INTERNATIONAL RESCUE COMMITTEE (IRC)

CHILD SURVIVAL GRANT
KABARE HEALTH ZONE
DEMOCRATIC REPUBLIC OF THE CONGO

HFP-A-00-00021-00

October 2002 – October 2007

DETAILED IMPLEMENTATION PLAN

This draft submitted to USAID/BHR/PVC April 30, 2003

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ACRONYMS

BCZ	Bureau Central de Zone
CBO	Community Based Organization
CHW	Community Health Worker
COSA	Comite de Sante
DRC	Democratic Republic of the Congo
EPI	Expanded Program of Immunization
FHI	Food for the Hungry International
HC	Health Center
HF	Health Facility
IPS	Regional Health Office
IPT	Intermittent Presumptive Treatment
IT	Infirmier Titulaire
ITN	Insecticide Treated Bed Nets
IRC	International Rescue Committee
KPC	Knowledge Practice and Coverage
LQAS	Lot Quality Assurance Sampling
MCZ	Medecin Chef de Zone
MOH	Ministry of Health
PN	Prenatal

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A. EXECUTIVE SUMMARY

The eastern Democratic Republic of Congo (DRC) continues to suffer through a protracted humanitarian crisis that has caused a massive loss of life. An International Rescue Committee (IRC) mortality survey in late 2002 showed that an estimated 3.3 million people had died in the country over the last 4 years as a result of war, making the Congolese conflict the deadliest since World War II, and the deadliest ever in Africa. Most of the deaths occur not from violence directly, but from the amplified effects of the typical scourges that affect poor people in developing countries—malaria, measles, pneumonia, diarrhea, and other easily preventable or treatable illnesses, made more lethal by the collapse of curative and preventive services. Kabare Health Zone, in South Kivu Province on the shores of Lake Kivu, has been as affected as any area, with more than a quarter of children dying before their first birthday.

Even in the midst of this catastrophe, however, and after decades of abandonment from the central government, local health authorities have proven remarkably resilient. District and health center staffs continue to perform as many of their functions as possible within the severe constraints they face. After two years of support for curative activities, the IRC proposes to introduce a comprehensive Child Survival program, running from October 2002 to September 2007, to address major causes of morbidity and mortality in Kabare Health Zone. The program requests a grant of $1,299,999 (75 percent of the entire $1,733,330 project budget) for this five-year grant.

The program will focus on preventing deaths from malaria, diarrhea, pneumonia, malnutrition, and vaccine-preventable diseases among the estimated 29,200 children under five years of age and 35,000 women of reproductive age in Kabare. It will have both community and health facility components, and will work by increasing the capacity of caretakers to care for their children, of communities to take concerted actions to reduce threats to child survival, of health facility staff to provide quality preventive and curative care, and of district managers to coordinate the system for maximum and sustained impact. The program will have a relatively small staff that will serve to support, rather than replace, local health and community workers.

The program's CS interventions will include:

CS Intervention	Percent of Effort	Strategy
Malaria control	(25%)	Bed net sales, intermittent treatment, and case management
Prevention of malnutrition	(25%)	Growth monitoring and promotion, micronutrient supplementation, and food security partnerships
Expanded program of immunization (EPI)	(20%)	Increase supplies, increase demand, improve services

Control of diarrheal diseases	(15%)	Hand-washing and ORS, zinc supplementation
Pneumonia case management with emphasis on decreasing the practice of uvulectomy	(15%)	Standard case management, community education and mothers groups to reduce uvulectomies

The IRC's partners in this project will be the Ministry of Health (MOH) in South Kivu Province and communities in Kabare Health Zone that elect to participate. The DRC has a long history of community involvement in health care: COSAs (Comités de Santé, or community health committees) have played an important role in the health care system for the past two decades. In this program, the COSAs will be the key link between the health system and the communities it serves. They will also provide services such as growth promotion, micronutrient supplementation, ORS distribution, and sales of insecticide-treated bed nets (ITN).

To increase community participation even more, the IRC intends to use a new community self-selection strategy, which is a logical step toward a full community-driven development model. Each community electing to participate in the program must identify community needs and goals and make a commitment to the program. This application process changes the relationships among the community, the IRC, and the MOH. The community becomes a partner working towards a common purpose, rather than a recipient of outside assistance.

Another new strategy will address the death of children due to uvulectomies. Traditional healers perform these operations on infants and young children to treat sore throats, respiratory infections, or loss of appetite. Often done in unsanitary conditions, they lead to infections in many children and are a leading cause of child death in Kabare Health Zone. We will develop an advocacy group of mothers who have lost children to this practice, recognizing that their stories will be powerful and persuasive for their peers. Mothers will spread messages about the dangers of uvulectomy and the availability of safe and effective alternative treatments to other mothers throughout the project area, speaking in churches, at market days, and at other women-centered community events and activities.

The project will increase the technical and programmatic skills of the MOH and COSA partners, so that they will be well equipped to sustain the knowledge, skills, and systems acquired during the project at the conclusion of USAID funding and the IRC's involvement. To accomplish this, the IRC will use primarily competency-based, on-the-job training through mentoring and supervision. Quality assurance methods will be used to help teams from the community, health centers, and district health team identify priority problems; assess their scale, and design and implement appropriate solutions. The program will also help partners at all levels use data to make decisions that will improve the health of women and children in Kabare. Program participants will also use data to advocate for increased resources for child survival from community, national, and international sources.

The principal authors of this Detailed Implementation Plan are listed in Section C. They include representatives from the community health committees, health centers, and district health team, and from the IRC, both in Bukavu and in New York headquarters. For further information, the contact person at the IRC is Dr. Emmanuel d'Harcourt, at emmanueld@theirc.org or (212) 551-3178.

B. CSHGP DATA FORM

Child Survival Grant s Program Project Summary
DIP Submission: Jun-27-2003
IRC DR Congo
Field Contact Information:

First Name: Marietou Mangane

Last Name: Satin

Address:

City:

State/Province:

Zip/Postal Code:

Country DR Congo

Telephone:

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E-mail:

Project Information:

Project Description:	"C'okolabana" is 5-year collaborative between the IRC and the Kabare Health Zone. The project aims to reduce child mortality by decr easing morbidity and mortality from malaria, diarrhea, pneumonia, malnutrion, and vaccine -preventable diseases. The program will focus on building capacity of its partners at community, health center, and district level to improve quality of care at health centers, provide services at the community level, and improve caretaker practices. It will use proven interventions such as insecticide-treated bed nets as well as innovative approaches including community self-selection and on-the-job, participatory training using quality assurance processes.
Partners:	Kabare Health Zone District Health Team (BCZ) 17 health center managers and their staff Health committees for the 17 health centers Regional Health Office (IPS)
Project Location:	Kabare Health Zone, eastern Democratic Republic of Congo, on the shores of Lake Kivu

Grant Funding Information:

USAID Funding:(US $)	$1,299,999	**PVO match:(US $)**	$ 433,331

Target Beneficiaries:

Type	Number
0-59 month old children:	29,200
Estimated Number of Births:	6,000

Beneficiary Residence:

Urban/Peri-Urban %	Rural %
(No Data)	100%

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
Lot Quality Assurance Sampling
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	(None Selected)	(None Selected)	National MOH Dist. Health System Health Facility Staff Other National Ministry	Health CBOs CHWs

Interventions:

Immunizations 20 **%**
** CHW Training
** HF Training
*** Polio
*** Classic 6 Vaccines

*** Vitamin A
*** Surveillance
*** Cold Chain Strengthening
*** Injection Safety
Nutrition 15 **%**
** CHW Training
** HF Training
*** Gardens
*** Comp. Feed. from 6 mos.
*** Growth Monitoring
Vitamin A 5 **%**
** CHW Training
** HF Training
*** Supplementation
*** Post Partum
*** Gardens
Micronutrients 5 **%**
** CHW Training
** HF Training
Acute Respiratory Infection 15 **%**
** CHW Training
** HF Training
*** Pneum. Case Mngmnt.
*** Case Mngmnt. Counseling
*** Recognition of ARI Danger Signs
Control of Diarrheal Diseases 15 **%**
** CHW Training
** HF Training
*** Hand Washing
*** ORS/Home Fluids
*** Feeding/Breastfeeding
*** Care Seeking
*** Case Mngmnt./Counseling
Malaria 25 **%**
** 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

Indicator	Num.	Denom.	Est %	Conf 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)	53	190	28.0	10.0
Percentage of children age 0-23 months who were born at least 24 months after the previous surviving child	142	190	75.0	9.0
Percentage of children age 0-23 months whose births were attended by skilled health personnel	32	95	34.0	10.0
Percentage of mothers of children age 0-23 months who received at least two TT injections before the birth of their youngest child	35	95	37.0	10.0
Percentage of infants age 0-5 months who were exclusively brea stfed in the last 24 hours	3	51	6.0	2.0
Percentage of infants age 6-9 months receiving breastmilk and complementary foods	38	39	97.0	7.0
Percentage of children age 12-23 months who are fully vaccinated (against the five vaccine -preventable diseases) befo re the first birthday	11	95	12.0	7.0
Percentage of children age 12-23 months who received a measles vaccine	16	95	17.0	8.0
Percentage of children age 0-23 months who slept under an insecticide-treated bednet the previous night (in malaria -risk areas only)	0	190	0.0	0.0
Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment	168	190	88.0	9.0
Percentage of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	3	95	3.0	5.0
Percentage of mothers of children age 0-23 months who cite at least two known ways of reducing the risk of HIV infection	32	95	34.0	10.0
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	5	190	3.0	3.0

C. Description of the DIP preparation process

The following steps were taken to prepare the Detailed Implementation P lan:

- A baseline survey was done jointly by the IRC and its MOH partners, including the BCZ team and all 17 health center and health post managers from Kabare Health Zone. The purpose of the survey was to provide data to complement other known information, in order to guide programming priorities and to gather baseline levels against which future progress would be measured. The survey also served to identify major areas of possible intervention. To accomplish one of the very first steps, preparing the ques tionnaires, it was necessary to think not only of problems the partners wished to know about, such as malnutrition or fever prevalence, but also about possible solutions, such as treated bed nets and ORS use. The baseline survey process also helped the pa rtners get to know each other better. The Knowledge Practice and Coverage (KPC) Core Team served as the basis for the DIP Core Team.

- The DIP Core team met on eight occasions after the baseline survey . A list of the people involved is given at the start of this document. Of note, not everyone was able to attend every meeting.
  - February 21, 2003: Introduction to the DIP preparation process, constitution of the Core Team, agreement on a calendar of meetings. It was decided to meet each Saturday at the BCZ offices.
  - March 1, 2003 : Review of the DIP guidelines (in French). Review of the key components of the DIP, definition of key roles of each member of the Core Team, begin reviewing major objectives from proposal. Concurrently, review of pertinent KPC data .
  - March 8, 2003: Continued review of objectives, setting of targets. Review of KPC data.
  - March 15, 2003: Continued review of objectives, setting of targets. Review of KPC data.
  - March 22, 2003 : Finalize objectives. Begin developing activities for each objective and developing a monitoring and evaluation plan. The issue of sustainability was discussed at this session.
  - March 29, 2003: Continued discussion of items from previous meeting.
  - April 12 , 2003 : Review of program as developed, refining of objective s and monitoring and evaluation plan. Discussion of whether to include food security in the DIP activities.
  - April 19 , 2003 : Final review. Review of quality assurance principles. Review of key issues in community-based nutrition clinics. The afternoon was devoted to sustainability issues , defining a vision, and setting next steps for the development of scales to measure progress.

- Most of the writing was done from April 19 to 27 , 2003, in the DR Congo. The CS program manager, her staff, and the District Medical Officer developed the work plan, based on discussions of the Core Team. Editors in New York reviewed and edited each section of the document, sent by email.

- The DIP process lasted 68 days from February 21 until April 29 , 2003. The 22 days prepa ring and executing the KPC could also be considered part of the DIP preparation process.

- Next steps include the following:
  - Translation of the draft into French for review by all Core Team members.
  - Begin implementing some of the activities in the work plan .
  - Preparation of the DIP review by the program manager, DMO, and technical advisor.

D. 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 Kabare. However, the major elements of the proposal have remained the same, including:

- Program site
- Beneficiaries
- Partners
- Choice of interventions
- Major strategies, such as LQAS, community self-selection and on-the-job training.

- **Objectives:**
  - The number of major objectives has been reduced from 13 to 10.
  - Eight objectives were kept (some with changes in wording or exact definitions)
  - Five objectives were either removed or merged into others. They include:
    - Three quality of care objectives specific for diarrhea, malaria, and pneumonia were subsumed under the broader quality of care objectives
    - One was removed because it was difficult to measure with accuracy: the proportion of mothers of children with fever who took their child for treatment at the health center. It was felt that asking the mother retrospectively in a KPC survey would not yield an accurate answer.
    - One was removed because it did not reflect the efforts of the program: number of uvulectomy cases successfully treated at the health center. Since the program aims to reduce the number of uvulectomies done; but increase the proportion of uvulectomy patients who come to the health center, a successful program could yield either an increase or a decrease, depending on which component (primary or secondary prevention) was most effective.
  - Two objectives were added, as they reflected program goals:
    - Increased use of oral rehydration
    - Increased coverage of intermittent presumptive treatment (IPT) for malaria during pregnancy.

- Strategies and activities:
  - **Quality Assurance**: Although mentoring and on-the-job training remains a key strategy of the program, it has been reworded in terms of quality assurance processes.
  - **Water and sanitation**: The IRC water and sanitation activities in Kabare have ceased. The program will focus on hand-washing practices and ORS use.
  - **Intermittent presumptive treatment**: Activities to increase IPT coverage have been included.
  - **Cost-recovery**: The current IRC District Support program has found the current indigent support program difficult to administer, and vulnerable to potential abuse. At the same time, reductions in support have severely affected health center attendance. In Katana, attendance at health centers dropped 70% after the program stopped indigent support. In Kabare, the child survival program and other IRC programs will work to ensure continued support in a simplified form, in which stipends and essential drugs will be provided. Some services, such as prenatal consultations, will continue to charge minimal entry costs. The cost of stipends is

included in the Child Survival budget, and drugs will be provided through another IRC program. The IRC and its local partners feel that such support costs relatively little and will enhance sust ainability in the long run by keeping the health system functioning and by building its capacity.

- A revised budget reflecting the changes above is attached with this application.

- Responses to reviewer comments are in Annex I.

E. DETAILED IMPLEMENTATION PLAN

1. Program Monitoring and Evaluation Plan

General Description

Monitoring and evaluation will be a key component of the program. The monitoring and evaluation systems will serve several key functions:

A. Provide information about the program's specific objectives.

Objectives and indicators	Method	Frequency	Current	2007 Goal
1. Increase the proportion of children who receive measles immunization before their first birthday *Indicator: % of children 12 to 23 months with recorded measles immunization before their first birthday*	LQAS	Annual	**17**	95
2. Increase the proportion of caregivers of children less than 5 years of age who seek care for respiratory illnesses at recognized health facilities and not with traditional healers *Indicator: % of mothers of children 12 to 23 months who seek care for their children at a health center and not at a traditional healer for throat problems*	LQAS	Annual	**37**	50
3. Increase quality of care at health centers *Indicators: to be determined during the quality improvement process*	QA research	TBD	TBD	TBD
4. Increase the proportion of caregivers of children under 5 years of age who know key danger signs indicating the need for immediate treatment *Indicator: % of mothers of children 0 to 11 months and 12 to 23 months who know at least 4 / 7 key danger signs as defined in Rapid Catch question 20*	LQAS	Annual	**29 / 22**	50 / 50
5. Increase the proportion of children under 5 years of age who receive appropriate oral hydration when they have diarrhea *Indicator: % of mothers of children 12 to 23 months who use oral rehydration solution (either packets or an acceptable home mix) when their child has diarrhea*	LQAS	Annual	**51**	75

6. Increase the proportion of caregivers of children less than 5 years of age who wash their hands on at least 2 of 4 key occasions (see Diarrhea Control section for details) *Indicator: % of mothers of children 12 to 23 months who wash their hands on at least 2 of 4 key occasions (see Diarrhea Control section for details)*	LQAS	Annual	**17**	50
7. Increase the proportion of children less tha n 5 years of age who sleep under a correctly treated bed net *Indicator: % of children 0-11 mos and 12-23 mos who slept under a correctly treated bednet the previous night*	LQAS	Annual	**0 / 0**	50 / 50
8. Increase the proportion of women who get intermittent presumptive treatment during pregnancy *Indicator: % of mothers of children 0 to 11 months who got at least one malaria treatment during their most recent pregnancy*	LQAS	Annual	**19**	75
9. Increase the proportion of children 0 to 5 months who are exclusively breast-feeding *Indicator: % of children 0 to 5 months who were exclusively breast-fed in the last 24 hours*	LQAS	Annual	**6**	25
10. Increase the proportion of children less than 5 years of age who are not malnourished *Indicator: % of children 0 to 11 months and 12 to 23 months whose weight-for-age is at least 80% of median*	LQAS	Annual	**73 / 57**	80 / 70

B. Provide information about the effectiveness of specific actions and strategies, such as community growth monitoring, quality improvement initiatives, and soap -making clinics.

C. Guide resource priorities for leaders at different levels, including community health committees, health center managers, and IRC and Bureau Central de Zone (BCZ, the Congolese term for the district health team) staff. The proposed system will help health committees identify villages experiencing high mortality, health center managers identify epidemic patterns, and IRC and BCZ staffs identify low -coverage areas.

D. Motivate participants at different levels of the program by making good performance mo re visible and public, and by spurring more attentive supervision.

The following diagrams give an overview of the program. The first two show specific objectives in relation to their expected impact (by intervention area and by prevention strategy). The last two show major proposed activities (in general, and for monitoring and evaluation specifically).

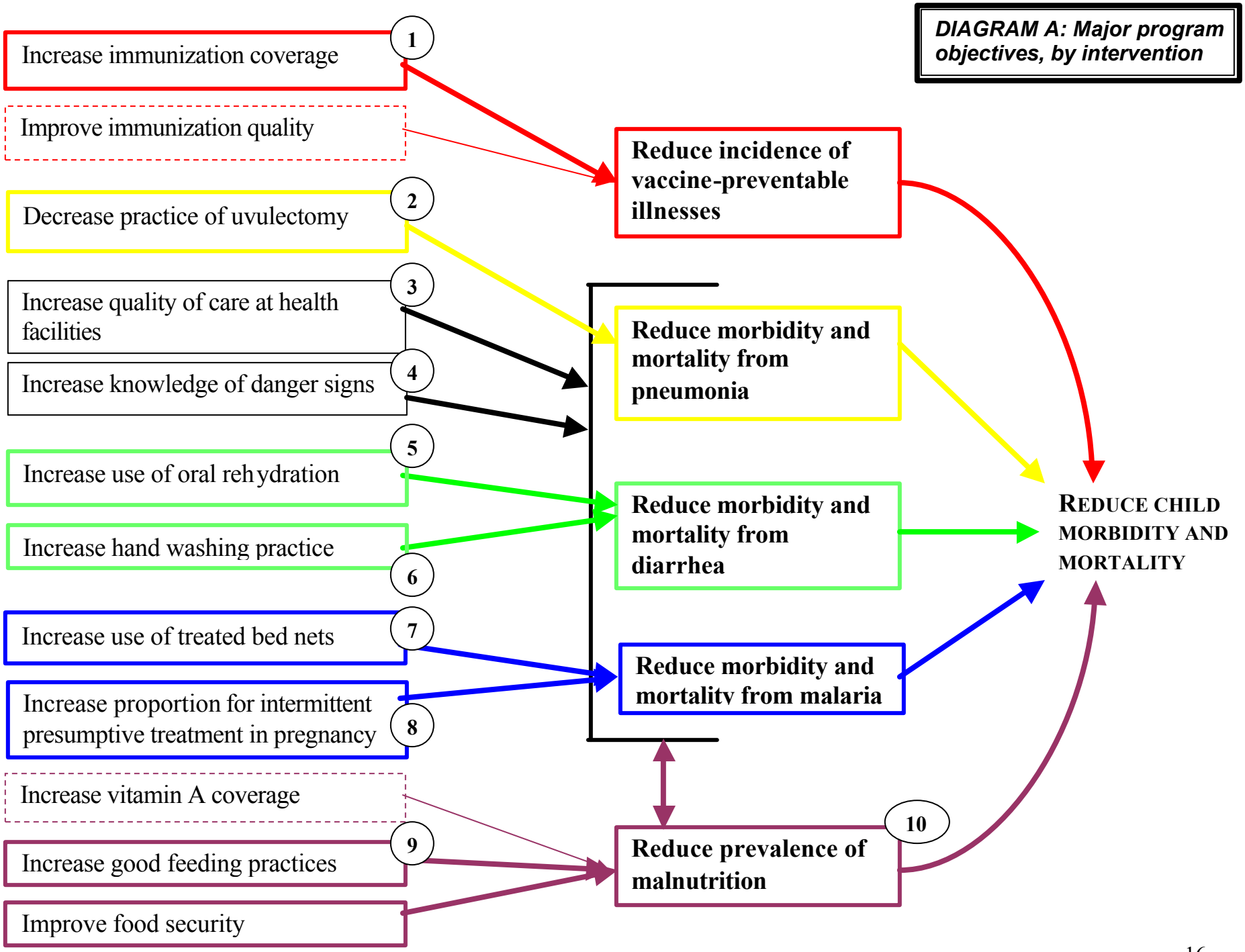


DIAGRAM A: Major program objectives, by intervention
Increase immunization coverage
1
Improve immunization quality
Decrease practice of uvulectomy
2
Increase quality of care at health facilities
3
Increase knowledge of danger signs
4
Increase use of oral rehydration
5
Increase hand washing practice
6
Increase use of treated bed nets
7
Increase proportion for intermittent presumptive treatment in pregnancy
8
Increase vitamin A coverage
Increase good feeding practices
9
Improve food security
Reduce incidence of vaccine-preventable illnesses
Reduce morbidity and mortality from pneumonia
Reduce morbidity and mortality from diarrhea
Reduce morbidity and mortality from malaria
Reduce prevalence of malnutrition
10
REDUCE CHILD MORBIDITY AND MORTALITY

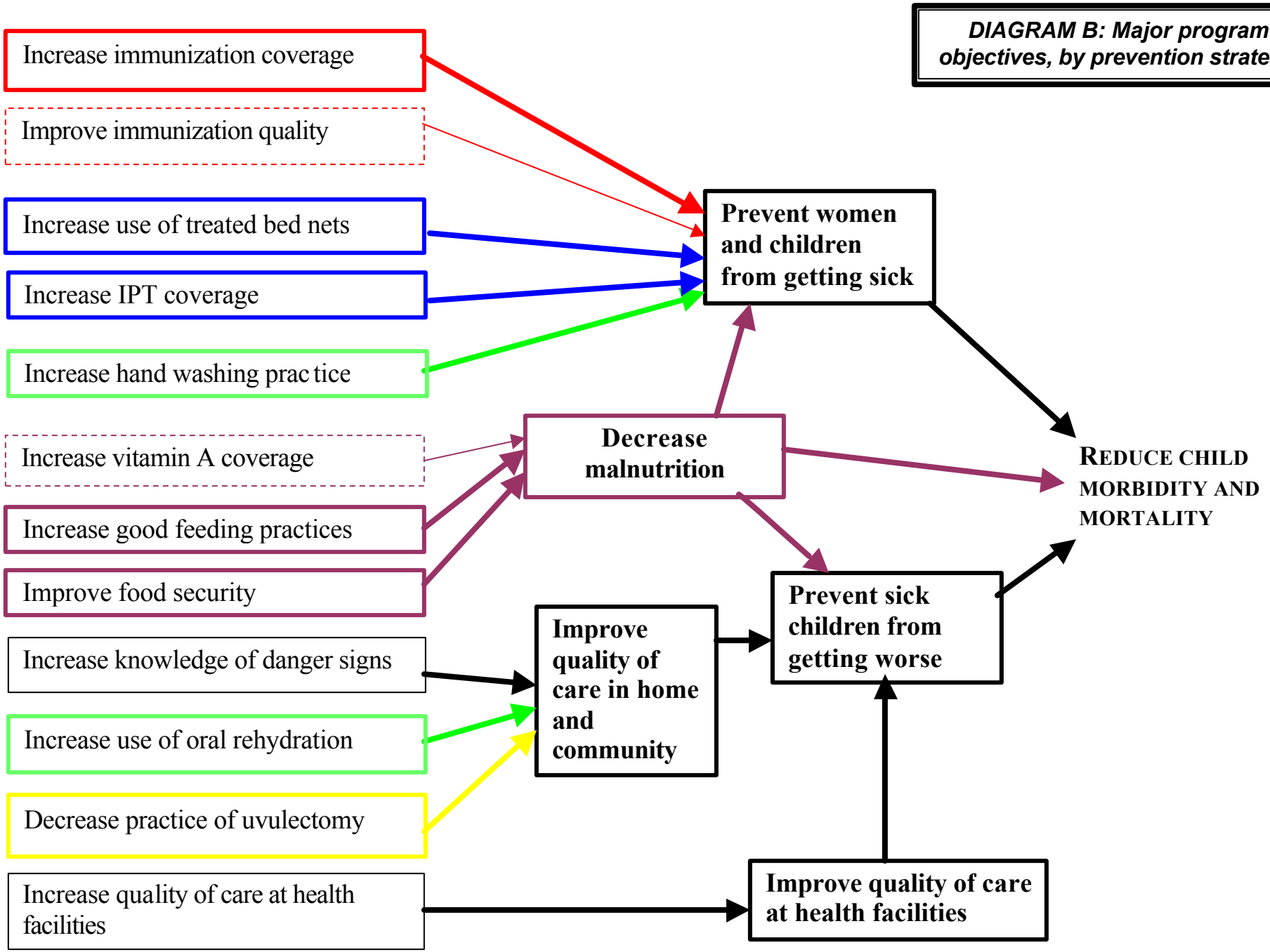
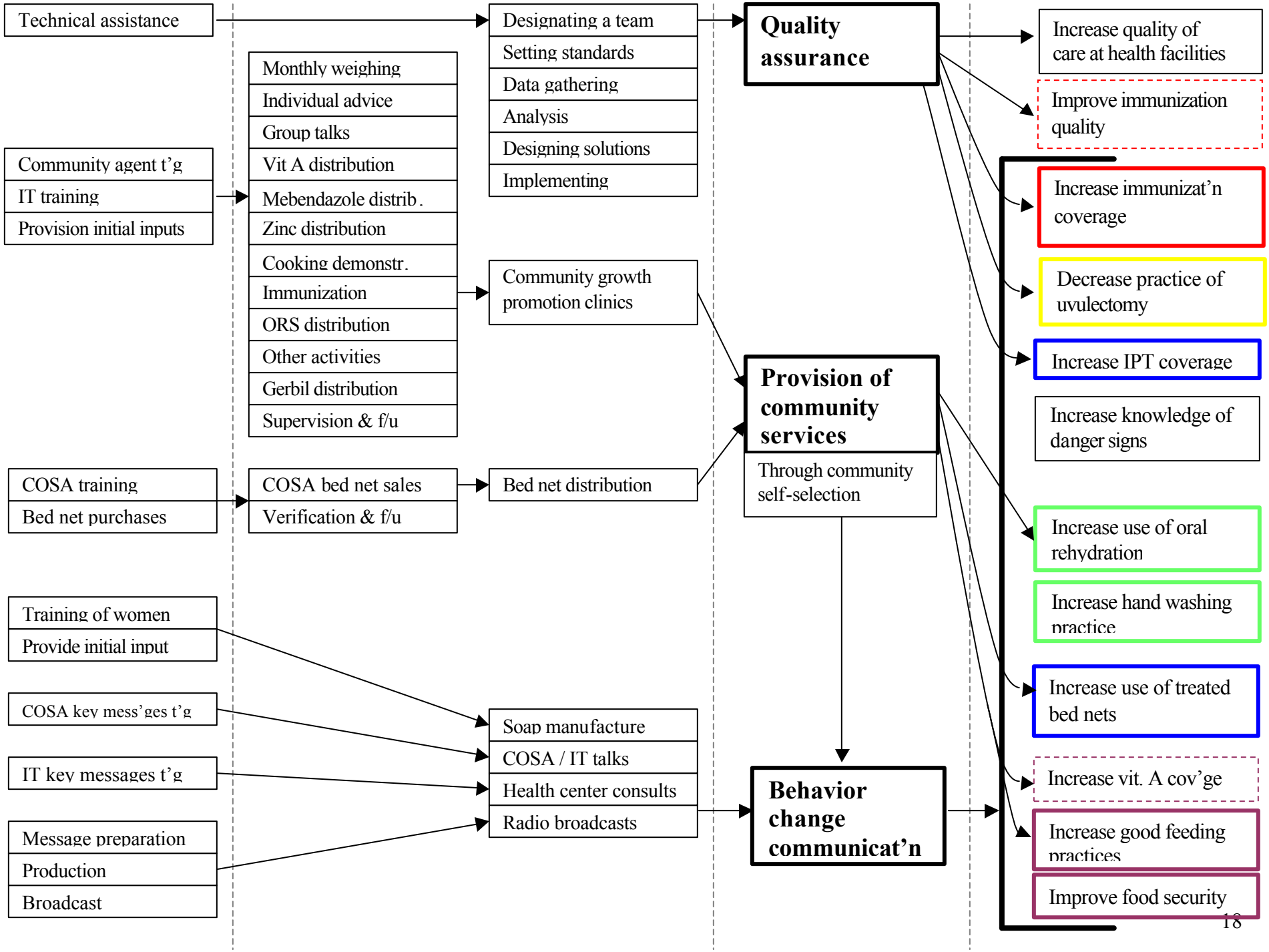


DIAGRAM B: Major program objectives, by prevention strategy
Increase immunization coverage
Improve immunization quality
Increase use of treated bed nets
Increase IPT coverage
Increase hand washing prac tice
Increase vitamin A coverage
Increase good feeding practices
Improve food security
Increase knowledge of danger signs
Increase use of oral rehydration
Decrease practice of uvulectomy
Increase quality of care at health facilities
Prevent women and children from getting sick
Decrease malnutrition
Improve quality of care in home and community
Prevent sick children from getting worse
Improve quality of care at health facilities
REDUCE CHILD MORBIDITY AND MORTALITY

DIAGRAM C: Major program objectives, by strategy



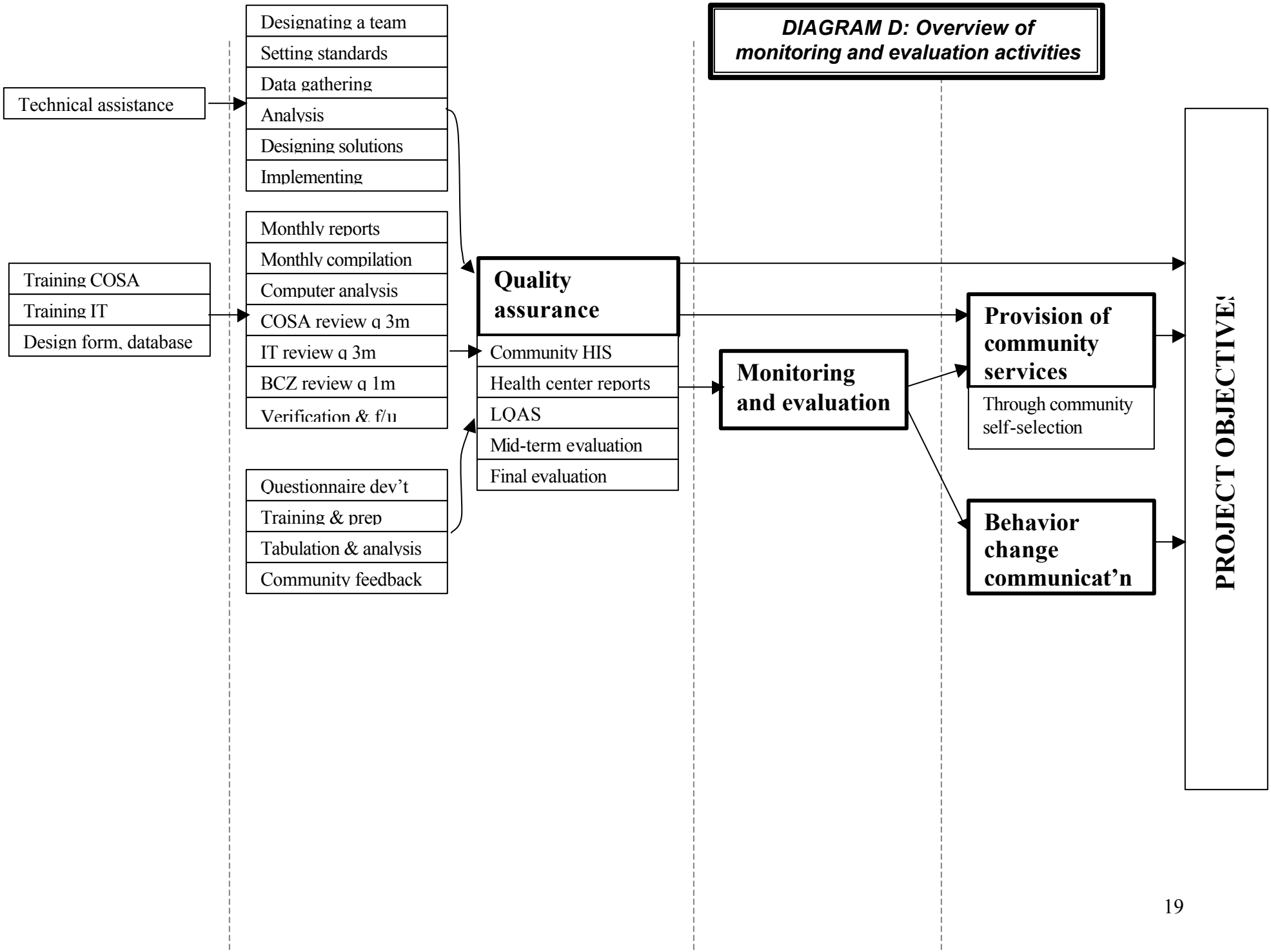


DIAGRAM D: Overview of monitoring and evaluation activities
Technical assistance
Designating a team
Setting standards
Data gathering
Analysis
Designing solutions
Implementing
Training COSA
Training IT
Design form, database
Monthly reports
Monthly compilation
Computer analysis
COSA review q 3m
IT review q 3m
BCZ review q 1m
Verification & f/u
Questionnaire dev't
Training & prep
Tabulation & analysis
Community feedback
Quality assurance
Community HIS
Health center reports
LQAS
Mid-term evaluation
Final evaluation
Monitoring and evaluation
Provision of community services
Through community self-selection
Behavior change communicat'n
PROJECT OBJECTIVE

Current system

There is currently one information system in Kabare, based upon health center reports of their activities. The information collected includes consultation diagnosis and mortality, obstetric services, and attendan ce at preventive services and immunization sessions. The system is not computerized at the BCZ level, although IRC -Bukavu managers do enter the information into an Excel spreadsheet , as part of the OFDA -funded district support program , which is currently being phased out. The information is used by the IRC for program monitoring and advocacy purposes. At the BCZ level, the reports are compiled manually and passed on to the regional health office (IPS). There is currently no system to collect community-based data.

Analysis of the information takes place mostly informally, among BCZ staff. Report information is also discussed during monthly meetings of the health center managers, but this discussion is usually limited to immunization coverage. There is li ttle feedback from the regional to the district level, except for immunization figures.

The current system will be integrated into the proposed program in two major ways:

- **Information not otherwise available** will continue to be collected. This includes :
  - Utilization rates, which will be helpful in assessing the need for and impact of quality assurance interventions
  - Monthly and health center area -specific information about preventive services such as IPT or immunization s, which will be used to evaluate the impact of interventions without having to wait
  - Consultation diagnosis data, which will be compared with information from community mortality reports to evaluate its validity as an early indicator of deadly epidemics, such as malaria or measles
  - If monthly consultation data is confirmed as a valid early indicator of epidemics, the consultation data will be used to identify epidemics and intervene as needed.

- **Information available otherwise** will be collected and used to assess the validity of each source. For example, the immunization coverage estimate gathered from the annual LQAS survey will be used to evaluate the accuracy of register data —and vice -versa. If there is a discrepancy, BCZ and IRC staff will investigate.

Monitoring tools

There will be two maj or evaluations conducted at the end of the third and the fifth year. Four major tools will be used for monitoring the program, one currently in use and three new ones:

- A ***community health information system*** will be developed by program partners, principal ly the BCZ and the IRC. The system will be based upon the system developed by the IRC's Child Survival program in Rwanda, but will be modified in light of the local context, BCZ preferences , and lessons learned. Major features of the system include:

- **Objectives**: The main objective of the system will be to help health committees develop their capacity to use data to make decisions about short -term and long -term priorities, and monitor the effectiveness of their interventions. Other objectives include:
    - Helping health center, BCZ, and IRC staff establish priorities and determine program effectiveness.
    - Motivate health committees by providing tangible evidence of their work, and by facilitating regular contact with health facilities. This regular contact will also help communities to better communicate their needs to health center staff.
    - Provide, through gathering of birth data, a more valid denominator for monitoring of immunization and growth promotion activities.
    - If the system proves accurate enough (as determined, for example, by register checks and periodic investigations in the community), provide an estimate of the child mortality rate for program monitoring and advocacy purposes.
- **Data gathered** : Births in the community, in health facilities and at home, and deaths of community members, classified by age and by principal cause (measles, tetanus, respiratory illness, diarrhea, other febrile illness). As activities begin, data from these activities, such as growth promotion and bed net sales will also be included.
- **Source of data** : Births and deaths will be recorded on village registers, as they occur, by the health committee member from that village. The data will then be transcribed on a monthly report form given to the health center manager, who will forward a compiled report to the BCZ. The population denominator has already been collected, with health committees taking a census of households in each of the 178 villages in Kabare Health Zone. IRC and BCZ staff will periodically check reports against registers and through home visits to verify that the information is correct.
- **Analysis** of the data will take place at different levels.
    - The first step of the analysis will occur when health committee members transmit their report, and the health center manager will check that no significant changes requiring urgent action have occurred.
    - At the BCZ level, BCZ and IRC managers will then enter the information in a database and analyze it monthly. It is expected that the analysis will initially focus on process indicators – how many reports are being given, quality of the data – before turning to the data itself. Please see diagram E for examples of questions and potential decisions for each level.
    - Data from these reports and from other sources will then be discussed during monthly meetings with health center managers. In addition, IRC and BCZ staff will discuss the data with health center managers individually during supervision visits, as part of the IRC's "on the job" approach; this will also prepare the health center manager for his or her quarterly meeting with the health committee, during which the manager can mentor health committee members.
    - At the community level, the data will be reviewed during the quarterly review sessions with the health committee and health center manager. They will discuss the situation as a whole and village by village.
    - The IRC and the BCZ may also use the data for advocacy and fund -raising purposes. For example, they might use evidence of effectiveness, based on actual mortality reductions, to advocate for geographical extension of the program.

- ***Health center reports*** will continue to be used as described above, to provide monthly information on key preventive services, to corroborate other information sources, and , if their validity is confirmed, as an indicator of significant increases in disease. The IRC will work with the BCZ to create a computer database and train staff to use it. The district medical officer (MCZ) has asked that Epi Info software be used. The IRC and the BCZ will include discussion of data from these reports in quarterly data reviews with health center managers. IRC and BCZ staff will also discuss this data with individual health center managers during supervision and mentorship visits.
    - **Objectives**: The main objective of the system is, and will remain, to follow morbidity patterns in the health center area, and to organize appropriate responses. Another major objective is to monitor access, to ensure that access to health center care is improving. Another objective is to help BCZ and IRC staff determine priorities for QA interventions (e.g. in areas with low utilization rates).
    - **Data gathered** is outlined in the "current system" section.
    - **Source of data** : Health center registers. Information about the encounter is recorded in a register, which is then used as the basis for a monthly report. The process for compilation of the reports is also described above. Also as described above, the IRC will assist the BCZ in computerizing the data to facilitate analysis.
    - **Analysis** of the data will take place at least 3 separate occasions:
        - During monthly sessions between the IRC and the BCZ managers
        - During monthly meetings of health center managers
        - During BCZ and IRC supervision.

- ***Quality assurance*** (QA) will be used as a tool to monitor and improve performance. The process is further described in the intervention section. As part of the process, teams are gathered to address specific problems. In addition, the BCZ will organize QA teams of 4 to 6 people to address 4 major areas: vaccine quality, and quality of care for patients with malaria, pneumonia, and diarrhea. Members will be chosen from health committees, health centers, and BCZ and IRC staff. For each area, teams will define key indicators and conduct research, using tools such as observation, register reviews, and exit interviews to assess current performance.
    - **Objectives**: To improve quality of care in 4 major areas (immunization, malaria, pneumonia, and diarrhea care). The process will also give information about program objective 3.
    - **Data gathered** will include process and output indicators, to be determined by the teams. Examples might include "% of malaria diagnosis in which the correct S/P first-line treatment is prescribed" and "% of encounters in which dehydration is assessed," etc.
    - **Source of data** : As outlined above, a variety of research methods will be used to gather data.
    - **Analysis** of the data will take place initially within the team as it gathers the data. In a second step, the team will share its results and recommendations with the rest of the BCZ staff and the health center managers.

- ***LQAS*** sampling has already been used for the baseline KPC survey. The process was popular with both health center and BCZ staff, who as a group felt it would be desirable and feasible to conduct the surveys on a yearly basis.

- **Objectives**: The main objective of the system is to gather data on the program's major objectives, including objectives 1-2 and 4-10, allowing program managers to evaluate progress made and consider the need for any changes. Other objectives include:
  - Increasing program sustainability by increasing the capacity of health center managers and BCZ staff to gather and analyze information at low cost.
  - Involving health center managers in the monitoring and evaluation process, so that their insights can be used to improve the program, and so that chosen solutions have their full backing.
  - Provide information about geographic areas for priority intervention to increase the capacity of decision-makers to make appropriate choices.
- **Data gathered**: The survey is used to gather coverage estimates for all but one of the program's key indicators. It also serves to give information on nutritional status and on the prevalence of common symptoms such as fever, diarrhea, and respiratory difficulty.
- **Source of data**: Two standard questionnaires, one for children 0 to 11 months, one for children 12 to 23 months.
- **Analysis**. The analysis process for the KPC using LQAS sampling is described in the survey report. Briefly:
  - All participants, including health center managers, participate in questionnaire review.
  - The same participants tabulate the data by hand and gather data on major indicators. Considerable discussion about observed problems and potential solutions is generated at this stage.
  - Once the data is computerized, a further analysis is done with IRC and BCZ staff. These results are shared with health center staff during the subsequent meeting. Also, data on major indicators is shared with health committee members during regular meetings. For example, the health committee member who is in the DIP core team is already very familiar with baseline survey results.

- The community and health center data above, as well as LQAS data, will be mapped using ***Geographic Information Systems*** (GIS). IRC-Bukavu has already installed the software and gathered basic points. In the summer of 2003, a consultant intern will be in Bukavu to help IRC staff increase their GIS skills. The staff will begin by mapping existing LQAS and health center data, before integrating community data as it is gathered. Once IRC staff is comfortable with the technology, they will begin transferring it to BCZ staff. However, initial capacity building with BCZ staff will focus on analysis that is not as technology-dependent.

Summary Table

	Community	**HC reports**	**QA**	**LQAS**
Key data	Community births Deaths by age and cause	Consultations by diagnosis Immunization and PN coverage	Quality of care indicators at HC and community level	Major program indicators
Sources	Community registers	Consultation and other registers at HC	Variety of tools including surveys, observation	Questionnaire given to random sample of mothers
Denominator	The whole	Entire population	Depends on the	Mothers of

	population. Age group % done by MOH standards	(source: health committees)	method	children age 0-11 m and 12-23 m
Frequency	Monthly	Monthly	Depends on method	Yearly
Procedure	Reports from community to HC, from HC to BCZ	Reports from HC to BCZ	Depends on method	Complex – refer to survey report
Supervision and quality check	HC+ BCZ + IRC	BCZ + IRC	BCZ + IRC	BCZ + IRC
How MOH and IRC staff will participate	Compilation and analysis	Compilation and analysis	Participation in all phases of survey	

Integration of the four systems

The information from the four systems will be integrated both vertically and horizontally.

- **Vertical integration** will occur in that, for each of the systems, the information will be analyzed and available at different levels. Furthermore, the information systems will reinforce li nks between the different levels. For example:
  - For the community information system, the information will be available to help health committees decide if community -level actions, such as draining a stagnant pond or intensifying bed net promotion, are war ranted. The conclusions drawn and decisions taken at the community level will be shared with health center managers, both informally and during quarterly review meetings. Health center managers will then share this information with BCZ and IRC staff. Co nversely, points observed by the BCZ or health center managers can be shared with the health committee. For example, the BCZ staff, which will have access to a computerized database, can make graphs to illustrate key trends and help health center managers and health committee members see trends.
  - Quality assurance teams will be composed of people from health, BCZ, and the community level, and the results of their work will be discussed at all levels.
  - LQAS data will be collected and analyzed jointly by the I RC, BCZ staff, and health center managers.

- **Horizontal integration** will occur in that, at each level, the information from all four systems will be used jointly. Here are several examples:
  - At the quarterly review meetings with health committees, health center managers can compare mortality data with health center attendance data to see, for example, if a lower utilization rate compared to other health center areas corresponds to lower mortality (suggesting that there are fewer consultations because there is less disease) or to higher mortality (suggesting, on the contrary, that other factors may be responsible for the lower utilization rate, and that this lower utilization rate may be one of the factors increasing mortality).
  - The information on births prov ided by the community system can provide denominators for calculating immunization coverage.

- Information from quality assurance surveys can be correlated with utilization rates to see if some quality factors are strongly associated with utilization.
- LQAS surveys can be used to verify monthly immunization and prenatal data, as well as nutrition data from growth promotion systems.

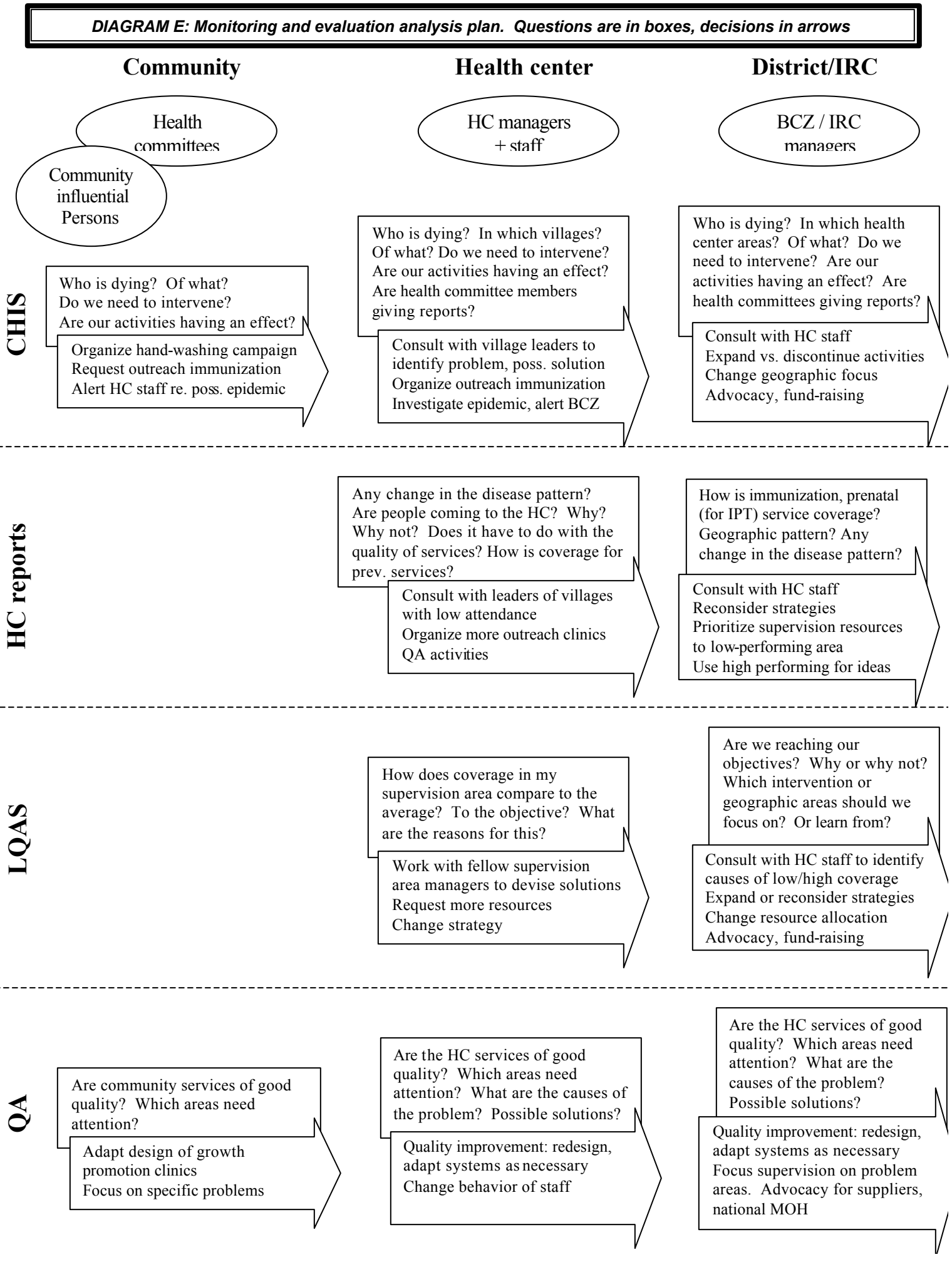
How the information will be used

The descriptions above give examples of how the information will be used. The information will be analyzed in three major ways:

- During quarterly meeting with health committees, facilitated by health center managers
- During monthly meetings of health center managers, facilitated by BCZ staff
- During monthly (or more frequent) meetings between IRC and BCZ managers
- During review meetings organized by the IRC and the BCZ with health center managers, to review the implementation of the information systems
- During informal meetings, including supervisions, between participants in the program.

At each level, questions will be asked and decisions made. The following diagram gives a sample of the questions asked and decisions made at each level.

DIAGRAM E: Monitoring and evaluation analysis plan. Questions are in boxes, decisions in arrows



Monitoring and improving the performance of health workers, and promoting service quality

As outlined above, the major tool for monitoring and improving health worker performance will be quality assurance for health centers and key preventive services such as community growth promotion clinics. Please find more details above, and bel ow in the intervention section paragraph on quality assurance. However, other tools will also be used. For example, the quality and completeness of reports from the community health information system will help BCZ, IT, and IRC managers assess how health committees and health center managers are doing, and how improvement efforts are faring.

Increasing monitoring and evaluation capacity

As part of its efforts to increase sustainability in programs worldwide, the IRC is beginning to use the "sustainability framework" developed by Eric Sarriot and CSTS. More details on this process are included in the sustainability chapter of the intervention section. One of the major elements of the CSTS approach is to create "dashboards," simple scales along which progr ess towards sustainability can be measured. Two important components of this framework are partner (in this case MOH) and community (in this case health committee) capacity. As part of this process, the IRC is currently developing scales to measure MOH and community capacity, many of which cover monitoring and evaluation capacity. Indicators currently being discussed with BCZ members include:

- Community:
  - Health committees give reports each month without IRC intervention
  - Health committees can interpret maj or trends from mortality data
  - Health committees take some actions spontaneously, before health center intervention
  - Two thirds or more of health committee members attend quarterly meetings
- Health center
  - Health center managers can lead health committee analy sis of data without help from the BCZ
  - Health center managers can interpret major trends from community and health center data
  - Health center managers take some actions spontaneously, before BCZ intervention
  - Quality of quality assurance research and plans
- BCZ
  - At least two BCZ members know how to enter data in the computer and maintain the database
  - At least two BCZ members can use the computer to analyze trends
  - % of health center and community meetings prepared beforehand by BCZ
  - Short report summarizing trends produced.

The major ways in which capacity will be built include short trainings at the beginning of the implementation of the community system, quality assurance, LQAS surveys (the latter has already occurred) and during meetings in which the data is an alyzed.

Operations research

In addition to operations research related to quality assurance, the program will conduct research to investigate relevant topics. Topics currently being discussed with the BCZ include:

- Impact of community zinc distribution on diarrhea mortality
- Impact of bed net distribution on malaria mortality
- Impact of intermittent presumptive treatment on birth weight
- Efficacy of soap-making promotion on diarrhea incidence.

2. Summary of baseline evaluations

Baseline evaluations done

By the CS program

- **KPC using LQAS methodology** . LQAS stratified random sampling, with 19 households sampled in each supervision area. There were 5 supervision areas, with each supervision area grouping between 3 and 4 health center areas. Health centers were grouped together according to geographical proximity, and to ensure that the total population of each supervision area was roughly equivalent.
- **A population census for each village** . This was done by health committees, whose members recorded the number of households in each village. This was done to facilitate LQAS sampling and for anticipated program needs, such as calculating denominators for coverage and for community mortality surveillance.
- **Review of data from health center reports** . These are monthly reports given by health center managers to the district health team. Data reviewed include mortality and morbidity patterns, obstetric activities, and coverage of major preventive services: immunization, prenatal clinics, and growth monitoring.
- **Informal discussions** . Two informal group discussions were conducted by IRC staff on a variety of health topics, including malaria, diarrhea, malnutrition, pneumonia, immunization and food security, through evaluation of the food basket. The groups consisted of 12 and 14 women from the health center communities, designated by health committee members. They were brought together in Cirunga and Bwirembe health centers, respectively, and informal discussions were held.

By other programs

- **Mortality survey** . A mortality survey was done in Kabare Health Zone in October 2002 as part of the IRC's ongoing yearly monitoring of mortality in the Democratic Republic of Congo. GPS-based 2-stage cluster sampling was done, and average monthly mortality rates were collected for the previous 9 months, both for children under 5 and for the general population. Surveyors also collected information on major causes of deaths. A copy of the survey is available upon request from the IRC.
- **Food security survey** . This survey was conducted in the spring of 2002 in Kabare Health Zone, and collected information on foods produced and available. A total of 450 households were sampled using a two-stage cluster design.

Major observations

Overall findings and implications

The data collected by the program showed the following major findings:

- Child mortality is very high.
- Coverage is very low for both childhood and maternal immunizations. Antigen shortages at the national level are common.

- Malnutrition is highly prevalent, with 40% of children 12 to 23 months old having a z score below –2.
- Malaria is the most common cause of morbidity and mortality. Coverage for treated bed nets is null, and the official MOH policy of intermittent presumptive treatment during pregnancy has not been enforced. Quality of care for this illness has not been measured, but is estimated to be poor.
- Respiratory illnesses are also a common cause of morbidity. Traditional treatment involving uvulectomies or tonsillectomies by community providers is widespread.
- Diarrhea is also a common cause of morbidity. The data suggests that health center frequentation is lower for diarrhea than for malaria or respiratory illnesses. ORS use is moderate, with room for improvement. Hand washing practices are poor.
- Health committees are active participants in health center affairs for most, but not all, health center areas.
- Prenatal coverage is relatively high, although poorly documented; contraceptive prevalence is hard to assess but appears extremely low, and child spacing indicators are poor ; the proportion of births that occur at home is high, although less so than in the IRC's Child Survival program in Rwanda. Post -natal care for mother and child is uncommon and incomplete; knowledge of STI and AIDS is poor. HIV prevalence in this area is not known, but it is high in neighboring Rwanda, Uganda, and Burundi.

These findings confirm that the 5 areas chosen for the proposal are appropriate targets for intervention. The IRC and its partners will continue to focus on immunization, nutrition, an d care for malaria, diarrhea, and pneumonia. Clearly there are other needs, most notably in reproductive health. The IRC and its partners are extremely concerned about these, but feel that, given the scale of the problem and the nature of the solutions, reproductive health would best be addressed through a separate program, for which the IRC will seek separate funding.

Mortality

- The Kabare mortality survey estimated that mortality for children under 5 was 5/1,000/month, compared to a sub -Saharan referenc e of between 1 and 3/1,000/month. This cannot be converted easily into a standard infant mortality figure, but one can estimate that:
  - Approximately 6% of children under 5 die each year. This is an average rate; it is highly likely that children under 1 h ave a much higher risk, followed by a lower risk in later years.
  - A child's chance of surviving to their 5 th birthday = $(.94)^{6}$ = .73%, corresponding to a child mortality rate of 270 / 1,000.
- There is no maternal mortality data for Kabare. Maternal mortal ity in the entire country is estimated by MISC2 to be 1.289/ 100,000 births. However, this is an imprecise figure at best. Furthermore, local mortality rates probably differ considerably. Maternal mortality is probably worse in the eastern DR Congo as a whole because of insecurity; however, rates may be lower in Kabare Health Zone, where there is greater access to hospital facilities, with the vast majority of the population less than 3 hours from the reference hospital.

Major causes of mortality for children <5 n=10
IRC Mortality Survey 2002

	n	%
Malaria	3	30
Fever	1	10
Pneumonia	2	20
Diarrhea	2	20
Uvulectomy	1	10
Unknown	1	10

Morbidity

Major causes of morbidity, according to MOH reports and the KPC survey

% of 1st visit diagnosis *(Source: MOH reports 2002)*	
For children < 5	%
Malaria	**28**
Intestinal parasites	**21**
Lower resp. tract inf.	**15**
Upper resp. tract inf	**10**
Diarrhea	**6**
Malnutrition	**4**

% of children with this symptom in the last 2 weeks, according to their mother *(source: KPC 2003)*		
	% of 0 to 11 m	% of 12 to 23 m
Fever	**44**	**37**
Cough	**43**	**43**
Cough + fever	**32**	**24**
Diarrhea	**30**	**38**
Respiratory difficulty	**24**	**14**
Convulsions	**2**	**0**

Utilization rates are high in Kabare, suggesting that the morbidity information does reflect actual trends. The utilization rate for children under 5 years old is 1.8 consultations per year – about 20 times higher than in the IRC's other Child Survival program area, in nearby Rwanda – with a consultation rate for malaria alone of 0.5 episodes / child under 5 / year. This is due to the IRC's support for the health centers and subsidies for indigent care, which are due to continue in the coming year. At the moment, underutilization of health services is not as much of a problem as other issues, although this will need to be followed closely if material support to health center ceases.

Nutrition

- **Nutritional status** : Prevalence of underweight (weight-for-age z-score less than –2) was 16% for children 0 to 11 months and 40% for children 12 to 23 months (source: KPC 2003). The relationship between malnutrition and the following factors were noted. Relative risks and confidence intervals are given only when p is less than .1

		Chance of having z-score >= -2		
		Risk Ratio	95% CI	p-value
Being in supervision area 1 or 2 vs. being in supervision area 3, 4, or 5.	0-11m			> .1
	12-23 m	0.59	0.39 – 0.88	< .005
Those who eat fish vs. those who don't	12-23m*	1.43	1.05 – 1.94	< .05
Those whose mother had 2 or more meals the day before vs. those who didn't	0 –11 m	0.84	0.73 – 0.96	< .1
	12-23m			> .1
Those who had at least 3 meals the previous day vs. those who didn't	12-23m	1.29	0.90 – 1.85	< .1
Those who had diarrhea in the last 2 weeks vs. those who didn't	0-11m*	0.80	0.62 – 1.02	< .05
	12-23m			> .1
Those who had cough in the last 2 weeks vs. those who didn't	0-11m			> .1
	12-23m			> .1
Those who had respiratory difficulty in last 2 weeks vs. those who didn't	0-11m			> .1
	12-23m			> .1
Those who had fever in the last 2 weeks vs. those who didn't	0-11m**	0.89	0.74 – 1.07	< .1
Those whose mother cites ORS for diarrhea treatment vs. those who don't	12-23m			> .1
Those whose mother is literate vs. those whose mother isn't	0-11m*			> .1
	12-23m			> .1

* When stratified by supervision 1/2 vs. 3/4/5, the association persists.
** When stratified by diarrhea/no diarrhea, association persists for children with no diarrhea, p<.1

Of note:

- The strongest association is geographic. Being in supervision areas 1 or 2 is associated with a higher chance of being underweight. This holds true only for children 12 to 23 months.
- Eating fish is associated with a lower chance of being underweight. When stratified by supervision area 1/2 vs. 3/4/5, however, the association persists. Also, being in supervision area 1/2 is associated with lower fish consumption (RR=0.61, p<.1). This is not surprising, as supervision areas 1 and 2 are the ones which are furthest from Lake Kivu. This suggests that fish consumption may be one of the factors mediating the association between geographic area and nutritional status, which would also explain why the geographic differences are significant among 12 to 23 month olds, who are more dependent on foods other than breast-milk.
- As expected, there was an association between children receiving at least 3 meals in the previous day and not being underweight

- There was a surprising association between the mother taking at least 2 meals the day before and her child being underweight.
- There was no association between literacy and nutritional status.
- Among various disease symptoms, only diarrhea and fever were significantly associated with malnutrition, and this only among children 0 to 11 months.

- **Food security**

Although hard data is scarce, IRC staff, its partners, and community members recognize that food security is a major problem. A quarter of mothers of 0 to 11 month olds, and 21% of mothers of 12 to 23 month olds who responded to the KPC survey said they ate less than 2 meals during the second day preceding the survey. Chief constraints to agricu ltural production cited by respondents to IRC's food security survey included lack of fields (49% of respondents to the food security survey cited this) and poor health (23%). Food security experts at Food for the Hungry International (FHI), an organizati on which works in food security in the province, cite the following constraints:

- Access to land. There is enough land available, but land tenure is traditionally held by village chiefs to whom families must make payments, both initially and after the harv est.
- Poor soil quality. This is thought to be due to over -cultivation – the area has been intensely farmed for hundreds of years – erosion towards Lake Kivu, and high levels of aluminum in the soil, which make s it acidic and unfavorable for many food crop s.

According to FHI, agricultural development in Kabare is possible but difficult, requiring intensive effort in well -defined areas. Only sweet potatoes grow readily, and have been targeted in most previous efforts. Gardening is possible but difficult bec ause of a lack of tradition, and because of disappointingly low yields without careful soil preparation. Fish farming has been promoted in the past three decades, and was popular , as availability of fish from Lake Kivu starts to drop off even a few miles inland. Also, fish is more resistant than herd animals to the poaching that is endemic in the area. However, fish farming has declined because of the massive population displacements caused by the war, and because of the lack of capital investment in the severe economic downturn that preceded the war. However, FHI feels that conditions are right for a renewed investment in fish farming.

- **Food choices**:

Major foods consumed

	Children			
Type of food	0-11 m*	12-23 m*	0-59 m**	General population**
Cassava	13%	61%	64%	64%
Vegetables (mostly beans)	4	33	57%	59%
Sweet potato	-	-	43%	44%
Breast Milk	99%	79%	31%	31%
Fish (KPC: includes small fish)	5%	20%	8%	7%
Small fish	–	–	25%	26%
Banana	32%	14%	14%	14%
Meat	–	–	5%	6%
Cow's milk	1%	1%	0.4%	0.4%

**Source: KPC 2003. Some categories are blank because the answers were not classified in the same way as other sources.*
***Source: IRC food security survey, 2002*

Of note:

- According to IRC staff who conducted home visits on a regular basis as part of a prev ious health program, vegetables such as onions, carrots, and greens are not consumed often. This observation is confirmed by health center and district staff.
- The IRC food security survey also showed an average of 2 goats for every three households, 1 rab bit and 1 chicken per household (but eggs consumed only rarely), and almost 5 guinea pigs per household.
- The same survey found top household expenditures ranked in the following order: 1. Food; 2. Medical care; 3. Clothes; 4. Alcohol; 5. Agricultural mater ial.
- Avocadoes are plentiful but rarely consumed, although there appears to be no specific proscription against eating them. In the past, consumption had been higher as a result of efforts by a Kabare priest to promote their use, but the practice dropped off after he left.

- **Growth monitoring coverage** varied according to the source. KPC 2003 results indicate that, according to their mother, 60% of children 0 to 11 months had been weighed at least twice in the last three months, and 51% of children 12 to 23 month had been weighed at least once in that period. These figures plummet to 21% and 13%, respectively, if one takes the card as a source. The divergence may be a combination of over -reporting by mothers eager to please the interviewer, and undercounti ng because, in many areas, the policy is to keep all records at the health center, leaving the mother with no written record of her child's immunization and nutrition information.

- **Vitamin A coverage** . According to their mothers, 42% of children 12 to 23 m onths have received vitamin A in the last 6 months. Vitamin A distribution was not documented on the immunization card in the last 6 months for any KPC respondent.

Immunization

- **Immunization coverage** varies considerably according to the source:

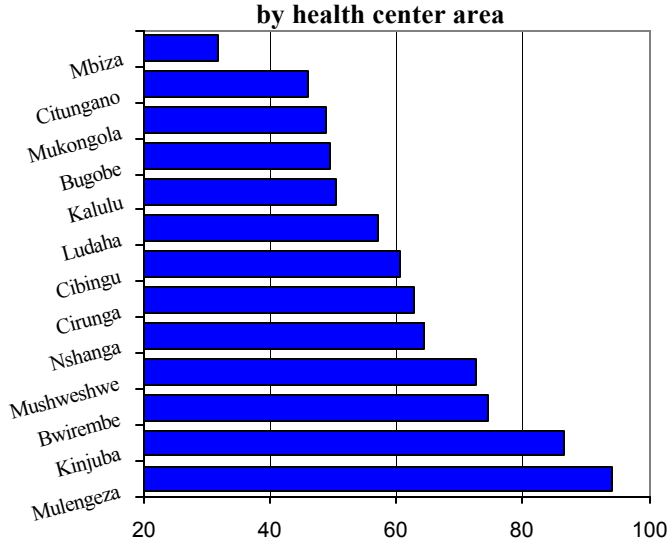
	KPC (card)	KPC (mother)	KPC (scar)	MOH reports
Measles	17%	90%	–	61%
DTP1	22%	–	–	79%
DTP3	22%	–	–	49%
Polio3	19%	81%	–	54%
BCG	23%	–	86%	85%
TT (at least 2)	37%	30%		68%

Clearly, there is a problem with the accuracy of data. In the case of the KPC, po ssible sources of inaccuracy include over -reporting on the part of mothers eager to please, and undercounting due to the widespread policy of not leaving written evidence of immunization with the mother. This policy has changed, as detailed in the interve ntion section, so that future KPCs should give reliable indications of immunization coverage. In the meantime, the correlation between physical evidence of BCG immunization and MOH records suggests that, until the next KPC, the program should base its ass essment and planning on the MOH records. In any case, the coverage is clearly low

and will need to be raised substantially to protect children against the six major vaccine-preventable illnesses.

- **DTP drop out** is high at 38% (30%/79%), but much of this may be due to a major national DTP vaccine shortage.
- **Variation by health center**: There is considerable variation among health centers, suggesting that local factors also play a role in coverage. These include differences in the number of outreach sessions and practices, such as not taking enough vaccines to outreach sessions to vaccinate all present. This also shows opportunities for intervention by improving practices at health centers.

Immunization coverage (completely vaccined children), by health center area



- **Current MOH policy and strategy**:
  Current immunization policy covers the antigens for the six basic vaccine-preventable diseases, including tuberculosis, diphtheria, tetanus, pertussis, polio, and measles, given in the usual calendar: BCG at birth, DTP and polio at 6, 10, and 14 weeks of age, and measles at 9 months of age. DR Congo participates in worldwide campaigns to eradicate polio and measles.
- **Constraint – International campaigns**: Unfortunately, some of the immunization coverage is due to large and unsustainable inputs from international disease-specific campaigns rather than from regular activities of the health staff. These campaigns, which buy health worker's time with large cash payments, also distract health center and district staff from their regular activities.
- **Constraint – Irregular supply:** A major constraint to coverage has been the irregularity of the vaccine supply. The problem appears to be at the level of the MOH in Kinshasa, which has not agreed to terms with donors and manufacturers. This has mostly affected DTP coverage, as measles and polio vaccines are provided at no cost. The considerable variation between health centers shows, however, that not all of the low coverage can be attributed to antigen shortages.

- **Immunization quality** has not yet been systematically assessed.

- There are several indications, however, that quality is an issue that will need to be addressed. According to MOH figures, Kabare has some of the highest vaccine wastage rates in the country. District health team members attribute this to the lack of performance monitoring for individual health centers. For example, in most health centers regular immunization, which generates no revenue, is left in the hands of unsupervised and poorly trained aides, who have not been taught to plan vaccine dosage acco rding to anticipated need.
- On a more positive note, district team members feel that the physical infrastructure and material inputs in Kabare are adequate. Needles, syringes, and sterilizing equipment are available, and are regularly replaced by UNICEF.
- Most of the health centers get their vaccines, prior to each session, at the BCZ offices, as shown in the table below. The BCZ has six refrigerators, which are ready to be set up in more remote health centers such as Ludaha and Kinjuba. However, these cen ters have been pillaged several times in the past two years, and the BCZ team and the health center managers have decided to delay installation until security is assured.

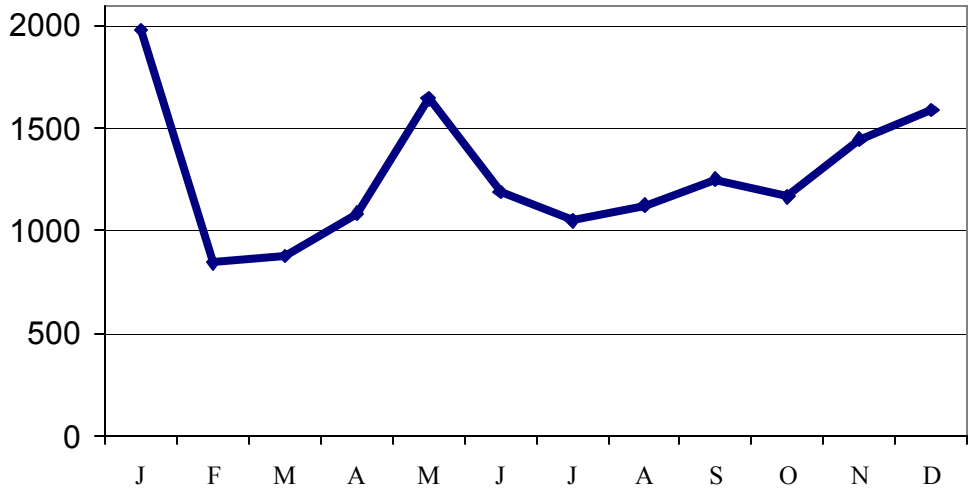
Facilities with refrigerators	Dependent health centers and distance in km
Nshanga	Bwirembe (5), Mulengeza (4)
Bugobe	Kalulu (5)
Mushweshwe	
BCZ	Mukongola (1), Mbiza (5), Cibingu (6), Citungano (6), Cirunga (7), Ludaha (9), Kinjuba (9)

Malaria

- **Prevalence and incidence** . Malaria is the leading cause of consultation at the health cent ers, accounting for 28% of health center visits. This finding is corroborated by the results of the IRC mortality survey in 2002, which found that presumed malaria represented roughly a third of all deaths. Fever represented one of the most common diseas es among children in the KPC 2003, with 44% of children under 1 and 37% of children 12 to 23 months having the symptom. Experience in other malaria endemic settings suggests that many, if not most, of those fevers are due to malaria. Clearly, malaria is the leading cause of morbidity and mortality in Kabare Health Zone.

- **Epidemiological pattern** . Based on MOH consultation data, malaria in Kabare appears to be holoendemic with seasonal increases related to rains. These numbers should be interpreted with caution, however, as changes in support to health centers and availability of drugs may also have influenced health center consultations. The rise in cases appears slightly delayed in comparison to the rains, with heavy rains in March -April and September -November leading to peaks in malaria incidence in May and December -January. Of note, the increase in malaria cases in January, followed by a sharp fall in February – which is also seen in 2001 data for malaria as well as for other diseases – is thought t o be due to insecurity in the area , which decreased patients' access to health centers, and health centers' access to medicine.

Malaria consultations, Kabare Health Zone, 2002



- **Insecticide-treated bed net coverage** is null. Out of 190 households surveyed for the KPC 2003, only one had a bed net, which was not treated with insecticide. In fact, many of the respondents had never heard of bed nets, and assumed surveyors were asking about a tree whose name is similar to the Mashi name for bed net. The reasons for this, cited by both community members and MOH staff, include:
  - People are much too poor to buy them at the market rate of $3 a net in Bukavu town.
  - There has never been any plan to market, distribute, or promote bed nets in any way. Emergency health programs operating in the last five years have focused on supporting curative services and a few facility-based preventive services such as growth monitoring clinics.

- **Intermittent presumptive treatment**. According to the KPC 2003, 19% of women have received at least one malaria treatment during their pregnancy. These were for symptomatic episodes, as no program for presumptive treatment is currently in place. However, the MOH recently approved a protocol for treatment with sulfadoxine/pyrimethamine at 18 and 32 weeks of pregnancy. A total of 84% of KPC respondents report having had at least two prenatal consultations, although as with immunization the records are not routinely left with the patient, so only 37% of women have 2 or more prenatal visits documented. MOH reports indicate that 91% of women follow prenatal consultations. Here again, there is considerable variety in coverage from one health center to the next, with Mbiza having coverage of 41% and Bugobe 122% (which raises some concern about the accuracy of the figure).

- **Resistance data**. No resistance data was available at the time of writing of this DIP. However, based on widespread resistance to chloroquine, this drug is no longer used as first-line treatment. However, sulfadoxine/pyrimethamine resistance has been reported in nearby Rwanda and Uganda.

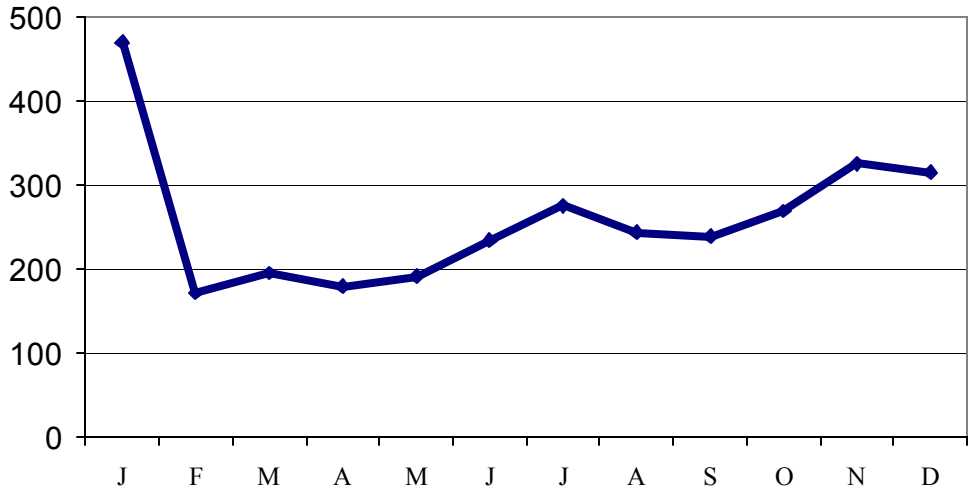
- **MOH policy**:
  - **Health facility treatment**: The MOH treatment protocol was recently changed based on resistance data. It now recommends sulfadoxine/pyrimethamine as first-line treatment for any febrile episode for children.

- **Community and home treatment** : MOH guidelines strictly proscribe treatment by community health workers, even when closely supervised. The District Health Team feels that community health workers would be likely to use this official sanction to exceed their mandate, and begin marketing themselves as "muganga" or doctor.
- **Prevention**: MOH policy favors the use of treated bed nets and intermittent presumptive treatment for pregnant women, but none of these policies have been implemented in Kabare.

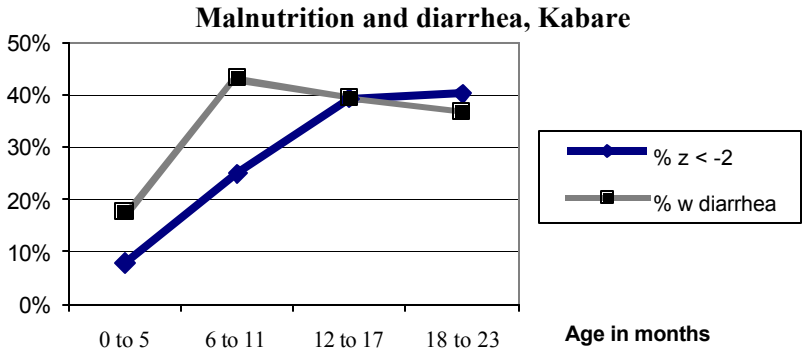
Diarrhea

- **Prevalence and incidence** . Diarrhea was a diagnosis in 6% of health center consultations in Kabare Health Zone for 2002, but was cited as a cause of death for 2 of the 10 deaths in the IRC 2002 mortality survey. This is most likely because diarrhea is "buried" behind other diagnoses, one of which may be "intestinal parasites." According to the KPC 2003, 30% of mothers of 0 to 11 month olds and 38% of mothers of 12 to 23 month olds reported their child having diarrhea in the last 2 weeks. A total of 50% of the mothers of children in the older age group reported taking their child to a health center for treatment of diarrhea, but this statistic is from a relatively small sub-sample of 36 children.
- **Seasonal pattern** . Monthly figures show the same large increase in cases in January, followed by a sharp drop in February. However, the first seasonal peak appears to occur during the dry season.

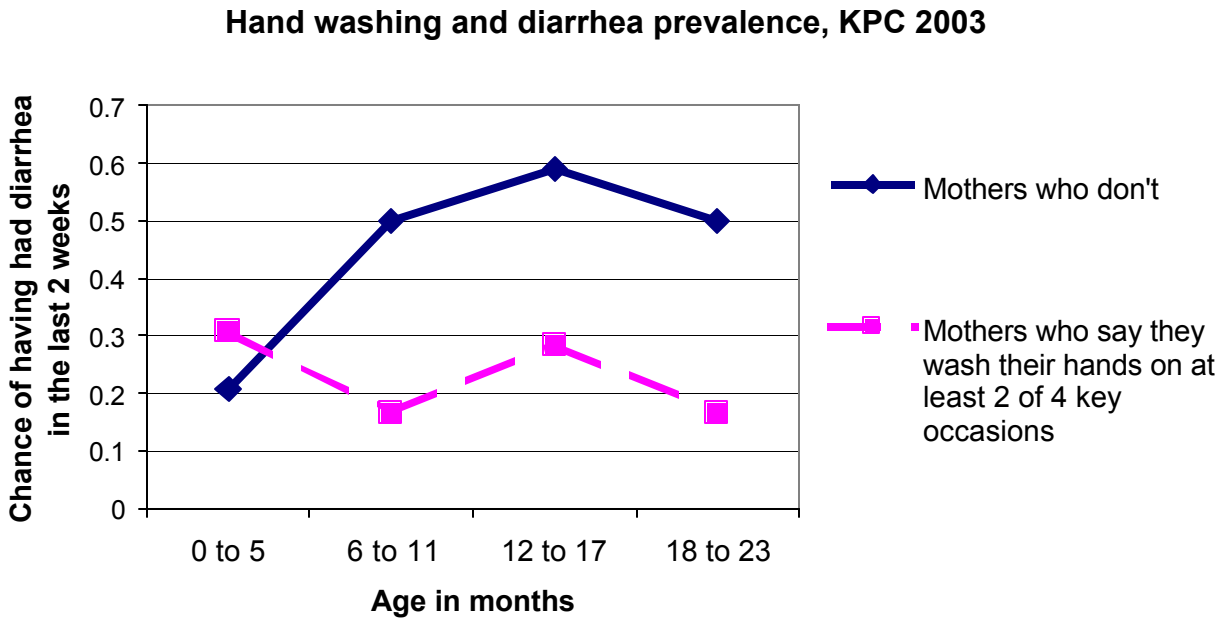
Diarrhea consultations, Kabare Health Zone, 2002



- **Diarrhea and malnutrition** . The age pattern of malnutrition and diarrhea shown in the graph below, taken from the KPC 2003, shows the pattern typical of developing countries. In the KPC sample, the association between malnutrition and diarrhea is significant among children 0 to 11 months, and persists to significance even when restricted to the 6 to 11 month age group, despite a relatively small sample size. This suggests (but does not prove) that steps to address diarrhea, particularly among children age 6 to 11 months, are needed and may be an effective strategy against malnutrition.



- **Hand-washing practices** . KPC 2003 data shows that 52% of mothers of children age 0 to 11 months wash their hands with soap on at least one of 4 key occasions (before preparing a meal; before feeding the child; after defecation; or after attending to a child's defecation), 24% on 2 occasions, 4% on 3 occasion, and 2% on none of the 4 occasions. For mothers of children age 12 to 23 months, the corresponding proportions are 45%, 17%, 5% and 3%, respectively. In both groups, the most common occasion for hand washing is after defecation (31% and 30%), and the least common is before meal preparation (15% and 8%) and after attending to the child's defecation (15% and 10%). The data suggests both constraints and opportunities. On the ne gative side, about half of mothers never wash their hands; on the other hand, about half do, suggesting there are no widespread cultural obstacles to the practice. In fact, during the KPC survey most respondents cited the lack of soap as the main reason f or not washing their hands more often. The KPC data also confirmed the well -established efficacy of hand -washing: mothers of 12 to 23 month olds who said they washed their hands on two or more key occasions were less than half as likely to report that thei r child had diarrhea than mothers who washed their hands on only one or no key occasion (RR .43, $p<.05$). Despite a small sample, the association also tended towards significance among children age 6 to 11 months (RR .33, $p<.2$). Confounding, of course, is a real possibility, but none of the potential confounding factors identified – maternal literacy, nutritional status, food security (as a proxy for socio -economic status) – showed any association with hand -washing practices.



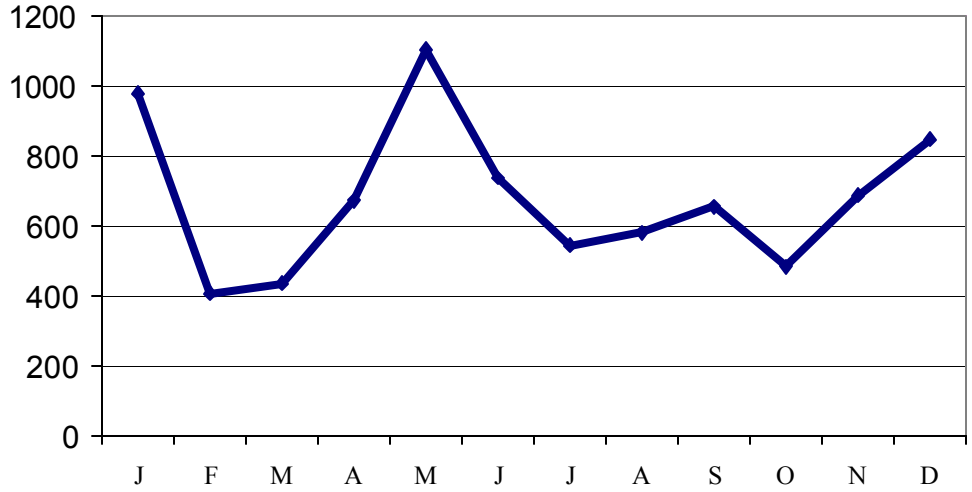
- **ORS use** . A total of 51% of mothers in the KPC survey declared giving ORS (in packet or home preparation) if their child has diarrhea. This reflects the fact that, unlike bed net use or presumptive malaria treatment during pregnancy, ORS use has been promote d in the past. Most mothers have heard of it. MOH policy is to encourage the use of home solutions since a steady supply of ready - made packets cannot be guaranteed. However, 85% of the mothers who reported using ORS cited standard packets rather than a home solution.

  The KPC questionnaire did not attempt to evaluate the quality of mothers ' ORS preparations, but this will have to be assessed and monitored in the future. Many surveyors indicated that, when they informally asked how the mothers prepared th e solution, most mothers used incorrect amounts of water.

Pneumonia

- **Prevalence and incidence** . Pneumonia was a diagnosis in 15% of health center consultations in Kabare Health Zone in 2002. It accounted for 2 of the 10 deaths in the mortality survey. Pneumonia is a hard disease to identify in community surveys, but the KPC survey showed that respiratory symptoms are common, with cough in the last two weeks being reported in 43% of children 0 to 11 months and 12 to 23 months. Cough associated with fever w as reported by 32% and 24% respectively, and respiratory difficulty was reported by 24% of the younger group vs. 14% for children 12 to 23 months, a difference that is statistically significant.
- **Seasonal pattern** . As with malaria and diarrhea, there is a pe ak in January followed by a sharp drop in attendance. With pneumonia, however, the peak that accompanies the main rainy season between March and May appears to be much more pronounced.

Pneumonia consultations, Kabare Health Zone, 2002



- **Uvulectomies**. The practice of uvulectom y is found in other parts of the DR Congo and Africa, but it appears to be particularly prevalent in Kabare Health Zone. The IRC mortality survey found that one out of the ten child deaths investigated was due to uvulectomy, and the KPC found that 27% of mothers told their interviewer that they would take their child for traditional treatment in case of throat problems. This is already a high proportion, but since the interviewer was the manager of their local health center, and someone they probably suppo sed would disapprove, the true scale of the problem must be even greater. In fact, one of the households selected for the KPC was the home of a traditional "scratcher ," or uvulectomy provider. The house was full of mothers who had brought their children. According to discussions with mothers, in explaining their preference for uvulectomies mothers most often stated that nurses at the health centers were not familiar with the words they used to describe the infant's illness. Terms used for illnesses that were best left to traditional treatment included Bilimi, Cirato, Kavuha, Buhema and Kakonto, depending on the "scratcher's" specialty.

- **MOH policy**.

The standard first -line treatment for lower respiratory tract illness is trimethoprim. Treatment by community providers is explicitly forbidden.

Staffing and current quality of care at health facilities

- **Staffing**

Health Center	HC & dependent posts	Pop. Estim.	HC-BCZ	Provider staffing
MUKONGOLA	CS Mukongola	12 769 hab	1 km	1 A2, 1 A3, 1 Aux
	PS Mulege	5 319 hab	5 km	1 A1, 1 A3, 1 Aux
LUDAHA	CS Ludaha	17 237 hab	9 km	2 A3, 1 Aux, 3 nut
CIBINGU	CS Cibingu	9 732 hab	6 km	1 A2, 1 A3, 1 Aux, 3 nut
CIRUNGA	CS Cirunga	14 520 hab	7 km	1 A2, 1 A3, 1 Aux, 2 nut
BUGOBE	CSR Bugobe	8 301 hab	12 km	2 A2, 1 A3, 2 Aux, 3 nut
	PS Cifuma	5 285 hab	16 km	1 A3, 1 Aux, 3 nut
KALULU	CS Kalulu	7 733 hab	22 km	1 A3, 1 Aux, 3 nut

MUSHWESHWE	CS Mushweshwe	11 184 hab	19 km	1 A2, 2 A3, 1 Aux, 2 nut
MBIZA	CS Mbiza	5 786 hab	5 km	2 A3, 2 nut
KINJUBA	CS Kinjuba	5 786 hab	9 km	1 A2, 1 Aux
CITUNGANO	CS Citungano	6 725 hab	6 km	1 A1, 1 A2, 1 Aux, 3 nut
	PS Cirhendo	5 073 hab	2 km	1 A3, 1 Aux
MULENGEZA	CS Mulengeza	6 957 hab	9 km	2 A3, 2 Aux, 2 nut
	PS Mpembe	3 426 hab	11 km	1 A3, 1 Aux
BWIREMBE	CS Bwirembe	10 398 hab	6 km	2 A3, 1 Aux, 3 nut
NSHANGA	CS Nshanga	5 538 hab	14 km	2 A3, 1 aux, 3 nut

Of note:

- There are only 2 A1 nurses and 8 A2 nurses for the 17 health centers and posts.
- Nine of the centers and posts are headed by A3 nurses.
- All but 5 of the health centers and posts have several nutritional agents on staff. These agents can help to oversee community-based nutrition activities.

- Quality of care

Quality of care at the health centers has not yet been systematicall y assessed, either generally or for malaria, diarrhea, or pneumonia care specifically. The OFDA -supported district support project began measuring quality, at the end of the project, through a checklist, which was not specific for any disease or process. The checklist is scored 0/1 on 18 questions such as "attitude of the provider" and "administrative formalities" to "palpation," "auscultation," and "percussion." No norms are defined for each question. IRC health monitors registered measurement of 5 con secutive patients in each of 2 days per week per health center. Initial scores on the questionnaires, in February 2003, were a combined 38%, indicating generally poor quality of care. More anecdotally, the district medical officer feels that "few or none " of the health centers apply the national protocols, with some centers in particular still giving chloroquine as first line treatment for malaria.

3. Program description

Overview

The goal of this program is to decrease morbidity and mortality among child ren under five years of age. It will do so by focusing on five intervention areas: immunization, nutrition, control of malaria, control of diarrhea, and pneumonia case management. Its major objectives are as follows

Immunization

1. Increase the proportion of children who receive measles immunization before their first birthday

Indicator: % of children 12 to 23 months with recorded measles immunization before their first birthday

Pneumonia case management

2. Increase the proportion of caregivers of children le ss than 5 years of age who seek care for respiratory illnesses at recognized health facilities and not with traditional healers

Indicator: % of mothers of children 12 to 23 months who seek care for their children at a health center and not at a traditional healer for throat problems

Quality of care (applies mostly to care for malaria, diarrhea, and pneumonia)

3. Increase quality of care at health centers

Indicators: to be determined during the quality improvement process

4. Increase the proportion of caregiver s of children under 5 years of age who know key danger signs indicating the need for immediate treatment

Indicator: % of mothers of children 0 to 11 months and 12 to 23 months who know at least 4 / 7 key danger signs as defined in Rapid Catch question 20

Control of diarrhea

5. Increase the proportion of children under 5 years of age who receive appropriate oral hydration when they have diarrhea

Indicator: % of mothers of children 12 to 23 months who use oral rehydration solution (either packets or an acceptable home mix) when their child has diarrhea

6. Increase the proportion of caregivers of children less than 5 years of age who wash their hands on at least 2 of 4 key occasions (see Diarrhea Control section for details)

Indicator: % of mothers of children 12 t o 23 months who wash their hands on at least 2 of 4 key occasions (see Diarrhea Control section for details)

Control of malaria

7. Increase the proportion of children less than 5 years of age who sleep under a correctly treated bed net

Indicator: Increase th e % of children 0 to 11 months and 12 to 23 months who slept under a correctly treated bed net the previous night

8. Increase the proportion of women who get intermittent presumptive treatment during pregnancy

Indicator: % of mothers of children 0 to 11 mon ths who got at least one malaria treatment during their most recent pregnancy

Nutrition

9. Increase the proportion of children 0 to 5 months who are exclusively breast -feeding
Indicator: % of children 0 to 5 months who were exclusively breast-fed in the last 24 hours

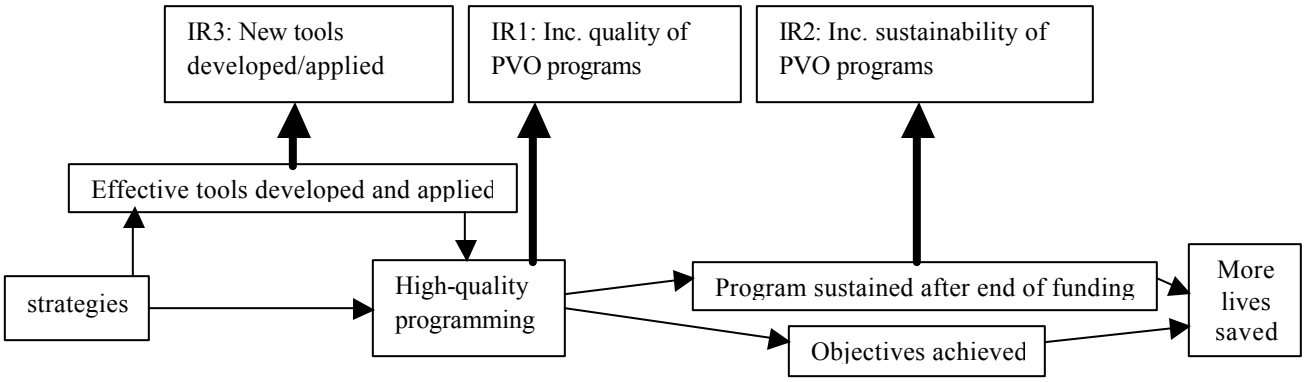
10. Increase the proportion of children less than 5 years of age who are not malnourished
Indicator: % of children 0 to 11 months and 12 to 23 months whose weight -for-age is at least 80% of median

To achieve these objectives, the program will use f our major strategies:

A. The provision of new services at the community level, including growth promotion clinics, bed net sales, and distribution of oral rehydration salts (ORS). The choice of which services will be provided and where will rest primarily wi th village and health committee leaders.
B. The improvement of services provided by the health center – or provision of new services if needed – including curative care, immunizations, and provision of intermittent presumptive treatment for pregnant women. To do this, the program will rely heavily on quality assurance methods.
C. A comprehensive behavior change strategy including radio broadcasts; collaboration with influential political and religious figures; interpersonal communication during provision of services at the community and health center level; and demonstrations , including ORS use, preparation of nutritious weaning foods, and soap -making during community clinics.
D. The use of information systems to guide priorities and to evaluate and improve strategi es, as well as to motivate participants at the community, health center, and BCZ level. The information systems, and how they will be used, are described in the monitoring and evaluation section.

These strategies are interrelated. For example, the provi sion of community services will help to increase opportunities for behavior change communication. More generally, the monitoring strategy can also be understood as an important component of the three others. For example, the BCZ's communication prioritie s are already being determined by the KPC survey results, which showed that exclusive breast -feeding is very rare, and that fish consumption appears to be associated with lower rates of malnutrition. Similarly, health committees with mortality figures in hand from the community information system are more likely to be more motivated and effective communicators. Similarly, monitoring is a key component of the quality improvement process.

The program will help the Child Survival and Health Grants Program achieve its intermediate results. For all three intermediate results, it is the program's strategies, rather than its objectives, which will help the CSHGP achieve its intermediate results, as represented by the diagram below:



- **IR1: Increased quality of programs implemented by PVOs and their partners**. Locally, the use of quality assurance methods, community surveillance, and LQAS surveying will help staff evaluate and improve the quality of the IRC and BCZ's programs. The program will also help the IRC improve the quality of its programs in other countries. For example, several IRC staffers from other country programs are already scheduled to receive LQAS training through the DR Congo program. The use of quality assurance methods is also a high priority for IRC's Health Unit, and will be disseminated throughout the organization.
- **IR2**: **Increased sustainability of programs**. The Child Survival program will promote sustainability in several ways, by relying on existing community and MOH structures to deliver services; by building the capacity of the BCZ, health center managers, and health committees, as well as of caretakers in the community; and by providing simple, low-cost, and motivating monitoring tools.
- **IR3: Strategies, tools and approaches developed/adapted, tested and applied**. The proposed program will help develop and apply several innovative approaches. It is one of the first programs to use LQAS sampling for its baseline KPC, and the results of this experience have already been shared with other PVOs. Examples of other approaches that the program will develop, refine, or simply apply include: the use of quality assurance methods; community-based distribution of zinc; community self-selection; the use of the CSTS sustainability framework; and the use of the "target-weight" method developed by the Manoff Group.

Community self-selection

Communities will apply, rather than be chosen, to participate in the program. This will serve several purposes:

- To make sure the program begins with the most enthusiastic and organized communities (although care will be taken to ensure that all communities have an equal chance of applying)
- To make sure community leaders are willing to invest time and effort
- To make sure activities respond to a community felt need.

Community self-selection is the process by which the 178 villages in Kabare Health Zone will participate in the community services part of the program. To participate in this part of the program, villages will have to submit an application form that includes the following elements:

- **Who is applying**. The applications can be submitted by a village or by all the villages covered by one health committee, that is, all the villages in a health center area.

- **Objectives**. Why the group is applying, and what they hope to achieve.
- **Who the responsible parties will be**. At least two people must be identified who will be responsible for coordinating community action. If an individual village applies, this could be the village chief and the member of the health committee from that village. If all or some of the villages in a health center area apply, the responsible parties could be the head of the health committee and the *groupement* chief (*groupements* are administrative entities composed of 10-20 villages). Since most activities will involve mothers, the program will make an effort to ensure that women leaders are also included as responsible parties.
- **What activities** the applicants would like to participate in, from a menu that will include: bed net sales; ORS distribution; soap-making; and growth promotion clinics, which will be divided into a further menu of options such as zinc distribution, cooking demonstrations, and vitamin A distribution.
- **Who will carry out the activities**. The application should outline who will actually sell the nets, weigh children, etc. This section should also indicate how these people will be motivated.
- **A letter of support** from the health center manager.

IRC and BCZ staff will explain the process during regularly scheduled community and BCZ meetings. If too few applications are submitted in relation to the program's resources, more efforts will be made to publicize the program. If too many are submitted, as initial sounding indicates is likely to be the case, IRC and BCZ managers will make a selection according to the following criteria:

- Cogency of the plans
- Level of support of the health center manager
- Level of functionality of the local health committee and other community groups
- Need, as assessed by LQAS and other data.

This does not mean that any applications will be rejected. Rather, they will be staggered in different phases, to make sure strategies are tested and fine-tuned before they are more widely applied, and to make sure communities receive enough IRC and BCZ supervision during start-up.

There is a risk that the poorest communities may not participate, because the leadership is not interested, or community members are too busy dealing with basic survival issues. Since the community health information system will be implemented throughout the area, community mortality information will be used to identify areas in high need. They will be targeted for special presentations of the process, and mentored in preparing applications.

Once an application has been accepted, IRC and BCZ staff will work with responsible parties and their communities to complete them, including the setting of objectives and timelines. A written memorandum of understanding specifying the duties of each party will then be signed. These will be adapted depending on the activities chosen, but will include the following general items

Community:
- To carry out activities as described
- To motivate and, if necessary, replace the community workers who run activities
- To provide monthly mortality and natality reports

Health center:
- To supervise activities, usually at least monthly
- To compile and transmit reports

- To analyze reports and provide feedback to community members
- To assist in the provision or the transport of key goods, such as bed nets or vitamin A
- To help train community participants

BCZ:
- To lead training of health center and community participants
- To supervise activities at least monthly in each participating health center area
- To organize and implement the provision of key goods
- To analyze reports and provide feedback at all levels

IRC:
- To provide logistical, technical and financial assistance for training and start-up
- To provide financial and logistical support for periodic evaluation meetings
- To purchase initial stocks of key goods
- To provide technical assistance with data analysis
- To provide field staff to assist the BCZ with supervision

Behavior change communication

Nearly all of the program's objectives involve behavior change, at the community or health facility level. The program's behavior change communication strategy will be multifold and will include the following elements, which will be common to all interventions:

- Interpersonal communication at the community level. For example, a growth promotion worker will counsel children who are weighed; a health committee member giving ORS packets will discuss signs of dehydration with the mother, etc. 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.
- Interpersonal communication at the health center level, during provision of curative and preventive services. Currently, very 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.
- Demonstrations during the provision of community and health center services. For example, ORS solution will be made during growth promotion sessions so that the appropriate technique can be shown. Similarly, health center staff will be encouraged to not only give, but actually prepare ORS in the center for dehydrated children. Bed net use, soap-making, and weaning food preparation will also be demonstrated.
- Radio broadcasts. The IRC and the BCZ will prepare short texts based on key messages. The messages will be broadcast on the main public and private radio stations in the area. Many people listen to the radio, although no precise ownership or audience figures are available. Furthermore, radio messages are more likely to reach men, which will be an opportunity to involve them more in child care issues.
- Influential persons, both religious and political, will be approached by the BCZ and health center staff. For example, Kabare Health Zone is a heavily catholic area, served by one priest who is highly influential and interested in development issues. Health center and

community members participating in the DIP process felt that messages passed by the priest during Sunday mass are one of the most effective com munication strategies available.

- Visual support in the form of laminated cards with key messages will be designed and drawn by local artists and distributed to health centers and community leaders. The IRC and the BCZ will create some new materials, and other materials will be adapted from Cemubac's programs in Katana Health Zone.

Quality Assurance

Quality assurance will be used at the health center and community level. Quality assurance will be used for several purposes:

- As a participatory training tool to improve the quality of care at health centers
- As a tool to design better community services
- To solve specific problems at the health center and BCZ levels, and beyond.

In both cases, the approach will be similar and will involve:

- A team approach: teams of 4 to 6 people will be formed to address major issues (such as malaria care at health centers), processes (such as community growth promotion clinics), and specific problems identified during the process (such as the irregular supply of immunization ant igens). The teams will be drawn from all the groups likely to be needed in implementing a solution.
- A systematic approach: team s 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 and thought in the Health Zone. Teams will be taught to strike the proper balance between serving internal and external clients.

Quality assurance (QA) activities will begin with control and improvement; once teams become more familiar with the techniques, they will go on to qua lity design, which will be applied as community activities get underway. Specifically:

- The BCZ will form teams to address priority processes and identified problems. The first two teams will address malaria care and immunization supply problems.
- The team s will initially use QA tools to identify and diagram the problems. They will then design research tools to better assess, and in some cases quantify, the current state of the problem.
- The team will then design solutions and test them on a small scale to measure effect.
- In cases where the solution involves change at the health center level, the team will go from health center to health center to present its analysis, its data, and its proposed solutions.

Quality assurance is both easy and difficult to tea ch. 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 QA experience, will continue to increase his skills through reading, interaction with QA specialists at the Quality Assurance project (QAP), 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. She will also interact with the QAP's local partners in nearby Rwa nda.
- To the extent possible, the QAP's specialists based in Niger, who regularly visit Rwanda, will make a trip to Bukavu to provide input to the process.
- The QAP has already provided informal support to the IRC. Although it is currently starting a new ph ase and cannot commit specific resources to the IRC's DR Congo project, the IRC anticipates that it will continue to receive insights and training from the QAP.

Sustainability

General approach

Sustainability is an important and elusive goal of child surviv al programs. It is an area in which few "best practices" have been identified, but to which renewed thought is being given. It is also a key preoccupation of the IRC as it works in one of the world's most politically unstable areas. For the IRC, sustain ability means, in the words of the 2000 Rwanda DIP, "that the program continues to decrease morbidity and mortality for young children and women of reproductive age after the end of USAID funding and IRC involvement." As that document noted, this requires the continued provision of quality preventive and curative services, which requires adequate capacity of health providers and ownership of these activities. Many of the strategies cited in the Rwanda DIP will also be used in Kabare, including:

- Putting in place simple and relevant health information systems that allow a range of stakeholders to assess problems, choose interventions, and measure progress.
- Integrating the program into MOH activities, and making sure that child survival activities and objectives are recognized as forming part of the MOH's core mission.
- Using information to develop community and institutional support for child survival activities.
- Involving community members, especially women, in the design and implementation of activities, to increase their sense of commitment and responsibility for achieving benefits.
- Building capacity of the key stakeholders and partners through training and supervision, mentoring, and partnership. This includes capacity to use data and capacity to care for children at home and in health facilities.
- Helping communities find reasonable and sustainable incentives for community workers, and more generally to find locally sustainable funding solutions for child survival activities.

Threats and opportunities

In the eastern DR Congo, as much if not more than elsewhere in sub -Saharan Africa, there are considerable obstacles to sustainability, including:

- The lack of a stable government guaranteeing essential services. This is true not only currently, but also for at least the last two decades. Most of the IRC's MOH partners have never received a salary in their working life.
- For this reason, there is little tradition of sound financial management.
- The tremendous poverty of the population, which is due to a combination of factors including war, overpopulation (Kabare is one of the most densely inhabited parts of the DR Congo), and soil erosion.
- The IRC district support program, which essentially funded salaries for health center and BCZ staff, will soon cease.

There are also some opportunities as regards sustainability:

- The BCZ and most health centers have continued at least some of their activities even in periods in which they were receiving no salaries and no support. The district medical officer, nurse supervisor, and administrator have all been in their current positions for a decade or more.
- Although the short-term outlook is bleak, with recurring insecurity and the renewed threat of full-scale fighting, the medium-term outlook is better, with the Kinshasa government steadily gaining diplomatic ground.

In order to address these threats, the IRC will take three additional steps in addition to the strategies mentioned above:

- Payment of certain key goods, including bed nets and soap-making materials. The IRC and its BCZ partners feel that the cost of these goods is relatively small in relation to the total budget, but that the population is too poor to afford them. The expectation is that, over the lifetime of the program, the standard of living will improve, enabling the program to continue on a cost-recovery basis. Unfortunately, this is simply not possible at the moment. It is also hoped that the community mortality surveillance system will document a benefit that will be helpful for advocacy—both to the community itself, to convince it to prioritize its resources towards prevention, and to donors, such as UNICEF, to show that a comparatively small investment can yield a large mortality reduction.
- Payment of stipends for partners. It is difficult to imagine how BCZ and health center managers can function without a basic living allowance, which is not being provided by the government. The IRC sees this as preferable to likely alternatives, which include distracted MOH workers doing side businesses to survive, and providing scant attention to community-based prevention, or a system, common in the DR Congo and elsewhere, in which PVO's provide back-door support through training and supervision stipends, which are often inequitable – low-level staffers rarely get to go to the training – and can harm activities by putting the focus on out-of-post trainings rather than on activities and actual performance. The hope is that, over the remaining 4.5 years of the program, the Kinshasa government will become strong enough to gather international support and harness some of the country's considerable resources towards payments of its civil servants.
- The IRC has begun, in collaboration with the DIP Core Team, a process of defining its sustainability indicators, as a tool to identify and address major threats. This process, undertaken with help from CSTS, began with the definition of the sustainability vision, and with an overview of the "sustainability dashboard," which contains six scales for measuring sustainability. It will continue with smaller groups coming up with criteria for

each of the scales. It is expected that, at the least, the scales will show that "hard" indicators such as bed net coverage or quality indicators are not the only measure of success, and that MOH and community capacity, as well as financial viability, are related and equally important objectives.

Elements of the sustainability vision, as articulated by DIP Core Team members

There is peace, and the country has been unified under one government. Insecurity and pillaging are a thing of the past. Women are not threatened, and men participate actively in providing for their families and helping their wives with work. Men take an interest in the health of their children. Community members regularly gather to conduct activities such as child weighing and vitamin A distribution. Health committees are well organized, meeting regularly and communicating well with MOH staff, and taking the lead in community activities. They give regular reports. Malnutrition and child deaths are down.

Quality of care at health centers is high. People are doing better economically and are able to pay something for consultation. There are few or no indigents. Providers are courteous and adhere to national protocols. The population has understood that health center staff provides better care, and no longer prefers traditional healers. All women attend prenatal care early, and deliver at the hospital or at health centers equipped for deliveries. Health center staff is paid by the government *(n.b. several Core Team members felt this was too unrealizable a dream, and not worth mentioning)*.

BCZ members conduct regular supervision, during which they train health center staff and provide feedback on reports. The BCZ has enough vehicles to make sure that each health center is visited at least once a month. BCZ members receive some sort of salary, and the BCZ's function is supported by a proportion of health center revenues.

The IRC's sustainability strategy for Child Survival in the DRC is in accordance with the consensus that is emerging within the wider assistance and development communities on sustainability, the key factors that affect it and the practical strategies that promote it. Most of these factors are elements of quality as well as of sustainability.

The factors are grouped under eight major categories:

- Political and institutional support
- Responsible partnerships with local management structures
- Participation by stakeholders, especially women
- Developing local capacity and financial support
- Training
- Staff skilled in participatory methods and cross-cultural sensitivity
- Monitoring of the sustainability strategy
- Learning what works

The proposed program will work within all 8 categories:

Political and institutional support

The IRC will review the MOH policy environment with its BCZ partners. It will use data as well as regular exposure to actual conditions through on-the-job training, to increase support for child survival in communities and in the MOH.

Responsible partnerships with local management structures
The IRC has designed this project within the financial capacity of the stakeholders to operate and maintain.

Participation by stakeholders, especially women
The program will include community members in a number of ways, as outlined in the DIP, from writing the DIP itself to choosing and monitoring activities. Women will be included by focusing on organizing and including caretakers of children, who are overwhelmingly women. For example, IRC and health center staff will encourage mothers of malnourished children to organize for collective action, such as raising guinea pigs.

Developing local capacity and financial support
Local agencies in Kabare Health Zone, from health committees to the BCZ, are key to sustainability. The IRC will build their capacity through training and mentoring. Capacity objectives will be based on an assessment of what is feasible, to make sure new ideas are adopted and skills actually used. The program has been designed so that it can be implemented, in the long term, by existing MOH staff and community members. Financial feasibility will be considered when designing and implementing all activities.

Training
As outlined in other sections of the DIP, training will be a key component of the program. Training will be based on actual needs and on the existing capacity of trainees; it will occur mostly in the environment in which activities are to take place; and it will take a variety of forms, including mentoring, supervision, and short courses.

Staff skilled in participatory methods and cross-cultural sensitivity
The expatriate program manager and headquarters technical advisor have worked to become more aware of Congolese culture as they participated in the DIP preparation process. Local staff, most of whom are from Kabare or the surrounding area, is also helpful.

Participatory skills will be more of a challenge. Although the IRC staff has established strong relations with local partners and with the community, there is a tradition, in training and other settings, of didactic sessions and one-way communication, especially when there is an education gap. The program manager and technical backstop will work to increase their capacity in this regard – so that they in turn can model their participatory skills to health center managers and others – by accompanying local partners in the field and, if suitable occasions arise, sending them for formal training or bringing in a consultant.

Monitoring of the sustainability strategy
The IRC will use the "sustainability dashboards" built into the CSTS framework to monitor its progress in this area. The IRC and its partners are currently developing the scales for each of the dashboards.

Learning what works

Program staff will share their lessons learned within the IRC and within the Child Survival community. This will include objectives, actions taken that enhanced sustainability, and the evidence that sustainability was improved. Conversely, the IRC will also seek to benefit from the lessons of others. For example, the use of the sustainability framework was modeled on CSTS and Concern's recent experience in Bangladesh.

Immunization

General description

Main objective: Reduce the incidence of vaccine-preventable illnesses

Major strategies:

A. **Increase coverage** through better planning of outreach sessions, improved BCZ monitoring, resolution of supply problems, improved documentation, and by increasing demand for immunization services.
B. **Increase quality** through a quality assurance process involving the identification of major problems and monitoring performance.
C. **Improve surveillance** by including measles in a community mortality surveillance system.

Specific objective:

1. Increase the proportion of children who receive measles immunization before their first birthday, as recorded on an immunization card, from 17% to 95%

Indicator: % of children 12 to 23 months with recorded measles immunization before their first birthday. Current: 17% for both age groups. 5-yr target: 95%

Other objectives:

2. Increase the proportion of children 12 to 23 months who are vaccinated against tuberculosis, diphtheria, tetanus, pertussis, polio, and measles from 12% to 80%
3. Increase the proportion of mothers of children 0 to 11 months who have received at least 2 documented tetanus immunizations before the birth of their youngest child from 37 to 50%
4. Produce at least 5 quality indicators, and improve performance on all of these. Examples: months/year that all six antigens are available from BCZ; % vaccine wastage per antigen.
5. % of villages giving surveillance reports.

Major activities:

a. Immunization planning sessions at each health center, led by IRC and BCZ staff, focusing on vaccine requisition and planning of immunization session schedule
b. Monthly IRC/BCZ review of coverage, QA data
c. Advocacy with national MOH, UNICEF
d. Provision to mothers of their child's immunization records
e. BCC activities, including interpretation
f. Quality assurance teams to define and document problems, propose and implement solutions
g. Community mortality surveillance to be implemented in entire area

Increasing coverage

- **Improving planning of outreach sessions**. Outreach sessions are already occurring, but their location and frequency are generally determined arbitrarily and are not always adequate to meet the need. The IRC and BCZ team will go to each health center and work with the health center manager to plan in-clinic and outreach sessions based on the expected target population and current coverage data by village and other local factors. On return visits, the IRC/BCZ team will

evaluate results with the health center staff, and work with each health center manager to address major local threats to coverage.

- **Improving monitoring at the BCZ level** . Currently, the BCZ has no computerized data, and does little monthly, health -center specific monitoring of results, even though the data show that there is considerable variation in coverage between health centers. The IRC will work with the BCZ to computerize basic immunization data, and analyze it monthly so that interventions can be focused on the lowest-coverage areas, and results monitored.
- **Improving supply** . Antigen s, particularly DTC, have been in short supply. Solutions will focus on the health, BCZ, and national and international levels. First, the IRC and BCZ teams visiting each health center will help the center staff reduce immunization wastage, primarily through better planning of requisitions for each session. This is also likely to improve coverage. Secondly, the IRC will work with the BCZ to make a yearly plan so that the number of antigens needed is adequately planned. While this will not in itself increase the supply, it will make advocacy and problem solving at higher levels easier. At the MOH and UNICEF level, the IRC and the BCZ will work with these national partners to identify needs and develop conti ngency plans if, as is currently the case, the national MOH is unable to deliver the needed number of antigens. The IRC will also use its contacts with UNICEF in Bukavu and in New York to advocate for the resolution of MOH -Kinshasa's supply problems, and, while waiting for this to happen, arrange for alternative plans for antigen supply. The BCZ feels that, for other materials, including cold chain equipment, the current situation is adequate.
- **Improving documentation** . One of the findings of the KPC was that only about one quarter of mothers had their child's immunization records available. There is a similar problem with prenatal records. The KPC also showed that mothers' reco llections of their child's immunizations are unreliable. Poor record keeping is a problem for health managers who find themselves without accurate population -based checks on their immunization progress, and for mothers who have no records available should they travel or move. The BCZ and health center managers will now give mothers a copy of their immunization record, both for their children and for prenatal visits.
- **Increasing demand for immunization services** . Demand for immunization services is already significant, as evidenced by the high BCG coverage. There are no major cultural barriers to immunizations. However, there are problems with measles immunization, as health center managers report that many mothers think their immunization cycle is done on ce the last DTP is given. The key messages for the immunization interventions will therefore reinforce the following points:
    - There are six major diseases that vaccines prevent (each disease will be specified)
    - Your child should be vaccinated close to birth , again at 1½, 2½, and 3½ months, and against measles at 9 months
    - Mothers should be immunized five times in their lives to protect their babies against tetanus.

  These messages will be communicated in a variety of ways, as outlined in the "Behavior Change Communication" section on page 47. In the case of immunization s, the effort will focus on BCG, since coverage at that level is very high. A card with an immunization calendar will be distributed to mothers of newborns and of children receiving their first immunization.

Increasing quality

Improving the quality of immunizations will take place according to the process described above, in the "quality assurance" section on page 48. Major areas of focus will include:

- Integrity of the cold chain
- Requisition procedures
- Sterility and cleanliness of the immunization procedure
- Interpersonal communication, including courtesy and communication of the immunization calendar
- Administration and documentation of appropriate vaccines during prenatal visits.

Improving surveillance

Although there were only 13 documented cases of measles in Kabare in 2002, the area has had major measles epidemics in the past, and the low immunization coverage and poor nutritional status of young children in the area means that epidemics can be extensive and lethal. The program's community health information system will include a category for measles deaths, as case recognition of measles in community settings has been shown to be sensitive and reasonably specific. A description of the system is given in the Monitoring and Evaluation section on page 15. This surveillance will help to target efforts, if needed, until coverage is increased, and to check against defects in vaccine efficacy once coverage is high.

Nutrition

General description

Main objective: Reduce the prevalence of malnutrition

Major strategies:

A. **Use community growth promotion clinics** that will serve to:
   - Promote healthy practices such as exclusive breast-feeding and appropriate weaning
   - Detect cases of malnutrition in the community for referral
   - Detect communities in nutrition crisis for intervention by community and other agents
   - Provide key services such as growth monitoring and vitamin A distribution

B. **Increase promotion of healthy practices and provision of basic services at health centers**

C. **Develop food security partnerships**, with program information serving to target and evaluate the food security activities of partners including Food for the Hungry (FHI), Care, Caritas, and Christian Aid.

Specific objectives:

1. Increase the proportion of children 0 to 5 months who are exclusively breast-feeding

Indicator: % of children 0 to 5 months who were exclusively breast-fed in the last 24 hours. Current: 6%. 5-yr target: 25%

2. Increase the proportion of children less than 5 years of age who are not malnourished

Indicator: % of children 0-11 mos and 12-23 mos whose weight-for-age is at least 80% of median. Current: 73% and 57% respectively. 5-yr target: 80% and 70% respectively.

Other objectives:

3. Increase the proportion of children 12 to 23 months who, according to their mother, have received vitamin A in the last 6 months from 42% to 75%.
4. Increase the proportion of mothers of children 12 to 23 months who have received vitamin A within a month of delivery from 3% to 25%.
5. Increase the proportion of mothers of children 0 to 11 months who took at least one month of iron in the last pregnancy from 6% to 20%.
6. Increase the proportion of children 0 to 11 months and 12 to 23 months who have at least 1 documented weight from 30% and 13%, respectively, to 50 and 30%
7. Increase the proportion of children 12 to 23 months who have eaten avocadoes in the last 24 hours from 2% to 25%.
8. Increase the proportion of children 12 to 23 months who received increased fluids and continued feeding during an illness in the last two weeks from 3% to 20%.
9. Undertake food security initiatives in at least 5 villages each year.
10. Increase % of villages in growth promotion network that give reports each month.
11. Improve quality of care indicators (to be determined, e.g. increase the % of health center visits for which nutritional status is documented -).

Major activities:

a. Gradually implement growth promotion clinics in the program area, following a process of community self-selection. Details of activities that will occur at these clinics are given below.
b. Conduct informal research around growth promotion clinics to investigate cultural attitudes behind food preferences.
c. Train health center staff to provide nutritional advice.
d. Work with partner organizations to exchange community nutrition data on a regular basis.

Community growth promotion clinics

Community growth promotion clinics will be a major element of the program's community intervention. Although these clinics will serve primarily to promote nutrition objectives, they will also help to promote key messages related to the other four program interventions. The clinics will include some or all of the following activities, as determined during the community self-selection process:

- Growth monitoring, using the target-weight methodology currently being used in IRC's Rwanda program, in conjunction with the standard "road to health" card. In Rwanda, the IRC and its partners have found that the target-weight method is a better tool to communicate with the mother, but that the standard green, yellow, and red colors, corresponding to nutrition classification by percents of median weight-for-age, is helpful in comparing communities with regional and national trends.
- One-on-one counseling will be given as part of the growth monitoring component. Agents will receive initial and ongoing training, as this is a difficult and slow skill to pick up.
- Vitamin A distribution will be added at the community's request. Vitamin A is available free of charge from UNICEF. The BCZ will receive it and pass it on to health centers, which will pass it on to health agents. Vitamin A will be given to children age 6 to 23 months – as well as to children aged up to 59 months whose mother requests it – and to mothers of children less than a month old.
- Zinc supplements will also be distributed at the community's request. Zinc will be given to children with diarrhea for 14-day regimens. Zinc has been shown to decrease the duration and severity of diarrhea, and to lower the incidence of acute respiratory infection for 2 to 3 months after treatment (Baqui et al, BMJ, 2002). Nutriset, a French company, has developed a sweetened pill for less than 5 cents a unit, making the cost of a full course of treatment about 70 cents. While inexpensive to a donor, this is still a considerable outlay for a mother in Kabare, especially for a therapy that, while giving proven benefits on a population scale, is not a cure. Although details are still to be worked out, Nutriset has agreed to provide at least 25,000 zinc pills at no charge, which would allow a year or two of supplements in pilot sites. The IRC will work with the BCZ to demonstrate the cost-effectiveness of the supplements in order to attract further funding.
- The clinics will also serve – also at the community's choice – to demonstrate key practices, including the cooking of nutritious weaning foods and preparation of ORS. Another potential demonstration activity is the setting up of a community garden to provide ingredients for cooking demonstrations.
- If the community requests it, and the health center manager determines that it is feasible, immunization sessions may be combined with growth promotion.
- The growth promotion clinics will also serve as a conduit for other program messages relating to immunization or control of malaria, diarrhea, and pneumonia.

Once the program is under way, the BCZ and the IRC will work with communities to assess coverage and to identify if a significant portion of malnourished children is being missed. If this is the case, all the partners will work to identify constraints to access, and address them.

Once the IRC and its local partners gather more experience with quality assurance, they will apply the skills learned to improve existing growth promotion clinics and to improve the design of new clinics as they are created.

Since none of its local partners having experience with community growth promotion, the IRC will draw on its experiences from its Rwanda program. These include:

- The initial process is very time-consuming, as everyone from the community to the district level is learning. It is best to start slowly.
- The selection of the community agents is worth expending effort on, because the qualification and commitment of these agents is the most important determinant of success. Whatever the process, a second wave of selection will frequently be needed, as some of the initially chosen agents may not continue once the reality of their obligations becomes clear.
- Commitment of time and effort from the health center manager and staff is also essential for the activities to succeed.
- Demand is often overwhelming, and it is important to limit the target population as much as possible to ensure quality of service.
- The initial training for community agents carrying out the training should be short, and focus on essential messages and on the mechanics of weighing. Much more effective learning will occur during supervisions of the actual sessions.
- Mothers respond to the integration of services. While some mothers may come just to weigh their child, many more will come if immunization, vitamin A distribution, bed net sales, and other activities are included.

Based on these lessons, the program will:

- Start clinics in only 10 communities initially. Communities will apply to be in the pilot group, as explained in the community self-selection section on page 46.
- Let communities choose the agents, but make sure duties, obligations, and rewards are spelled out at the outset. Also, performance criteria will be laid out so that agents can be replaced as soon as necessary.
- Train the health center managers, and require their commitment at the outset of the process, through the self-selection process.
- Limit weighing to children less than 24 months old.
- Conduct a short initial training, followed by an on-site training phase consisting of intensive supervision.
- Encourage communities and health centers to integrate as many activities as possible, and provide training and inputs for these activities as needed.

Increasing nutrition promotion at health centers

The program will also work on improving nutrition during interventions at the health center levels. These initiatives will essentially take two forms: improved communication of key messages in one-on-one clinical encounters, and improved provision of services.

- Improved communication will be achieved through initial training about key nutrition messages. In the past, health center staff nutrition training has focused heavily on management of the severely malnourished child. Staff will be taught the rational e behind key nutrition recommendations, and techniques for better communication: for example, asking a mother what is available to her, and focusing on this list rather than giving bland or impossible goals such as "give your child more meat."
- Service impr ovements will take place mostly through the quality assurance process described above, and will also reflect IMCI recommendations. Key targets for improvement will include:
  - Making a nutritional assessment, including weighing, of every child seen for consu ltation
  - Providing vitamin A, especially in areas where the growth promotion program has not started
  - Providing iron to every woman who comes to a prenatal consultation

Developing food security partnerships

Food security is one of the major issues affecting the nutrition of children in Kabare. After considerable discussion, the DIP core team decided not to make it a major activity of the program, because other agencies were better equipped to do it, and because addressing it adequately would demand considera ble resources and detract from the program's ability to address other important nutrition factors that are not currently being addressed. In the past, the IRC has partnered with FHI and other organizations promoting food security; for example, FHI worked with parents of malnourished children in IRC -supported nutritional centers. The partnership will be adapted to the child survival program's community orientation in the following ways:

- The IRC and the BCZ will provide data from growth promotion clinics to partner organizations
- The IRC and the BCZ will work with these organizations to coordinate program monitoring if they choose to intervene.
- The IRC and the BCZ will also coordinate with these organizations for program supervision and monitoring, if they ch oose to intervene. The IRC and the BCZ will also ensure that contacts are reinforced between health center managers and the organizations usual local partners and agricultural extension workers.
- However, the IRC and the BCZ will discourage community growt h promotion clinics from being used as distribution sites for seeds or food aid, as this can confuse community members as to the purpose of the clinics, and may also create unsustainable expectations which will threaten the program later. Two years ago, i n Mbiza health center area, a group of women organized cooking demonstrations on their own, using locally produced foods. These proved very successful until the World Food Program began distributing food aid in the area, mostly grain, and interest in the cooking demonstrations waned. The program will make an effort to contact these women, to propose that they use the community self -selection process and the child survival program to support their activities again.

Key messages

- Until your child is 6 months old, breast alone is best
- Starting at 6 months, your child needs food other than breast -milk. Many appropriate foods are available. Be sure to include foods such as carrots, avocadoes, and mangos.
- A healthy child should gain weight each month. Your chi ld should be weighed every month to make sure she is growing.
- Your child should get a vitamin A pill every 6 months, starting at 6 months of age. A woman who has just delivered should get vitamin A within a month to help her child be stronger.

- When your child is ill, make sure he drinks more than usual, and continues to eat. After the illness, he needs an extra meal a day to recover.
- Take iron during pregnancy to help yourself get more blood, and to make your baby grow better. It is best to take this iro n as early as possible during the pregnancy.

Control of malaria

General description

Main objective: Reduce the morbidity and mortality due to malaria among children under five years and pregnant women

Major strategies:

A. **Increase the use of insecticide-treated bed nets** by increasing supply and demand
B. **Increase the coverage of intermittent presumptive treatment during pregnancy** by adding a treatment component to prenatal consultations
C. **Increase the quality of home care** by increasing the recognition of key danger signs
D. **Improve the quality of care at health centers** through quality assurance processes
E. **Promote community action** through a community mortality surveillance system.

Specific objectives:

1. Increase the proportion of children less than 5 years of age who sleep under a correctly treated bed net

Indicator: % of children 0 to 11 months and 12 to 23 months who slept under a correctly treated bed net the previous night. Current: 0% for both age groups. 5-yr target: 50% for both age groups.

2. Increase the proportion of women who get intermittent presumptive treatment during pregnancy

Indicator: % of mothers of children 0 to 11 months who got at least one malaria treatment during their most recent pregnancy. Current: 19%. 5-yr target: 75%

Other objectives:

3. Increase the number of communities in which environmental action to reduce malaria risk has been taken.
4. Increase caretaker recognition of key neurological danger signs.
5. Improve the quality of malaria care at health centers (indicators to be determined, e.g. increase the % of visits with malaria diagnosis for which the appropriate first-line treatment has been prescribed and received).

Major activities:

a. Promotion of key messages regarding bed net use, IPT treatment, and danger signs.
b. Bed net sales through health committees
c. Quality assurance processes for curative malaria care and for prenatal consultations

Increasing use of bed net sales

Currently, bed net use in Kabare is close to nil, and many people have never heard of them. The first step in increasing – introducing, in fact – bed net use will therefore be to explain their purpose and use to Kabare residents, particularly to those with children less than five years old. This will be done in a variety of ways outlined in the "behavior change communication" section on page 47, including interactions with health committee members, during health center visits, and through radio broadcasts.

Furthermore, a few bed nets will be given to each health center with inpatient wards, and bed nets will be on display dur ing growth promotion clinics. Because most people have not heard of bed nets, it is hard to assess constraints to their use. However, as the program gets under way and bed net sales begin, IRC staff experienced in qualitative techniques will investigate potential cultural barriers, and the program's IEC coordinator will, in coordination with BCZ managers, devise methods to address these barriers.

The second step in the strategy will be to make bed nets available. Bed nets are currently available in Bukavu but they are not treated and, at about $3 to $4 a unit, they are beyond the reach of most Kabare families. Permanently treated bed nets are available from ASRAMES, a central pharmacy supported by the European Union, for $6.50. The IRC proposes to purc hase 10,000 permanently treated nets, over the life of the program, which will be sold at the subsidized price of $1.50. Although the permanently treated nets are more expensive, the DIP core team felt strongly that the cost of setting up re-treatment wou ld be greater, and would considerabl y lower coverage. All participants in the DIP process, as well as IRC staff, felt that subsidies were needed to make the bed nets affordable. The 10,000 nets budgeted are enough to achieve coverage of about 30% of the target group, children under 5. As with zinc pills, the expectation is that, if the impact of the bed nets is demonstrated by the community mortality surveillance system, it will be possible to advocate for more subsidized nets from other donors. Similar ly, demonstrated bed net impact will motivate households to devote more resources to bed net purchases.

Bed net sales will be an activity that communities choose through the community self -selection process. Although it is expected that bed net sales wil l be done through health committee members, communities can propose alternative forms of distribution in their applications. In all cases, community sellers will get bed nets from the health center. The bed nets will be purchased in Bukavu and delivered t o the health centers by the IRC and BCZ staff. A register will document each bed net sale, so that they can be tracked to discourage bed net re -sales. In communities where nets are resold, steps will be taken to address the problem, ranging from increase d promotion to cessation of the program.

Increasing coverage of intermittent presumptive treatment during pregnancy

In accordance with MOH policy, presumptive treatment with sulfadoxine/pyrimethamine will be given during prenatal consultations at the healt h center, once in the second trimester and once in the third. Prenatal coverage is currently fairly high – 98% and 84% of mothers have had at least 1 and at least 2 prenatal visits, respectively, according to the KPC, and 91% of mothers have had at least one visit according to MOH reports – so behavior change efforts will focus on getting women to come earlier in their pregnancies to allow them to get two presumptive treatments. This message will be transmitted primarily through health committee members and through growth promotion clinics. Since birth intervals are small in Kabare – over two thirds of children under 2 have an older or younger sibling within 36 months of their age and 12% of 12 to 23 month -olds already have a younger sibling – it is reasonable to assume that a considerable proportion of mothers at growth promotion clinics are or will become pregnant soon, making this setting a good one in which to pass along messages about prenatal consultations. Current registers do not allow easy measur ement of the timeliness of the visits, but the quality assurance team in charge of implementing the IPT program will develop measures for this.

On the supply side, the program will work to ensure that S/P is available to pregnant women and given at the appropriate time. A quality assurance team will be formed to define the major logistical and quality needs, to determine norms, and to measure performance. Fansidar will be bought locally from ASRAMES using program funds. At $28 per 1,000 pills, the cost of IPT is less than 20 cents per pregnancy. With full coverage, this represents a cost of about $1,200 a year. It is expected that, as the economic and political situation improves, this outlay will become the responsibility of local agents — either pregnant women, or other entities such as the government, which would be preferable, as it would have less impact on coverage.

Increase the quality of home care

The BCZ team is not eager to start community-based treatment. The program will thus work to improve quality of home care by increasing recognition of danger signs, and promoting prompt treatment of febrile illnesses. This will be done using all the behavior change strategies outlined on page 47.

Improve the quality of care at health centers

Curative care for malaria patients at the health centers will be improved using the quality assurance methods discussed above. Key targets for improvement will include:

- Making sure the correct first-line treatment for malaria is used
- Making sure anti-malarial drugs are in adequate supply
- Making sure patients are assessed for critical anemia
- Making sure bed nets are promoted with parents of malaria patients.

Promoting community action

The program will work with health committees to encourage community action in those areas where mortality from malaria is high, which includes every part of Kabare Health Zone. IRC mobilizers and BCZ and health center staff will work with health committees to assess the malaria burden using data from health center reports and from the community mortality surveillance system. Although it is expected that most of the actions taken will be environmental, concentrating on management of larvae sources such as small ponds, which are ubiquitous during the rainy season, communities may also choose other actions. Health committee members may, for example, initiate a campaign to increase the use of curative services, or they may advocate for changes to make health center services more accessible.

Key messages

- Sleeping under a treated bed net will help keep your child – and the rest of your family – healthy.
- You should bring your child to the health center if:
  - She has a fever
  - She cannot eat or drink
  - She has convulsions
  - She is unable to do the basic things she is usually capable of (such as talking, walking, staying awake)
- If you are pregnant, you should get malaria medicine twice during the pregnancy, to protect you from illness and to help your child grow well.

Control of diarrhea

General description

Main objective: Reduce the morbidity and mortal ity due to diarrhea among children under five years and pregnant women

Major strategies:

A. **Increase the use of oral rehydration therapy.**
B. **Increase the practice of hand washing with soap** at key moments.
C. **Improve the quality of care for children with diarrhea** in homes and health centers.
D. **Make zinc supplements available** to children with diarrhea.

Specific objectives:

1. Increase the proportion of children under 5 years of age who receive appropriate oral hydration when they have diarrhea

Indicator: % of mothers of children 12 to 23 months who use oral rehydration solution (packets or an acceptable home mix) when their child has diarrhea. Current: 51%. 5-yr target: 75%

2. Increase the proportion of caregivers of children less than 5 years of age who wash their hands on at least 2 of 4 key occasions (see Diarrhea Control section for details)

Indicator: % of mothers of children 12 to 23 months who wash their hands on at least 2 of 4 key occasions. Current: 17% 5-yr target: 50%

Other objectives:

3. Increase the proportio n of mothers of children 12 to 23 months who know at least 3 signs of dehydration from 16% to 50%.
4. Increase the number of episodes of diarrhea treated with zinc supplementation
5. Improve the quality of diarrhea care at health centers (indicators to be determ ined, e.g. increase the % of visits for which hydration status was correctly assessed).

Major activities:

a. Distribution of ORS at no cost by health committee members and at health centers
b. Demonstration of ORS and other home -based rehydration solutions duri ng growth promotion clinics
c. Demonstration of soap-making during growth promotion clinics
d. Provision of materials to make soap for women's groups in the community.
e. Distribution of zinc during growth promotion clinics and through sales at health centers.
f. Promotion of key messages regarding hand washing, ORS preparation, and recognition of dehydration.
g. Quality assurance processes for diarrhea care at the health centers.

Increase use of oral rehydration therapy

Use of oral rehydration salts – either in packets o r in home preparations, as per MOH policy – will be promoted by increasing demand and supply. Demand will be increased through the channels described above, including demonstration of ORS during growth promotion clinics and in health

centers. Supply will be increased by having health committee members make packets available at little or no charge. Packets are currently available at no charge from UNICEF offices in Bukavu, and will be delivered to health centers by IRC and BCZ staff. Health committee members will replenish their supplies at the health center. Of note, ORS distribution is an activity that communities can choose whether to include in the self-selection process.

Increase the practice of hand-washing with soap

Hand washing will be promoted through a key message, transmitted as described above. In addition, to satisfy the already considerable demand found during the KPC survey, soap will be made less expensive by facilitating its production by women's groups, including groups of mothers of malnourished children , if communities choose. The IRC will provide basic materials for each group's first batch of soap, as well as training by its mobilizers, several of whom are experienced in this technique. The soap the groups make can be sold to members of the group or to others. Based on its experience with soap making in other programs, the IRC believes it can help women make soap at significantly less cost than the current price, even when they pay for materials. Furthermore, soap making will make soap available in certain remote areas of Kabare Health Zone where soap is not available for purchase at all.

Improve quality of care for children with diarrhea

Curative care for diarrhea patients at the health centers will be improved using the quality assurance methods discussed above. Key targets for improvement will include:

- Making sure dehydration status is assessed
- Making sure home care and prevention, including hand-washing and ORS use, are discussed in each consultation for diarrhea
- Making sure the correct treatment is prescribed, given, and understood by the mother.

Make zinc supplements available to children with diarrhea

Zinc distribution at the community level is described in the nutrition section, on page 32. In addition, zinc tablets will be sold at a subsidized price at the health center. Procurement methods are described in the nutrition section.

Key messages

- If your child has diarrhea, giving her oral rehydration solution will help protect her from being "dry," which can be very dangerous
- If your child has "floppy skin," sunken eyes, a dry mouth, or is urinating less than usual, or if he has a sunken fontanel if he is less than 12 months old, this probably means that he is very dry. You should give him oral rehydration solution at once and take him to the health center.
- Washing your hands with soap before preparing meals for your family or your child, and after having gone to the toilet or helped your child to do so will help protect your child from diarrhea.

Pneumonia case management

General description

Main objective: Reduce the morbidity and mortality due to pneumonia among children under five years and pregnant women

Major strategies:

A. **Increase the use of curative care and decrease the use of uvulectomies** at the health centers through behavior change and quality of care improvement
B. **Increase the quality of curative care at the health centers** through quality assurance processes.

Specific objectives:

1. Increase the proportion of caregivers of children less than 5 years of age who seek care for respiratory illnesses at recognized health facilities and not with traditional healers

Indicator: % of mothers of children 12 to 23 months who seek care for their children at a health center and not at a traditional healer for throat problems Current: 37% Goal: 50%

Other objectives:

2. Increase the proportion of mothers of children 0 to 11 months and 12 to 23 months who cite rapid or difficult breathing as a danger sign from 24% and 16%, respectively, to 50% for both groups.
3. Improve the quality of diarr hea care at health centers (indicators to be determined, e.g. increase the % of visits for which hydration status was correctly assessed).

Major activities:

a. Quality assurance processes for diarrhea care at the health centers.
b. Promotion of key messages regarding appropriate care seeking, including
c. Talks and other communication by mothers of children who died from uvulectomies.
d. Formative research on reasons for uvulectomy preference.

Increasing use of curative care and decreasing use of uvulectomies

Decreasing the use of uvulectomies and the related practice of "scratching" tonsils will be one the program's greatest challenges. Despite the seemingly obvious danger to young children of having unsterilized, bloody procedures in the respiratory tract, there is a strong cultural belief in their value. In addition, uvulectomy is extremely lucrative for practitioners, who will not be easily coopted. To address these obstacles, the program will use several strategies:

- Spreading the key message through the channel s described above, including
- Relying on religious and political leaders in the community who have authority over practitioners. The community mortality surveillance system will be used to document uvulectomy deaths and will give staff a tool with which to advocate for intervention by community leaders.

- Groups of mothers whose children have died or been seriously injured by uvulectomies or "scratching" will be formed to bear witness and educate their peers.

Increase quality of curative care at the health centers

Curative care for pneumonia patients at the health centers will be improved using the quality assurance methods discussed above. Key targets for improvement will include:

- Making sure respiratory status is assessed
- Making sure the correct treatment is prescribed, given, and understood by the mother.

Key messages

- It is best to take your child to the health center for respiratory or throat problems. Medicines there can help your child get better.
- Uvulectomies can kill or seriously harm your child.
- If you child has rapid or difficult breathing, take her to the health center.

F. WORK PLAN

DR CONGO IRC, C'OKOLABANA PROGRAM WORKPLAN

PROGRAM GOAL: REDUCE CHILD MORBIDITY AND MORTALITY

PROGRAM			
Major Activities	**Time Frames**	**Personnel**	**Benchmarks/Targets**
Hire Staff	October 2002 –January 2003	IRC CS manager/IRC Administrator	Hired medical trainer/assistant/6 mobilizers
Baseline KPC survey	February 2003	IRC CS technical adviser/CS program manager/ BCZ/IT	Trained 17 health center nurses in Kabare health zone
DIP preparation	February 2003 – April 2003	BCZ/IPS/COSA/IRC/Civil society	1 session a week for 10 weeks
DIP draft submission	April 2003	BCZ/IRC	Report sent
Health center capacity assessment	July 2003	BCZ/IRC	All 17 health centers
Community self-selections	August 2003	COSA/BCZ/IRC	1 group per community (group of villages) per health center
Annual reports	Sept. 2003/Sept. 2004/Sept. 2005/Sept. 2006	BCZ/IRC	Report sent
Midterm evaluation	March 2005	BCZ/IRC	Report sent
Final evaluation	July 2007	BCZ/IRC	
Major Activities	**Time Frames**	**Personnel**	**Benchmarks/Targets**
Objective: Reduce prevalence of malnutrition (25% effort) Increase good feeding practices **Indicator:** % of children 0-11 months and 12-23 months with a z-score of –2 or better (LQAS)			
Develop learning materials	June 2003 – July 2003	BCZ IRC medical trainer IEC/BCC technician	Modules in management of malnutrition/3 posters and 10 pamphlets in each HC for use during IEC/session and in health education session/ revised and updated every trimester
Develop IEC messages	June 2003 – July 2003	BCZ IRC IEC/BCC technician IRC medical trainer	At least 20 appropriate messages for use during IEC sessions and radio broadcasts
Vit A distribution	August 2003	Kabare nurses (IT)/ COSA members/BCZ	8 distributions throughout the project lifetime
Selection associations in communities for vegetable community gardens	July 2003	COSA/ IRC mobilizers	1 vegetable garden pilot in each health center community in year 1, to be replicated at a rate of two new ones each following year if successful
Selection associations for pilot animal husbandry project / promotion protein consumption	September 2003	COSA/IRC mobilizers	Pilot in one health center in year one; to be replicated in all health centers if successful by mid year two.
Cooking demonstration	December 2003	COSA/ Community self selected groups	1 demonstration a month during growth monitoring sessions
Growth monitoring sessions	November	IT/COSA/trained Community/IRC/Community health workers/IRC mobilizers	1 session a month in each health center sub-zone

Training on IEC/BCC communication	August 2003	MOH/IRC IEC/BCC technician/medical trainer/CS program manager	1 training and monitoring during IEC session to facilitate learning during practice
IEC/BCC sessions in communities	August 2003	IT/COSA/Community health workers/IRC mobilizers	2 IEC sessions/month
Advocacy at the NGO and United Nations agencies partners intervening in food security	November 2003 throughout project lifetime	Medecin Chef de Zone Kabare IRC CS program Manager	2 coordination meetings with partners per trimester
Detect cases of malnutrition in the community for referral	February 2004 throughout project lifetime	COSA/IT/community self selected	1 household visits (VAD) per month
Refresher course (on the job training) and supervision on utilization of national protocol on the management of malnutrition	July 2003	MOH/IRC IEC/BCC technician/medical trainer/CS Program Manager	1 per year
General Objective: Reduce morbidity and mortality due to pneumonia among children under five years and pregnant women (15% effort) **Specific Objective1:** Increase use of curative care and decrease use of uvulectomies at the health centers through behavior change and quality improvement **Specific Objective2:** Increase quality of curative care at the health centers through quality assurance processes **Indicator:** % of mothers of children 12-23 months who report taking child to MOH clinic instead of traditional healer for ARI (LQAS)			
Major Activities	**Time Frames**	**Personnel**	**Benchmarks/Targets**
Develop learning materials (modules)	June 2003-July 2003	MOH partners IRC medical trainer	Modules/enough posters and pamphlets for use during IEC/session and in health session/ revised and updated every month
Develop IEC materials	August 2003	MOH partners/IT/IRC IEC/BCC technician IRC medical trainer	At least 20 appropriate messages for use during IEC sessions and radio broadcasts
Promotion of key messages regarding appropriate care seeking: talks and other communication by mothers of children who died from uvulectomies	September 2003 throughout project lifetime	COSA/IT/Community health workers/IRC mobilizers	2 IEC sessions per month
Formative research on reasons for uvulectomy preference	January 2004	COSA/IT/MOH/IRC	1 formative research project a year to track evolution in preference
Refresher training on application protocol diagnosis and treatment/IRA	August 2003	MOH/IRC	1 per year
Create advocacy groups	September 2003	IT/COSA/community health workers/IRC mobilizers/	At least 2 in each health center

Supervision application protocol in HC	December 2003	MOH/health monitors IRC	1 per month
Quality assurance processes for Pneumonia care at the health centers	January 2004	IRC/MOH	1 health centers quality evaluation per year
General objective: Reduce the morbidity and mortality due to diarrhea among children under five years and pregnant women (15%) **Specific objective1:** Increase use of oral rehydration therapy **Specific objective2:** Increase practice of hand-washing with soap at key moments **Specific objective3:** Improve quality of care for children with diarrhea in homes and health centers **Specific objective4:** Make zinc supplements available to children with diarrhea **Indicator:** % of children 12-23 months whose mother uses ORT when her child has diarrhea (LQAS)			
Major Activities	**Time Frames**	**Personnel**	**Benchmarks/Targets**
Develop modules and IEC materials	June 2003 – July 2003	MOH partners IRC medical trainer	Modules/enough posters and pamphlets for use during IEC/session and in health session/ revised and updated every month
IEC messages	August 2003	MOH partners/IT/IRC IEC/BCC technician IRC medical trainer	At least 20 appropriate messages for use during IEC sessions and radio broadcasts
Distribution ORS at no cost by health committee members and at health centers	July 2003 – July 2007	IT/community health workers/COSA	ORS available in 80% of households with children under 5 at the end of the project
Demonstration ORS and other home-based dehydration solutions during growth promotion clinics	November 2003 – July 2007	IT/COSA/community health workers/IRC mobilizers	60% of mothers who attend regular growth monitoring clinics know how to prepare ORS
Promotion key messages regarding hand-washing, ORS preparation, and recognition of dehydration	September 2003 - July 2007	IT/COSA/community health workers/mobilizers	2 IEC sessions per month
Soap-making demonstration during growth monitoring clinics	December 2003	IT/COSA/community groups	1 demonstration every trimester
Provision of soap-making materials for women's group in the community	November 2003	IRC	Material for 3 pilot community groups in 3 heath centers in year 2 1 group per health center in all health centers by July 2007
Distribution zinc during growth promotion clinics	January 2004 – July 2007	IT/COSA/community health workers/IRC mobilizers	Complete treatment of 1000 children a year
Distribution Mbendazole during growth promotion clinics	September 2003 – July 2007	IT/COSA/community health workers/IRC mobilizers	Mbendazole to children with diarrhea

Refresher training on application management of diarrheal diseases at health centers and communities	September 2003	MOH/IRC	1 training a year
Quality assurance processes	January 2004 –July 2007	MOH/IRC	1 health center quality assurance evaluation

Major objective: Reduce the morbidity and mortality due to malaria among children under five years and pregnant mothers (25% effort)
Specific objective1: Increase the proportion of children 0-11 months and 12 to 23 months who slept under an insecticide-treated bed net
Specific objective2: Increase the proportion of mothers of children 0 to 11 months who had at least one malaria treatment during pregnancy
Indicator 1: % of children who slept under an impregnated bed net the previous night (LQAS)
Indicator 2: % of mothers who received malaria prophylaxis during pregnancy (LQAS)

Major Activities	**Time Frames**	**Personnel**	**Benchmarks/Targets**
Develop modules	June 2003 – July 2003	MOH partners IRC medical trainer IRC Mobilizers	Modules/enough posters and pamphlets for use during IEC/session and in health session/ revised and updated every month
IEC messages	August 2003	MOH partners/IT/COSA/IEC/BCC technician IRC medical trainer	At least 20 appropriate messages for use during IEC sessions and radio broadcasts
Promotion key messages regarding bed net use, IPT treatment, and danger signs	September 2003	COSA/IT/community health workers/community groups	2 IEC sessions per month
Bed net sales through health committees	October 2003	Community health workers/community groups/COSA	Reach 25% of communities
Refresher training in the job/supervision application protocol diagnosis and treatment	October 2003	MOH/IRC	1 training a year
Quality assurance processes for curative malaria care and for prenatal consultations	January 2004 – July 2007	MOH/IRC	1 health center quality assurance evaluation

General objective: Reduce incidence of vaccine-preventable illnesses (20%)
Specific objective: Increase measles coverage among children 12 to 23 months, as recorded on an immunization card
Indicator: % of children 12- 23 months correctly immunized against measles (LQAS)

Major activities	**Time Frames**	**Personnel**	**Benchmarks/targets**
Develop modules and IEC materials	June 2003 – July 2003	MOH partners IRC medical trainer	Modules/enough posters and pamphlets for use during IEC/session and in health session/ revised and updated every month
Develop IEC messages	August 2003	MOH partners/IT/IRC IEC/BCC technician IRC medical trainer	At least 20 appropriate messages for use during IEC sessions and radio broadcasts

Immunization planning sessions at each health center, focusing on vaccine requisition and planning of immunization session schedule	November 2003	MOH/IRC	1 training a year
Monthly review of coverage, QA data	January 2003	BCZ/IRC	1 joint supervision a month
Advocacy with national MOH, UNICEF	July 2003 throughout the program lifetime	IRC/BCZ	1 coordination meeting every 2 years with UNICEF
Provision to mothers of their child's immunization records (vaccination cards)	October 2003	IRC/BCZ	Cards to all children coming to HC, CPS and growth monitoring sessions
Promotion key messages immunization calendar	September 2003	COSA/IT/community health workers/community groups	2 IEC sessions per month
Quality assurance teams to define and document problems, propose and implement solutions	January 2004 –July 2007	MOH/IRC	1 health center quality assurance evaluation
Community mortality surveillance to be implemented in entire area	November 2003	COSA/community health workers/ community groups	1 group of mortality surveillance in each village

ANNEXES

I. Response to application debriefing

1. Comments from Michel Pacque

- Conversion of Crude Mortality Rates to standard figures: done
- Malnutrition definition in terms of z-score: done
- Details on health facility staffing: done
- Coordination with water and sanitation program:
  - Program has ended. Diarrhea control intervention will focus on hand-washing practices and ORS use.
- Who will be targeted for use of the bed nets:
  - Children under five and pregnant women
- Antenatal prevention:
  - Intermittent presumptive treatment has now been included in national MOH policy and in the program.
- Standardization of indicators:
  - The revised indicator list includes more standard indicators

2. Comments on scoring sheets

- Missed opportunity to provide Vitamin A supplementation:
  - Now included in the proposal, as part of community nutrition activities. See Nutrition section.
- World Summit for Children goals :
  - Included as Annex III.
- Risk that neediest villages and IDPs will not self-select:
  - These villages will receive special attention, as outlined in the community self-selection section.
  - Internally Displaced People will participate in the program through the villages in which they live at the moment.
- Demonstrations that reduction of service fe es has an impact on access:
  - A graph showing the impact of providing free care on access will be provided in the final draft of the DIP.
- Addressing constraint on UNICEF vaccine supply:
  - This appears to be a complex problem involving relations between UNICEF and the Kinshasa MOH. As outlined in the application, the IRC use its UNICEF contacts to advocate for action. In the meantime, the program will work on making maximum use of available vaccines.
- Addressing fever at the community level:
  - BCZ managers adama ntly refuse to have community provision of drugs, because of national MOH policy, and their own feeling that such community provision would be abused. The BCZ also mention that Kabare is well covered with health centers, and geographic factors are not imp ortant. The approach will thus be to ensure prompt referral to a health center for young children with fever.
- Feasibility of travel for staff:

    - It is unclear to us why this would not be feasible. One of the IRC's MOH partners in Rwanda has already been in Congo to help with LQAS training, and the BCZ has been to Rwanda to visit Concern's Child Survival program, which is three hours away by car. A visit to the IRC's Kibungo program is planned for within the next two months.
- Too many indicators: the indicator list has been reduced to 10.
- Inadequate description of problems with UNICEF supply:
    - Some details are given in the immunization section. Briefly, it appears that cold chain and other equipment is not in short supply. The main issue appears to be a regional problem with availability of DTP vaccine. It appears this problem is worsened by payment disputes between UNICEF and the Kinshasa government. As outlined above, the program will address this problem by making more efficient use of the available vaccines, and by advocating with UNICEF in Bukavu, Kinshasa, and New York.

II. Report of baseline assessment

Major indicators

			C.I.		Sub-zones 1			2			3			4			5		
		%	–	+		DR			DR			DR			DR			DR	
1.	% Children 12-23 mos correctly immunized against measles	**17**	9.9	25.9	4/ 19	1	ok	1 / 19	1	ok	4 / 19	1	ok	4 / 19	1	ok	3 / 19	1	ok
2.	% of mothers of children 12-23 mos who report taking child to MOH clinic instead of traditional healer for ARI symptoms	**37**	27.2	47.4	5 /19	5	ok	7/19	5	ok	6/19	5	ok	7/19	5	ok	10/19	5	ok
4.	% of mothers of children 12-23 mos who know 4/7 Rapid Catch danger signs — 0 a 11 m	**29**	20.6	39.7	4/19	3	ok	9/19	3	ok	5/19	3	ok	7/19	3	ok	3/19	3	ok
	12 a 23 m	**15.1**	32.9	25.9	4/19	2	ok	5/19	2	ok	2/19	2	ok	5/19	2	ok	5/19	2	ok
5.	% of children 0-11 m whose mother uses ORT when her child has diarrhea	**51**	40.1	60.9	5/19	8	**B**	9/19	8	ok	8/19	8	ok	12/19	8	ok	14/19	8	ok
6.	% of mothers of children whose mother reports having washed her hands with soap at 2/4 key moments — 0 a 11 m	**24**	16	34.1	4/19	2	ok	8/19	2	ok	6/19	2	ok	4/19	2	ok	1/19	2	**B**
	12 a 23 m	**17**	9.9	25.9	1/19	1	ok	7/19	1	ok	4/19	1	ok	4/19	1	ok	0/19	1	**B**
7.	% of children who have slept under an impregnated bed net the previous night — 0-11 m	**0**	0		Coverage too low to determine if any supervision area is significantly below average														
	12 a 23 m	**0**	0																
8.	% of mothers of child 0-11 mos whose mother reports having had at least 1 treatment for malaria during pregnancy	**19**	11.6	28.3	7/ 19	1	ok	1/ 19	1	ok	5/ 19	1	ok	2/ 19	ok	O	3/ 19	1	ok
9.	% of mothers of children 0 to 5 mos who are exclusively breast-feeding in the last 24 hours	**6**	0.3	9.3	Coverage too low to determine if any supervision area is significantly below average														
10.	% of children who have at least 80% of standard median weight-for-age — 0 a 11 m	**73**	62.5	81.3	15/19	12	ok	12/19	12	ok	14/19	12	ok	15/19	12	ok	13/19	12	ok
	12 a 23 m	**57**	46.3	67	7/19	9	**B**	7/19	9	**B**	13/19	9	ok	13/19	9	ok	14/19	9	ok

DR = Decision rule O = OK N = Not

III. World Summit for Children Goals

I. Major Goals for Child Survival, Development and Protection

(a) Between 1990 and the year 2000, reduction of infant and under-5 child mortality rate by one third or to 50 and 70 per 1,000 live births respectively, whichever is less;
(b) Between 1990 and the year 2000, reduction of maternal mortality rate by half;
(c) Between 1990 and the year 2000, reduction of severe and moderate malnutrition among under-5 children by half;
(d) Universal access to safe drinking water and to sanitary means of excreta disposal;
(e) By the year 2000, universal access to basic education and completion of primary education by at least 80 per cent of primary school-age children;
(f) Reduction of the adult illiteracy rate (the appropriate age group to be determined in each country) to at least half its 1990
level with emphasis on female literacy;
(g) Improved protection of children in especially difficult circumstances.

II. Supporting/sectoral Goals

A. Women's health and education

(i) Special attention to the health and nutrition of the female child and to pregnant and lactating women;
(ii) Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late or too many;
(iii) Access by all pregnant women to pre-natal care, trained attendants during childbirth and referral facilities for high-risk pregnancies and obstetric emergencies;
(iv) Universal access to primary education with special emphasis for girls and accelerated literacy programmes for women.

B. Nutrition

(i) Reduction in severe, as well as moderate malnutrition among under-5 children by half of 1990 levels;
(ii) Reduction of the rate of low birth weight (2.5 kg or less) to less than 10 per cent;
(iii) Reduction of iron deficiency anaemia in women by one third of the 1990 levels;
(iv) Virtual elimination of iodine deficiency disorders;
(v) Virtual elimination of vitamin A deficiency and its consequences, including blindness;
(vi) Empowerment of all women to breast-feed their children exclusively for four to six months and to continue breastfeeding, with complementary food, well into the second year;
(vii) Growth promotion and its regular monitoring to be institutionalized in all countries by the end of the 1990s;
(viii) Dissemination of knowledge and supporting services to increase food production to ensure household food security.

C. Child health

(i) Global eradication of poliomyelitis by the year 2000;

(ii) Elimination of neonatal tetanus by 1995;
(iii) Reduction by 95 per cent in measles deaths and reduction by 90 per cent of measles cases compared to pre- immunization levels by 1995, as a major step to the global eradication of measles in the longer run;
(iv) Maintenance of a high level of immunization coverage (at least 90 per cent of children under one year of age by the year 2000) against diphtheria, pertu ssis, tetanus, measles, poliomyelitis, tuberculosis and against tetanus for women of child -bearing age;
(v) Reduction by 50 per cent in the deaths due to diarrhoea in children under the age of five years and 25 per cent reduction in the diarrhoea incidenc e rate;
(vi) Reduction by one third in the deaths due to acute respiratory infections in children under five years.

D. Water and sanitation
(i) Universal access to safe drinking water;
(ii) Universal access to sanitary means of excreta disposal;
(iii) Elimination of guinea -worm disease (dracunculiasis) by the year 2000.

E. Basic education
(i) Expansion of early childhood development activities, including appropriate low -cost family- and community-based interventions;
(ii) Universal access to basic education, and achievement of primary education by at least 80 per cent of primary school-age children through formal schooling or non - formal education of comparable learning standard, with emphasis on reducing the current disparities between boys and gi rls;
(iii) Reduction of the adult illiteracy rate (the appropriate age group to be determined in each country) to at least half its 1990 level, with emphasis on female literacy;
(iv) Increased acquisition by individuals and families of the knowledge, ski lls and values required for better living, made available through all educational channels, including the mass media, other forms of modern and traditional communication and social action, with effectiveness measured in terms of behavioural change.

F. Children in difficult circumstances
Provide improved protection of children in especially difficult circumstances and tackle the root causes leading to such situations.

IV. Memorandum of Understanding with Kabare Health Zone

INTERNATIONAL RESCUE COMMITTEE
Democratic Republic of Congo
Avenue P-E Lumumba 35/01, Bukavu DRC
Sat/Tel: 871-762-928-975 Fax: 250-538-264
Cellular Phone: (250) 0830-2543

PROTOCOLE D'ACCORD

ENTRE

L'Organisation Non Gouvernementale L'INTERNATIONAL RESCUE COMMITTEE (IRC), oeuvrant en toute impartialité et neutralité dans trente (30) Pays en Afrique, Asie et Europe, dont la République Démocratique du Congo (RDC), bureau de Bukavu, situé dans la commune d'Ibanda, Avenue P.E. Lumumba 35/01, Bukavu, sous la représentation de Monsieur David JOHNSON en qualité de Directeur Adjoint

ET

La ZONE DE SANTE DE KABARE (ZSK) composée de 13 centres de santé et 4 postes de santé, représentée par le BUREAU CENTRAL DE ZONE (BCZS), représentée par Dr BASEDEKE RUHANAMIRINDI, Médecin Chef de la ZSK, et l'INSPECTION PROVINCIALE DE LA SANTE au Sud Kivu (IPS), représenté par Dr RUNYAMBO NYABUHANGA, Médecin Inspecteur Provincial

Le présent protocole de partenariat est fait et accepté sous les charges et conditions suivantes que les deux parties s'engagent à exécuter sous peine de résiliation:

ARTICLE I. CONDITIONS GENERALES

Le programme de Survie de l'Enfant, dénommé C'OKOLABANA, vise à contribuer à la réduction de la morbidité et de la mortalité chez les enfants de moins de 5 ans et les femmes en âge de procréer dans la zone de santé de Kabare.

Pour cela le programme vise à accroître les connaissances et améliorer les pratiques des soi ns de santé primaires de la communauté de Kabare, en particulier les femmes en âge de procréer, et à renforcer les capacités au niveau des formations sanitaires.

L'état de santé actuel de la population de Kabare est inquiétant. Une étude de l'IRC menée en Décembre 2002 a estimé un taux de mortalité brut (TMB) dans la zone de santé de Kabare de 3.6 morts/1000 personnes/mois, plus du double du taux normal en Afrique Subsaharienne qui est de 1.5 morts/1000 personnes/mois.

Afin de réduire la mortalité et morbidité dans la zone de santé de Kabare, en particulier chez les enfants de moins de 5 ans et les femmes en âge de procréer, l'IRC va, par le présent programme de Survie de l'Enfant, renforcer le programme de santé de Kabare déjà existant, en insistant davantage sur le renforcement des capacités au niveau des formations sanitaires et surtout intervenir au sein des communautés, afin de réduire le grand fossé qui existe entre les formations sanitaires et la communauté.

ARTICLE II. DUREE DU PROJET

Le programme C'OKOLABANA est financé pour une durée de 5 ansà partir de mois d'Octobre 2002 au mois de Septembre 2007.

ARTICLE III. NATURE DU PARTENARIAT

Pour atteindre les objectifs fixés par le programme C'OKOLABANA, une collaboration étroite qui va se traduire par une participation dynamique des différentes parties est primordiale. Cette collaboration devra être visible à travers l'exécution de toutes les étapes du programme :

- Evaluation de base
- Planification des activités
- Mise en œuvre et exécution des activités
- Suivi et supervision, et évaluation des activités

Ce partenariat aura comme socle le respect mutuel entre les parties et des rapports basés sur le professionnalisme sans lesquels ce programme ne pourrait survivre.

ARTICLE IV. OBJECTIFS DE L'ACCORD

Travailler étroitement avec l'Inspection Provinciale de la Santé (représentante du Ministère de la Santé au Sud Kivu, chargé de la Santé Publique), pour atteindre les objectifs du programme suivants :

1. Réduire l'incidence du paludisme dans la zone de santé de Kabare à travers la promotion de l'utilisation des moustiquaires chez les enfants de moins de 5 ans et les femmes enceintes, et la formation des prestataires de service quant à l'utilisation correcte du protocole de diagnostic et de traitement du paludisme.

2. Réduire la prévalence de la malnutrition dans la zone de Santé de Kabare à travers des séances d'information, éducation et communication (IEC) au niveau de la communauté et au sein des centres de santé lors des consultations préscolaires (CPS) et consultations prénatales (CPN) pour un changement de comportement alimentaire.

3. Etendre la couverture vaccinale dans la zone de santé de Kabare à travers des activités de promotion de l'utilité de la vaccination des enfants, la formation des prestataires de service pour l'entretien du matériel du Programme Elargi de Vaccination (PEV), la commande de la quantité correcte des besoins en vaccins, et le plaidoyer au niveau de l'UNICEF pour la disponibilité des vaccins au PEV à temps et en quantité suffisante.

4. Réduire la prévalence des maladies diarrhéiques à travers des séances d'IEC pour la promotion de l'hygiène et la prise en charge des maladies diarrhéiques tant au niveau des familles qu'au niveau des formations sanitaires.

5. Réduire la prévalence des infections respiratoires aiguës avec un accent particulier sur la pratique traditionnelle de la luettetectomie, à travers des séances d'éducation au sein des communautés, et l'accroissement de l'application correcte de la prise en charge des infections respiratoires aiguës.

ARTICLE V. OBLIGATIONS DE L'IRC

1. Assurer le plaidoyer et la communication au niveau des organisations non gouvernementales (ONG) et des agences Onusienne (UN) partenaires, pour les mettre au courant des priorités dans la zone de santé de Kabare relatives à leurs différents domaines d'intervention et également pour assurer la disponibilité des vaccins au niveau du PEV.

2. Assurer le partage d'expériences avec les autres programmes de survie de l'enfant dans la sous région et le programme C'OKOLABANA, par la facilitation de visites fréquentes en particulier au programme de Survie de l'Enfant de l'IRC Rwanda à Kibungo.

3. Créer avec le BCZS un système d'information des données relatives aux objectifs du programme (mortalité, morbidité, fréquentation des formations sanitaires, qualité des soins de santé) qui regroupera les informations venues du BCZS.

4. Assurer un soutien informatique au BCZS par la formation du personnel (secrétaire et quelques membres clefs du BCZS) en différents logiciels (Excel, Epi Info), pour faciliter l'informatisation des informations recueillies lors des supervisions et évaluations des activités du programme.

5. Appuyer le BCZS/IPS dans les formations et le recyclage des agents sanitaires, des membres de comités de santé et des agents de santé communautaire ; fournir le matériel de formation (petit matériel, modules…etc.)

6. Appuyer le BCZS dans les activités de suivi de supervision et d'évaluation annuelle du programme.

7. Mettre le système d'information sanitaire à la disposition de tous les partenaires tant nationaux qu'internationaux pour faciliter la duplication des stratégies qu'ils jugeraient efficaces et efficients.

8. Pour l'appui à la supervision, l'IRC fournira au BCZS Kabare mensuellement 2 rames de papier, 150 litres de mazout, 50 litres d'essence et 10 litres d'huile moteur mixte à compter du mois de Juillet.
    a. Avant de servir le carburant, l'IRC se charge de la vérification du carnet de bord complété par le BCZS.

    b. L'IRC se réserve le droit de ne pas servir du carburant si le carnet de bord (formulaire de l'IRC) n'est pas totalement complétée ou n'est pas réaliste.

    c. Chaque livraison du carburant doit être accompagnée de nouveaux formulaires de l'IRC.

ARTICLE VI. OBLIGATIONS DU BCZS/IPS

1. L'IPS assume le rôle de médiateur entre l'IRC et le BCZS.

2. Faciliter l'accès à la zone de santé au staff de l'IRC.

3. Mettre à la disposition de l'IRC toutes les informations susceptibles de contribuer positivement au bon fonctionnement du programme; informer l'IRC de l'existence de nouveaux protocoles de soins nationaux relatives à la santé publique.

4. Soumettre le rapport mensuel des activités de la zone de santé relative à la surveillance épidémiologique.

5. Développer des stratégies innovatrices, appropriées quant à l'atteignement des objectifs du programme.

6. Assurer la supervision des activités du programme tant au niveau des formations sanitaires qu'au niveau de la communauté et produire un rapport mensuel.

7. Participer au suivi périodique des activités du programme avec l'appui de l'IRC.

8. Participer à l'évaluation annuelle du programme en mettant à la disposition du programme un agent du BCZS/IPS qui ne sera pas rémunéré. Les services de ladite personne entrent dans la participation du BCZS/IPS à l'accomplissement des objectifs du programme.

9. Participer à l'élaboration des rapports annuels destinés aux bailleurs des fonds.

10. Assister les Comités de Santé (COSA) et les initiatives locales de développement pour l'identification des besoins urgents dans leurs communautés respectives.

11. Encourager la participation des Comités de Santé (COSA) et des associations locales aux activités du projet : auto-selection d'activités à mener.

12. Coordonner les activités communautaires ; s'impliquer davantage dans la sélection des membres du COSA afin d'encourager une meilleure représentation des femmes au sein du comité restreint

ARTICLE VII. OBLIGATIONS COMMUNES : IRC – BCZS – IPS

1. Tenir une réunion de coordination du « CORE GROUP », groupe de travail constitué de membres du staff du BCZS, de l'IPS et de l'IRC, tous les mois pour discuter de l'évolution des activités du programme, proposer et planifier de nouvelles stratégies d'intervention.

2. Tenir une séance de travail toutes les fins de semaine pour une revue de l'évolution des activités du programme entre le Manager du Programme C'OKOLABANA et le Médecin Chef de Zone.

3. Assurer l'évaluation en besoin de formation et de recyclage et fournir le personnel technique pour le recyclage au sein du travail des infirmiers titulaires, la formation du COSA, et des agents de santé communautaires en IEC dans les différents domaines d'intervention

4. Le BCZS, l'IPS et l'IRC assureront les activités d'évaluation annuelle du programme sous forme de participation active aux enquêtes

ARTICLE VIII. DISPOSITION FINALES

1. Non-Respect de l'Accord

Au cas où les principes de collaboration ne sont pas respectés, la partie la plus diligente fera recours à l'autorité provinciale qui jouera le rôle de médiateur dans la résolution du différend.

Une résiliation avant terme de ce protocole par le conseil de gestion de la zone de Santé pourra intervenir à tout moment par simple notification du Médecin Chef de Zone au cas où il y aurait des problèmes susceptibles de mettre en péril la philosophie de la zone de santé.

La même faculté est reconnue à la partie envers laquelle son partenaire n'aura pas tenu les engagements pris. Un préavis de 30 jours sera accordé dans ce cas sans préjudice de la médiation stipulée à l'alinéa 1 point 1 du présent article.

2. Force Majeure

Un cas de force majeure entraînerait une suspension de ce protocole d'accord.

La partie la plus diligente fera une notification par écrit du constat de force majeure de la situation d'une manière aussi exhaustive que possible.

Pendant la période de suspension, chaque partie est déliée de ses obligations

3. Clause Diplomatique

Ce protocole d'accord peut être résilié à tout moment par l'IRC par simple notification de son Directeur Adjoint, suite aux problèmes de tout ordre, susceptibles de mettre fin aux activités de l'organisation, notamment le fait du prince.

ARTICLE IX. DATE D'ENTREE EN VIGUEUR

Le présent protocole entre en vigueur à partir du 1er Octobre 2002 pour une période d'une année renouvelable. Il peut être amendé ou renouvelé sur accord des parties par voie d'avenant.

Fait à Bukavu, en trois exemplaires, le……2003

_____

Pour LA ZONE DE SANTÉ DE KABARE
Dr BASEDEKE RUHANAMIRINDI
Le Médecin Chef de Zone

_____

Pour L'INSPECTION PROVINCIALE DE LA SANTÉ DU SUD KIVU
Dr RUNYAMBO NYABUHUNGA
Le Médecin Inspecteur Provincial

_____

Pour L'INTERNATIONAL RESCUE COMMITTEE
David JOHNSON
Le Directeur Adjoint

V. CVs of program manager and technical backstop

EMMANUEL d'HARCOURT

122 East 42nd Street
New York, NY 10168
(212) 551-3178
harcourt@aya.yale.edu

Experience

2001-present **INTERNATIONAL RESCUE COMMITTEE** New York, NY
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
UNIVERSITY OF PENNSYLVANIA
Resident Physician and instructor at the 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** Nioro, 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 children under 5. 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** Harare, Zimbabwe
UNIVERSITY OF PENNSYLVANIA SCHOOL OF MEDICINE
"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** M.P.H., 2002, Quantitative Methods	Boston, MA
1992-1996	**JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE** M.D., 1996.	Baltimore, MD
1983-1987	**YALE UNIVERSITY** B.A., 1987, Comparative Literature	New Haven, CT

NDEYE MARIETOU MANGANE SATIN

19112 Friendly Valley Parkway
Newhall, California 91321
Tel (661) 252-3620
Email lissounely@yahoo.com

EDUCATION:

MPH

Tulane University School of Public Health and Tropical Medicine (2000)
Department of Community Health Education/International Health
New Orleans, LA
Focus: Barriers to contraception use
Major professor: Dr. Robert Franklin

BA

The University of West Virginia, Morgantown, West Virginia **(1998)**

Department of Psychology

Focus: Psychological foundations of community health behavior

DUEL II
Université de Dakar **(1994)**

Department of Modern Languages
Focus: Francophone African Literature Before and After Independence

PROFESSIONAL EXPERIENCE:

2002
Program Manager, Child Survival Program
International Rescue Committee (IRC), Democratic Republic of Congo

2002
Consultant, Reproductive Health
International Rescue Committee (IRC), Democratic Republic of Congo

2002
Consultant, Post war nutrition assessment
Food for the Hungry International (FHI), North Eastern Afghanistan

2002
Consultant, Emergency Assistance
Food for the Hungry International (FHI), Democratic Republic of Congo

2001
Consultant, Technical Advisor
CARE, International, Madagascar

- Developed project proposal and implementation strategy for Urban Reproductive Health project
- Collected, analyzed, reported project data
- Provided detailed analysis of counterpart and collaborative efforts in public health interventions by organizations and community groups
- Developed training module and implemented adult training sessions for new employees in public health activities

- Translated public health documentation, reports, issues papers on country specifichealth topics; developed background and issues papers on project related potential interventions
- Supported safe drinking water in urban environments initiative as part of USAID funded "Quality Urban Environment" program

2001
Consultant
Catholic Relief Service, Antananarivo, Madagascar

- French – English: English – French translations of project reports, proposals and initiatives in the health program, including HIV/AIDS project, analysis of current situation and best practices for addressing cultural aspects of community behavior

2000
Technical Advisor
Family Health Clinic (FHC) of Brazos County, College Station, Texas

- Counseled uninsured populations and under-served communities of the Brazos Valley in Family Planning, STD and HIV/AIDS prevention; helped to develop and implement HIV/AIDS program strategies for migrant agricultural workers in Southern Texas
- Conducted online literature searches in adolescent and women's reproductive health
- Implemented Nutrition and Exercise Program targeting overweight and obese populations; worked with community groups and national non-governmental organizations to develop community-based outreach structures
- Participated in research activities looking at barriers against dual contraceptive use; developed strategies to encourage underserved women in the use of family planning devices and to seek reproductive health information

1999
Central Sterile Technician
Montgomery Regional Hospital, Blacksburg, Virginia

- Assisted Surgeons in proper handling of instruments and circulationin the operating room
- Developed strategies for sterilization of surgical instruments
- Trained staff in using sterilization equipment and/or equipment procedures

1998
Technical Advisor, Consultant
United States Agency for International Development, Dakar, Senegal, West Africa

- Provided technical assistance in the Health, Nutrition and Population sector by supporting population initiative through training module design and community-based health education
- Performed a benefit-cost analysis of family planning device client delivery; worked with local, national and international health development agencies, including to develop cross-sectional understanding of delivery on demand
- Trained professional staff in statistical computer software, including Microsoft EXCELand the importance of data analysis
- Submitted final report on cost of delivery of family planning services, strategies to improve delivery systems, barriers to effective delivery and cultural endowments relative to family planning system design and implementation
- Data collection and analysis on family planning and reproductive health

1996-1998
Research Assistant
The University of West Virginia, School of Public Health, Prevention Research Center Morgantown, West Virginia

- Assisted in data collection
- Assisted in data analysis and report writing
- Programmed and facilitated smoking cessation activities in schools
- Participated in program design and implementation

COMPUTER SKILLS:
Database Management: Microsoft Access, Excel
Statistical Analysis: SPSS, Epi Info
Performance Software: Microsoft Word, Power Point, Microsoft Office applications

LANGUAGES:

English:	Spoken: excellent (S4+); reading and writing: excellent (R4+)
French:	Spoken: native (S5); reading and writing: native (R4+)
Wolof:	Spoken: mother tongue (S5): reading and writing: mother tongue (R4+)
Spanish:	Spoken: working proficiency (S2, R2)

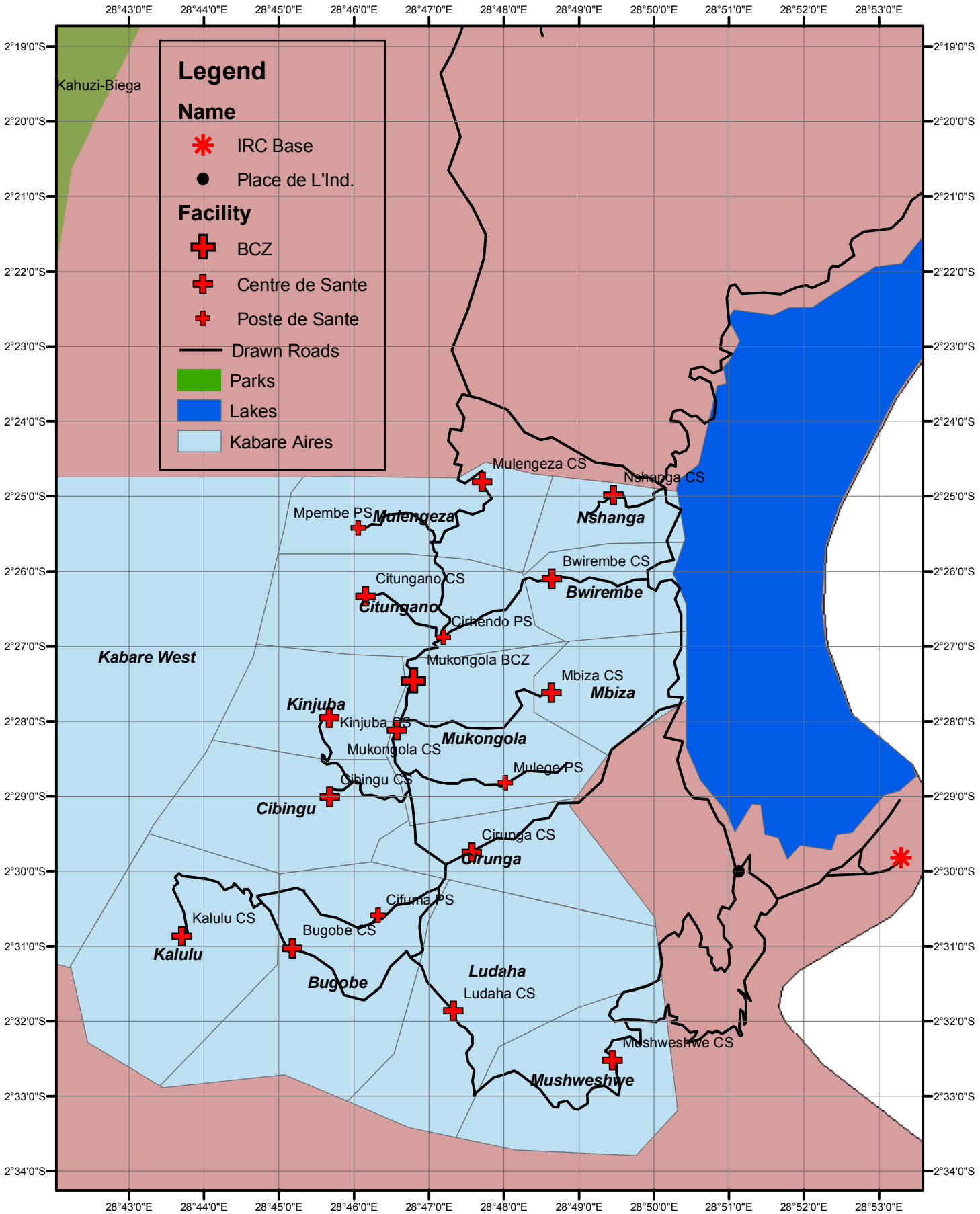
PROFESSIONAL ORGANIZATIONS:
American Public Health Association
American Psychological Association

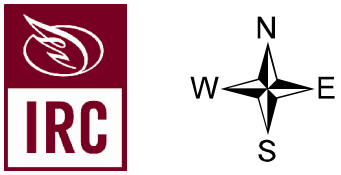
AWARDS AND ACTIVITIES:

USAID International Research Grant	1998
Global Educational Opportunity Grant	1998
Treasurer, African Student Association (WVU)	1997
International French Honor Society (Phi Delta Pi)	1997
National Psychology Honor Society (Psi Chi)	1997

VI. Map

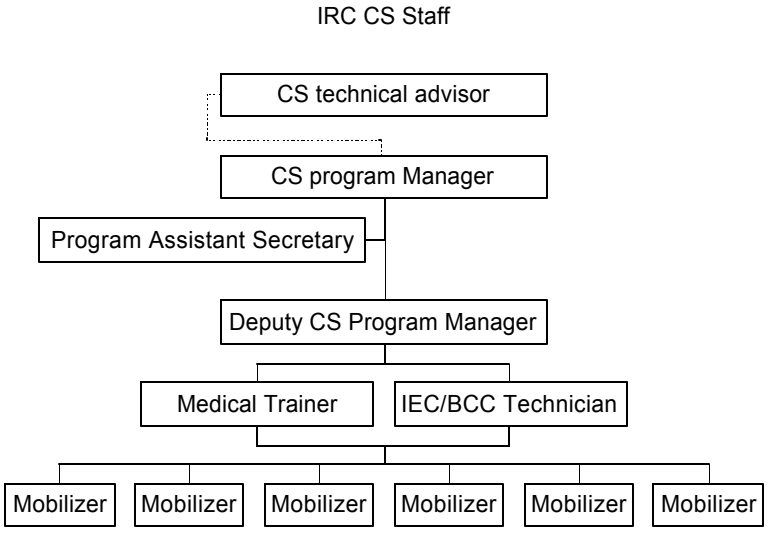
Kabare Security Map

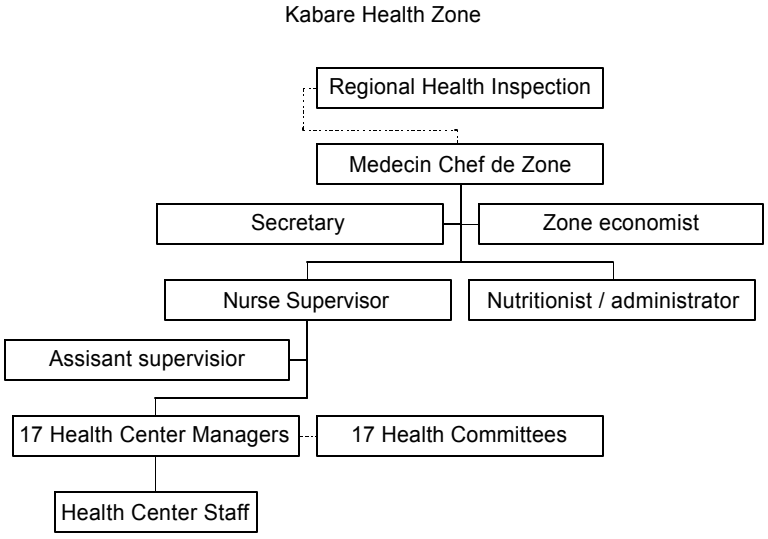




Note that features shown in this map exist, but the map is NOT necessarily complete. Roads are accurate to within ~100 meters. Point landmarks are accurate to within ~10 meters. This is a work in progress.

VII. Organization chart





VIII. Response to DIP review comments

1. Behavior change is a key to all interventions , yet there are few specific details about relevant obstacles and opportunities (e.g. beliefs). As a result, the section on behavior change communication is vague. How does the reader know it will work?

We would like to point out that there is relatively little time to prepare the DIP, particularly for an area with security problems. Organizing hiring, the baseline KPC, and collaborative DIP writing in Bukavu, all within 6 months, already required considerable effort in this context. Well -done qualitative research is a time -consuming process, particularly given IRC's lack of in-house expertise, and was not feasible in this short time frame.

However, we recognize that more thorough behavior change research and more detailed interventions will be required to make this program a success. We have taken or will take the fo llowing steps in this direction:

- All 3 members of the DIP team that attended the Mini -University (the district medical officer, the program manager, and the HQ backstop) attended the session on social and behavior change, and found it useful and relevant. We have taken the materials and will be using them.
- We will seek internal and external consultants to conduct research, and to help our local staff acquire the necessary skills.
- We will use the BEHAVE framework to shape our interventions.

2. There was inadequate description of the Rwanda community health information system

A detailed description because such a description is available at the following website: http://www.childsurvival.com/documents/workshops/DataforAction/IRC.htm

3. OR questions must be further defined

We agree. The point of the DIP was not to describe the questions in detail –we feel this is best done by field partners as the program develops – but to give an idea of the general topics we hope to conduct research in.

4. Community information system may give biased data. Use other data.

First of all, the data will be checked against other sources. For example, mortality and birth data will be checked against health center data and population-based estimates to check for major errors. In our experience in Rwanda, however, community data has proven often far less biased than facility -based data.

5. There is a discrepancy between immunizatio n objectives (95% for measles and 25% for full immunization)

Point well taken. We have revised the latter (full immunization) up to 80%.

6. The Community should be involved in organizing immunization outreach

They already are, and will continue to b e.

7. There is little detail about shortages of injection material.

There have not been any major shortages recently. UNICEF has been well -stocked, and delivery all injection materials to MOH immunization programs.

8. Why is there so much vaccine was tage? Possible solutions to wastage could hurt coverage.

In fact, vaccine wastage is due principally to lack of planning, which is due to l ack of training due to high staff turnover, and to lack of interest from facility managers, which is itself due to lack of income from immunization Our m ain solution: to improve supervision. This should not compromise coverage—on the contrary.

9. There is no strategy for malnourished children

They will be referred to existing nutritional centers

10. Exclusive BF target is too low at 20%

There are many numerous obstacles to exclusive breast -feeding, and we feel this target will be difficult to reach. If we find that we easily exceed, however, we will of course readjust our objective upwards.

11. What about bednets during pregnancy, and operational research to demonstrate home treatment is possible?

These are good ideas, and we will consider them. However, home treatment will require major advocacy to be accepted, even for a small pilot research project.

12. Is local soap-making cost-effective?
The best way to answer this question is to actually try it on a small scale, as we plan to do.

13. Little use of other materials

This point is extremely well taken. We make an effort to seek materials from other pa rtners, including those in Kinshasa. The DIP reviewers have included a number of resources which we will take advantage of.

14. how will S/P, bednets supply be sustained?

The program will first focus on making them available, acceptable, and highly -valued, the latter two of which will make the intervention more sustainable. S/P is extremely cheap and already available. Bed nets, including long-lasting nets, are expected to becomre significantly cheaper in the next few years, below the proposed subsidized price ($1.50 a net)

15. How will buy-in of community be gotten?

Principally through community self-selection, and through partnership with locally respected authorities, most notably the local priest.

16. Is yearly LQAS feasible?

This is an impor tant question. We will evaluate. We believe cost for recurrent yearly LQAS is reasonable, but we are concerned about the effort and disruption unavoidably associated with a major survey, and are considering doing the survey once every two years.

17. Are there plans for Iron supplementation?

Iron supplementation is part of the national prenatal protocol and will be included.

18. What happens if district support ceases?

IRC currently has funding for another 14 more months. We believe this will likely be renewed; we also believe that this gives the program and its partners enough time to prepare for an eventual loss of district support funding. Finally, the current program has opened bank accounts for each of the health centers, which will allow them t o purchase drugs for several months more.

19. Insuring monthly meetings of health center managers

These are already occuring and will continue. There is no need for extra incentives.

20. Will the DIP interventions be combined with other IRC program s?

IRC is planning reproductive health interventions in the area. These will be coordinated with child survival program activities.

21. What about coordination with national HIS

This system is currently being revised. All information gathered by the program will be used in conjunction with data from the national system.

22. Need to focus on routine immunization vs. campaigns

We absolutely agree. We believe that campaigns, although occasionally necessary, are very disruptive, and that high coverage can be achieved through routine immunization. All the activities described focus on routine immunization.

23. Addressing poverty

While we recognize that this is an important issue, we cannot address all problems. We do believe improving health –even without address the major underlying political and social problems – will lessen the burden of poverty, and is a worthwhile goal. We will, though, use the knowledge we gather from our contact with communities for advocacy purposes, both nationally and in ternationally.

24. Integrating community growth promotion into health center activities

These activities will be supervised by health center staff. However, we believe that most of these activities need to be in the community to improve access and insu re community participation.

25. More information needed on environmental measures for malaria

Point well taken. We will gather more such data as the program develops.