IMCI) is a framework designed to tie the various interventions targeting different threats to child survival. In fact, the IMCI model is evolving into two distinct frameworks.

Community IMCI (C-IMCI) is a framework designed to give coherence to community interventions. There are three major goals in the C-IMCI model: to improve care-giving and care-seeking skills at the household level; to improve the quality of services available at community level; and to improve links between communities and health facilities.

Facility IMCI is a set of protocols designed to insure that children seen at health facilities are evaluated correctly, and that no major childhood disease or preventive actions are missed during a clinic encounter. In the IRC's experience in Rwanda and Congo, C-IMCI has been very helpful in outlining the key strategies necessary for successful community health programming. Facility IMCI has been considerably less useful, for a number of reasons. The training required for IMCI at this level is expensive and time-consuming. The process of determining protocols at the national level and training trainers has taken years. Facility IMCI essentially consists of a series of protocols mandated from above, and does little to help managers understand why quality of care has been poor, and what steps might be needed to improve not only skills but attitude and motivation at health facilities. The sheer scope of the protocol can be discouraging to agents of an under-funded public clinic system in a developing country: the gap between actual and desired performance is overwhelming.

The IRC and the DHMT have and will continue to use the C-IMCI model to organize its community activities. These activities, outlined in the intervention sections, can be categorized according to the three arms IMCI framework:

- Activities that improve care-giving and care-seeking skills at the household level including the promotion of use of oral rehydration fluids and recognition of childhood danger signs.
- Activities that improve the quality of services available at community level include training Community Health Workers to provide iron, zinc, and vitamin A supplements.
- Activities that improve the link between community and health facility include the implementation of a community health information system, and the integration of Community Health Workers into clinic outreach activities.

The IRC will focus on quality assurance tools to improve care at the facility level. Quality assurance has a number of advantages, as outlined in the Quality Assurance section of this document. In particular, it is more flexible, less overwhelming, and more participatory. However, facility IMCI is a national policy in Sierra Leone, and the Child Survival Program will support its implementation when training arrives at the facility level. In fact, some of the Program's quality assurance tools are likely to be a useful in implementing facility IMCI and monitoring compliance. The MoHS is currently

adapting curricula for training at the national level, and it is not yet clear when actual implementation will begin.

Partnership

The staff of the Child Survival Program consists of only a few people, whose posts are currently funded only for a few years. Partnership is therefore essential in extending the benefits of the program to over twenty-thousand beneficiaries for years to come. Different partners are listed below, with a description of how they will work with the IRC and other partners to improve the health of women and children. The DHMT and PHU staff have been mentioned extensively throughout the rest of the document and are not mentioned in this section.

Women's groups and other community groups

Sierra Leone has a rich tradition of community groups. They are often built on the interests shared by an age or gender group. They play an important social role at the village and Chiefdom level, and they sometimes have considerable financial clout as well. Any of these groups may play a role in promoting child survival, but the women's groups are most likely to because women, as primary care-givers for children in Kono society, as more likely to see the need for and potential impact of a child survival program. Women's groups can play an important role in most aspects of the program, and particularly:

- Serving as a conduit for key messages
- Organizing health events such as outreach vaccination and prenatal sessions
- Organizing to provide support for Traditional Birth Attendants and other Community Health Workers
- Serving as a source of candidate Community Health Workers
- Helping to raise money for certain interventions, such as the purchase of zinc tablets or mosquito nets for poorer members of the community.

These groups will be approached gradually by IRC, DHMT, and PHU staff, first at the district level and then village by village as the program grows.

Community leaders

Village chiefs and other chiefs (sub-District, Paramount) are not an ancient Kono tradition, but the custodians of a system put in place by British colonizers in the 19th and 20th century. Their role has been controversial—some observers have charged that poor governance by the chiefs has played an important role in the troubles that have struck Sierra Leone in the past decades. The institution has been targeted for reform; recently, some women chiefs were elected, although not in Kono District. In any case, no-one doubts that they still wield considerable influence. Their influence is both moral and financial. Chiefs can work with the program by:

- Serving as a conduit for key messages
- Organizing support for Community Health Workers
- Helping to raise money for certain interventions
- Identifying and giving the authority to community individuals who can help with specific activities.

District-level chiefs will be approached in the next few months with a presentation of the baseline data.

Other IRC programs

IRC operates a number of other programs in the areas, in the area of water and sanitation, prevention of gender-based violence, construction, community empowerment, and community reintegration in addition to the PHU support program which is now integrated with the Child Survival Program. The following are examples of how these programs can work to improve child survival:

- Water and sanitation: building protected wells in villages identified by the Child Survival Program's community health information system as having a prevalence of diarrhea.
- Prevention of gender-based violence: the appreciate inquiry process, part of the Child Survival Program's behavior change strategy, may turn up social obstacles to proper child care; for example, men may refuse support women financially during the breast-feeding period. The Child Survival staff may use the expertise of GBV prevention program staff in addressing this and similar issues. More pragmatically, since both programs involve considerable community field-work and may work with the same community partners, they may pool transport or other resources.

The child survival staff will also work with the GBV program staff to extend women's literacy programs currently running on a small scale. The IRC is currently seeking funding to facilitate this expansion, as well as technical materials.

- Construction: some PHUs will have to be modified to receive solar refrigerators.
- Community empowerment and reintegration: this program may also be able to share transport and other resources as staff does community work in the same villages. Also, the Child Survival staff may ask their colleagues to work with associations of Community Health Workers to help develop income-generating and other projects. The community empowerment staff and the child survival staff will work together with the communities to advocate in prioritizing health care for their children as a priority expense.

World Vision

World Vision supports more than thirty clinics in Kono District, with USAID and other funding. World Vision has been in Kono for several years, and is committed to continue supporting the District as it makes the transition from relief to development. World Vision is also an experienced child survival organization with considerable technical resources. World Vision and IRC managers can work together in many ways:

- By working to harmonize the terms by which both organization deal with the DHMT
- By opening its trainings to staff and partners of the other organization. For example, IRC is committed to invite World Vision staff to its next LQAS survey training.
- By working to harmonize their data collection and monitoring efforts
- By sharing data collected
- By sharing the expertise of visiting consultants.
- By collaborating in the development of BCC materials.

The IRC Program Manager and Technical Advisor have already met with the World Vision Health Coordinator. The Program Manager will continue to meet with her on a regular basis.

CARE International

CARE has received a Child Survival grant for its program in Koinadugu District, which neighbors Kono to the north. CARE's program shares many features with the IRC program, including a context of great poverty and poor health indicators, a partnership with the DHMT, a focus on community-level interventions, and three intervention areas: immunization, malaria, and maternal and newborn care interventions. Some of the ways in which the two organizations have already collaborated include:

- Initial discussion during the application stage
- Joint hosting of a workshop to develop a sustainability plan
- Sharing of baseline data
- Visit of IRC staff to Koinadugu

Some of the ways in which the organizations will continue to collaborate in the future include:

- Regular cross-visits
- Sharing training curricula and actual sharing sessions
- Working to harmonize health information systems
- Sharing program data on a regular basis
- Jointly hiring and hosting external consultants
- Jointly conducting mid-term and final KPC surveys
- Sharing results from quality assurance processes
- Sharing any other insights or lessons learned from the program.

UNICEF

UNICEF has a considerable program in Sierra Leone, and in Kono District in particular. In addition to providing vaccines, immunization equipment, vitamin A, iron, and ORS packets, UNICEF is currently supporting several PHUs in Kono, and using the District as a pilot site for IMCI implementation. Unfortunately, attempts to contact UNICEF have not yet proven successful. Nevertheless, there are a number of ways in which UNICEF will play an important role in the Child Survival Program:

- Continuing to provide inputs
- Sharing data and lessons learned from both organizations' PHUs
- IRC may be able to apply successful UNICEF innovations in its pilot areas, and vice-versa.

Sustainability

The IRC and the Kono DHMT, jointly with CARE, received technical assistance from CSTS+ to develop a sustainability monitoring plan, along the lines suggested in the Child Survival Sustainability Assessment Tool. The technical assistance consisted of the following elements:

1. Email and phone guidance as IRC field staff worked with the DHMT and their counterparts at CARE to develop a basic vision and elements for sustainability.
2. On-site assistance: a consultant specialized in sustainability measurement traveled to Freetown to facilitate a 3-day workshop in which IRC and CARE staff, and their partners, worked to develop a joint sustainability vision and goals. In addition, indicators, indicator definitions, data sources and measurement processes were drafted with respect to the sustainability components.

The process allowed both organizations to focus not just on the immediate actions that may improve child survival, but also on the underlying conditions and capacities that need to be in place for any gains to last. The process has been described in detail in a workshop report, as well as in the CSSA tool itself. We will here just present the vision and the draft indicators that resulted from the workshop. Please note that these are in draft form only. Once the selection of sustainability indicators has been finalized with partner groups, the indicators will be fully developed and included in the M&E plan.

Project vision

More girls are staying in school longer, with positive consequences, including later marriage, greater capacity to follow their children's health. Most children are well nourished. Both women and men take equal responsibility in ensuring the health of their children. Health facilities are well equipped accessible and well attended for both curative and preventive service with trained and motivated staff. Communities openly discuss, participate and come up with solution in addressing their own health problems. National and community leaders, as well as local and international organizations, are accountable and transparent.

Draft indicators

| Indicator | Definition | Data source | Measurement process |
|--|------------|-----------------------|---|
| <i>Dimension one - component two: Health and Social Services Approach and Quality</i> | | | |
| 1. Percentage of PHUs that have a score of 5/5 on basic management checklist. | | PHU inspection | DHMT/IRC supervision |
| 2. Percentage of patient encounters with children under 5 years, that indicate correct treatment for malaria, ARI, and diarrhea. | | Health center records | Monthly joint DHMT/IRC supervision; look at records for 10 most recently treated children |
| 3. Percentage of patient encounters with children under 5 years, that indicate correct diagnosis of malaria, ARI, and diarrhea. | | DHMT/IRC spot-check | Sit in on curative consultation for at least 10 children |

| | | | |
|---|--|---------------------------------------|---------------------------------------|
| 4. The annual number of new visits of children under 5 years, per 1,000 in the catchment population. | | Monthly PHU reports; population lists | Calculation made monthly from reports |
| 5. Percentage of potential target of under 5 children that underwent a clinic consultation. | | PHU reports | Monthly review |
| 6. Percentage of communities that provide a monthly report on epidemic diseases in the community (e.g. measles, cholera, meningitis). | | PHU community report register | Monthly supervision visit |

Dimension two - Component three: Local Organizational Capacity

| | | | |
|--|--|------------------------|---|
| 7. Percentage of communities with active PHU management committees. | Active PHU management committees means those committees that have produced minutes for at least 4 meetings per year. | PHU Documentation | Visitation on monthly basis, examining PHU documentation. |
| 8. Number of new management and supervisory methods learned and applied by the DHMT. | New management and supervisory methods, learned and applied would include those such as LQAS, survey methods, Epi info, Excel. | DHMT reports | Review of DHMT reports every 6 months. |
| 9. Percentage of PHUs making payment for essential drugs within the stipulated time. | Making payment for essential drugs within the stipulated time means that the PHU has both the payment receipt and the drugs purchased. | DHMT Drug store | Quarterly |
| 10. Percentage of DHMT completely filled standard report forms. | | District health office | Monthly |

Dimension two - Component four: Local Organizational Viability

| | | | |
|---|---|--------------------------------------|-----------------|
| 11. Number of proposals from CBOs, DHMT, VDCs that receive funding. | Proposals are written documents requesting grant/resources. To receive funding means that the proposal is approved for support and proposal activities have been implemented within the last twelve months. | Project reports MOUs Contracts | Yearly |
| 12. Number of community interventions that involve at least 2 local organizations | Community interventions involving activities such as agricultural projects, skills training, fund-raising that involve at least two local organizations (NGOs, CBOs). | Community leaders | Written reports |
| 13. Number of outside consultants that are involved in local interventions. | | Communities project reports | Yearly |

Dimension three - Component five: Community Capacity and Competence

| | | | |
|--|---|--|--|
| 14. No. of new latrines constructed yearly by the communities in the catchment areas | New latrines constructed means additional latrines constructed by communities in a given year | KPC Actual counting DHMT reports | Annual review of DHMT/VDCs reports and field observations carried out quarterly. |
| 15. Community attendance at health education gatherings | # of health education gatherings with moderate or large crowd | PHU and IRC reports | Yearly report review |
| 16. No. of active women's groups | No. of villages with an active women's group | Field visit with group chairladies | Yearly review |

Dimension three - Component six: Ecological, Human, Economic, Political and Policy Environment

| | | | |
|--|---|-----------------------------------|--|
| 17. Number of scandals involving government ministers reported in the press over the previous twelve months. | | Newspapers: Awoko Fo di people | Annual staff review |
| 18. Percentage of mothers in the catchment areas that can read. | Read means mothers who are directly observed reading pre-written materials. | KPC – LQAS | Annual |
| 19. Number of girls in form 3 and above in the catchment area. | | Secondary school principal | IRC staff will visit secondary schools |
| 20. Percentage of children 0-23 months who live in a household with a covered (or VIP model), fly-free toilet. | | KPC | Annual |

Next steps for the sustainability process include:

- IRC Managers and the Technical Advisor will continue to work with CSTS and CARE to refine these indicators.
- IRC field staff will begin collecting baseline data for these indicators.

Choice of interventions

The choice of interventions is the same as in the application. Much of the reasoning remains the same. The major change is that much more information on nutrition is available, principally from the KPC survey:

- **Immunization** was included as the KPC confirmed that immunization coverage is extremely low, particularly for measles.
- Interventions to control **diarrhea, malaria, and pneumonia** were included as PHU and KPC data confirm that these diseases are very prevalent—and presumably deadly—in the program area, and that services designed to prevent them have very low coverage.
- **Maternal and newborn care** was included as KPC and KAP data confirmed that quality and coverage of prenatal, obstetric, and post-natal care needed to be improved.
- **Nutrition** was not included for a variety of reasons, including:
 - o A relatively low prevalence of malnutrition, when compared with other disastrous health indicators.
 - o KPC data that suggests—but does not prove—that disease, hygiene and feeding patterns may play an important role in malnutrition.
 - o The need to prioritize between different concerning issues.

However, the program will address several nutritional issues through its other interventions:

- o Vitamin A supplementation in children will be addressed through the immunization intervention
 - o Zinc supplementation, proper feeding during illness, and the promotion of exclusive breast-feeding in children will be addressed through the diarrhea intervention
 - o Early breast-feeding, vitamin A and iron supplementation in women will be addressed through the maternal and newborn care intervention.
- **HIV prevention** was not included, because it was felt the program could not adequately address this issue with its limited resources, and other problems were a more urgent priority for child survival. However, the presumed high STD prevalence and low knowledge about HIV prevention methods are concerning, and suggest that the conditions are right for a surge in HIV prevalence. IRC will seek to address this issue through other programs.
 - **Child spacing and family planning** were not included, because these interventions are unlikely to be successful if high child mortality is not addressed first.
 - **Tuberculosis control** was not included because there is no data to suggest it is one of the top issues affecting child survival in Kono, and because of IRC's lack of experience in TB programming.

Major objectives and indicators

| Objectives and indicators | Method | Frequency | Current | 2008 Goal |
|--|---------------------|--------------------|---------|-----------|
| 1. Increase the proportion of children who are correctly immunized against tuberculosis, diphtheria, polio, tetanus, pertussis, and measles <i>Indicator: % of children 12 to 23 months with recorded complete immunization before their first birthday</i> | LQAS | Mid-term and final | 26 | 80 |
| 2. Increase the proportion of children receiving supplemental vitamin A, which decreases mortality from measles and from other diseases <i>Indicator: % of children 0 to 23 months who have received vitamin A within the last six months</i> | LQAS | Mid-term and final | 15 | 50 |
| 3. Increase the proportion of caregivers who wash their hands with soap on key occasions <i>Indicator: % of mothers of children 0 to 23 months who wash their hands on 4 key occasions (before food preparation or feeding child; after defecation or cleaning the child)</i> | LQAS | Mid-term and final | 4 | 30 |
| 4. Increase the proportion of children less than 5 years of age who sleep under a correctly treated bed net <i>Indicator: % of children 0-23 mos who slept under a correctly treated bednet the previous night</i> | LQAS | Mid-term and final | 1 | 30 |
| 5. Increase the proportion of women who receive intermittent preventive malaria treatment during pregnancy <i>Indicator: % of mothers of children 0 to 11 months who got at least one intermittent malaria preventive treatment during their most recent pregnancy</i> | LQAS | Mid-term and final | 0 | 30 |
| 6. Increase the proportion of caregivers who recognize breathing-related danger signs <i>Indicator: % of mothers of children 0 to 11 months who recognize rapid or difficult breathing as a danger sign for childhood illness</i> | LQAS | Mid-term and final | 7 | 30 |
| 7. Increase the proportion of women who receive at least 2 TT immunizations <i>Indicator: % of mothers of children 0 to 11 months who have received at least 2 recorded TT immunizations</i> | LQAS | Mid-term and final | 39 | 60 |
| 8. Increase the proportion of women experiencing delivery complications receiving care from a skilled attendant <i>Indicator: % of mothers of children 0 to 11 months having experienced a serious delivery complications who delivered at a health facility</i> | KAP (baseline)/LQAS | Mid-term and final | 27 | 35 |

Program Description by Objective, Intervention and Activities

Immunization

Problem statement

- Vaccine-preventable diseases are major killers in Kono District, including measles and tetanus as well as diseases like diphtheria that may be diagnosed as pneumonia.
- Malnutrition is relatively common, suggesting that vitamin A deficiency contributes to mortality from measles and other vaccine-preventable diseases.
- Coverage for childhood immunization is very low. A significant percentage of children never have any immunization contact, and very few complete all their immunizations by age one.
- Vitamin A coverage is high but many children receive vitamin A late.
- Health centers have outreach sessions, but not enough to give access to all children in their catchment area. Caregivers attend in large numbers when the sessions are accessible, but there are not enough outreach and clinic sessions to vaccinate all the children in the catchment area. Caregivers often come to sessions too early or too late, suggesting that they are not educated about the immunization schedule.
- Outreach sessions are limited by a number of factors: vaccinators travel on foot, so they are limited to within a few kilometers of the health center; only five of the thirteen facilities have working refrigerators; solar-powered refrigerators work well, but refrigerators powered by gas or fuel are not running consistently.
- Caregivers keep the cards when they are given, but the supply of immunization cards is irregular. Cards are often not marked during mass measles and polio campaigns.
- There are no systems to monitor injection safety.
- Most of the PHU in-charges do not know the size of their target population, and they do not know how to calculate coverage. The District Health Team has computers, but do not know how to use them to monitor coverage. None of the data from immunization reports are entered in or analyzed with these computers.
- The District Health Team is responsible for transporting vaccines from Freetown to Kono four times a year, but they often do not have fuel or a working vehicle to do this, leading to frequent antigen shortages.

Goal and Objectives

Goal: Reduce mortality from measles and other vaccine-preventable diseases in Kono.

Objectives (please note that, for all interventions, key objectives are in bold type)

1. **Increase the proportion of children who are correctly immunized against tuberculosis, diphtheria, polio, tetanus, pertussis, and measles.**
2. **Increase the proportion of children receiving supplemental vitamin A, which decreases mortality from measles and from other diseases.**
3. Increase coverage against yellow fever, as per MoHS policy.

Note: maternal vitamin A and TT immunization will be addressed in the “maternal and newborn care” section.

Strategies

Increase coverage by:

1. Increasing caregivers' knowledge of the immunization schedule
2. Improving vaccine completion by establishing a tickler system at the PHUs
3. Improving access by increasing the number of outreach and PHU sessions
4. Addressing transport issues at the PHUs
5. Addressing supply problems, including vaccine transport and appropriate re-ordering at the PHU level.
6. Increase the capacity of PHU in-charges and DHMT supervisors to monitor coverage, both manually and electronically
7. Training and organizing Traditional Birth Attendants to give vitamin A to children under five years of age

Increase quality of

1. the cold chain by:
 - i. Working with UNICEF and the DHMT to get solar refrigerators to five more PHUs
 - ii. Refurbishing PHUs so that solar powered refrigerators can be installed
 - iii. Developing and using sheets to monitor cold chain compliance
2. injection safety by:
 - iv. Developing and using monitoring sheets to follow injection practices before, during, and after the actual injection

Improve surveillance by:

1. Training and organizing Traditional Birth Attendants and Blue Flag volunteers to report cases of epidemic diseases, including measles, acute flaccid paralysis, tetanus, acute watery diarrhea, and suspected meningitis.

Major Activities

Community

1. Develop materials to educate caregivers about the immunization schedule
2. Enroll Traditional Birth Attendants and Blue Flag volunteers to follow-up on children identified by the tickler system as having missed vaccinations
3. Train TBAs to identify appropriate recipients for vitamin A, and distribute capsules
4. Establish a supply system for vitamin A
5. Hold monthly data-sharing and monitoring meetings with the TBAs at the 22 PHUs
6. Establish a community-based surveillance system, including:
 - a. Designing a report form
 - b. Training Traditional Birth Attendants and Blue Flag volunteers to recognize epidemic diseases of public health importance
 - c. Training PHU staff to collect, compile, analyze, and follow-up on the reports

PHU

7. Train vaccinators and other PHU staff to use the flashcards and to communicate with caregivers about the immunization schedule, care for the immunized child, and other issues
8. Train PHU staff to use the tickler system
9. Work with each PHU in-charge to develop an outreach and clinic schedule that reaches all the catchment area
10. Provide each vaccinator with a bicycle
11. Train PHU in-charges to calculate targets and coverage, and to re-order appropriately
12. Work with IRC's construction program to prepare five additional PHU buildings to house the solar refrigerators
13. Develop monitoring sheets for cold chain compliance and injection safety

District

14. Hold quarterly coordination meetings between the DHMT and IRC to monitor immunization performance
15. Assist DHMT with fuel and minor motorcycle repairs during a transition period of 2 years
16. Monthly meetings with the DHMT EPI Point Person
17. Computerize DHMT immunization data and train DHMT to use it
18. Collaborating with the DHMT and other Kono PVOs, including World Vision, to share transport of vaccines from Freetown to Kono

Essential commodities

- **Vaccines and syringes** will continue to be provided at no charge by UNICEF. As outlined above, IRC and the DHMT will use quality assurance approaches to identify and address systemic problems in vaccine supply.
- **Cold-chain equipment**, particularly solar refrigerators, will be provided by UNICEF. However, the supply of refrigerators are limited and there are over sixty health PHUs in the District, many of them more remote than the facilities in the program area. The IRC will work with the DHMT that at least basic needs are met, and that those refrigerators allocated to the program area will be placed in the most rational site. Also, once coverage improves, IRC managers will use evidence of high coverage to advocate to UNICEF for more investment in the cold chain.
- **Vitamin A** is currently provided free by the MoHS, which receives it from UNICEF and other sources. Supply has not been a problem to date, but IRC and DHMT staff will again use quality assurance processes to monitor supply and address any problems.

Control of diarrheal diseases

Problem statement

- Diarrhea imposes a considerable burden on young children in the program area. About one in ten visits at health facilities is due to diarrhea, but it is likely that far more cases occur in the community. About one in six mothers reported their child had diarrhea in the last two weeks, according to the KPC.
- The incidence of diarrhea appears to be lowest in the rainy season. Some protected wells run dry when the rains stop, and the increased use of stream or unprotected wells, as well as decreased hand-washing, may contribute to the increased incidence. The use of protected water sources, increased hand-washing with soap, and improved nutrition status were all associated with a lower prevalence of diarrhea.
- Diarrhea incidence increased steadily up to age 12 to 14 months, and then declined. The increase in diarrhea incidence is associated with the introduction of solid food.
- Compared to other symptoms, diarrhea appeared to generate a medium level of concern, less than cough but more than fever or difficult breathing. More than one-third of mothers recognized persistent skin fold as a sign of dehydration, but other important signs, including thirst, oliguria, and depressed fontanel, are recognized by less than one in ten women. Even worse, those symptoms are taken as signs of other illnesses and given traditional treatments that can aggravate the dehydration.
- Food and especially fluids are often reduced or withheld altogether during illness. Only one in four children gets fed more after illness.
- ORS use is high, but few women have it in their homes. It is commercially available in most villages for the equivalent of less than twenty US cents.
- Hand-washing with soap is relatively common, with more than half of mothers washing their hands on at least two of four key occasions, but less than one in twenty washing on all four. There is less hand-washing for occasions directly related to child care, such as feeding the child. Soap is made locally and widely available.
- Latrine use is common, but very few latrines are clean and closed. The most common source of water is streams, but traditional open wells and closed hand-pump wells are also common sources.
- About a third of the villages in the program area have “ORT corners” in which ORS packets are available.
- UNICEF currently supplies ORS packets for free, but it is unclear that this will be sustained.

Goal and Objectives

Goal: Reduce mortality and morbidity from diarrhea among children under five

Objectives

1. Increase the proportion of children less than five years of age whose diarrhea is treated with oral rehydration fluids.
2. **Increase the proportion of caregivers who wash their hands with soap on key occasions.**

3. Increase the proportion of children whose intake of food and fluid is not reduced during illness.
4. Improve the proportion of children with diarrhea who receive zinc.
5. Increase the quality of care at PHUs for children with diarrhea.

Strategies

Increase access to and use of oral rehydration fluids by:

1. Working with partners including the MoHS and UNICEF to identify sources of sustainable ORS packet supply to the District and PHUs
2. Improving caregivers' recognition of dehydration danger signs
3. Extend "ORT Corners" to cover all the villages in the catchment area
4. Having "ORT Corners" be used not only to distribute ORS, but also to teach caregivers to make home-made solutions and teach about danger signs
5. Continue to make ORS available at a subsidized cost of 10 cents
6. Develop a monitoring system to track ORT corner attendance at the PHU and District village

Increase the practice of hand-washing by:

7. Doing appreciative inquiry research to understand obstacles and opportunities in promoting the practice
8. Using Community Health Workers to promote the practice, based on the findings of the research

Improve the quality of care at PHUs

Improve access to zinc by:

9. Working with partners including the MoHS and UNICEF to identify sources of sustainable zinc supply
10. Training Community Health Workers to distribute zinc

Increase food and fluid intake during illness by:

11. Doing appreciative inquiry research to understand obstacles and opportunities in promoting the practice
12. Using Community Health Workers to promote the practice, based on the findings of the research

In addition, Child Survival staff will collaborate with managers from the water and sanitation program, which recently received three years of additional funding, to identify villages in the program area that are in need of improved water sources

Major Activities

Community

1. Develop flashcards and other materials to educate caregivers about dehydration signs and the value of hand-washing
2. Conduct pilot village-level surveys in which Community Health Workers measure diarrhea incidence in families before and after sustained soap use

3. Continue to train Community Health Workers to run the ORT corners in villages where they are not yet established
4. Train Community Health Workers to distribute zinc
5. Implement a reporting system for the ORT corners to monitor ORS use

PHU

6. Initiate quality assurance and improvement processes, including
 - Nominating of a team or teams to address diarrhea-specific issues
 - Identify quality issues that have a major impact on health, such as welcome, assessment of dehydration, ORS and zinc supply, and communication with mothers
 - Define correct norms
 - Conduct assessment surveys at PHUs to measure performance and identify gaps
 - Design feasible solutions
 - Implement the solutions and conduct follow-up assessments
7. Monitor performance of Community Health Workers in terms of record-keeping and communication with mothers
8. Train PHU staff to follow the coverage of zinc distribution and ORT corners

DHMT

9. Work with the MoHS and donors for IRC's District support program to identify a regular supply of ORS packets and zinc tablets
10. Train DHMT members to facilitate the quality assurance process
11. Train DHMT members to use computers and other tools to track ORS, zinc coverage
12. Monthly meetings with the DHMT disease surveillance person to discuss program data and decisions
13. Conduct operational research in pilot villages to compare the relative impact on diarrhea incidence of feeding, hygiene, water-source, zinc, and sanitation interventions

Essential commodities

- **ORS** is available free from UNICEF. UNICEF is expected to supply packets for the foreseeable future, but the DHMT has requested that ORS be sold rather than given at community level. This will allow Community Health Workers to generate some income, and it will prepare the distribution system for the time when packets are no longer supplied free. As with all commodities shipped from the outside, quality assurance processes will be used to identify and address transport and other issues.
- **Zinc** is not currently available in Kono. The IRC will work with the DHMT to identify an affordable source of zinc tablets. Currently, IRC works with Nutriset, a French company which makes a sweet-tasting tablet. IRC will work to identify a match funding source for initial orders. Program and partner staff will then work to build demand, so that zinc can be sold later by CHWs at slightly above market price.
- **Soap** is widely manufactured and available, at prices that are affordable to nearly all households.

Control of malaria

Problem statement

- Malaria imposes an enormous burden on young children in the program area. Half of all young children attending health facilities are diagnosed with malaria, and half of all children in the KPC sample had a febrile illness in the last two weeks, a third of them without any other symptom.
- Malaria is holoendemic, with a high number of cases even during the dry season. This may be caused by the persistence of stagnant water pools in the dry season.
- Most children with fever do not receive treatment within 24 hours. Fever as a symptom appears to be of less concern to mothers than cough or irritability.
- Until recently, the first-line drug is chloroquine. There is no data from Kono, but data from nearby districts makes clear that chloroquine resistance is extremely high. The government has recently switched its policy to recommend artesunate-containing combination therapy (ACT), but it is available only in private pharmacies in cities, at a price that is unaffordable to most people. None of the IRC-supported health facilities have ACT available. Most health facilities continue to distribute chloroquine. Sulfadoxine/pyrimethamine is not widely available, and data from surrounding districts suggest that, in any case, resistance to the drug is rising rapidly.
- Although people were reluctant to report this to KPC interviewers, anecdotal evidence strongly suggests that most caregivers seek treatment for fever and other illnesses from traditional healers or unlicensed “pill sellers” who are much closer to them than the health facilities. Most treat malaria with chloroquine as well.
- MOH policy does not currently allow any treatment by Community Health Workers.
- Prophylactic treatment with chloroquine during pregnancy is common, but does not appear to be effective. This is most likely because of drug resistance.
- Coverage of adequately-treated mosquito nets is close to nil for young children, and low for pregnant women. However, nets are known and apparently valued. The major obstacles to coverage with treated nets are cost and re-treatment. Children who slept under nets, even when not correctly treated, have a lower incidence of fever.
- Less than half of caregivers know that mosquitoes transmit malaria. Other commonly cited causes include eating sweet foods and stepping on the urine of a malaria patient. Fever is considered a normal sign of early pregnancy.

Goal and Objectives

Goal: Reduce mortality and morbidity from malaria among children under five and pregnant women.

Objectives

1. Increase the proportion of children less than five years of age who receive correct first-line treatment for presumed malaria within 24 hours.
2. **Increase the proportion of children less than five years of age who sleep under a correctly treated bed net the previous night.**
3. **Increase the proportion of women who receive intermittent preventive malaria treatment during pregnancy.**

Strategies

Increase access to prompt quality treatment for presumed malaria by:

1. Increasing caregivers' recognition of fever as a symptom that requires prompt treatment
2. Working with partners to make ACT available in health facilities
3. Improving quality of care at the health facilities, including use of correct first-line drugs, proper communication with caregivers, and recognition of critical anemia
4. If MoHS allows, facilitating distribution of first-line antimalarials at community level
5. Improving the capacity of DHMT and PHU staff to recognize malaria epidemics

Increase access to correctly-treated mosquito nets by:

6. Organizing Community Health Workers to sell long-lasting treated nets available at subsidized prices
7. Increasing caregivers' knowledge of the value of nets in preventing malaria

Improve access to intermittent treatment during pregnancy by:

8. Working with partners to identify an appropriate IPT treatment policy
9. Working with partners to make IPT drugs available in health facilities
10. Improving quality of care at the health facilities, including timely provision of IPT to all pregnant women who attend
11. If MoHS allows, facilitating distribution of IPT at community level
12. Increasing people's knowledge of the value of IPT in improving pregnancy outcomes

Major Activities

Community

1. Develop materials to educate caregivers about dangers signs in childhood illness, the value of treated nets, and the value of preventive treatment during pregnancy
2. Train Community Health Workers to provide first-line malaria treatment to children with fever and without other danger symptoms, if MoHS policy allows
3. Provide subsidized long-lasting treated nets to Community Health Workers for resale at the community level
4. Develop financial, reporting, and supervisory systems to monitor net sales and use
5. Train Traditional Birth Attendants to provide IPT to women at appropriate intervals during pregnancy, if MoHS policy allows

PHU

6. Initiate quality assurance and improvement processes, including
 - Nominating a team or teams to address malaria-specific issues
 - Identify quality issues that have a major impact on health, such as welcome, correct diagnosis, recognition of critical anemia, correct treatment, supply mechanisms, and communication with caregivers
 - Define correct norms
 - Conduct assessment surveys at PHUs to measure current performance and identify major gaps
 - Design feasible solutions
 - Implement the solutions and conduct follow-up assessments.

7. Implement financial, reporting, and supervisory systems to monitor net sales and use

DHMT

8. Work with the MoHS and donors for IRC's District support program to:
9. Identify a procurement source for ACTs
10. Identify funding sources for ACTs
11. Work with the MoHS and donors for IRC's District support program to identify a procurement source and long-term funding source for long-lasting treated nets
12. Implement a monitoring system to insure that each PHU is visited regularly by a DHMT member
13. Provide medium-term (2-year) support for DHMT transport, including provision of fuel and minor repairs for motorcycles
14. Train DHMT members to facilitate the quality assurance process
15. Train DHMT members to use computers and other tools in following IPT and net coverage, utilization rates, and malaria epidemic patterns
16. Monthly meetings with the DHMT disease surveillance person to discuss data

Essential commodities

- **Bednets** currently are available in Kono at prices that the majority of households cannot afford. Also, most are sold untreated. The IRC will procure long-lasting treated nets from Vestergaard-Frandsen, a Danish company which markets the largest, most popular form of the net for about \$9, including transport to Kono District. This price is competitive in the worldwide market, but means that the nets will have to be subsidized for the foreseeable future to reach the families who need them the most. IRC has already arranged an initial purchase through its District-support program, and will seek additional match funding to secure funding for more nets. The MoHS and partners are currently submitting an application to the Global Fund which, if successful, should insure a supply of subsidized nets for the next few years. If the application is not successful, IRC will use data from the program to advocate to other donors for match funding.
- **Antimalarials drugs** procurement is a major issue now that artesunate-based combination therapy is required. This therapy is cheap by the standards of developed countries but, at an estimated \$1 a dose, is out of reach for many poor families. IRC will work with its partners to identify a procurement and funding source as soon as possible. In the longer term, other donors, including the Global Fund, will need to be found to continue to subsidize these essential drugs. The IRC has taken a number of steps to address procurement and funding issues related to Artesunate-based combination therapy. These include quantifying IRC's Artesunate need worldwide; identifying partner PVOs who would be able to join in bulk orders; entering into discussions with UNICEF regarding provision of these drugs; and entering into discussions with MOH decision-makers regarding IRC participation in global fund applications. Sierra Leone has applied previously but not been accepted; we believe that participation and other PVO participation in the application process may increase chances of receiving funding from the global fund.

Control of pneumonia

Problem statement

- Pneumonia imposes a significant burden on young children in the program area. One in five of all young children attending health facilities are diagnosed with pneumonia, and one in seven of children in the KPC sample had a respiratory illness in the last two weeks, the majority of them associated with fever.
- There appears to have been a considerable epidemic of childhood pneumonia in the program area in 2003.
- Respiratory symptoms are strongly associated with nutritional status.
- Cough is one of the symptoms that mothers were most concerned about, but difficult breathing—a better indicator of serious illness—is one the symptoms they were least concerned about. Only one in twenty mothers cited difficult breathing as a danger sign. One in five children with difficult breathing as a primary symptom received prompt treatment at a health facility.
- Trimethoprim is widely available at health facilities.
- Treatment by pill sellers and other unqualified private providers is common, as with other diseases. MoHS policy forbids treatment by Community Health Workers.

Goals and Objectives

Goal: Reduce mortality and morbidity from pneumonia among children less than five years of age.

Objectives

1. **Increase the proportion of caregivers who recognize breathing-related danger signs.**
2. Increase the proportion of children less than five years of age with difficult breathing who receive correct treatment within 24 hours from authorized providers.

Zinc treatment, which is expected to have an impact on pneumonia mortality and morbidity, will be discussed under the diarrhea section.

Strategies

Increase access to prompt quality treatment for pneumonia by:

1. Increasing caregivers' recognition of breathing-related symptoms requiring attention
2. Improving quality of care at the health facilities, including proper respiratory assessment and proper communication with caregivers
3. Improving the capacity of DHMT staff to recognize and address epidemics of respiratory diseases

Major Activities

Community

1. Develop flashcards and other materials to educate caregivers about dangers signs in childhood illness

2. Provide subsidized zinc to Community Health Workers for distribution to children with diarrhea

PHU

3. Initiate quality assurance and improvement processes, including
 - Nominating of a team or teams to address issues related to respiratory illness
 - Identify quality issues that have a major impact on health, such as welcome, assessment of respiratory status, correct treatment, and communication with caregivers
 - Define correct norms
 - Conduct assessment surveys at PHUs to measure current performance and identify gaps
 - Design feasible solutions
 - Implement the solutions and conduct follow-up assessments

DHMT

4. Implement a monitoring system to insure that each PHU is visited regularly by a DHMT member
5. Provide medium-term (2-year) support for DHMT transport, including provision of fuel and minor repairs for motorcycles
6. Train DHMT members to facilitate the quality assurance process
7. Train DHMT members to use computers and other tools in following morbidity patterns
8. Monthly meetings with the DHMT disease surveillance person to discuss program data and decisions.

Essential commodities

- **Antibiotics** will continue to be procured for the short term through IRC's District support program. After the program closes in about a year, cost-recovery is expected to be an adequate source, because trimethoprim is inexpensive. Antibiotic misuse is a major concern, and program staff and partners will use quality assurance methodologies to focus closely on pneumonia diagnosis.

Maternal and newborn care

Problem statement

- Maternal mortality is high in Sierra Leone as a whole, and there is no reason that the situation is any better in Kono. A third of women experience a complication during delivery, the most common being hemorrhage, obstruction, and infection, as is typically seen in this type of setting.
- Prenatal attendance and iron supplementation coverage is high, but TT coverage is low. Documentation of prenatal visits and specific interventions is poor.
- For delivery, use of health facilities is relatively low, but use of Traditional Birth Attendants is very high. Traditional Birth Attendants are also commonly used for post-natal visits.
- None of the communities and very few of the PHUs have plans for obstetric evacuation in an emergency.
- Most Traditional Birth Attendants have some modern training—some as much as six months—and the vast majority use a modern delivery kit.
- Mother’s knowledge of danger signs is relatively high for some signs—obstructed labor, heavy bleeding— but low for others, such as fever.
- Most women and newborns have a post-natal visit, which in most cases is done by a trained Traditional Birth Attendant. However, both Traditional Birth Attendants and health personnel fail to take important actions during these visits, such as checking for fever or anemia in the mother or breathing and weight in the child. However, nearly all checked the umbilical cord. Of mothers whose child was weighed, half said they did not know the weight.
- A third of women breast-feed within an hour of birth, but only one in seven child under six months of age is exclusively breast-fed. The vast majority of young infants are given water. This is a strongly held belief, as water is considered a source of life and health, as it is for adults and older children. Colostrum is often discarded as having no nutritional value.
- Neonatal tetanus is relatively common. One in seven women has lost at least one child to the disease.
- There is no data on the prevalence of STDs, but STD are a common cause of consultation among adults. One in six pregnancies ends in stillbirth.

Goal and Objectives

Goal: Reduce maternal and neonatal mortality

Objectives

1. **Increase the proportion of women who receive at least 2 TT immunizations.**
2. Maintain the proportion of women who take iron supplementation and decrease the prevalence of maternal anemia.
3. **Increase the proportion of women experiencing delivery complications receiving care from a skilled attendant.**

4. Improve the proportion of mother-children pairs for whom four essential actions (mother: check for fever and anemia; child: check weight and breathing) are taken within a week of birth.
5. Increase the proportion of newborns who are put on the breast within an hour of birth.
6. Increase the proportion of women given vitamin A within a month of delivery.

In addition, the program may address the presumed high prevalence of sexually-transmitted infections, especially syphilis, through a prenatal screening and treatment program. Development of such a program, however, will require more information gathering and close collaboration with the MoHS' Reproductive Health Division.

Strategies

Increase access to TT immunization by:

1. Organizing outreach clinics to provide prenatal services to remote villages
2. Improving the scheduling of both outreach and clinic prenatal sessions
3. Addressing transport issues at the PHUs
4. Addressing supply problems, including vaccine transport and ordering at the PHUs
5. Increase the capacity of PHU in-charges and DHMT supervisors to monitor coverage, both manually and electronically

Decrease the prevalence of maternal anemia by:

1. Training Traditional Birth Attendants to give iron
2. Identifying and addressing obstacles to compliance with iron supplementation
3. Addressing any supply problems
4. Initiating a prenatal deworming
5. Encouraging women to eat foods rich in iron—and men to make it possible

Increase access to emergency obstetric care during complications by:

1. Maintaining and increasing Traditional Birth Attendant recognition of danger signs
2. Increasing caregivers' recognition of danger signs
3. Identifying and address obstacles to transfers
4. Helping pregnant women develop birth plans. The IRC will use formative research resources available on the CEDPA website and elsewhere to overcome strong cultural barriers.
5. Improving transport from PHUs to the District Hospital
6. Using quality assurance processes to improve the quality of basic essential obstetric care at the PHUs, including welcome, assessment, and proper referral

Increase to quality of post-natal care by Traditional Birth Attendants and PHU staff by:

1. Training Traditional Birth Attendants and PHU staff
2. Using quality assurance processes to improve quality of care, including attention to communication and key post-natal actions, using exit interviews as a major tool

Increase the proportion of children who are put on the breast rapidly by:

1. Doing qualitative research to understand obstacles and opportunities in promoting this behavior

2. Training Traditional Birth Attendants and PHU maternity staff to spread this message

Increase the proportion of mothers who receive vitamin A after delivery by:

1. Training and organizing Traditional Birth Attendants to distribute vitamin A post-partum
2. Using BCG immunization as a catch-up time for vitamin A supplementation for mothers who have not received it immediately

Major Activities

Community

1. Training Traditional Birth Attendant to give iron and vitamin A supplements
2. Conducting refresher training of Traditional Birth Attendant on obstetric complications
3. Conducting inquiries into obstacles which prevent Traditional Birth Attendants from referring
4. Implementing solutions to these problems
5. Implement a reporting system for Traditional Birth Attendant activities

PHU

6. Work with PHU in-charges and Village Development Committees to establish rational outreach and clinic prenatal sessions
7. Provide bicycles for transport to outreach sites
8. For TT supply and coverage-monitoring activities, see immunization section
9. Provide basic essential obstetric care equipment to PHUs
10. Initiate quality assurance and improvement processes, including:
 - Nominating a team or teams to address obstetric and post-natal-specific issues
 - Identify quality issues that have a major impact on health, such as welcome, detection of complications, referral system, and post-natal checks
 - Define correct norms
 - Conduct assessment surveys at PHUs to measure performance and identify major gaps
 - Design feasible solutions
 - Implement the solutions and conduct follow-up assessments
11. Monitor performance of Traditional Birth Attendants in terms of referral
12. Train PHU staff to follow the coverage of zinc distribution and ORT corners

DHMT

13. Train DHMT members to facilitate the quality assurance process
14. Train DHMT members to use computers and other tools in following TT coverage obstetric referrals
15. Monthly meetings with the DHMT obstetric care person to discuss program data and decisions
16. Provide an ambulance for the District Hospital
17. Equip PHUs and District Hospital with radio communication
18. Conduct operational research on STD prevalence; if appropriate, with the DHMT and the MoHS to develop a prenatal screening and treatment protocol for syphilis

Essential commodities

- **Vitamin A** procurement strategies are outlined in the immunization section
- **Iron** procurement strategies are similar. Iron is available free from UNICEF, and program staff and partners will use quality assurance methods to monitor the quality of supply.
- An **ambulance and radio equipment** are included in the program budget. The DHMT has committed to working with the hospital to insure that the ambulance has fuel and is maintained regularly.
- **Obstetric equipment** has been and will continue to be purchased through the budget of the District support program.

Program Monitoring and Evaluation Plans

Current monitoring system

There are currently three major monitoring systems:

Facility reports

These reports are based principally on the morbidity register at the health facility; they also include financial information. They are completed by hand and given to DHMT and IRC supervisors. They are computerized in the IRC office, using an Excel spreadsheet, but not in the District. The spreadsheet contains some errors and does not make use of some applicable Excel features. DHMT members get written reports and analysis based on analyses of the spreadsheet. There is some evidence that the information is not adequately analyzed; for example, an apparent epidemic of respiratory diseases that began in June and July of 2003 was never detected. PHU staff are given limited feedback on the content and quality of their reports.

Vaccination reports

These reports, which accompany the facility reports, are based on the immunization registers. They are also computerized at the IRC office. Analysis of the data has been limited so far, in part because catchment areas have been changing as PHUs have been built and begun operating.

Community birth and death register

These are currently being established, with the exact format still developing. At the moment, the registers are based at the PHUs, with Community Health Workers expected to reported births and deaths at the community level. For each death, Community Health Workers are expected to report a cause; the form includes over twenty possible causes of deaths, including categories such as “malaria” or “meningitis” that may be difficult for the Community Health Worker to distinguish with any accuracy. There is no data yet on the system’s estimated coverage (actual births and deaths reported vs. expected)

How the new monitoring system will differ and overlap

The three systems mentioned in the previous section will continue. They will be improved; in particular, they will be computerized at the District level, and systems will be put in place to insure timely analysis at the community, PHU, and District level. In addition, two more monitoring tools will be used: quality assurance research and a community health information system. These changes are discussed for each monitoring system. Table 9 summarizes major features of the different monitoring systems used.

Facility and immunization reports

1. The spreadsheet at the IRC level will be revised, making maximum use of Pivot Tables and other functions. Managers will be trained to use these functions to produce monthly graphs and monitor trends for prevalent and epidemic diseases.
2. The spreadsheet will be transferred to the District office. DHMT members will be trained to enter and analyze data.

3. District and IRC managers will meet monthly with PHU in-charges to discuss the quality and content of the reports. During these meetings, DHMT and PHU staff will make decisions based on the facility data.
4. In addition, there will be smaller meetings to look at individual intervention areas. For example, IRC staff will meet with the DHMT member in charge of immunization to discuss coverage, performance of individual PHUs, and other immunization issues.

Community birth and death register

1. IRC managers are currently working with DHMT members to simplify the form.
2. IRC will work with DHMT members to gradually introduce registers in each village, and train Community Health Workers to fill out a simple reporting form and transfer it to PHU staff, who will compile it and pass it on to the DHMT, who will computerize and analyze the information.
3. PHU in-charges will discuss this information during monthly meetings.
4. This information will also be passed on and discussed by PHU staff during their monthly meeting with Community Health Workers in the PHU catchment area.

Community health information system

1. This system is currently being developed. The details of the system are not yet known, because it is essential that most input from the system come from the users themselves. Major features include:
 - The system will collect information from the community birth and death register, and from major activities of the Community Health Workers, including
 - Traditional Birth Attendant deliveries
 - Vitamin A, iron, and zinc supplementation
 - Intermittent preventive malaria treatment for pregnant women
 - Bednet and ORS sales
 - Epidemic surveillance
 - The information will be compiled by PHU staff, and computerized at the District level.
 - Analysis and decision-making will take place during monthly meetings of PHU in-charges, and during monthly meetings of Community Health Workers at each PHU.

Quality assurance

1. Quality assurance assessments will be conducted for each of the intervention areas.
2. Quality indicators will be determined by teams nominated by the DHMT for specific interventions. It is important for quality improvement to be successful that the indicators are:
 - Agreed upon and even initiated by those who will then have to implement the resulting quality improvement recommendations
 - Adapted to local conditions yet informed by global norms and indicators
 - Limited in number and focused on the processes that have most impact on health and utilization of services

- Flexible, and adapted as circumstances change. For example, if proper assessment of respiratory status becomes well established during patient encounters, a team may decide to focus on other aspects of pneumonia case management that had not previously received attention.
3. The results of quality assurance research will be disseminated locally by the DHMT through brief reports, and discussed at District-wide and PHU meetings. The reports will be compiled annually by the DHMT and disseminated more widely with IRC support.

Table 9: summary of monitoring systems

| | Community | HC reports | QA | LQAS |
|-----------------------------------|---|---|---|---|
| Key data | Community births Deaths by age/cause People served (ORS, zinc, vitamin A, iron) | Consultations by diagnosis Immunization coverage | Quality of care indicators at PHU & community level | Major program indicators |
| Sources | Community registers | Consultation and immunization register at PHU | Variety of tools including surveys, observation | Questionnaire given to random sample of mothers |
| Denominator | The whole population. Age group % done by MoHS standards | Entire population (source: chiefs) | Depends on the method | Mothers of children age 0-11 m and 12-23 m |
| Frequency | Monthly | Monthly | Depends on method | Yearly |
| Procedure | Reports from community to PHU, from PHU to DHMT | Reports from PHU to DHMT | Depends on method | Complex – refer to survey report |
| Supervision and quality check | PHU+ DHMT + IRC | DHMT + IRC | DHMT + IRC | DHMT + IRC |
| How DHMT and IRC will participate | Compilation and analysis | Compilation and analysis | Participation in all phases of survey | |

Analysis

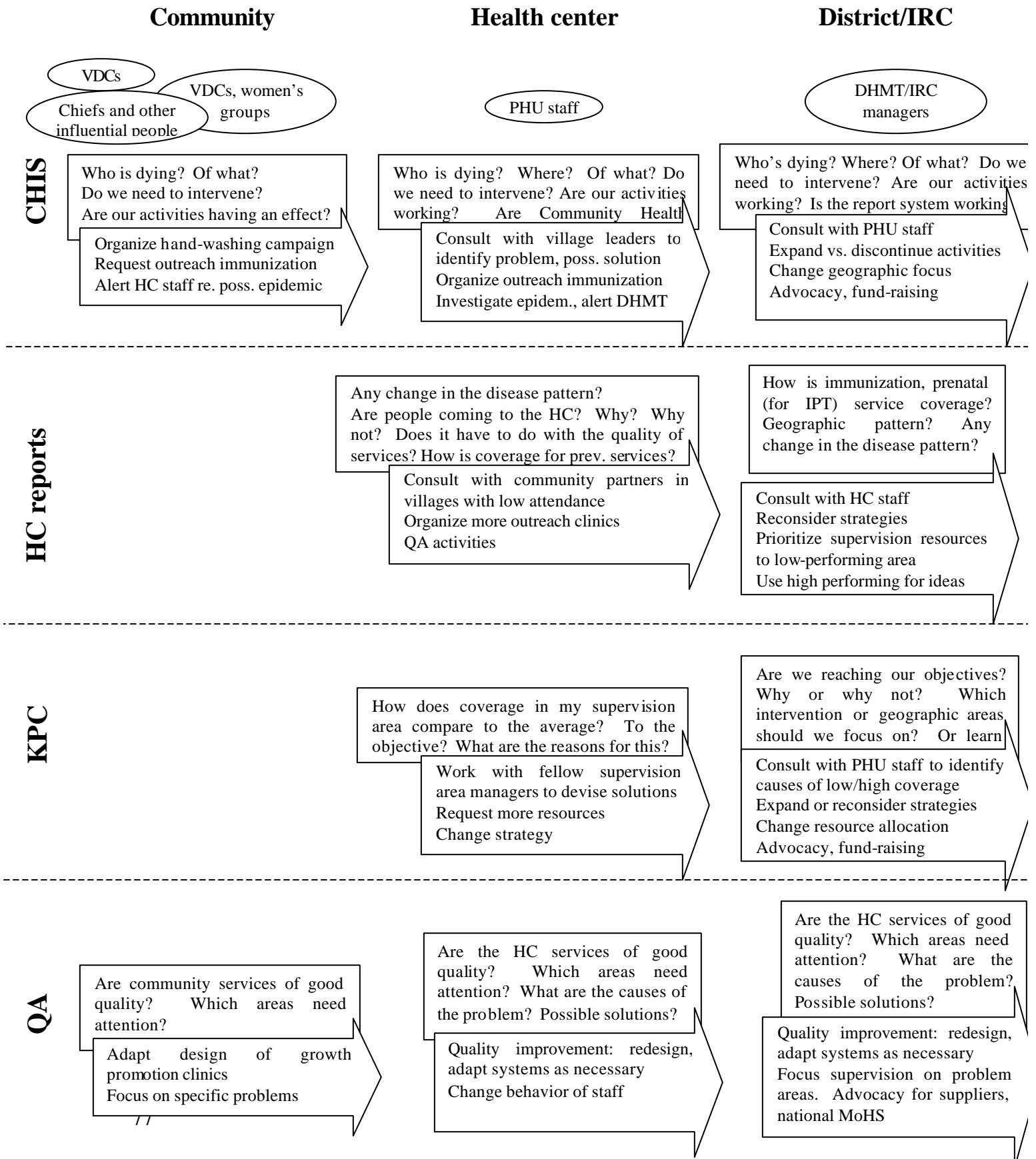
Analysis of the data will take place on the following occasions:

- Monthly meetings with of PHU staff with Community Health Workers
- Monthly meetings with various DHMT members (e.g. immunization)
- Quarterly general review with entire DHMT
- IRC/DHMT staff visit PHUs
- Monthly meeting of PHU in-charges
- LQAS manual tabulation
- Informal interactions between IRC, PHU and DHMT staff

IRC and DHMT staff will be trained by the Program Manager, the Technical Advisor, and other internal consultants in the use of computer and other tools to analyze data from the reporting systems.

Chart 37 gives examples of questions asked and actions taken for each system, at different levels of the program.

Chart 37: Monitoring and evaluation analysis plan



Evaluation

In addition to the systems described above, the Child Survival Program will have three different types of periodic evaluation:

1. A **KPC survey** using LQAS methodology has been conducted at baseline and will be repeated after two and four years. The main purpose of the repeat KPC surveys will be to evaluate progress towards objectives, and identify areas program staff and partners will need to focus on.
2. A **mortality survey** is currently under progress in the program area, and will be repeated in four years. The IRC recognizes that mortality is due to many causes and is not the best way to measure the effectiveness of a single health program. However, we feel that IRC's several programs in this area of extremely high mortality can and should be expected to have an impact on mortality over a span of several years. IRC will also use the results of the mortality survey to advocate for match funding.
3. **Participatory evaluation** will be conducted at the mid-point and end of the project, using the methodology developed by Judy Aubel. IRC will recruit an individual with the right skills and personality for this type of evaluation.

Monitoring and improving HW performance

Performance for Community Health Workers and PHU staff will be monitored using the following tools, some of which are explained above :

- Quality assurance processes, which will assess performance of specific tasks related to specific diseases. PHU staff will play an important role in defining the norms for these evaluations.
- Monitoring sheets for specific tasks. These will in most cases come out of quality assurance investigations.
- Review of data from PHU and community reports. For example, the extent to which Community Health Workers return monthly reports will be an important measure of both PHU staff and Community Health Worker performance.
- Regular supervision and on-the-job observation.

Performance improvements will be achieved through the following strategies:

- Short workshops and trainings
- Supervision and on-the-job training
- Having health workers participate in the assessment process, including the definition of norms and data collection, and the formulation of recommendations.
- Systemic obstacles to good performance are investigated and addressed.

The program manager will work to foster an atmosphere in which:

- Decisions, including decisions about performance and recommendations for change, are based on data analyzed by everyone.
- Everyone participates in the monitoring and improvement process
- Individuals are held accountable, but are not blamed or judged. Low-performing individuals are helped and supported.

Assessing monitoring and evaluation skills

The following indicators will be used to monitor monitoring skills

PHU staff:

- PHU in-charge is able to calculate target population and coverage for major services
- Charts for key indicators are posted and are clear and up-to-date
- PHU staff are able to identify villages with low and high immunization coverage

DHMT:

- At least four DHMT members know how to enter data using Excel
- At least four DHMT members know how to produce charts summarizing key data
- At least one DHMT member knows how to use the Pivot Table function
- Charts for key indicators are produced and disseminated to PHU staff and Community Health Workers
- DHMT members know coverage for their area of expertise

Operational research

Topics for operational research include:

- Comparison of the impact of different diarrhea prevention strategies, including hand-washing promotion, building of water and sanitation infrastructure, and hand-washing
- Assessment of different strategies to improve compliance with iron supplementation, including a trial of weekly supplementation
- Evaluation of the tickler system for identifying children who have missed immunizations
- Impact of different pricing strategies on ORS demand and use

ANNEXES

Annex A. CVs and job descriptions of key personnel at HQ and in the field

1. Field-based Child Survival Program Manager CV

AMINA ISSA MOHAMUD

2:

SUMMARY OF WORK EXPERIENCE

2:

February 2002 – November 2003 Tanzania

Preventive health Manager

Responsibilities

Assist the Public Health Officer in identifying training needs and conduct training (regular and workshop) of all camp staff in preventive health.

- Design and implement an effective preventive health program against various health problems affecting the refugee population
- Provide technical support to both Reproductive Health Officer and Public Health Officer in implementing the 2003 work plan
- Implementation of community based reproductive health services
- Design and implement effective malaria control strategies.
- Advised on the effective utilization of both community health workers and traditional birth attendants
- Assisted the Reproductive Health Officer in doing client exit interview and focus group discussion with women to enable us design and implement effective Family Planning strategies.
- Assisted Community Health Supervisor and Public Health Officer in designing and developing effective health education materials.
- Did any other work as assigned by supervisor

In 2003, I participated in the IRC Reproductive Health workshop held in Bagamoyo, Tanzania, from 26th – 30th May 2003, on the application of the Behave Framework .

Also attended a training on Emergency Preparedness and Response held in Ngara, Tanzania from 29th July to 2nd August

March 2001 – November 2002 – IRC Somaliland

Health Project Manager

Responsibilities:

- Overall day to day running of the project.

- Supervision of all staff and health facilities activities (maternity section of the main hospital and two health centers).
- Monitoring and evaluation of project activities
- Putting health services systems in place – cost sharing (including drug pricing), health information management, and drug management.
- To develop job description for the staff.
- Developing and adapting training curricular for the health workers – Nurses/Midwives, Auxiliaries, Traditional Birth Attendants, and CHPs/Community Health Workers.
- To write monthly, quarterly and yearly reports, including epidemiological/statistics and cost sharing reports.
- Provide guidance in provision of basic primary health care support towards comprehensive community involvement in the assessment of needs, planning and implementation of primary health care.

In August/September 2002, I attended Public Health in Complex Emergencies training held in Mombasa Kenya, by IRC in conjunction with Columbia University.

In 2002, I participated in the Fourth Annual IRC Reproductive Health workshop held in Budapest, Hungary from 11 – 15th March 2002, and it focused on survey methodology, including topics such as questionnaire design, sample calculation, sampling techniques, data entry and report writing.

In September 2001, I participated in a three-week training on Community Based Social Development, conducted by Aga Khan Health Services Kenya, in partnership with the Aga Khan University of Karachi, Pakistan –in Mombasa Kenya.

June 1999 to February 2001 – COOPI

Primary Health Care Nurse/Trainer

Responsibilities:

- Overall supervision and training of health center Staff in the 4 health centers that COOPI managed.
- Supervision and monitoring of health centers activities.
- Medical supplies management
- Inventory taking.
- Supervision and training of Hospital staff and health center staff.

Training was mainly on cost recovery, nursing care management, pharmacy management, record keeping and overall hospital management.

- Monitoring of hospital and health centers activities.
- Data collection and report writing.
- Reporting on the income and expenditure of the hospital.

In 2000 I participated in the following trainings:

- Participated in Syndromic Management of Sexually Transmitted Infection training conducted by UNICEF and Nairobi University – May 2000.
- Participated in a training of trainers in Syndromic Management of STIs conducted by UNICEF and University of Nairobi – July/August 2000
- Participated in a 10 day training on Project Design, Research, Data Management and Analysis and Report writing, conducted by Aga Khan Health Services Kenya, in partnership with the Aga Khan University of Karachi,

Pakistan – November/December

In 1999 I participated in the following training.

Participated in Essential Drugs Management training conducted by WHO in Hargeisa – Somaliland.

April 1994 to May 1999 - International Rescue Committee (IRC)

I have worked for IRC in different areas and positions:

July 1997 – May 1999 – Program Assistant (Somaliland Program), Nairobi, Kenya.

Responsibilities included:

- Reviewing of monthly field cash summaries and other project expenditures to ensure compliance with budgets as well as accounting and donor requirements.
 - Reviewed grants reports and spending patterns.
 - Checking of the program assets and maintained their inventory.
 - Provided orientation to new field staff on IRC field policies and procedures.
 - Monitoring of timely submission of field reports.
 - Traveled to field sites at least 25% of my time.
- Participated in a Reproductive Health Monitoring and Evaluation workshop conducted by IRC in Aberdare Country Club, Kenya – August 1997.
- Also participated in another workshop on Monitoring and Evaluation conducted by IRC in the above venue in November/December 1998.

July 1996 – June 1997 – Bahr El Ghazal – Southern Sudan

Team Leader/Health Sector Manager – Mobile Team/Billing Station

Responsibilities:

- Supervised other sector managers who were involved in training vaccinators and traditional birth attendants as well as water/sanitation project.
- Training of Community Health Workers
- Supervised and monitored the activities of Primary Health Care Units (PHCUs) and Primary Health Care Centers (PHCCs) that were covered by the project in both stations.
- Supervised assessments, prepared project proposal, budget, and plans of action for submission to the Program Officer.
- Assisted team members with project implementation when required.
- Writing of weekly, monthly, quarterly and yearly reports.
- Maintained good relationship between IRC, donor agencies, government and counterparts, community leaders and other international agencies including UN.
- Provided orientation to new staff.

September 1994 – June 1996 – Kibungo, Rwanda.

Health Sector Manager/Team Leader.

Responsibilities.

After the program closed down in Bardera – Somalia, I was transferred to IRC Rwanda Program.

Initially I did an assessment of EPI (Expanded Program on Immunization) and assisted in writing a proposal.

Later I assisted the Ministry of Health representative in starting up the EPI program in the Region of Kibungo.

Later I started a Primary Health Care Project involving three health centers in the region.

Responsibilities included:

2.
 - Supervised over 35 local staff and 3 expatriate staff and oversaw the day-to-day running of the project.
 - Tracking of project expenditures and accounting.
 - Handling of staff payroll every month.
 - Monthly drugs/medical supplies distribution to the three health centers and maintaining of a central medical store at the IRC compound.
 - Staff evaluation and training.

Before the phase out of the above project, the health team, myself included assisted the Rwandan Ministry of Health officials in doing a Health Animator Training Program that lasted for 2 months in the region. Also assisted the MOH in controlling outbreaks of Meningitis and Malaria in this same region by vaccinating and giving ant malarial drugs.

April 1994 – September 1994 – Bardera, Somalia

Supervisor of two Mobile Teams – OPD (Outpatient Department) and EPI (Expanded Program on Immunization) for three months and then the Health Program phased out as had been planned. With the mobile teams I supervised four teams of health workers – two of OPD and two of EPI. Everyday we traveled to the villages to give these services. In addition to these, I did report writing, drug ordering, staff evaluation, staff training and payment. Did assessments of health status of the communities/villages especially during epidemic and natural disasters like heavy rains, cholera and accidents.

After the health program phased out, I acted as the administrator/compound manager for three months. I supervised and managed the compound that had more than 20 local staff and 3 expatriates. Major tasks involved finances – payroll and purchase of goods locally as well as ordering from Nairobi.

May 1993 – March 1994 – Bardera, Somalia – ARC (American Refugee Committee)

Assistant Program Coordinator – Community Health Worker Training.

Worked for the American Refugee Committee (ARC) in Bardera Outpost – Somalia.

Here my work involved, selecting, training, and supervising and monitoring community health workers in the 12 villages we worked in. Assisted in developing a curriculum for training community health workers in Somali language. I trained more than 50 community health workers in different locations/sites in Southern Somalia.

Other duties included:

- Report writing.
- Tracking of program expenditures.
- Ordering of drugs and keeping the drugs at a central store and tracking their inventory. After starting up a pharmacy/drug store for each health post, I distributed the drugs/medical supplies needed by the community health workers.
- Trained trainers of community health workers as well as giving lectures at Traditional Birth Attendant (Traditional Birth Attendant) training.
- I was a guest trainer seconded by ARC to do training of community health workers for two other NGOs (Swedish Church Relief in Saco Weyne – South Somalia, and TROCARE in Mandera – Kenya)
- Did initial needs assessment in a new location to start a health program for ARC.

Participated in baseline nutrition survey conducted in Afmadow – Somalia, by ARC. Also participated in another nutrition survey conducted by IRC and UNHCR in Bardera town.

Attended a workshop that was to determine guidelines for the selection, training and supervision of Community Health Workers and Traditional Birth Attendants held in Baidoa, Somalia, by UNICEF and WHO Somalia.

July 1991 – April 1993 – Ministry of Health – Thika, Kenya.

I worked for the Ministry of Health, Government of Kenya at a General District Hospital. Here I worked in a busy female medical ward and took care of patients with different medical illnesses, performed all types of nursing care on these patients. Worked both day and night shifts.

July 1986 – January 1988 – Mogadishu, Somalia.

Worked for ELU/CARE as a secretary.

I worked in the Personnel Department and at times in the Administration Department.

Duties included: Typing of letters/documents for the department heads and filing of all letters/documents. Kept and cared for all the personnel files. Updating leave and other personnel issues. At times I assisted with interviews that were conducted.

EDUCATION BACKGROUND

- Certificate of Primary Education
- Certificate of Secondary Education
- Kenya Enrolled Community Health Nurse Certificate (Midwifery, General Nursing and Public Health Nurse/Health Visitor)

OTHER INFORMATION/SKILLS

I have knowledge of computers – Word Perfect and Microsoft Word/Excel. I also know how to use VHF (codan) and HF radios as well as Pactor radio. I am familiar with the EPI infor 6.04 and SPSS programs.

LANGUAGES

- English - Fluent
- Kiswahili - Fluent
- Somali - Fluent

2. REFEREES:

Mr. David Murphy – Country Director
IRC – Afghanistan

Mr. Gregory Beck – Regional Director
IRC - Balkans

Dr. R. Shoo
WHO – S. Sudan/Somali.
Gigiri, Nairobi, Kenya

Dr. Wills Ouma
UNICEF – Bosaso, Somalia

2. Field-based Child Survival Program Manager Job Description

POSITION DESCRIPTION:

The program manager will be based in Kono and heads the field presence for the Child Survival Program. He/she will oversee approximately 10 national staff. With the assistance of the Deputy Program Manager, he or she will marshal the technical and logistical resources and foster the partnerships necessary to achieve the program's objectives. The Program Manager will draft reports for the USAID representative, the MoHS, and the USAID Child Survival management team. The Program Manager and the Deputy Program Manager will function as a leadership team, overseeing a staff of technical managers, including a monitoring and evaluation specialist and coordinator, a behavior change communication coordinator, and a senior health promoter.

RESPONSIBILITIES:

- Provides day-to-day management
- Provides leadership for the program (morale, vision)
- Builds capacity of staff, especially deputy program manager, in public health planning, financial management, and other skills, through example, through one-on-one interactions, and through formal training
- Drafts program and financial reports
- Incorporates Technical Advisor (based in New York) input into programs
- Builds and maintains relations with District Health Management Team
- Liaises with, USAID Freetown and Conakry, other PVOs in Kono and Sierra Leone, and key MoHS Freetown offices
- Leads recruitment of staff, including national manager who will replace him
- Supervises program coordinator
- Reports to Health Coordinator in Freetown and Technical Advisor in New York.

QUALIFICATIONS REQUIRED

- MPH
- Clinical background (nurse or MD) preferred
- 3 to 5 years experience managing community health program in developing countries
- Proficiency in at least 2 of the 5 intervention areas (immunization, control of diarrheal diseases, pneumonia case management, control of malaria, maternal and newborn health).
- Experience with IMCI, LQAS, health information systems, and quality assurance methods a strong plus
- Experience with the Child Survival Grants Program a strong plus
- Qualities required for the job include initiative, communication skills, capacity to work with local partners, and ability to motivate others.

3. Headquarters-based Environmental Health and Child Survival Program Manager CV
MAUREEN E. PHELAN

EDUCATION

COLUMBIA UNIVERSITY, School of Public Health

Master of Public Health, February 2002.

- ❖ Concentration: Forced Migration and Health / Population & Family Health.
- ❖ Courses: Psychosocial Impacts of Forced Migration, Investigative Methods in Complex Emergencies, Program Design in Sexual and Reproductive Health, Quantitative Methods in Program Monitoring & Evaluation, Research Design, Management of Health Care Organizations, Health Policy Administration.
- ❖ Thesis: The Beginning of the International Rescue Committee's Adolescent Program for Tanzanian and Burundian Youth, Kibondo, Tanzania.

COLUMBIA UNIVERSITY, School of International and Public Affairs

Master of International Affairs, February 2002.

- ❖ **Honor:** International Fellow January 2000-May 2000.
- ❖ Concentration: Economic and Political Development.
- ❖ Courses: Project Management in Economic & Political Development, Conflict Resolution / Collaborative Negotiation & Mediation, Strategic Policy & Management of International Organizations, Economics of Sustainable Development, International Politics, Microeconomics, and Macroeconomics.

UNIVERSITY OF CALIFORNIA AT DAVIS

Bachelor of Arts, June 1993. Major: Psychology. Minor: African-American Studies.

- ❖ **Honors:** Dean's List 1991-1992. Awarded the UC Davis Counseling Center's *Outstanding Performance in Peer-Counseling Certificate of Excellence*, December 1992.
- ❖ Courses: Abnormal Psych., Clinical Psychology, Developmental Psychology, Juvenile Delinquency, Criminology, Social Psychology, Social Conflict, Social Welfare, Sociological Research Methods.

PROFESSIONAL EXPERIENCE

**COLUMBIA PRESBYTERIAN HOSPITAL, INFECTIOUS DISEASE CLINIC, HIV/AIDS UNIT,
NEW YORK, NY**

Spring-Summer 2001

Research Assistant for Jumpstart Antiretroviral Treatment Adherence Program

Managed treatment adherence data of 250 AIDS patients on highly active antiretroviral regimens (HAART). Participated in weekly patient treatment/program planning meetings of health care providers, and HIV Training Institute Training Workshops, NY Department of Health. Initiated and arranged biweekly discussion group meetings with the AIDS Unit Clinical Director and wide range of clinic staff. Co-counseled French speaking patients in health education sessions.

INTERNATIONAL RESCUE COMMITTEE (IRC), KIBONDO, TANZANIA

Summer 2000

Program Advisor for the IRC Adolescent Program (AP)

Headed the implementation of IRC's Kibondo Town Youth Center and Karago Camp Youth Center projects. Performed as interim program manager assuming all logistical & managerial responsibilities at the field office. Intensive collaboration with UNHCR, Community Service NGOs and IRC staffs via interagency meetings, finalized Memorandums of Understanding between IRC, UNHCR and all project partners. Managed the recruitment and hiring of AP Coordinator. Coordinated, designed, & conducted 14 focus groups of adolescents, parents, and local NGO staffs. Directed and counseled the Kibondo Youth Committee. Produced a comprehensive summary report of the Adolescent Program, formulated program recommendations.

UNIFEM (UNITED NATIONS DEVELOPMENT FUND FOR WOMEN), NEW YORK, NY
Fall 1999

Intern for the Chief of the Africa Section and for the Africa Project Specialist Composed four comprehensive reports of Africa Section Projects concerning the Beijing +5 Twelve Platforms For Action from 1995-1999 assessing impacts of projects on gender equality. Fashioned briefings of UNIFEM project

updates for African Delegations & researched Women Miners in five African countries for the Economic Specialist.

UNITED STATES PEACE CORPS, CÔTE D'IVOIRE (RCI), WEST AFRICA
Rural Water and Sanitation Community Development Volunteer

1996-1998

- **Training:** Completed a five-month extensive training program of project planning, implementation, management and evaluation, KAP (knowledge, attitude, practice) surveys, PRA (Participatory Rural Appraisal), French language, cross-culture integration, water & sanitation techniques.
- **Project Management & Leadership:** Pioneered, directed and co-designed sustainable village hygiene/sanitation (i.e., 16 latrines, 40 animal pens, 50 soak-away pits). Supervised & managed all project budgets, labor contracts, supplies and logistics. Established a successfully functioning village water committee & masterminded corruption-proof money collection system, acquired second water pump from Ivoirian Government. Coordinated Government agency to finance vaccination project of 250 village animals. Taught 16 families and the Women's Cooperative the value of self-help development, planning & execution of community-based projects. Led and mediated troubleshooting meetings/community problem-solving meetings and health-hygiene education sessions with Ivoirian counterparts.
- **Research:** Authored Community Resource Analysis-Capacity Assessment and a political, economic & social knowledge/beliefs/attitudes comprehensive study (in French) to assess primary health and sanitation needs of approximately 1,700 villagers. Designed and conducted over 40 in-depth interviews with village community. Specially selected by Country Director to analyze efficacy of Peace Corps Health Program for RCI Ministry of Health. Collaborated with Ivoirian research teams via intensive community interviewing and project assessments in seven villages, provided future recommendations.

FAMILIESFIRST, INC., DAVIS, CA

Sept. 1993-Oct. 1995

Residential Treatment Head Counselor/Teacher's Aid (1993-1995) & In-Home Support Counselor (1994-1995)

Supervised, managed, and developed in-house and classroom individual treatment programs for severely emotionally disturbed (SED) teenage boys. Co-created treatment plans and behavior management programs for SED teenage wards of the court placed with new foster families. Extensively counseled teens with issues of violence, sexual abuse, perpetration/victimization, suicidal tendencies, hyperactivity, depression, etc. Supervised medication distribution. Diffused residential crisis/emergency situations as Lead Emergency On-call Counselor, employed intensive counseling techniques, physical restraints, collaborated with local police and mental health facilities. Taught independent living skills to emancipating teens. Received extensive Therapeutic Crisis Intervention Training.

CALIFORNIA YOUTH AUTHORITY, PRESTON SCHOOL, IONE, CA

Feb. 1994-Nov. 1994

Psychology Intern for Redwood Intensive Treatment Lodge Counseled personality disordered, suicidal, sex-offending, incarcerated male youths in individual and group therapy sessions, completed case assessment reports for supervising psychologist. Co-lead support group for wards new to Redwood Lodge.

UNIVERSITY OF CALIFORNIA, DAVIS, THE HOUSE 24 HOUR DROP-IN/CRISIS LINE COUNSELING CENTER, DAVIS, CA

1992-1993

Peer Counselor Counseled UC Davis students on issues of: alcoholism, divorce, incest/molest, rape, eating disorders, grief and loss, gay and lesbian issues, & suicide. Received extensive peer-counseling training.

SKILLS

Computer Skills Microsoft Windows, WordPerfect, some SPSS/STATA, basic Excel & PowerPoint

Language English (native language) and French (fluent oral and written comprehension)

Traditional Healing Knowledge Study-home stay in Steki, Swaziland, with Dr. PH Mntshali, *Sangoma*, Zulu Traditional Healer, co-founder of the Traditional Healers Organization, Swaziland. Served as the personal assistant to a graduating *Sangoma* student.

Interests Writing, Traditional Healing, Opera, Safaris, Kundalini Yoga, African & Hip Hop Dance, Cardio Kick-Boxing

4. Environmental Health and Child Survival Program Manager job description

POSITION DESCRIPTION:

Under the direction of the Senior Technical Advisor for Environmental Health, the Senior Technical Advisor for Child Survival, and the Emergency Environmental Health Coordinator, the Program Manager provides a full range of assistance to ensure effective support of all IRC Environmental Health and Child Survival Programs.

OVERALL RESPONSIBILITIES:

- Respond to day-to-day communications from the field
- Research and follow-up on program issues as requested by the Senior Technical Advisor for Environmental Health, the Senior Technical Advisor for Child Survival, and the Emergency Environmental Health Coordinator
- Draft correspondence and program summaries
- Assist in dissemination of technical information, including monthly Environmental Health mailings to the field
- Maintain Environmental Health and child survival resource libraries
- Draft and disseminate a bi-monthly Environmental Health newsletter
- Assist in the development and review of proposals, reports, lessons learned, etc.
- Organize and attend conferences and workshops
- Provide updated reports for the Web page
- Provide and update orientation materials for new field staff and assist in the recruiting process as needed
- Provide backstop support to the Senior Technical Advisor for Environmental Health, the Senior Technical Advisor for Child Survival, and the Emergency Environmental Health Coordinator in their absence
- Travel overseas to provide support to field programs, help conduct surveys, evaluations and other assessments, and attend conferences (approximately 15% of time)

REQUIREMENTS:

- MPH or equivalent degree
- 1-2 yrs. related work experience; interest shown in public health/environmental health
- Excellent writing, communication, and organizational skills
- Ability to handle multiple tasks at once, grasp concepts quickly
- Attention to detail
- Team player
- Knowledge of Windows 2000, MS Office, Excel, Internet

RECOMMENDED:

- Field experience, particularly at the community level
- Experience with monitoring and evaluation
- Proficiency in French

Reports to: The Senior Technical Advisor for Environmental Health and the Senior Technical Advisor for Child Survival

5. Headquarters-based Senior Child Survival Technical Advisor CV
EMMANUEL d'HARCOURT

Experience

- 2001-present **INTERNATIONAL RESCUE COMMITTEE** New York, NY
Senior Child Survival Technical Advisor
- Provide leadership and technical support for IRC Child Survival programs.
 - Disseminate Child Survival innovations and best practices throughout IRC health programs
 - Represent IRC to the Child Survival community.
- 1999-2001 **INTERNATIONAL RESCUE COMMITTEE** Kibungo, Rwanda
MINISTRY OF HEALTH, GOVERNMENT OF RWANDA
Manager, Rwanda Child Survival Program
- Directed a program to improve the health of 120,000 children and 150,000 women.
 - Led a 600-household baseline survey cited by USAID for its innovative partnership approach.
 - Designed an information system for community health workers now used as a national model.
 - Program featured in Time and CNN as example of successful aid programs in Africa.
- 1996-1999 **CHILDREN'S HOSPITAL OF PHILADELPHIA** Philadelphia, PA
Resident Physician and instructor at the Univeristy of Pennsylvania School of Medicine
- Board-certified pediatrician.
 - Founded and organized the International Health Group at Children's Hospital
 - Winner of award for "Compassion and Service Excellence" from nursing staff.
- 1988-1990 **UNITED STATES PEACE CORPS** Niore, Senegal
Health Center Preventive Health Supervisor
- Oversaw public health initiatives for 10,000 people.
 - Initiated a malaria prevention program that led to a 96% reduction in mortality for young children. Also initiated nutrition, health hut, and community gardening programs still operating today.
 - Trained over 50 community health workers in preventive and curative activities.
 - Planned and implemented a training-of-trainers for 40 Peace Corps Volunteers

Research

- 1999 **UNIVERSITY OF ZIMBABWE / UNIVERSITY OF PENNSYLVANIA** Harare, Zimbabwe
"Factors associated with neonatal hyperbilirubinemia in Zimbabwe."
- 1995 **JOHNS HOPKINS UNIVERSITY SCHOOL OF PUBLIC HEALTH** Baltimore, MD
"Evaluation of the impact of anti-helminth therapy on the nutritional status of Zanzibari Schoolchildren."
- 1993 **INSTITUT PASTEUR** Dakar, Senegal
"Longitudinal study of natural malaria infection and mechanisms of protective immunity in an area of seasonal transmission."

Education

- 2001-2002 **HARVARD UNIVERSITY SCHOOL OF PUBLIC HEALTH** Boston, MA
M.P.H., 2002, Quantitative Methods
- 1992-1996 **JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE** Baltimore, MD
M.D., 1996.
- 1983-1987 **YALE UNIVERSITY** New Haven, CT
B.A., 1987, Comparative Literature

6. Senior Child Survival Technical Advisor job description

Performance Objective 1: Provide technical oversight of IRC's CS programs.

- Maintain communications with CS programs and respond to requests for technical assistance.
- Conduct regular field trips to CS programs to evaluate and support program activities.
- Conduct training for IRC staff on relevant issues related to CS.
- Document the impact and lessons learned from IRC's CS programs. Disseminate appropriately, including at professional meetings and through relevant publications.

Performance Objective 2: Develop IRC's capacity to implement effective CS programs

- Keep abreast of relevant technical developments within CS and public health.
- Ensure that the design and implementation of CS program represent best practices.
- Lead the development of one new CS proposal for submission to USAID per year.
- Represent IRC on CS issues, including Core Group and other relevant fora.

Performance Objective 3: Provide technical oversight of IRC's primary health care programs in the Great Lakes region.

- Maintain regular communications with health teams in Great Lakes region.
- Assist with program planning, monitoring and evaluation.
- Conduct annual field trips to each country program.

Performance Objective 4: Assist in transferring tools, methodologies and strategies from CS/development to other IRC programs.

- Identify relevant tools, strategies and interventions from CS/development that can be introduced and adapted to other IRC health programs.
- Inform other IRC colleagues of relevant tools, strategies and interventions from CS/development that may be applied to or adapted by other IRC health programs.
- Assist other IRC colleagues in monitoring and evaluating the impact of these tools, strategies and interventions.

Performance Obj. 5: Promote quality improvement methods in IRC health programs.

Measurable Tasks:

- Provide technical assistance to IRC colleagues and programs on quality improvement methodologies and strategies.
- Implement quality improvement methodologies in at least one pilot project.

Annex B. Response to reviewer comments

- 1. There is a query regarding data presented on number of births in district. The statement is made that 5000 births occur in the district per month but total number of under five beneficiaries is stated as 17,000 children so there appears to be a major discrepancy here.*

This is a typographical error. The paragraph on page 11 of the original application was referring to 5,000 births per year, not per month. Please note that the revised number of yearly births in the program area is 4,300.

- 2. Relevant stakeholders are cited but their role in the site and interventions and strategies section are not well described.*

The paragraph on page 13 of the original application, within the situational analysis section, was meant to name the partners only. The role of each partner is discussed in a specific section on page 20, as well as within the sections detailing each of the interventions. Given the page limitations, we did not want to duplicate information.

- 3. Although TBA training is a key component of the program strategy, it is unclear in this document whether previous experience in Sierra Leone has shown success with this strategy, whether TBAs are open to training and what the literacy level of TBAs is. Also, no mention is made of how follow-up and supervision of TBAs will be conducted.*

There is little information, in Sierra Leone and elsewhere, about the success of TBAs in increasing access to quality prenatal, emergency obstetric, and post-natal services. At the time of writing the application, the IRC had just begun working with TBAs in Kono as part of its primary health care support program. Since then, the program's experience has shown that the vast majority of TBAs are not literate, but are extremely open to training and to collaboration with the formal health care system.

The question regarding follow-up and supervision is an important one, as the IRC's experience in Rwanda and elsewhere has shown that supervision is at least as important as training in insuring that TBAs contribute positively to reducing maternal mortality and morbidity. Steps for follow-up and supervision of TBAs (and other community health workers) are outlined in the DIP and include collecting and giving feedback on monthly activity reports, holding a monthly coordination and training meeting with PHU staff, and periodic refresher training. PHU staff will give feedback to TBAs during monthly meetings on referral data for all the TBAs as well as discuss specific difficult cases.

- 4. Questions about bednets in terms of their availability, access and utilization were not clearly addressed.*

This is an oversight, due in part to the fact that not much information about bednets was available at the time of writing this application. In the 18 months since, there have been a number of new developments and clarifications. Relevant data is presented in the DIP. Key points include:

- Most people are aware that mosquitoes are a major cause of malaria, and that bednets are a useful form of prevention. Consequently, bednets are known and valued.

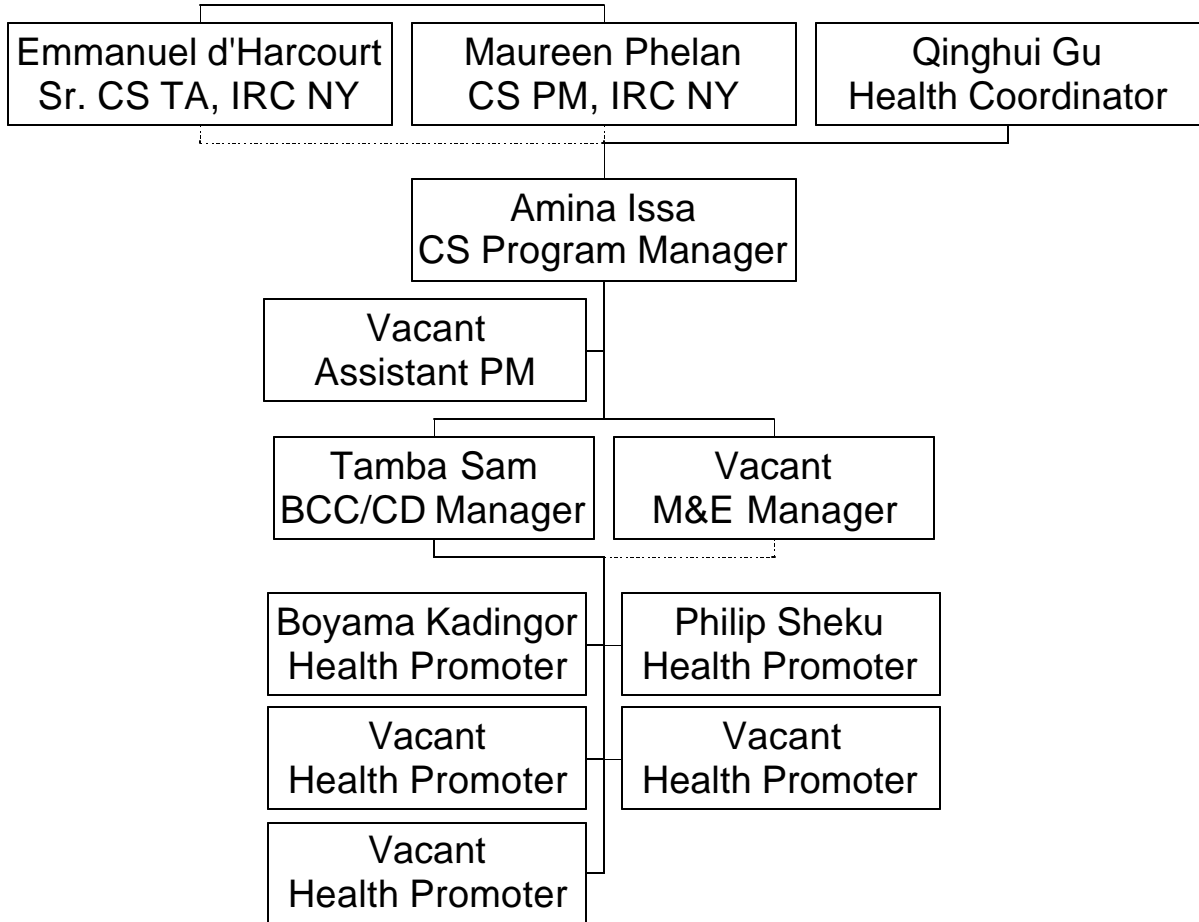
- Young children are prioritized to sleep under bednets in households where the nets are available.
 - Most nets are not treated
 - Cost is a major obstacle to bednet use. Nets on the private market are usually untreated and sold at prices close to or above ten U.S. dollars, far above what most families can pay.
 - Permanently treated nets by two manufacturers have been officially approved by the World Health Organization. The IRC currently has a contract with one of these manufacturers and has purchased 10,000 nets for subsidized distribution in the program area.
 - Long-term option for provision of treated nets to families in Kono include: continued subsidy through funds from the Global Fund against AIDS, Tuberculosis, and Malaria (currently pending); subsidies from other donors; social marketing for some families as the economy improves.
5. *Although it is likely that input from other human resources at IRC's headquarters will be sought, only one position is mentioned, that of Senior Child Survival Technical Advisor. This may be insufficient. The workplan is somewhat confusing (e.g., activities are presented for 2002).*

These are well-taken comments. The Senior Child Survival Technical Advisor is indeed assisted by a number of other people, both in the Health Unit (such as the Reproductive Health Senior Technical Advisor and Program Officer) and in other departments (such as Human Resource staff). It is not practical to include all of their CVs, but the DIP does include the CV of another Health Unit staff member who already has contributed substantially to the development of the DIP, and who will continue to provide support to the Child Survival Program: the Environmental Health and Child Survival Program Manager.

The “2002” in the workplan is a typographical error. The workplan in the DIP has been substantially reformatted.

Annex C. IRC Staff Organigram

IRC Kono Child Survival Program Staff



Annex D. Human Resources Diagram

