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FE Team Leader:	**Marcelo Castrillo, Consultant**
CRS Field Contacts:	**Lori Dostal, Health Program Advisor**
	Heng Bunsieth, Health Program Manager
CRS Headquarters Contact:	**Elena McEwan, Senior Technical Advisor for Health**

ACRONYMS

AADC	Association for the Community Development
AIDS	Acquired Immunodeficiency Syndrome
ANC	Ante-Natal care
ARI	Acute Respiratory Infections
BCC	Behavior Change Communication
BF	Breastfeeding
BHR	Bureau for Humanitarian Assistance
CATCH	Core Assessment Tool on Child Health
CBPHC	Community-based Primary Health Care
CBPHCP	Community-based Primary Health Care Program
CDC	Communicable Disease Control
CDD	Control of Diarrheal Diseases
CDHS	Cambodia Demographic and Health Survey
CF	Child Feeding
CI	Confidence Intervals
CRS	Catholic Relief Services
CS	Child Survival
CSH	Child Survival and Health
CS WG	Child Survival Working Group
DHS	Demographic and Health Survey
DIP	Detailed Implementation Plan
EPI	Expanded Program on Immunizations
FE	Final Evaluation
FGD	Focus Group Discussion
GD	Group Discussion
HC	Health Center
HCMC	Health Center Management Committee
HE	Health Education
HFA	Health Facility Assessment
HIS	Health Information System
HIV	Human Immunodeficiency Virus
IEC	Information Education and Communication
IMCI	Integrated Management of Childhood Illnesses
IYCF	Infant and Young Child Feeding
KPC	Knowledge, Practice, and Coverage
LQAS	Lot Quality Assurance Sampling
MCH	Maternal Child Health
MGL	Mother Group Leader
MoH	Ministry of Health
MPA	Minimal Package of Activities
MTE	Mid-Term Evaluation
NCHS	National Center for Health Statistics
NGO	Non-Governmental Organization
NIP	National Immunization Program
OD	Operational District
OI	Opportunistic Infections
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
PAA	Post Activity Assessment
PAM	Program Area Managers
PHC	Primary Health Care
PHD	Provincial Health Department
PLHA	People Living with HIV/AIDS
PNC	Post-Natal care
PVC	Private Voluntary Cooperation
SD	Standard Deviation
TA	Technical Assistance
TB	Tuberculosis
TBA	Traditional Birth Attendant
TOT	Training of Trainers
TT	Tetanus Toxoid
UNICEF	United Nations Children's Fund

USAID	United States Agency for International Development
VHC	Village Health Committee
VHV	Village Health Volunteer
VHR	Village Health Register
VVM	Vaccine Vial Monitor
WHO	World Health Organization
WRA	Women of Reproductive Age

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A. SUMMARY

The Community-Based Primary Health Care Project's goal was to reduce morbidity and mortality in mothers and children. It was implemented from September 30, 2001 to September 29, 2006 and funded with $1,300,000 from USAID, and a $723,057 cost share from Catholic Relief Services (CRS).

The project approach was two-pronged, combining work at the community and health center level to address the health status and health care needs of rural communities. This approach emphasizes the importance of community involvement in prevention of disease, and promotion of health through the establishment of community-based structures and village health activities, while simultaneously strengthening Department of Health services at the Operational District (OD) and health center (HC) level to improve the quality of services and meet community needs. The approached focused on:

- improved prevention of immunizable diseases;
- improved Acute Respiratory Infections (ARI) Case Management;
- improved Control of Diarrheal Diseases (CDD) and Malaria; and
- improved capacity of communities and health systems to manage and sustain Primary Health Care.

The interventions mix was Immunizations (25%); Acute Respiratory Infections (20%); Control of Diarrhea Diseases (30%); and Malaria (25%). Building on Catholic Relief Services' worldwide experience with the implementation of Child Survival projects funded by United States Agency for International Development (USAID) funded, the project utilized the Integrated Management of Childhood Illnesses (IMCI) approach throughout the project implementation.

Through successful partnerships with the Ministry of Health, the Battambang Provincial Health Department, and community health centers, the project focused on four rural districts of the Battambang Province in northwest Cambodia long affected by conflict. The current (2006) population of 177,834 is comprised of 24,896 children under five years of age and 42,236 women of reproductive age (15 – 49 years).

Successful objectives include increased exclusive breastfeeding, improved full vaccination, and behavioral changes related to disease prevention and seeking care. Use of Facility-based IMCI has improved health care for children under five in the area of common illnesses, and has increased health center utilization in 7 Bovel District Health Centers, one health post serving 12,830 children under 5, and 8 Health Centers in Sampov Loun OD serving 12, 653 children under 5. One of the most successful strategies was the nurturance of relationships built between CRS and the Ministry of Health (Provincial Health Department (PHD), ODs, and HCs). This was combined with the development of community structures to improve health and linkage of community and health facility activities to improve health services to the community. The development of community structures is a national program but the MoH does not have enough resources to implement it across the country and relies on the assistance of external organizations such as CRS to carry out its strategy.

CRS had a firm commitment to endorse and expand the MoH's programs and strategies in the province, and CRS efforts were supported in kind by the MoH. The joint, concentrated efforts on the National Immunization Program over the past several years has had a great impact in improving the management and technical quality of the National Immunization service provided and improving coverage for full immunization for children.

The CBPHCP model combining capacity building and support of community structures while strengthening health center management is a good model for improving child health services. Through the model of an integrated approach, MPA health center management (accounts, infection control, drug management, HIS, and health planning) as well as care for children through IMCI and for PLHA through prophylaxis and treatment of OIs, counseling, referral, and support for home care can be improved. At the same time, target groups in communities through community structures receive C-IMCI key messages, awareness for the general public and specific target groups such as mothers, and those at most at risk for HIV (youth and migrants) but also develop the capacity to solve their own primary health problems, provide community based home care and support for PLHA.

Communication and education were important aspects of the overall approach. Behavioral Change Communication (BCC) is an important aspect of this project and in the context of this project, consists of Information Education and Communication (IEC), mass media campaigns, and counseling. Each aspect of BCC has its own approach, purpose, and timing, and efforts were made to complement other activities with BCC efforts. CRS maximized resources by tapping previously-tested messages developed by the MoH, UNICEF, and others. CRS also supported the expansion of messages of other organizations on the radio, in the health facility, and in the community.

Additional funding and expertise were applied to several ancillary activities to enhance the impact of the primary objectives. CRS expanded the work at the community level by applying organizational expertise towards the facilitation of water and sanitation projects in communities. The water and sanitation component complemented the project by providing the means for communities to practice the health behaviors.

It is true that a major limitation for Village Health Volunteers (VHVs), Village Health Committees (VHCs), and Mother Group Leaders (MGLs) to perform volunteer work in the community was the interference with their actual jobs and income generation activities. This limitation was more evident in the Sampov Loun OD and during crop and harvest seasons. Also, the original willingness of community structures to work as volunteers and to participate in activities decreased. The different strategies utilized by different organizations, such as providing incentives to "volunteers" to do the jobs, providing incentives to the community to participate were considered to be significant factors in the decrease. These differing strategies also affected the communities' willingness to contribute to sustainability strategies.

One complimentary activity was increased bednet impregnation and use fostered through effective collaborations between public health sectors and local authorities, community structures, and the community. Funding from the Association for the Community Development (AADC) and Cordaid, two European NGOs, allowed CRS to provide the insecticide for bednet

impregnation. Overall, a fully-supported integrated approach such as this greatly benefits the community health structures and leads to long-term health improvements.

Trainings were critical to the successes of this project and provided some valuable lessons learned for future programming. The objectives of trainings provided to health facility staff included: improvement of their management and technical knowledge and skills, development of clear and specific objectives with expected outputs for improving the quality and coverage of health facility services; and development of relationships within the community to increase its capacity to improve its health. The Final Evaluation (FE) team found that IEC items could have been better designed, particularly in the Sampov Loun OD, to reflect the high illiteracy rates of the population. While these IEC materials were developed, used, and tested nationally by the MoH, WHO, UNICEF, and other NGOs, it would be advisable for CRS to evaluate how IEC is being used and define whether they need further refinement, i.e. reduction of the number of activities, and development of more specific objectives and outputs in order to maximize efficiency and impact.

The FE team recommends continued implementation of the IMCI strategy at both facility and community levels. At the facility level, the IMCI strategy improved care for children with ARI, CDD, and Malaria. For example, according to the Health Facility Assessment (HFA), pneumonia was diagnosed appropriately 89% of the time and treated appropriately 100% of the time. Essential drugs for treating pneumonia were readily and regularly available, as well as for the other project interventions.

The team also recommends that CRS broaden its understanding of the role of community structures as key contributors to communities instead of as simply a stopgap for government health services. Community structures also represent and serve as a voice for their communities of origin. The role of VHVs, and traditional birth attendants (TBAs) as community representatives should be embraced and strengthened. According to the team, VHCs go beyond that in identifying and finding solutions to their own health problems, in planning and implementing their own activities, and in advocating for their own needs. The Health Center Management Committees (HCMC) represent their communities at the health facility to improve their access to quality care. Additional support, both technical and financial, for these local entities will enhance the effectiveness of future programming.

B. ASSESSMENT OF RESULTS AND IMPACT OF THE PROJECT

1. Results: Summary Chart

Rapid CATCH Indicators

Indicators	Description	Baseline		Final Evaluation	
		Percent	Confidence Interval	Percent	Confidence Interval
Underweight Children	Percentage of children aged 0-23 months who are underweight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population)	28.0%	±5.6	19.5%	±3.2
Birth Spacing	Percentage of children aged 0-23 months who were born at least 24 months after the previous surviving child	11.8%	±3.8	12.1%	±2.6

Delivery Assistance	Percentage of children aged 0-11 months whose births were attended by skilled health personnel	42.4%	±9.3	62%	±5.5
Maternal TT	Percentage of mothers of children aged 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child	45.1%	±9.5	36.0%	±5.7
Exclusive Breastfeeding	Percentage of infants aged 0-5 months who were exclusively breastfed in the last 24 hours	11.8%	±7.3	98%	4.8
Complementary Feeding	Percentage of infants aged 6-9 months receiving breast milk and complementary foods	89.0%	±18.7	*	*
Full Vaccination	Percentage of children aged 12-23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	46%	±7.5	87.8%	±4.0
Measles	Percentage of children aged 12-23 months who received a measles vaccine	34.1%	±8.6	75.3%	±4.9
Bednets	Percentage of children aged 0-23 months who slept under an insecticide-treated bednet the previous night (in malaria-risk areas only)	84.3%	±10.8	87.9%	±3.5
Danger Signs	Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment	50.3%	±7.0	73.8%	±3.7
Sick Child	Percentage of sick children aged 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	20.4%	±7.0	84.9%	±4.4
HIV/AIDS	Percentage of mothers of children aged 0-23 months who cite at least two known ways of reducing the risk of HIV infection	41.9%	±9.3	68.2%	±3.2
Hand washing	Percentage of mothers of children aged 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	6.4%	±4.0	23.0%	±3.3
* Not collected for final KPC					

2. Results: Technical Approach

a. Brief overview of the project including objectives, location, intervention mix, and general strategy.

The project is located in four rural districts of the Battambang Province in northwest Cambodia that borders Thailand. The project area is comprised of the four districts of Bovel, Kam Reang, Phnom Prick, and Sampov Loun. These areas include former front-line conflict areas that witnessed extensive combat from 1979 to 1996. As a result, residents, including many recently returned displaced people and new migrants, must contend with land mines, accessibility problems for services and water, and land disputes. The project area experienced and will continue to experience population fluctuations due to the migration of people from all over Cambodia to these areas in search of land and work. All residents are Cambodians that migrated to and from Thailand due to their inability to find work in the border areas.

The current (2006) population of 177,834 is comprised of 24,896 children under five years of age and 42,236 women of reproductive age (15 – 49 years). There are presently 196 villages in the four districts. The project targeted 15 government health centers and one health post.

The project area's population is mainly rural with some concentration of people in villages. The high male mortality rate in the 1970s has resulted in a lower than usual male/female ratio in the above 35-year age group. The 20-29 year old demographic comprises a small portion of the population due to the civil war and the Khmer Rouge era (1971 - 1979) characterized by few births and high infant mortality. Children under 15 years of age comprise 43% of the population. Fifty-four percent of the population is from the 15–64 year age group and less than 4% are over 65 year of age. The average household size is 5.3 persons. Eighty-four percent of children under the age of 15 live with both of their parents, while 9% live with their mother only, 6% do not have a living father, and 1% do not have a living mother.

Project Description:

The project's goal was to reduce morbidity and mortality in mothers and children by improving the capacity of communities and the health care system to manage and sustain primary health care. The intervention mix is: Immunizations (25%); Acute Respiratory Infections (20%); Control of Diarrhea Diseases (30%); and Malaria (25%).

The project used a two pronged approach combining work at the community and health center level to address the health status and health care needs of rural communities. The approach focused on:

- improved prevention of immunizable diseases;
- improved ARI Case Management;
- improved control of CDD and Malaria; and
- improved capacity of communities and the health systems to manage and sustain primary health care.

Throughout the project implementation, the importance of community involvement in disease prevention and the promotion of health through the establishment of community-based structures and village health activities is emphasized, while simultaneously strengthening Department of Health services at the health center level to meet community needs.

Project Overview:

The project design is based on the Community-Based Primary Health Care strategy which seeks to improve overall health status of communities by integrating both village level and health center primary health care interventions and emphasizing community management and 'ownership' of preventive and promotional health activities.

The principles of CBPHC are: (1) community participation; (2) fairness and equal access in programming; (3) promotion of the leadership role of women in health; (4) collaboration/experience sharing; (5) targeting poor, underserved communities; (6) mutually (organization/community) understood and accepted criteria for selection of community partners; (7) promotion of decision making by counterparts; (8) targeting of women and children in health interventions; (9) participatory program development; (10) "right relationships,"; and (11) forming learning organizations.

The CBPHCP methodology applied to this project was comprised of:
(1) formation of community health structures; (2) capacity building of health structures; (3) participatory rural appraisal; (4) facilitation of counterpart problem analysis and solving; (5) provision of technical assistance and resources; (6) two pronged approach of working with health centers and communities and developing linkages between the two; (7) participatory planning, implementation, monitoring and evaluation of activities; (8) increasing counterpart responsibility and management of activities, with reduction of external inputs; (9) use of BCC Methodology; (10) systematic use of qualitative and quantitative evaluation tools; (11) collaboration; (12) develop sustainability strategies with counterparts, e.g. HCMC, Village Health Committee self management, capacity building; (13) community-based response to emergencies; (14) appropriate technology and cost-effectiveness; (15) identification and management of local resources; and (16) counterpart to counterpart capacity building.

b. Progress report by intervention area

The main conclusions, lessons learned, recommendations, and commitments to continuing the CRS project, which are the product of a series of meetings with project staff, FE team, and stakeholders are described below (see Attachment E1 for the complete list).

i. Immunizations (25%)

CRS' contributions to the immunization program included assisting the MOH to plan routine and integrated outreach and immunizations in the health centers, providing training and technical assistance to health center staff on National Immunization Program (NIP), and monitoring the immunization program via Post Activity Assessments (PAA) and regular use of checklists. CRS also provided financial support for: transportation; distribution of promotional messages through the community IMCI campaign; health education to the project areas through use of instructional video by community structures and health centers. CRS trained and supported the community structures to develop, maintain, and use the Village Health Register (VHR) to mobilize resources for children, pregnant, and post partum women for immunizations and Vitamin A.

Objectives

Community Level:

- Increased percentage of mothers and pregnant women who keep immunization cards.
- Improved vaccine coverage for children under 2 years of age.
- Improved tetanus toxoid coverage for pregnant women.

Health Center Level:

- Improved management and technical quality of NIP at the Health Center.
- Improved coverage of immunizations for children and pregnant women.

Approach

The primary activities at the community level to improve the immunization status of children in the project area included:

Organization of community structures

- Development of VHVs, VHCs, and TBAs for all villages.
- Technical Assistance on community mobilization provided to community structures, i.e. VHVs, VHCs, and TBAs.

Capacity building

- Training of community structures by Health Centers, assisted by CRS staff, on immunizations which included information about the NIP, and ways in which they can assist the health center in providing this service to the community.
- Development and maintenance of the village health information system, The Village Health Register (VHR). Community structures (VHVs, VHCs, and TBAs) were provided training and technical assistance to collect, maintain, and use data from their villages to ensure coverage of immunizations for children and pregnant women.
- Integrated planning by the health centers, and community structures.

Behavior change communication:

- Technical Assistance on BCC provided to community structures. During the immunization sessions, the community structures were provided with information on the importance of obtaining immunizations for the seven diseases and booster frequency, on keeping the yellow and TT cards, side effects of immunization, and use of paracetamol for fever control.
- IEC materials (leaflets, posters, and audio tapes) were developed and used to assist the community structures in providing immunization education and information to mothers and pregnant women.

The primary activities at the health center level to improve the immunization status of children in the project area included:

Capacity building:

- Training of Trainers (TOT) for NIP to OD managers on the Update on the National Immunization Program protocol.
- Training of health center immunization team staff on the Update on the National Immunization Program protocol for technique and management of the NIP program, including techniques on how to administer immunizations.
- CRS Maternal Child Health (MCH) manager and/or CBPHCP manager participation in MoH working groups and national meetings for developing and disseminating NIP protocol updates.
- Development of IEC materials and technical assistance (TA) provided to health center staff to aid in informing mothers and pregnant women about the importance of: immunizations, immunization schedules, keeping cards for children and pregnant women, obtaining appointment dates for subsequent vaccines; counseling on side effects, fever management, household precautions, and the distribution of paracetamol to mothers.

- Prevention of infection through technical assistance in the use of disposable needles and syringes and safe disposal of needles and syringes.
- Improved integration of immunizations into the Facility IMCI for both children and mothers and into Ante-Natal Care (ANC) visits for pregnant women to reduce the number of missed opportunities, provide information regarding immunizations, and encourage mothers and pregnant women to keep and bring the immunization cards to the health center when they come for visits and to the routine outreach immunization sessions.

Management:

- Strengthening the maintenance of the cold chain including monitoring the temperature of the refrigerator and assisting the HC to switch from using kerosene to gas for the refrigerators. Planning the amount of vaccines, materials, cards and immunization registers per village; developing schedules for NIP activities; and communication of plans to community structures and villages authorities are also important measures.
- Record vaccinations on the card and register; implementation of infection prevention measures (safety box); protection of the quality of the vaccines; and interpretation and use of the Vaccine Vial Monitor (VVM).
- Monitoring, analysis, and planning for NIP activities including: support and assistance to develop, maintain, and use a monitoring table and graph to monitor NIP coverage against health center targets, development of annual health plans, and completion of quarterly, semi-annual, and annual analysis and planning.
- Post Activity Assessment (PAA) tool used by the PHD, OD, and HC with CRS to verify the vaccine application and assess the drop-out rate, quality of services received, and rate of card retention to provide feedback and improve plans for NIP in all health centers in the project area.

Social mobilization:

- TOT and technical assistance to health center to train community structures (VHV, VHC and TBAs) on immunizations.
- Technical assistance to health center staff to work with community structures for mobilization and follow up of immunization target group prior, during, and after NIP sessions in the community, and to integrate VHC planning into health center planning.

Results

Rapid CATCH Indicators

Indicator	Description	Targets set in DIP	Baseline		Final Evaluation	
			Percent	Confidence Interval	Percent	Confidence Interval
Maternal TT	Percentage of mothers of children age 0-11 months who received at least two tetanus toxoid injections before the birth of their youngest child by recall	65% by recall and 55% by card	45.1%	±9.5	36.7%	±5.5

Full Vaccination	Percentage of children aged 12-23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	Bovel 80% Sampov Loun 60%	46%	±7.5	87.8%	±4.0
Measles	Percentage of children aged 12-23 months who received a measles vaccine by recall	No target	63.9%	±8.6	75.3%	±4.9

Other Project Intervention Indicators

Indicator	Description	Targets set in DIP	Baseline		Final Evaluation	
			Percent	Confidence Interval	Percent	Confidence Interval
Immunization card	Percent of mothers with children aged 12-23 months who keep their immunization card.	80%	56%		85%	±4

Health Facility Assessment Results

Indicator	Description	Targets set in DIP	Baseline	Final Evaluation
			Percent	Percent
85% of health centers will have an acceptable level (75%) of quality of Expanded Program on Immunizations (EPI) service as measured by the quality assurance checklist.	% of health centers (16 total: 8 in Bovel and 8 in Sampov Loun) who have an acceptable level (75%) of the quality of EPI service as measured by the quality assurance checklist.	85% of HC score a level of 75% score on checklist	71% of HC in Bovel and 25% in Sampov Loun scored 75% on the NIP checklist	100% of Bovel HC scored 87% on the NIP checklist. 75% of Sampov Loun HC scored 75% on the NIP checklist. 87.5% of the project's health centers scored 75% score on the NIP checklist.

Activity	NIP Checklist 2003		NIP Checklist 2006	
	Bovel	Sampov Loun	Bovel	Sampov Loun
# of sessions equal to the plan	87%	75%	100%	100%
Documentation using graphics and monitoring table	75%	24%	87.5%	62%
% HC with drop out rates below 10%	13%	13%	75%	75%
Maintain cold chain	88%	72%	100%	86%
Inform mother of next appointment	13%	38%	63%	88%
Information about immunizable diseases	25%	63%	0%	63%

Health Facility Assessment NIP

Vaccines/ Supplies Equipment	IMCI Supervisory Checklists Baseline		IMCI Supervisory Checklists Final	
	Bovel	Sampov Loun	Bovel	Sampov Loun
Vaccines and cold chain				
All available vaccines	12.5%	87%	100%	100%
Refrigerator	12.5%	100%	100%	100%
Yellow immunization cards	100%	100%	100%	100%
Vaccines in poor condition	87.5%	0%	13%	0%

Results Analysis:

1. Tetanus Toxoid 2

The DIP Target for TT 2 was 55% by card and 65% by recall for TT2. The final evaluation showed an immunization rate of 36% by recall and 36.7% by card, which were below the DIP targets. The Cambodian Demographic and Health Survey (CDHS) 2005 – 2006 result was 79% for TT1 by testimony or recall. The Final KPC survey results showed that the targets set in the DIP were not reached for TT2.

Some of the reasons cited by the FE team were:

1. The Health Center staff focused more on children's immunizations and not enough education was provided to the pregnant women for keeping the TT card.

2. Community structures found it difficult to track and mobilize pregnant women due to migration and because women did not report their pregnancy; thus not all pregnant women were registered in the village health records. Women did not prioritize TT and maintenance of the card. This is due in part to the fear of AIDS transmission through the injection, and the resultant pain and tumefaction on the injection area which can last for several days.

3. Finally, a large percent of women (*not quantified in any of the surveys*) had 5 doses of TT, which made them fully immunized, and therefore were not eligible for additional TT shots during their pregnancy.

The CDHS 2005 – 2006 result was 79%, but this was only for one dose of tetanus by women's testimony, which is an indicator sign of access, as opposed to coverage. Furthermore, in Cambodia, TT is given to all women of childbearing age, and the goal is to provide 5 TT dose during their lifetime. The implication is that TT2 coverage during the last pregnancy could be a misleading result, because if the woman had received 5 TTs, the number of TTs she might have received during the last pregnancy is irrelevant. It is possible that the above described factors contributed for not reaching the DIP goals, but if TT 5 has had a large coverage, which was not measured by any of the population-based surveys, the KPC might be underestimating the true TT coverage.

2. Full immunization of children 12 – 23 months:

The DIP Target for full immunization was: 80% for Bovel OD and 60 % for Sampov Loun OD. Baseline showed a statistically significant increase (no CIs overlapping) from baseline 46% to final evaluation survey 87.8%. The Cambodian DHS 2005 - 2006 showed 82.4% The CDHS used the card and report together while the CRS KPC results above were card only.

The main points including factors contributing to attainment identified by the team were:

At the health center level:

Upon the initiation of IMCI, only one HC in Bovel had a refrigerator. The cold chain was completed in both ODs by November 2003 (see table with HFA results on p. 14). All materials needed for NIP activities were then available at the HC and HCs were not forced to rely only on immunization campaigns. Nevertheless, in Cambodia, the majority of immunizations are still provided through routine monthly outreach campaigns in rural villages in accordance with the national policy. All HC staff was trained in NIP management and injection application techniques.

The Village-Based Health Record developed and maintained by the community structures provided the means of documenting and assessing the real numbers of children and pregnant women in the communities. The health facilities developed their targets for immunizations using a formula that gave them the approximate number of eligible children and women. Constant in-and-out migration, however, made the estimations inaccurate. HC staff developed a list of children who were scheduled to get immunizations and sent it to the community structures for follow up. The community structures compared this with their VHR and mobilized the people accordingly. Some villages were very difficult to access, and in the past, had often not received services for immunizations at all. However, during this project, HCs made plans to visit the difficult to access villages at least 4 – 5 times during the dry season. Health centers developed annual plans, and used monitoring tables and graphs to visually monitor the results and help them plan to improve access and coverage.

Among the constraints identified by the FE team is that in Sampov Loun OD, the NIP was not started until 1997. In addition, staff had limited experience and knowledge in managing and providing immunizations, and general knowledge and demand for NIP services in communities was limited.

Community level:

The village health records had a list of all children eligible for immunization, and community structures (VHV, TBA, VHC), which included mothers group leaders, mobilized the mothers and caretakers to participate in the NIP. Also, mothers better understood the importance of getting vaccines themselves.

The increasing understanding and support from mothers and caretakers regarding NIP was demonstrated by the mothers' interest in obtaining Hepatitis B vaccination for their children. Participatory BCC methods were useful in providing information to mothers.

3. Measles Vaccination

There was no DIP target for measles vaccination. The KPC survey, however, demonstrated a significant increase (no CIs overlapping) compared to the baseline (34.1%) to final surveys (75.3%) by card. The CDHS result in Battambang for measles was 87.6% which was higher than the CRS final KPC. The CDHS, however, used the mothers' reports and cards together while the CRS final KPC only used the card.

Measles immunization is a reflection of drop outs, meaning that NIP was carried out properly among target children. The dropout rate was considered important by the CRS team given the long period of time between the last dose of DPT, HepB, Polio 3, and measles. This schedule makes it is easy for mothers to miss the opportunity to immunize their children for measles. In Bovel and Sampov Loun health centers, only 13% reported dropout rates less than 10% for BCG or measles in 2003, but in 2006, 75% of the HC reported a dropout rate less than 10% for Measles, DPT, HepB, and Polio 3 immunization.

4. Immunization Card Retention

The DIP target for immunization card retention was 80%. There was a significant increase between baselines rate of 56% and the final evaluation rate of 84% (no overlaps in CIs). In fact, they were beyond the DIP target. The CDHS results in Cambodia were 66.7% and 58% in Battambang, which was lower than the CRS results.

Mothers were encouraged to bring their child's cards to the HC for all visits. Also, mothers received information on the importance of keeping the card during community education sessions and counseling at HCs.

Accomplishments, Challenges, Lessons Learned

Over the past years, the MoH's concentrated efforts as part of the NIP, with the support of NGOs such as CRS were an important factor in achieving immunization objectives. Establishing almost a complete and functioning cold chain in project ODs, which existed only in few places before 2003, could never have been accomplished without a focused commitment and extensive coordination. Nevertheless, there is still room to improve immunization card retention and coverage, particularly in remote villages and during the rainy season.

The MoH has introduced two monitoring instruments, the IMCI and NIP supervision checklists. CRS has used the MoH checklists results as a tool for providing technical assistance. CRS also developed a village health record system (VHR) to help community structures mobilize and follow up with children and pregnant women and facilitate vitamin A distribution. CRS trained and supported the community structures to maintain and use the VHR for decision making at the community level. However, there is still room to improve the community structures' analysis capacity and decision making processes to become a true social accountability instrument.

CRS' contributions to the immunization program consisted of assisting the MOH to plan immunization campaigns, and integrate immunizations as a routine and ongoing activity at the health center level. CRS trained and provided technical assistance to health center staff, and monitored the immunization program using the post activity assessment (PAA) and the regular application of the checklists. CRS also provided financial support for transportation and promotional messages for community IMCI campaigns, health education to the community through community structures, and use of video spots at health centers.

To achieve the current NIP coverage, a coordinated effort between the PHD, ODs, HCs, community structures, communities, and CRS was needed. Withdrawal of CRS participation will pose a major challenge for the PHD, ODs, HCs, and communities to maintain immunization

activities, VHRs, and application of the monitoring and evaluation tools introduced by the project.

Below are specific recommendations provided by the FE team.

Health center level:

1. Though the final Health Facility Assessment (HFA) and KPC results showed an overall improvement of the NIP, counseling is still weak among health center staff and will require further training and support.
2. The health center needs to emphasize the need for mothers to keep their TT cards.
3. Maintenance and expansion of IMCI is critical, as this led to full immunization for children.
4. Further and sustained efforts will be needed to maintain and expand the provincial cold chain structure.
5. Further and sustained efforts will be needed to maintain the level of training and commitment of HC staff.
6. Sustained efforts will be needed to maintain and expand monitoring activities i.e., quality assurance checklist, PAA, and VHR to monitor the quality of the immunization service.
7. Efforts and financial support will be needed to expand regular visits to include routine, fixed immunization in the health centers, and outreach work.
8. Efforts and TA will be needed to maintain the quarterly and semi- annual analysis of information and planning.
9. Efforts and resources will be needed to reinforce the links between community structures and health centers.

Community level:

1. Resources and TA will be needed to maintain and expand BCC activities.
2. Maintain VHRs to track children and pregnant women, and for community structures to monitor and mobilize them.
3. HC staff, with close collaboration and assistance from the community structures (HCMC, VHVs, TBAs, and VHCs), need to design effective ways to reach the villages that are not accessible during the rainy season. In spite of the great difficulties and costs, the project has reached these remote villages 4 to 5 times during the rainy season. Prior to these occasions, some villages were not reached at all.

ii. Acute Respiratory Infections (20%)

Community Level:

IR 1: Improved mothers' knowledge and practices for ARI prevention.
IR 2: Improved mothers' knowledge and practices to manage pneumonia.
IR 3: Improved mothers' practices to seek appropriate health care.

Health Center Level:

IR 1: Improved quality of Health Center ARI case management.

The primary activities at the community level to address acute respiratory infections in the project area included:

Organization of community structures:

- Training of VHVs and VHCs and/or identification of TBAs to develop community structures.
- Diagnosis and identification of community health problems by VHCs and communities.

Capacity Building:

- TOT for health center staff to develop lesson plans and provide training to community structures.
- Training to VHVs and VHCs on ARI Case Management with a curriculum focused on the identification of rapid and/or difficult breathing as danger signs, appropriate healthcare seeking behavior and home care for pneumonia. After the mid-term evaluation, the program focused training and technical support on the VHVs rather than the VHCs in order to concentrate time and funds on the VHVs.

Behavior change communication:

- TA provided to the VHVs to conduct BCC sessions to Mothers' Groups in the community
- Targeting for HE/BCC: Initially the project targeted the general population, but changed the target to Woman of Reproductive Age (WRA) after the midterm and introduced more adult learning and participatory methods for BCC.
- Development of Mothers' Group Leaders and Mothers' Groups.
- Application of participatory health education methods by VHVs in providing education to mothers groups, e.g. correct and incorrect behavior, role play, and story telling, etc.
- IEC materials development, including video spots, radio spots, audio messages and the development of a BCC tool kit for VHVs to use in providing BCC in the communities.
- Community campaigns using various methods of providing information and involving the target group:
  - IMCI campaign;
  - Breast feeding campaigns during World Breast Feeding Week and other times; and
  - Child Survival Intervention campaign: dissemination of ARI messages on danger signs, seeking care, and home care.

The primary activities at the health center level to address acute respiratory infections in the project area included:

Capacity Building:

- Training in:
  - ARI case management following the MoH guidelines (prior to MoH change from ARI case management to Facility IMCI in 2003).
  - IMCI, consistent with the Facility IMCI strategy adopted by the MoH in 2003 and incorporating ARI case management into IMCI.
- Facility support through basic equipment and materials to the HCs to implement IMCI.

- Technical assistance and supervision support for IMCI implementation including:
  - Financial support and technical assistance provided to the OD for supervision on IMCI using the MoH supervisory checklist and caretakers exit interview.
  - Support and assistance to ODs to conduct feed-back meetings with health centers after supervision visits in order to solve problems and improve the quality of services delivered.
  - Monitoring and assistance to improve the quality of IMCI on a monthly basis with HC staff. Monitoring instruments used included quality checklist and mother's exit interviews developed by CRS.
- Health education at the health center using video spots, IEC materials and group discussion during waiting time.
- Counseling to caretakers using IMCI mother's counseling card on: the danger signs of pneumonia, instructions to return if worse, use of medicine, increased breast feeding, and proper intake of fluids and foods during illness.
- TOT for health center staff to develop lesson plans and provide training to community structures.

Results:

Rapid CATCH Indicators

Indicator	Description	Targets set in DIP	Baseline		Final Evaluation	
			Percent	Confidence Interval	Percent	Confidence Interval
Exclusive Breastfeeding	Percentage of infants aged 0-5 months who were exclusively breastfed in the last 24 hours	30%	11.8%	±7.3	98%	±2.4
Danger Signs	Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment	Not available	50.3%	±7.0	73.8%	±3.5
Sick Child	Percentage of sick children aged 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	60%	20.4%	±7.0	84.9%	±4.4

Other Project Intervention Indicators

Indicator	Description	Targets set in DIP	Baseline		Final Evaluation	
			Percent	Confidence Interval	Percent	Confidence Interval
Danger signs	Percent of mothers who recognize at least two signs of pneumonia.	60%	24.5%		62.5%	±4
Care Seeking	Percent of women with children under 2, who sought appropriate medical treatment when their child experienced rapid and/or difficult breathing.	45%	25%		68.5 % (health center & hospital)	±7.3

Health Facility Assessment Results

Indicator	Description	Targets set in DIP	Baseline	Final Evaluation
			Percent	Percent
Seventy percent (70%) of health centers in the project site have an acceptable level (75%) of performance in case management of ARI, CDD, Malaria/ IMCI as measured by quality assurance checklists.	Percent of health centers (16 total: 8 in Bovel and 8 in Sampov Loun) who have an acceptable level (75%) of the performance of ARI, CDD, Malaria /IMCI measured by the quality assurance checklist.	70% of HCs in project area score 75%.	Bovel: 78% Sampov Loun: 72%	Bovel 94% Sampov Loun: 89%

IMCI Case Management for ARI

Activity	IMCI Supervisory Checklists Baseline		IMCI Supervisory Checklists Final	
	Bovel	Sampov Loun	Bovel	Sampov Loun
Cases assessed for all major symptoms (cough, diarrhea, fever, ear problems, malnutrition, and anemia)	71%	96%	85%	93%
Cases assessed for cough, diarrhea and fever	76%	56%	95%	100%
Cases of pneumonia who received a full course of antibiotic	100%	100%	100%	77%
Caretakers of children given an antibiotic or anti malarial drug know how to give, frequency per day, and number of days	92%	57%	100%	100%
Caretakers know the 3 rules of care (continued fluid during illness, continued food during illness, and to return immediately if condition worsens)	52%	53%	90%	79%

Facility Assessment ARI:

Drugs/ Equipment Supplies	IMCI Supervisory Checklists Baseline		IMCI Supervisory Checklists Final	
	Bovel (Available)	Sampov Loun	Bovel	Sampov Loun
Drug Supply				
Cotrimoxazole	38%	100%	100%	100%
Ampoxicillin	38%	100%	100%	100%
Gentamycin IM	75%	88%	100%	100%
Ampicilin IM	75%	88%	100%	100%
Paracetamol	38%	100%	100%	100%
Facility Support				
Scale	75%	75%	100%	100%
Timer	100%	87%	100%	100%
IMCI Cards	100%	100%	100%	100%

Results Analysis:

1. ARI Case Management:
   The DIP target for mothers knowing the two danger signs that indicate that they should seek care for their children with pneumonia was 73.8%. There was a significant increase (no CIs overlapping) between baseline and FE results. Rapid breathing recognition increased from 24.5% to 78.5%, and difficult breathing recognition was 67.7%. However, 65.5% of the mothers recognized the two danger signs of pneumonia.

Health center level:
CRS has made a special effort to design appropriate IEC materials on IMCI to strengthen case management. The HFA showed that HCs improved the availability of equipment and materials needed to implement IMCI and pneumonia case management.

According to the external evaluator and the information provided by the MoH, PHD, OD, and CRS representatives during the evaluation, there appears to be some confusion about key messages for early recognition of pneumonia and when to seek proper treatment. This may result in mixed messages to the population. Acute upper respiratory infections do not necessarily turn into pneumonia, but the ill child will still need immediate referral for proper diagnosis and treatment. To reduce child deaths due to pneumonia, it is important that counseling and health education teach mothers that whenever a child has difficulty breathing and/or, rapid and/or chest in drawing, the child is in great risk because they may have pneumonia infection.

In contrast, the KPC demonstrates a positive trend with regard to the indicators on the mothers' recognition of pneumonia signs. It may be that during the FE evaluation there were translation problems, and that health providers at the field level are actually providing proper guidance and education on pneumonia signs and prompt referral.

Internationally, it has been agreed not to use the acronym ARI (acute respiratory infections) any longer, because that involves upper and lower respiratory tract infections, and the recommendation is to concentrate on the early recognition of pneumonia signs and prompt referral. Upper infections are usually not life threatening, unless there is laryngeal diphtheria or streptococcal infection, but those are also to be classified and treated by a trained professional. This must be addressed in future activities. Note that USAID Child Survival is the one that used ARI as an intervention, not CRS. However the point is well taken.

The strategy to increase mothers' knowledge of danger signs was implemented through counseling mothers during IMCI (monitored with the IMCI quality checklist and exit interviews). CRS supported the PHD and OD in conducting refresher courses on counseling mothers and IMCI feedback meetings. However, it should be pointed out that mothers' identification of danger signs and seeking prompt and appropriate help is a long-term goal.

According to the Cambodian IMCI protocol, health center staff counseled all mothers to return to the health center for their sick child if the child was getting worse, not eating and drinking, and/or had increased fever, which are general danger signs, but not specifically for pneumonia cases.

Community Level:
Before the midterm evaluation (MTE), the community structures were given information about identifying danger signs such as rapid and difficult breathing and fever as well as other messages about ARI such as cause and transmission. The target group for health education was the general population. VHVs and VHCs worked to provide education and mobilize the population.

After the MTE, health education concentrated on mothers. Also, Mothers' Group Leaders were developed among mother groups, who could continue and follow up with health education. The MTE recommendation was to increase the variety of methods used for BCC to further expose the mothers of the community to these methods. The curriculum was revised to include participatory learning methodologies. The learning methodologies opened opportunity for mothers to think and decide which practices to change. Participatory learning techniques included job-aids, a set of pictures showing correct and incorrect practices, etc. All those materials were presented in a toolkit for VHVs to use with mothers groups.

Another recommendation is to teach mothers that there are two key ways of reducing pneumonia incidence in the target communities: reducing indoor smoke and measles vaccine. The former due to the smoke's irritation of the lungs' tissue, and the latter because the most frequent complication of measles is pneumonia. Teaching mothers and families how to prevent pneumonia is recommended if mothers are cooking using indoor wood fires. While pneumonia incidence is almost the same in developed and developing countries, a clear difference arises in prognosis and access to early and proper treatment. The FE Team leader recommended getting updated information from CS technical materials and other available resources to clarify concepts and improve TA to the MoH.

2. The KPC showed that 68.5% of mothers of children aged 0 – 23 months sought appropriate medical treatment when their child experienced rapid and /or difficult breathing. This was a significant increase from the baseline of 25% (45% DIP target).

   Health Center level:
   During focus group discussions (FGD), health center staff acknowledged that since the implementation of IMCI, more mothers brought their children for consultation. FGD with mothers and the HFA also demonstrated that they were satisfied with the treatment received at the health facilities.

   The role of the health center's management committees (HCMC) was to inform communities about the services offered at the HCs, monitor the quality and transparency of the health service care to the community, and help to establish the fees for health services and an exemption policy for families with low resources. This improved communications and problem solving between the health facility and the community with increased utilization of the health facility by the community.

   Community level:
   Mothers were informed about appropriate care seeking behavior through community structures, BCC education, IMCI, and Child Survival Intervention campaigns.

   Linkages workshops brought together the operational district, health center, community structures, and local authorities, and provided opportunities for coordination and collaboration in providing the information to the community.

   During the FGD utilized as part of the final evaluation assessment, mothers stated that they were satisfied with the quality of health center services.

The MoH Mothers' Counseling Card, which CRS uses at the HC, has a picture of rapid and difficult breathing with a message written below the picture. The CRS ARI IEC and the tool kit also has a picture and the message that rapid and difficult breathing are dangers signs for seeking care. Reviewing and retesting all the IEC materials is recommended.

Accomplishments, Challenges, Lessons Learned

The FE team recommended continuation of the IMCI strategy implementation at both facility and community levels.

CRS made a good effort to use and expand IEC materials elaborated on and field tested by the MoH and partners. When necessary, CRS developed new materials for the project. The KPC results show a positive trend when compared with knowledge of pneumonia danger signs by the interviewed mothers. Nevertheless, when discussing the basic concepts with FE team members, there seem to be some conflicting messages. The FE team leader could not identify the source of confusion, and at what level it is happening, if it is happening at all. In any case, it is recommended that CRS staff obtain updated materials on pneumonia case management and learn whether the IEC and BCC materials are responding to the current concepts in the pneumonia case management component of IMCI.

It is difficult to differentiate between a child with pneumonia and a child that is simply severely ill. It may be that the only correction needed is to refine the key messages for mothers and care takers on recognition of severe disease and pneumonia signs - in both cases, the child needs immediate attention. The staff also needs to know that pneumonia is particularly deadly in young infants and that respiratory dispnea usually develops quickly and the fatality rate is high when the child does not receive antibiotics quickly. Mothers and caretakers should be knowledgeable enough not to become overly concerned with common colds, but be able to recognize possible life-threatening conditions in children and seek immediate care.

Some cultures have a local name for dispnea (difficult breathing) that can be obtained through focus groups describing the condition. If Khmer has a proper word for it, then messages will be much clearer for the general population. This does exist and was used in counseling and in the IEC materials.

After that investigation is complete, the CRS and provincial team can be confident of the effectiveness of these messages materials and health education, and can then distribute them to a larger audience. Information should also be gathered about the ways messages were given and understood by the mothers in the community and the health facilities by the community structures and health center staff by qualitative assessment methodologies

Overall, the implementation of the IMCI strategy and BCC increased the demand for services. Also, HCMC and community structures helped families access health services by informing them about the service delivery and the quality of attention.

iii. Control of Diarrhea Diseases (30%)

Community Level:
IR 1: Improved mothers' knowledge and practices for prevention of diarrhea.
IR 2: Improved mothers' knowledge and practices to manage diarrhea.
IR 3: Improved mothers' practices to seek appropriate health care.

Health Center Level:
IR 1: Improved quality of Health Center CDD case management.

The primary activities at the community level to address the control of diarrheal diseases in the project area included:

Organization of community structures:

- Development of (VHVs and VHCs) and /or identification (TBAs) of community structures.
- Diagnosis and identification of community health problems by VHCs and communities.

Capacity Building:
- TOT for health center staff to develop lesson plans and provide training to community structures.
- Training VHVs and VHCs on CDD Case Management with a curriculum focused on the identification of danger signs of diarrhea, especially dehydration and appropriate health seeking behavior. After the midterm evaluation, the program focused training and technical support on the VHVs rather than the VHCs in order to concentrate time and funds on the VHVs.
- Development of community water and sanitation projects allowed villagers to practice appropriate behaviors and served as solutions to the priority health problems of diarrhea, dysentery, and typhoid which were identified by the VHC and the community.
- VHC annual health planning to maintain existing projects and activities to improve sanitation in the villages.

Behavior change communication:
- TA provided to the VHV to conduct BCC sessions to Mother's Groups in the community.
- Targeting for HE/BCC. Initially, the project targeted the general population, but changed the target to WRA after the midterm and introduced more adult learning and participatory methods for BCC.
- Development of Mother's Group Leaders and Mother's Groups.
- Application of participatory health education methods by VHVs in providing education to mothers groups, e.g. correct and incorrect behavior, role play, and story telling, etc.
- IEC materials development, including video spots, radio spots, audio messages, and the development of a BCC tool kit for VHVs to use in providing BCC in the communities.
- Community campaigns using various methods of providing information and involving the target group:
  - IMCI campaign
  - Breast feeding campaigns during World Breast Feeding Week and other times.

- Child Survival Intervention campaign: dissemination of CDD messages on danger signs, care seeking, and home care.

- Collaboration between OD, HC, and VHVs to develop and implement a system of oral rehydration therapy (ORS) packet availability in the communities through VHVs to mothers of children with diarrhea. This included training for VHVs in mixing and providing ORS, recording and refilling ORS at the health centers during VHV meetings, and dissemination of information about ORS availability through BCC education, NIP outreach, and the Child Survival campaign.

The primary activities at the health center level to address the control of diarrheal diseases in the project area included:

Capacity building:

- Training on CDD case management assistance to the HC staff following the MoH guidelines (prior to MoH's change from CDD Case management to Facility IMCI in 2003).
- Training on Facility IMCI following the MoH country strategy adopted in 2003.
- Facility support through basic equipment and materials to the HCs to implement IMCI.

Management:

- Technical assistance and supervision support for IMCI implementation including:
  - Financial support and technical assistance provided to the OD for supervision on IMCI using the MoH supervisory checklist and caretakers' exit interview.
  - Support and assistance to ODs to conduct feed-back meetings with health centers after supervision visits in order to solve problems and improve the quality of services delivered.
  - Monitoring and assistance to improve the quality of IMCI on a monthly basis with HC staff. Monitoring instruments used included quality checklist and mothers' exit interviews developed by CRS.
  - Development, use, and maintenance of ORT corners at 16 HC when they started IMCI-Plan A (for children with diarrhea without dehydration): Health personnel gives ORS packet and counseling in how to mix and use at home; Plan B used for rehydration for children with moderate diarrhea: Health personnel providing ORS at the HC with observation of child's rehydration. The child is discharged when he/she shows evidence of rehydration and is then given Plan A; and Plan C: Health personnel give ORS to continue to take while being transferred to higher level of care (the referral site).

Behavior change communication:

- Health education at the health center using video spots, IEC materials, and group discussion during waiting time.
- Counseling to caretakers using IMCI mother's counseling card on danger signs of diarrhea and dehydration, instructions to return if condition worsens, use of medicine, increased breast feeding, fluids and foods during illness.
- TOT for health center staff to develop lesson plans and provide training to community structures.
- Infection control measures: CRS provided water filters to ensure safe water at some HCs. Use of quality performance checklist for infection control by CRS with health center staff to

monitor and improve infection control at the health centers including waste disposal, sterilization of equipment, and washing hands with soap.

- Monitoring and refill of ORS by HC of VHV Community ORS system during VHV meeting or training with HC reporting to OD.

Results:

Rapid CATCH Indicators

Indicator	Description	Targets set in DIP	Baseline		Final Evaluation	
			Percent	Confidence Interval	Percent	Confidence Interval
Exclusive Breastfeeding	Percentage of infants aged 0-5 months who were exclusively breastfed in the last 24 hours	30%	11.8%	±7.3	98%	±2.4
Sick Child	Percentage of sick children aged 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	45%	20.4%	±7.0	84.9%	±4.4
Hand washing	Percentage of mothers of children aged 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	0%	6.4%	±4.0	23%	±3.4

Other Project Intervention Indicators

Indicator	Description	Targets set in DIP	Baseline		Final Evaluation	
			Percent	Confidence Interval	Percent	Confidence Interval
ORS	Percentage of mothers of children under 2 years old experiencing diarrhea in the last two weeks who treated their child with Oral Rehydration Therapy.	40%	5.6%		46%	±7.6
Care Seeking	Percentage of mothers who sought appropriate medical care for her child under 2 years old for diarrhea, dehydration, bloody diarrhea, or persistent diarrhea.	50%	25%		75%	±6.6
Danger signs	Percentage of mothers with children aged 0-23 months who know two signs of dehydration as a danger sign of diarrhea	55%	0		18%	±2.2

Health Facility Assessment

Indicator	Description	Targets set in DIP	Baseline (IMCI baseline)	Final Evaluation (IMCI Final)
			Percent	Percent
70% of health centers in the project site have an acceptable level (75%) of performance in case management of ARI, CDD, and Malaria/ IMCI as measured by the quality assurance checklist.	Percentage of health centers (16 total: 8 in Bovel and 8 in Sampov Loun) who have an acceptable level (75%) of the performance of ARI, CDD, Malaria /IMCI measured by the quality assurance checklist.	70% of HC in project area score 75%	Bovel HCs reached 71% Sampov Loun HCs reached 76%	Bovel HC reached 92% Sampov Loun HC reached 84%

IMCI Case Management for CDD

Activity	IMCI Supervisory Checklists Baseline		IMCI Supervisory Checklists Final	
	Bovel	Sampov Loun	Bovel	Sampov Loun
Cases assessed for all major symptoms (cough, diarrhea, fever, ear problems, malnutrition, and anemia)	71%	96%	85%	93%
Cases assessed for cough, diarrhea, and fever	76%	56%	95%	100%
Cases of dysentery who received a full course of antibiotics at the health facility	100%	100%	100%	100%
Caretakers of children with diarrhea given ORS who know how to mix and give ORS as well as the proper amount.	57%	78%	90%	50%
Caretakers know 3 rules of care (continued fluid during illness, continued food during illness, and to return immediately if condition worsens)	52%	53%	90%	79%

Facility Assessment for CDD:

Drugs/ Equipment/ Supplies	IMCI Supervisory Checklists Baseline		IMCI Supervisory Checklists Final	
	Bovel (Available)	Sampov Loun	Bovel	Sampov Loun
Drug Supply				
Naladixic Acid	50%	0%	88%	0%
Erythromycin	38%	63%	88%	100%
ORS	38%	100%	100%	100%
Facility Support				
Scale	75%	75%	100%	100%
IMCI Cards	100%	100%	100%	100%
Diarrhea Treatment Corner functioning with all supplies	0%	100%	0%	100%

Results Analysis:

1. The DIP target was that 30% of infants aged 0-5 months will be exclusively breastfed in the last 24 hours prior to the population-based survey. Baseline KPC showed 11.8% of these infants were exclusively breastfed, and the final evaluation indicator showed 98% with 2.4 CI, a remarkable accomplishment.

   The CRS project used exclusive breastfeeding to reduce diarrhea infection, which was not fully described in the project's DIP. The strategies for increasing excusive breastfeeding practices were education through Midwives and TBAs and peer education among mothers and pregnant women, breastfeeding campaigns, and endorsement of the World Breastfeeding

Week. The CRS and community structures also implemented the child survival campaign into which breastfeeding and complementary feeding were integrated reaching *(ARI, CDD, ORS, Malaria, washing hands with soap, exclusive breastfeeding, complementary feeding, continued fluids and food during the child's illness)* 167 out of 196 (85%) of the villages, for a total of 9,719 mothers.

A comparison of the CRS indicators with the CDHS data showed that the rate of exclusive breast feeding was about 10% for the 2000 study, but had increased to 60% according to the 2005 CDHS, showing a positive trend across the country. The CRS KPC showed that 98% of mothers with children aged 0-5 months exclusively breastfed their children in the last 24 hours prior to the survey. Finally, the observation during the mother focus group discussion found that mothers had a good understanding of exclusive and continuation of breastfeeding.

2. The DIP did not establish an indicator for complementary feeding among 6-9 month olds. CRS calculated the baseline for this indicator at 89.0%, but the CDHS 2005 showed 81.8% for this indicator nationwide. The results, therefore, cannot be compared. The results for the Battambang Province were not provided in the preliminary CDHS 2005 – 2006.

3. The DIP target was 45% for sick children aged 0-23 months receiving increased fluids and continued feeding during an illness in the past 2 weeks. The results showed a significant increase from the baseline of 20.4% to a final evaluation percentage of 84.9%.

   The IMCI health facility assessment showed that 97% of cases received counseling at the HC on the 3 rules of home care (foods, fluids, and when to return to the health center). The supervision checklist showed an improvement of mothers/caretakers knowledge from 25% in the first assessment round to 90.5% on the last assessment round in 2006.

   The community structures, with CRS support, provided BCC to mothers through the mothers groups and child survival campaign to mothers in 167 of 196 villages on increasing breastfeeding, fluids, and foods during and after illness.

4. The percentage of the mothers of children aged 0-23 months who washed their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated showed a significant increase from the baseline to the FE survey- from 6.4% to 23%.

   CRS' final KPC included only three out of the four instances for hand washing recommended by the Rapid Catch Indicators. When the indicator was broken down by specific actions in the Final KPC, it indicated hand washing before preparing foods increased from 89.9% to 94.3%; after defecation increased from 22% to 59.5%; and after attending a child who has defecated increased from 16% to 46.5%.

   The community structures (VHVs and VHCs) provided education on washing hands with soap at all four key times to villages and families through the water and sanitation project education and BCC sessions with MGs. The health centers used national television ads to

promote washing hands with soap. Finally, washing hands with soap was also integrated into the Child Survival campaigns.

5. The DIP target for mothers whose children under 2 years of age experienced diarrhea in the last two weeks and would treat their child with Oral Rehydration Therapy was 40%. The CRS baseline was 5.6% and the final KPC results showed 46%, a significant increase from baseline to final. The CDHS 2005 found 30.8% for Battambang and countrywide 21.1%.

   The counseling for ORS/ORT was provided through IMCI, which included delivery of the ORS package for the sick child. The Health Facility Assessment showed that all HCs had ORT Corners and 100% of the children received ORS for diarrhea, which showed an increase from the first supervision visit. Supervision visit results showed that more caretakers knew when and how to use the ORS, an improvement from first supervision rounds. HC staff need to maintain ORS use, promote care for diarrhea, and continue to have and use ORT corners at the health centers. The ORS system in the community through VHVs needs to continue but must be strengthened. BCC for ORS needs to continue through health centers and VHVs and the community campaign activities.

6. The DIP Target for mothers seeking appropriate medical care for their child under 2 years of age for diarrhea, dehydration, bloody diarrhea, or persistent diarrhea was 50%. The CRS baseline was 25% and final KPC was 75%, a significant increase. The CDHS 2005 showed 55% of treatment by the health facilities in Battambang and 56.7% for the country.

   BCC for seeking appropriate care for children under 2 years of age for diarrhea, dehydration, bloody diarrhea, or persistent diarrhea was done through the IMCI counseling at the HCs, and health education in the villages via mothers groups and VHVs.

   The group discussion with mothers confirmed that mothers did know how to treat children with diarrhea and when to seek help.

Community Level:

1. CRS, VHVs, TBAs, and Mothers Group Leaders mobilized and conducted Child Survival Campaigns in the project villages. Campaigns included CDD, ARI management, exclusive breastfeeding and complementary feeding promotion, malaria control, hands washing with soap, ORT, and increased fluid and food for the sick child. ORS was available in the communities through VHVs supported by the health center staff and CRS.

Health Center Level:

1. Counseling for mothers focused on appropriate care seeking for diarrhea (bloody diarrhea, persistent diarrhea, and signs of dehydration) at health centers, use of ORS at home, and demonstrations and assessments at the ORT Corners. Counseling also focused on breast feeding and complementary feeding through the IMCI strategy. Midwives provided counseling on breastfeeding and complementary feeding and nutrition during ante- and post-natal care at the HCs.

The need for increased fluids and food to the sick child had been taught through the IMCI mothers' counseling at the health center.

Accomplishments, Challenges, Lessons Learned

Percentages and confidence intervals were available for all CATCH indicators and some specific project indicators. Also, the FE team observed a positive slope when comparing initial, final values, and comparison with CDHS.

For exclusive breastfeeding, the percentage of the 2000 CDHS is the same as the CRS baseline in 2001 (11.8%). The 2005 CDHS preliminary results were 60% for exclusive breastfeeding. Thus, the team concluded that there was also a positive increase in Battambang. The final evaluation KPC survey showed exclusive breastfeeding at 98% with a CI of ±4.8, a remarkable achievement. It is important to notice the high indicator could be related to different efforts being made among MOH, CRS, Helen Keller International, mass media, and BCC strategy throughout the country.

The CDD interventions generated a great deal of discussion among the FE analysis group. Regarding the VHVs, the FE group believes that they are consolidating their leadership role within the community through increased activities. The key messages stressed oral rehydration, but also continuation and increased breastfeeding and feeding IEC materials for ORS are available but will need to be continued. It is not difficult for VHVs to get ORS on a timely and continuous basis at this point but continued availability will be important.

An important unanswered question is whether health personnel are continuing to overprescribe medicines for diarrhea, since they are advising mothers to come to HC when the child has diarrhea, dehydration, dysentery, and chronic diarrhea and are still providing medication for diarrhea. The CDD protocol advises medical treatment only in case of dysentery, chronic diarrhea, or if the child cannot drink or eat or has other signs of dehydration; all other cases of watery diarrhea can be treated at home with liquids and ORS. Overprescribing is a problem on which the MoH and CRS have been working.

The ODs and health centers need to follow up on monitoring and supervision after CRS leaves the Province. The PHD, ODs, and HCs need to improve and streamline monitoring and supervision systems and tools. The community level should also focus the number of key messages to the community and expand the IEC strategies, meaning that the community needs to hear a consistent message by various means.

Other successful examples of strategies for control of diarrhea include the strengthening the role of community organizations (Village Health Committees) in the improvement of basic sanitation with the cooperation of the European NGOs, AADC, and Cordaid.

The CRS and FE analysis group's next steps and recommendations include review of the key messages to the population, control of antibiotic use (cotrimoxasol and amoxicillin) for diarrhea cases, and the strengthening of the community-based health information system by training community members to calculate simple percentages and the relevance of those percentages in decision making.

IMCI was perceived as an acceptable and useful strategy for improving care to children. Mothers were happy to receive integrated services through IMCI and OD supervisors enthusiastically provided support, technical assistance, and supervision for IMCI. This is especially promising since the MOH will use the Facility IMCI strategy in the rest of the country.

The availability of ORS packages in the community through VHVs supported by health centers is useful for the mothers with children who have diarrhea, and improves prevention and treatment of dehydration.

Care seeking for severely ill children at the community and public facilities increased. Many villagers, however, continue to have problems accessing health facilities due to poor geographical access. It is recommended that community-based treatment for ARI, CDD, and Malaria be instituted by community providers (VHVs).

iv. Intervention: Malaria (25%)

Prior to 2006, all the villages in the Sampov Loun Operational District and villages in Kleang Meas in Bovel were defined as "Malaria Zones" and were provided with impregnation of mosquito bed nets. In 2006, the malaria risk area in the country was redefined by the MoH as Category "A" villages which included villages within 2 kilometers of forests, mountains and streams (mosquito breeding sites). This focused the project for mosquito bed net impregnation only to the Category A villages of Samphov Loun, Phnom Prick, Kam Reang OD, and Kleang Meas in 2006. The other villages in Sampov Loun Operational District Bovel were not considered part of the malaria zone as of 2006.

Community Level:

IR 1: Improved mothers' and pregnant women's knowledge and practices for prevention of malaria.
IR 2: Improved mothers' and pregnant women's knowledge and practices to use bed nets.
IR 3: Improved mothers' and pregnant women's practices to manage malaria.
IR 4: Improved mothers' and pregnant women's practices to seek appropriate health care.

Health Center Level:

IR 1: Improved quality of health center malaria case management for children and pregnant women.

The primary activities at the community level to address the control of malaria in the project area included:

Organization of community structures:

- Development of (VHVs and VHCs) and /or identification (TBAs) of community structures.
- Diagnosis and identification of community health problems by VHCs and communities.

Capacity building:

- TOT for health center staff to develop lesson plans and provide training to community structures.
- Training for Community Structures:
  - Development of a standard curriculum for training VHVs and VHCs on Malaria Case Management used before the midterm evaluation. This curriculum provided information to the community structures on cause, transmission, prevention, danger signs and seeking care but key messages were not as clear as needed.
  - Development of a curriculum for training VHVs and VHCs on the mosquito bed net impregnation process including preparing the nets (washing, mending), mobilization of resident villagers and migrants for impregnation of nets, maintenance of the impregnated nets through proper use, possible chemical side effects, and risks for pregnant women and children.
  - Revision of curriculum after mid-term results to use more participatory behavior change methodologies and also develop more focused key messages. The program also decided to focus training and technical support on the VHVs rather than continue to train VHCs in order to concentrate time and funds on the VHVs.
  - Training of TBAs on cause, prevention, transmission, danger signs, and referral of suspected pregnant women with malaria. CRS also trained TBAs on counseling at home and peer education to pregnant women and other women on malaria.

Behavior Change Communication:

- Assessment of targets for HE/BCC: Initially, the project targeted the general population, but changed the target to WRA after the midterm and introduced more adult learning and participatory methods for BCC. There was also a special focus on pregnant women through education by TBAs and counseling by midwives during ANC.
- Development of mothers group leaders and mothers groups.
- Use of more participatory BCC methods by VHVs in providing education to mothers groups, e.g. correct and incorrect behavior, role play, and stories etc.
- Development of IEC materials development, including the BCC tool kit with specific materials for the malaria intervention.
- Development of community campaigns using various methods of providing information and involving the target group (audio, video, leaflet, posters, question and answers on danger signs, seeking care and home care). Specific campaigns included:
  - IMCI campaign.
  - Child Survival Intervention campaign: dissemination of malaria messages on danger signs, seeking care, and home care.
  - Mosquito bed net impregnation: In the three mentioned districts, bed nets were available to the population, with the exception of some of the immigrant population. CRS, with funds from AADC and Cordaid, obtained the insecticide and collaborated with PHD, ODs, HC staff, and VHVs to form a team to re-impregnate the bed nets.
  - Coordination with the local authorities for the mobilization of impregnated bed nets in order to get their assistance informing VHVs and mothers groups prior to the activity as well as using loud speakers announcing the activity a day ahead of time.

- Bed nets provided by the PHD were distributed to migrants who did not have nets.
- Coordination with the local authorities in order to reach the migrants.

The primary activities at the health center level to address the control of malaria in the project area included:

Capacity building:

- Training on Malaria case management following the National Malaria Center MoH guidelines (prior to MoH change from Malaria Case management to Facility IMCI in 2003).
- Training on IMCI.
- Training ODs to train midwifes to include malaria case management in ANC so midwives would screen and treat malaria cases. CRS provide TA to midwives during ANC to include assessment and referral and counseling for malaria.
- Training HC staff on adult case management of outpatient and inpatient care and management of malaria.
- Support to Health Facilities including:
  - Providing the basic equipment and materials to the HCs to implement IMCI; i.e. scales, timers, and other materials for the overall IMCI approach, together with counseling cards for the mother and caretakers and the IMCI recording cards. Medicine, dip sticks, and microscope were supplied by the National Malaria Center.
  - Technical assistance to midwives for screening pregnant women for malaria and providing counseling to them about danger signs which necessitate seeking care.
- Health education at the health center using video spots, IEC materials, and group discussion during waiting time.
- Counseling of caretakers using IMCI mothers counseling cards on danger signs of malaria, instructions to return if worse, use of medicine, increased breast feeding, continued fluids and foods during illness. Counseling of pregnant women by midwives on the risks of malaria during pregnancy and the danger signs which necessitate seeking care for malaria.
- TOT for health center staff to develop lesson plans and provide training to community structures.

Indicator	Description	Targets set in DIP	Baseline		Final Evaluation	
			Percent	Confidence Interval	Percent	Confidence Interval
Bednets	Percentage of children aged 0-23 months who slept under an insecticide-treated bednet the previous night (in malaria-risk areas only)	90%	84.3%	±10.8	87.9%	+-5.1

Management:

- Technical and supervisory support for IMCI implementation including:
  - Financial support and technical assistance to the OD for supervision on IMCI using the MoH supervisory checklist and caretakers exit interviews.

- Support and assistance to ODs to conduct feed-back meetings with health centers after supervision visits in order to solve problems and improve the quality of services delivered.
- Monitoring and technical assistance to improve the quality of IMCI on a monthly basis with HC staff. Monitoring instruments used included quality assurance checklist and mothers' exit interviews developed by CRS.

Results

Rapid CATCH Indicators

Other Project Intervention Indicators

Indicator	Description	Targets set in DIP	Baseline		Final Evaluation	
			Percent	Confidence Interval	Percent	Confidence Interval
Care Seeking	Percent of mothers whose child under the ageof 2 experiencing fever sought appropriate medical care in the malaria zone.	50%	20%		65.6%	±7.9
Danger Signs	Percent of mothers with children aged 0-23 months who know two signs of malaria	60%	0		89%	±2.5

Health facility Assessment Results

Indicator	Description	Targets set in DIP	Baseline (IMCI baseline)	Final Evaluation (IMCI Final)
			Percent	Percent
70% of health centers in the project site have an acceptable level (75%) of performance in case management of ARI, CDD, Malaria/ IMCI as measured by quality assurance checklists	Percentage of health centers (16 total: 8 in Bovel and 8 in Sampov Loun) who have an acceptable level (75%) of the performance of ARI, CDD, Malaria /IMCI measured by the quality assurance checklist.	70% of HC in project area score 75%	Bovel: 78% Sampov Loun: 72%	Bovel: 94% Sampov Loun; 94%

IMCI Case Management for Malaria

Activity	IMCI Supervisory Checklists Baseline		IMCI Supervisory Checklists Final	
	Bovel	Sampov Loun	Bovel	Sampov Loun
Case of malaria who received a full course of antimalarial at the health facility	100%	100%	100%	100%
Caretaker given antimalaria drugs	92%	57%	100%	100%
Caretakers know 3 rules of care (continued fluid during illness, continued food during illness, and to return immediately if condition worsens)	52%	53%	90%	79%

Health Facility Assessment for Malaria Control (The protocol for treatment has changed to prepackaged treatment. The type of malaria is changing also as there is now an increase of plasmodium vivax).

Drugs/ Equipment/ Supplies	IMCI Supervisory Checklists Baseline		IMCI Supervisory Checklists Final	
	Bovel (Available)	Sampov Loun	Bovel	Sampov Loun
Drug Supply				
Dip Sticks	63%	75%	100%	100%
Artesunate	0%	0%	50%	88%
Mefloquine	0%	0%	63%	100%
Chloroquine	25%	100%	13%	75%

Results Analysis

1. The DIP target for children under the age of 2 sleeping under impregnated bed nets was 90% for the malaria prevalent zones, mostly in the Sampov Loun OD. The results showed an increase from the 84.3% baseline to 87.9% rate at final evaluation.

Health center level:

1. Use of impregnated bed nets by children increased due to regular health education at health centers using video cassettes, leaflets distribution, posters, health information board, and educating families on bed net re-impregnation. Education was also provided during ANC.

2. Bed net impregnation and distribution was possible due to good collaboration among health centers, ODs, PHD, HC, local authorities, and community structures.

3. The caretaker interviews revealed an increase of mothers who recognized that if fever did not improve, they should return to the HC. This rate increased from 65% to 89% of cases in the Health Facility assessment for both areas.

Community level:

1. VHVs provided health education one month ahead of bed net impregnation, its proper use and maintenance. VHVs also mobilized bed net users for the re-impregnation.

2. Bed net distribution and impregnation activities were done in all of the target areas in the Sampov Loun Operational District and in one commune in Bovel OD from 2002 through 2005. In 2006, the National Malaria Center classified the malaria zone as Category A Villages as defined by MOH (villages at 2 km or less to mosquito breeding zones).

2002-2005 Average number of Villages and Families			2006 Average number of Villages and Families		
Number of Villages	Families	Bed Nets	Number of Villages	Families	Bed nets
120	14,416	35,473	63	6,074	16,540
82% of the families			58% of the families		

3. Seeking appropriate care for malaria. The DIP target was 50%. The KPC showed an increase in the percentage of children aged 0-23 months with fever in a malaria zone taken to a health care service. The baseline was from 17 % and 65.6% at the final evaluation.

4. Appropriate seeking care by mothers with children with fever/malaria reached the target due to community structures and health education and IMCI/child survival campaigns.

5. The DIP target for mother's knowledge of malarial danger signs was 60%. There was no baseline data. The final evaluation KPC results were 89%.

6. Constraints faced included the migration of local people in and out of the area and inaccessibility to some villages. Some new settlements are still not registered in the government services, and therefore, were not included in the health plans.

Accomplishments, Challenges, Lessons Learned

The increased percentage of bed net impregnation and use was due to good collaboration between all public health sectors, local authorities, community structures, and community members. Nevertheless, these efforts will need continued support and technical assistance to maintain bed net re-impregnation, regular monitoring and feed-back, and support to community structures on bed net impregnation and utilization.

Funding from AADC and Cordaid, two European NGOs, made it possible for CRS to provide the insecticide for bed net impregnation.

Some NGOs other than CRS paid VHVs to perform a variety of activities in the community, creating more demand from VHVs to receive some sort of incentives from CRS. Although VHVs continued to work as they are part of the health system and the village health system, they sometimes prioritized those activities for which they were paid.

Although 60% of the staff was trained on Facility IMCI in each HC, some staff did not get the practice they needed, because they had multiple tasks to accomplish at the HC.

Special methods for mobilization and education have to be designed to reach the migrant population, who are most at risk of getting malaria.

Education of women of reproductive age, particularly pregnant women needs to be strengthened, since it was observed that women are not aware of the risks of malaria during pregnancy. Midwives and TBAs are the most appropriate personnel for that purpose.

3. Results: Cross-cutting approaches

a. Community Mobilization and Community Structures

Intermediate Results:

IR 1: Increased practice of exclusive breastfeeding for first six months.
IR 2: Improved complementary feeding with special focus on Vitamin A and iron rich foods.
IR 3: Improved feeding practices during illness and recovery.
IR 4: Improved management capacities of the village health structures including community standard case management/community based IMCI.
IR 5: Improved quality of health services at community and Health Center.

IR 6: Improved community water, hygiene and sanitation (diarrhea and malaria only).
IR 7: Improved access to health services

Community mobilization in the project was conducted for:

1. Increased community participation in decision making and empowering the community to participate in improving their own health.
2. Advocacy for services and/or resources
3. Education for behavior change to positive practices
4. Utilization of available services

Strategies:

1. Community empowerment:

- Development of (VHVs and VHCs):
  - Mobilization of communities for elections of VHVs and VHCs: Families in the community were informed of the roles and functions of VHVs and VHC members and encouraged to participate in community elections for these positions. Elections were not held until at least 50% of the community participated.
  - VHV expansion to at least 2 per village.
  - VHC expansion based on criteria of need, i.e. distance from the health facilities, number of women and children, presence of vulnerable groups including the poor, and willingness of the community to participate.
- Identification of TBAs: CRS with another NGO developed criteria for identifying TBAs for basic and continued training. The criteria including the number of years spent working as a TBA, number of deliveries per year, and recognition by the community. This criterion was accepted by the government. The government recognizes that TBAs continue to provide a significant number of deliveries and, therefore, HC are encouraged to work with and monitor their activities.
- HCMC development: Originally, CRS with the PHD, HCs, and ODs in Battambang developed a process for the HCMC development and implementation which consisted of the election of two representatives from each village and two representatives from the health center with the Commune Council member as an advisor to the committee. The HCMC elected their own chief, vice chief, and secretary who were not health center staff. Community representatives were able to provide information from their own villages and give information back to the villages. All villages had representation in the management of the health centers. While this was accepted by the PHD, OD, HC, and the community, participation was good. However, in 2004, the MoH mandated that all HCMCs would follow the UNICEF model which consisted of the Commune Council member as the head of the HCMC and a small number of VHVs as members along with 3 health center staff. While there was an election for the positions within the VHVs, the community had no input on the representation, and thus, the representation from the community was decreased.
- Training of community structures on basic health topics, mobilization for health education, routine and integrated outreach activities, techniques for campaigns, and other topics.
  - Basic training course for TBAs – included training on providing education to pregnant women and other women, and mobilizing pregnant and post partum women and

children for education, immunizations, Vitamin A distribution, use of safe delivery kits, breast feeding, and IMCI and Child Survival campaigns.

- VHV basic course provided to all VHVs included mobilization of pregnant women and children for immunizations and education, and development of VHR used for identification of target groups for mobilization.
- VHC basic training on community diagnosis, health planning, information gathering, and community meetings.
- Continued education for VHVs and TBAs on health topics and mobilization and organization for special events, campaigns, and routine and special outreach activities.
- VHC continuation training on self management: facilitation skills, meeting skills for VHCs, community meetings, advocacy, proposal and project development, project implementation, monitoring and evaluation, health planning and analysis, and resource management.

2. Community Structure Mobilization:

- Mobilization of community target groups for services, e.g. routine outreach immunization, integrated outreach activities, vitamin A distribution, mosquito bed net distribution, health education and BCC sessions.
- Development and maintenance of Village Health Records used to identify target groups for service which include: children under 1 for immunizations; children under 5 for vitamin A distribution; pregnant and post partum women for ANC, TT, and vitamin A and iron distribution; and those with chronic disease (TB and HIV) who wish to register. The VHRs are also used to record HE provided, births, and deaths. Finally, the VHRs are used to mobilize target groups for services and to identify those who are not receiving services.
- Community meetings held by VHCs with communities to obtain input and verify VHC bylaws, problem identification, proposal development, agreement on community contribution for village projects, and annual health planning. Participation by at least 50% of the community into the decision is needed to ensure community input.
- VHC mobilization of communities to develop, implement, and maintain community projects and attend project education.
- Community campaigns and health activities for education and action: mosquito bed net impregnation, dengue campaigns, cleaning days in the village to improve sanitation, breast feeding, IMCI and Child Survival campaigns.
- HCMC information gathering from the community regarding acceptable and feasible fees for services, exemptions for the poor, and community structures at the health center.
  - Information gathering by HCMC and other community structures on acceptable and feasible fees.
  - Discussion and agreement on fees from health center and HCMC.
  - Feedback to the community at community meeting and feedback to HCMC from community meeting.
  - Setting and posting fees in the community and at the health center.
- Development of Mothers Groups and Mother's Group Leaders: Discussion of the need for behavior change and mobilization in the community with VHVs, village chiefs, and health center staff in agreement to develop mothers groups and mothers group leaders.
  - Mothers groups organized by location with approximately 20 – 25 women per group.

- Mothers group leaders chosen by the women in the group themselves rather than TOT to VHVs on training MGLs on how to mobilize mothers, how to record attendance, and how to follow up with those who do not attend activities.
- Training by VHVs to MGLs.

- Linkages workshops between OD, HC, all community structures, and local authorities to improve understanding of roles and responsibilities, plan, coordinate, and maintain activities. Linkages between community structures (VHVs and TBAs) to plan and evaluate joint activities. Linkages between community structures within the villages to coordinate, plan, and implement activities.

Results:

1. **Village Health Volunteers' development and activities**:

CRS developed and trained 463 VHVs, an average of 2 VHVs per village. VHVs were elected in 179 out of the total 196 villages elected VHVs with at least 50% participation in the poll. Of the current VHVs, 60% are women.

VHVs were successful in mobilizing the mothers for immunizations, TT, vitamin A distribution, health education, participation in outreach work and campaigns, breast feeding and IMCI promotion, and mosquito bed net impregnation.

VHVs developed village health records that include: (1) children less than 5 years old; (2) children less than 1 year old; (3) pregnant women and deliveries; (4) case referrals; (5) health education coverage; (6) people with chronic diseases (TB and HIV/AIDS); and (7) birth and deaths. The main purpose of the VHRs is to mobilize target groups for service delivery, health education sessions, and other community activities.

VHVs also developed and maintained linkages and information sharing between health centers and other community structures, and provided ORS packets and educated mothers on usage.

2. **Village Health Committees' organization and selection**.

Prior to the development of Village Health Committees (VHCs), CRS came to an agreement with the Battambang Provincial Rural Development Department for the VHC to be a subcommittee of the Village Development Committee (VDC). Since Cambodia elected the Commune Councils for the first time, CRS was forced to determine how VHCs can relate to them, as it has replaced the VDC in some areas.

Sixty-four (64) VHCs with approximately 6 to 10 members, totaling 694 members, were elected. Women comprise 56% (389) of the group. Immediately after being elected, they defined their structure, roles and responsibilities and developed their constitutions (bylaws). VHCs then presented their structure and roles to families and community representatives for final approval.

One of the main roles of the VHCs was to carry out a community diagnosis, identify community health problems, define possible solutions, and develop community health projects. Project

proposals were developed and then presented to CRS if they were health related or to other organizations if they were not. Most of the projects presented were related to water and sanitation. VHCs organized the community into work groups, determined their contribution (40% for the first project, 50% for the second and 60% if there was a third project), organized the community into work groups, managed distribution of project materials, monitored the project progress, dealt with problems, and evaluated the results of the project with the community at the end of each phase and at the conclusion of the project. In addition, VHCs provided training and education on how to maintain and use project outputs (latrines, hand dug well, irrigation channels, etc.).

Initially, VHCs participated in mobilizing the community for delivering health services (NIP, vitamin A distribution, and health education), but after the MTE, CRS decided it would be more cost effective to focus the VHCs role on identifying community health problems, defining possible solutions, and development and implementation of community health projects (usually water and sanitation projects).

All VHCs planned activities to improve the environment in their villages. An interesting activity was a village "cleaning day", which was done through mobilizing the community to work together to improve sanitation and the environment.

Community Projects completed during the Child Survival project time period:

Year	Latrine Projects			Well Projects			
	# of villages	Latrine Const	Beneficiaries	# of villages	Wells Const	Hand pump Wells	Beneficiaries
2002	22	1,166	1,216	1	5		229
2003	20	1,315	1,343	10	29	11	868
2004	13	1,816	1,824	3	27	0	748
2005	16	2,958	2,958	4	0	33	968
2006 (6 ms)	21	1,949	1,949	0	0	12	338
Total	92	9,204	9290	18	61	56	3151

Year	School Latrines			Canal Drainage Projects			Village Health Post		
	# of Schools	# of Latrines	Beneficiaries	# of Villages	# of Projects	Beneficiaries	# of Villages	# of Projects	Beneficiaries
2002	1	2	931	3	3	1,187	1	1	150
2003	3	3	1,546	1	1	405	1	1	92
2004	1	3	2,325	1	1	82	1	1	545
2005	0	0	0	0	0	0	1	1	120
2006	0	0	0	2	2	86	0	0	0
Total	5	8	4,802	7	7	1,760	4	4	907

3. **TBA Identification and activities**:

Two hundred thirty-four (234) TBAs were identified and trained in 145 of the 196 villages in the project ODs.

Their main functions were mobilization of pregnant women for TT administration, organization and conduction of the breast feeding campaign, counseling for danger signs in pregnancy, providing normal deliveries in areas where midwives were not available or where women preferred TBA deliveries, and providing individual and group health education. They also promoted the use of safe home delivery kits for those women who delivered in their homes.

4. **HCMC development and activity**:

Originally, CRS with the PHD, HCs, and ODs developed a process for developing HCMCs. The process consisted of the selection of two representatives per village and two representatives from the health center. A Commune Council member had an advisory role in the committee. The selected HCMC appointed their own chief, vice chief, and secretary, who were not health center staff. The main roles of the HCMC were to keep their villages informed, represent the villages' interests with the HC, and participate in improving the quality of the health center services. Hence, all villages had representation in the HCMC, which was endorsed by the PHD, OD, and HC staff.

The HCMCs were restructured in 2004 to follow a model developed by UNICEF. The major change was that the head of the HCMC had to be a Commune Council member. The problem with this model was that community representation decreased, since the head was sometimes a political appointee and every village did not have representation

HCMC functions were focused on improving management of the health center services, communication, and problem solving between the community and the health center, and establishing the fees for health services and fee exemptions for families with low resources.

5. **Mothers Group Leaders and Mother's Group development**:

The project developed an average of 8 mothers groups with 20-25 members per group in 167 of the 196 project villages. The mothers selected two leaders per group.

The mothers groups' leaders assisted VHVs in mobilizing mothers for BCC sessions, immunizations, vitamin A distribution, health campaigns, and other health activities in the community.

MGLs kept their own records of mothers who attended health education sessions and received services, and sought out those who did attend in order to inform them about upcoming activities.

MGLs communicated with the VHV and local authorities to request assistance if they had problems mobilizing mothers.

6. **Problems Identified by the CRS Project Team**.

Interference with their actual jobs and income generation activities was a major limitation for VHVs, VHCs, and MGLs in performing volunteer work in the community. This limitation was more evident in Sampov Loun OD and during crop and harvest seasons.

There is a considerable population migration in the project districts. Migrants from Cambodia travel to Thailand for extended periods of time seeking job opportunities and return to the areas after the work is over. While they participate in the health activities when they are in the villages, their migration makes it difficult to have consistent coverage for health activities.

Population mobility makes it difficult for HCs and ODs to make accurate plans to provide services. Also, some new settlements do not have official structures and are not recognized by the national action plans.

Physical access was a constraint for both outreach work and for villagers seeking health care. Geographical access is often limited due to poor road conditions or a lack of public transportation and, in some villages, land mines are still a problem.

During the life of the project, there were national and communal elections, which interfered with community-based activities for 3 – 4 months at a time.

The mothers groups were developed at the recommendation of the MTE, so since they are a fairly recent development. It was difficult to see their real effect in the FE.

The timing of VHVs development was different among villages. Bovel district health centers were the first to implement VHVs, so they have shown more experience than those that were developed in Sampov Loun OD.

Even though the village health records are standardized, the filing and updating processes were not consistent across all villages. Villages varied in the accuracy and timeliness of the information in their VHRs.

7. Lessons Learned Identified by the CRS Project Team

The use of the Venn diagram (Participatory Rural Appraisal Methodology) was an effective way to identify VHV and VHC candidates, rather than the candidates being appointed by the village chief or health center staff.

Community mobilization was successful when the following elements were present: (1) official recognition of community structures by local authorities; (2) village health records available to mobilize and follow up target populations for immunization and Vitamin A distribution, among other health interventions; (3) good coordination among HCs, community structures, and local authorities, and (4) mothers group leaders' tracked attendance.

The formal development of VHCs was important for community identification of community health problems and solutions, including village projects and annual health planning.

TBAs were also able to mobilize and provide counseling to women and families. The majority of TBAs promoted and used the "clean delivery kit," and they worked in collaboration with HCs' midwives. The number of deliveries referred and attended by HC midwives doubled when

comparing data from 2001 and 2006. Finally, TBAs worked closely with the mothers groups' leaders.

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8. Recommendations for improvement

The implementation of the project could have been faster if the first actions were: the development of mothers' groups; collaboration with the community to support the community structures and orienting them on their roles and responsibilities, and defining possible community contribution to the community-based projects (cash or in-kind).

Community structures' work plans should be structured so that they would not interfere with their paid jobs and income generation activities. Also, the community should consider the needs of the community members especially working mothers by scheduling meetings and education sessions when the members have free time and are rested.

Assist communities to link and coordinate work with other NGOs.

Involve the Commune Council and obtain their endorsement at the planning stage of the project.

Continue working with TBAs, but involve men in ANC services and birth preparedness, which consists of developing household emergency birth plans; determining where, when, and how to obtain transportation; and identifying the family's key decision maker.

b. Communication for Behavior Change

Communication for behavior change was planned for and occurred at various levels in the project:

House hold level: Initial target group of general population changed at midterm to WRA through mothers groups.

Community level: The community as a whole was targeted for identification and resolution of community problems such as water and sanitation problems, and to increase the number of women in positions of community structures.

Community structures behavior change: The target group was VHVs, TBAs, VHCs, and HCMCs to change their methods of working with their communities.

Health center staff behavior change: focus on providing case management skills to assess, classify and treat children, and counseling. Special emphasis was placed on counseling through the Facility IMCI strategy and ANC services.

CRS assisted in training and providing support to community structures and Health Center staff.

Household Level:

Before the MTE, the target group for the behavior change strategy was the entire population. After the MTE, the target group was changed to WRA through Mothers Groups and Mothers Group Leaders.

Initially, health education was provided to the community by the VHVs, VHCs, and TBAs through small groups, large groups, individual households, and campaigns using leaflets and posters. Education and training was also provided by VHCs as part of the village water and sanitation projects. After the midterm, the methodology for implementing BCC strategies included more participatory methodologies, such as the use of pictures to allow mothers to identify correct and incorrect behaviors; role plays; case studies; and problem tree, etc. A variety of IEC materials were used in addition to leaflets and posters, such as audio and video. Messages were also provided through the radio.

At the initiation of the project, CRS developed standard curricula for training VHVs and VHCs on ARI, CDD, and Malaria Case Management. The curriculums provided information to the community structures on cause, transmission, danger signs, and seeking care but key messages were not as clear as needed and methodologies were limited. VHVs, VHCs, and TBAs received training in Effective Health Education using the "PRECEDE" Behavior Change model which enables them to work toward modifying the predisposing, reinforcing, and enabling causative factors related to practices. This model proved to be more theoretical than practical. After the midterm, a BCC consultant provided training and assistance to CRS in the revision of their BCC plan. CRS revised the curriculum and approach to use adult learning techniques, behavior change participatory methodologies, and also developed focused key messages on interventions. TBA training focused on TT, pregnancy and delivery danger signs, and breast feeding. VHCs continued to provide education related to water and sanitation projects, but added participatory methodologies, such as demonstrations of hand washing and use of videos. VHVs provided the key messages for the project interventions: NIP, ARI, CDD, and Malaria.

Community Level Behavior Change:

Selection of twice as many women candidates as men candidates for elections increased the number of women elected to VHV and VHC positions.

HCMC positions had to be equally divided between males and female. (Initially there were two HCMC members per village, one male and one female. Later, the MoH imposed the UNICEF model using VHVs with the Commune Council as the HCMC head).

Community contribution was 40% for the first project, 50% for the second, and 60% for the third.

The community approved VHC's bylaws, project proposals, and annual health plans.

The project demanded that the community be in charge of maintaining the water, sanitation, and infrastructure projects.

Community demands for service were voiced through the HCMC and VHVs. Resources were provided to community projects through VHCs.

The project aimed to benefit all people in the village.

Community Structures Behavior Change:

HCMC members consulted with the communities to define the most acceptable and feasible fees for health centers' services.

HCMC set a policy for exempting service fees for the families with low resources.

VHVs focused on providing information to mothers, instead of the general population. Their information focused on key messages and was geared to change behaviors.

VHVs also focused on defining mothers' behaviors and building on their knowledge, rather than just dictating to them.

Health Center Staff Behavior Change:

Health Center IMCI staff provided counseling on nutrition practices of young infants, case management of most common illnesses, home care, and follow up. Implementation and expansion of IMCI protocols and counseling guides were important in this process.

Health Center Midwives provided counseling to pregnant women on food rich in iron and Vitamin A, and danger signs including malaria, breast feeding, etc.

Health Centers provide health education through use of participatory methodology and video displays in waiting rooms.

Results:

1. Household:

It was more effective for the VHVs to work with small group of mothers and mothers group leaders to provide education and mobilize them for health activities. The KPC results confirm that child protective behaviors have changed; most indicators show improvement in the comparison between baseline and final results.

Focus group interviews conducted for the FE found that the mothers could repeat the key messages delivered by the project.

The CRS team stated that the number of mothers that attended BCC education sessions increased during the life of the project.

During Post Activity Assessments, the team observed that mothers improved their knowledge of the immunization schedule, and more mothers retained their own immunization cards as well as that of their children.

2. Community structures:

The project was successful in including women as VHV, VHC and HCMC members, and succeeded in encouraging more than half of the population to participate in the election polls. Finally, the project was also successful in persuading communities and leaders to approve VHV and VHC bylaws and work plans.

The project endorsed the main role of the HCMC which was to oversee the HC performance. In some cases, the HCMC were successful in getting HCs open seven days a week, while in other cases, HC staff increased outreach activities. All HCMCs discussed and negotiated the fees for health service provision and fee-exemptions.

VHCs were successful in identifying community problems, devising feasible solutions, and developing proposals for funding from CRS. The plan for community contribution (40% of the cost for the first project and 50% if there was a second project) was successful in all cases.

During the FGD with community structures, most members reported that the process of identifying problems and solutions gave them more insight about the health needs in the community.

3. Health Center Staff Behavior Change:

The health center staff used and institutionalized the quality supervision checklist. During FGDs, they reported that more mothers and caretakers come to the HC, because health services improved in quality, HCs were better equipped, and had more medicines.

During FGDs, mothers and caretakers reported that during visits to the HCs, HC staff spent more time with them explaining the child's illness and provided more guidance and counseling regarding the child's health and illness.

All health centers provided health education through video spots in waiting rooms. All HC had audiovisual materials to display.

The Health Facility Assessment showed improvement in health center counseling in both ODs, but the quality of counseling still needs to be improved and expanded. The table below shows a comparison between the first HFA in 2003 and the second one in 2006.

Activity	IMCI Supervisory Checklists Baseline		IMCI Supervisory Checklists Final	
	Bovel	Sampov Loun	Bovel	Sampov Loun
Caretakers of children under 2 years old asked about breastfeeding and complementary feeding who were assessed and whose caretakers were counseled on feeding problems	93%	79%	97%	94%
Caretakers of children who are given an antibiotic and /or antimalarial and/or ORS who know how to give the treatment	72%	40%	95%	80%
Caretakers know 3 rules of care (continued fluid during illness, continued food during illness, and to return immediately if condition worsens)	52%	53%	90%	79%

4. CRS Staff:

After the midterm evaluation, CRS hired a BCC expert to help them to revise their BCC strategy which resulted in the revision of the training curricula, addition of adult education and participatory methodologies, and improvement of IEC materials.

CRS staff used performance checklists with HC as both a learning tool and a monitoring tool. The tools' usefulness is evident in that in the FE group discussion, the health center staff stated that they had learned from the use of the checklists and wanted to continue their use.

c. Capacity Building Approach

The CRS child survival capacity building approach attempted to achieve sustainability through developing the capacity of each level to perform their functions and of the level above them to provide training and supervision so that new learning could occur.

Strengthening the Capacity of the Community Structure Partners

Strategy:

- Built capacity through village health structures' ability to perform their roles with minimal input, to self-manage village health activities and to link community primary health care interventions with those provided at the health center level.
- Training provided: (see Attachment E).
  - VHV: Prior to the MTE: Effective Health Education and HE for interventions.
    After MTE: BCC methods and techniques for ARI, CDD, malaria, linkage, mobilization. ORS system.
  - VHC: self–management, project development, planning, and monitoring and evaluation, community mobilization, linkages with HC and local authority, community diagnosis, health planning, and analysis.
  - TBA: BCC on breastfeeding, child feeding, immunization – children and TT, malaria, and mobilization of pregnant women and mothers with children.

- HCMC: management, finance, service, exemptions for the poor and community structures, fee for service, decision making, information gathering, monitoring, and problem solving.

Strengthening Local Health Facility Partner

Intermediate Result:

IR 1: Improved counseling and health education at Health Center for all interventions.

IR 2: Improved check-up of weight of all sick children at Health Center.

IR 3: Increased check-up for immunization status, vitamin A, and anemia for all sick children and pregnant women at the Health Center.

IR 4: Improved training capacity of the Technical Advisory Group.

IR 5: Improved management by the Advisory Group members of the Health Center activities.

IR 6: Improved Health Center MPA management and standard case management practices/IMCI.

Health Center: CRS supported and provided training and technical assistance with the OD staff for General: HC – analysis and planning, management of services, and technical assistance for interventions, ARI, CDD, Malaria, NIP, IMCI, and TOT for community structures, and to strengthen the community structures – BCC for interventions, mobilization, ORS, and VHR (see Attachment E2).

- Improvement of health center clinical services via training in ARI, CDD, Malaria Case Management, and NIP techniques, initially and later, Facility IMCI.
- Improvement of health center management via training and technical assistance, refresher courses in use of clinical checklists for training, self-monitoring and supervision, accounts, infection control, and drug and inventory management and assistance.
- Education and counseling to patients and the community on IMCI and ANC counseling and HE techniques.
- Integrated outreach activities.
- Increasing utilization: IMCI and health center management to improve quality.
- Providing training, support, and supervision to community structures which included TOT and technical assistance to the health center staff to prepare them to provide training to the community structures on health topics as well as monitoring and supervision of their distribution of IEC materials in the community.
- Collaboration with community structures to improve community health services: how to develop, plan, problem solve, and manage collaborative efforts to improve the health status of the community.

Building the Capacity of the OD Management and Technical Advisory Group

CRS' approach for capacity building was to strengthen and collaborate with the PHDs and ODs to develop action plans, monitoring and supervision systems, and develop their capacity as trainers for HC staff. ODs also strengthened their capacity in management e.g. problem solving and decision making. This approach resulted in:

- improved overall management of the OD;
- training health center staff in CS interventions and monitoring and evaluation;
- improved supervision for the Health Centers;

- focus on annual planning and quarterly analysis with action planning at the Health Center and OD level; and
- training of trainers for the OD on IMCI and supervision.

2. Additional Results:

The Cambodian Ministry of Health has been the main partner for this project implementation. At the central level, CRS coordinated with the different departments of health, principally Communicable Disease Control (CDC), National Nutrition Program (NNP), National Immunization Program (NIP), National Malaria Center (NMC), National Health Promotion (NHP), National Maternal Child Health Center (NMCHC), and the International Relationship Bureau (IRB).

At the provincial level, CRS also worked closely with the MCH and Malaria Units and the Technical Bureau, PHD, and Deputy Director to solve problems. However, the most important CRS counterpart was the Thmor Kol and Sampov Loun Operational District Directors and Technical Advisor Group (The Technical Advisor Group consisted of all national program managers). The CRS managers have developed good working relationships with them and the field staff have been well integrated within the two ODs and health center teams.

3. **MOH National level:**

At the national level, CRS has participated in the national IMCI working group, which comprises selected MoH's health departments, the National IMCI Program, and partner institutions, such as UN agencies, bilateral agencies, and national and international NGOs. The MoH has invited CRS to the child survival workshops. One important workshop was the dissemination of the national HFA results in which all IMCI working group partners committed to implement and expand IMCI activities throughout the country.

CRS has adopted the materials developed by the national IMCI program, and in some cases, made adaptations. CRS provided support to the central level MoH to facilitate Battambang District monitoring and supervision, specifically to the project ODs.

CRS was also involved in the C- IMCI working group to develop key family practices and indicators and the BCC curriculum for VHVs; the IYCF Working Group to develop strategies from the best practices; and the NIP technical working groups to develop strategies to improve immunization, problem-solving, and plan development.

CRS has involved MoH central, provincial, and OD level staff in the baseline study, mid-term evaluation, and the final evaluation. The MoH staff participated in data collection and analysis, conclusions, and recommendations for implementation in the ODs. In this context, CRS should be able to ensure that the recommendations of the final evaluation would be implemented by developing a work plan with the ODs and health centers. Thus, the results of the FE will be disseminated, and will facilitate discussion of the continuation and expansion of project interventions after the project ends.

4. Provincial Health Department.
CRS has helped the PHD to upgrade both the technical and managerial skill level of the health personnel of the province and the two project ODs. CRS assisted the Battambang provincial level in monitoring the MCH Program, i.e. the immunizations program through the post activity immunization assessment. CRS' support consisted of transportation, distribution of materials at the OD level, and providing PHD and OD staff with training; technical assistance to develop training; and logistics for training and planning sessions with the OD staff.

According to the PHD MCH chief, the support provided by CRS was not sufficient for the province, but was appropriate for the project ODs. CRS assisted the MCH Program in the province with financial support for PHD staff to participate in training activities. CRS provided updated information on breastfeeding, Vitamin A, and training materials on child survival interventions. Support was also provided for PHD teams to provide technical assistance to CRS, OD, HC, and community structures for mosquito bed net impregnation.

Although, CRS also supported the Safe Motherhood Program, ANC, PNC, and iron supplementation and training, the MCH Chief stated that there was no evidence to support a reduction in maternal deaths which was an important component of the provincial MCH program. Also, he stated that the MCH Unit needed more support on birth spacing.

At the beginning of the project, CRS conducted a KPC Baseline survey in close coordination with the OD. In 2001, CRS also carried out a health facility assessment in collaboration with health center staff, the OD, PHD, and MoH central level. The results of the HFA guided the development of a training plan for health center staff on health planning, accounting, infection control systems, child survival interventions, and health information systems.

5. Operational Districts. The Thmor Kol and Sampov Loun (Samphov Loun, Phnom Prick, and Kam Reang) OD vice directors agreed that one of the major changes was the development of annual, semiannual, and quarterly plans. Plans were based on the targets set at the beginning of the project. Both ODs reported that the HIS is more accurate now than before, meaning that health staff now completes and sends the information on a regular basis. Also, the staff has developed monitoring tables and graphs of the project intervention's progress on reaching the targets, e.g. immunization, IMCI, and TB.

The Sampov Loun OD vice director mentioned that the health staff from HCs and hospital in his OD have improved their management skills for the expansion of the national health programs. During the project, HCs and hospital staff organized shifts so they can open seven days a week, but they could not yet open 24 hours a day due to lack of personnel.

CRS has facilitated the completion of the cold chain in all health centers of both ODs, including a monitoring system to check the status of the vaccines, vaccine distribution based on expiration dates, and improvement in NIP logistic systems in general. Before this project was implemented, HCs did not provide immunizations at the health center, but only during monthly routine outreach immunizations in the villages.

Starting in 2003, CRS assisted the OD in introducing IMCI in all HCs. The OD vice directors reported that the introduction of IMCI has increased the demand for services. Diarrhea corners were implemented in all HCs to treat children, but primarily to educate parents on how to provide ORT. The IMCI also helped integrate services. For example, whenever an ill child would come for services, the mother would also be attended. The introduction of IMCI allowed health centers to provide immunizations on a regular basis. In some cases, when CRS was not able to support the immunization program, ODs obtained support from cooperating agencies to fill the gaps.

The best practice identified by the OD vice directors was the focus on the community by developing the community structures through village health committees, volunteer workers, mother's leaders, TBAs, etc.

Unfortunately, the Thmor Kol OD vice director mentioned that some of the training sessions for health center staff did not include the OD personnel, so he would recommend that OD participate in all activities.

One important difference between both ODs is that Thmor Kol has worked with the old MOH system for a longer time. Because it belonged to the Khmer Rouge region, Sampov Loun did not standardize the national system until 1997. As a result, Sampov Loun health workers had received less training than the other OD when they entered the program. Health staff is still being trained so that they can be recognized by the national health system. Finally, the Sampov Loun OD started facility-based IMCI in 2004, one year after the other area. Sampov Loun received more resources than Bovel because initially, they had fewer materials and training.

The populations from both ODs have some cultural differences. The level of education is lower in Sampov Loun and, therefore, some of the health protective behaviors will take longer to be introduced. Also, in Sampov Loun, there is more migration to Thailand given that it is on the border.

i. Strengthening CRS

Intermediate Results

IR 1: Improved technical and management competence of the CRS staff.
IR 2: Improved training and technical assistance to partners at the HC and community levels.
IR 3: Improved capacity for advocacy for community health needs and resources at all levels.
IR 4: Mutual sharing of lessons learned with partners, other country programs, organizations, and donors.

Strategies (see Attachment E3)

- Development of the staff's technical and management capacity to successfully manage and meet the objectives of the child survival project.
- Manage, maintain and replicate the CBPHCP.
- Development of a sustainable local institution, which will continue to implement the project interventions.

- CRS trained staff outside the organization through attending courses at different levels, including international courses. Internal training included on-the-job training.
- Project managers provided field monitoring and technical assistance to CRS field staff. The advisor and program management team provided assistance on program management, problem solving, finance, and planning.
- Capacity building to CRS staff was provided on how to provide technical assistance and training to health center and community structures, and development of HCMCs, VHVs and VHCs to advocate for the community with the HC and local authorities.
- CRS advocated with the national working groups: PHC, NIP, IMCI, IYCF, and CS WG.
- Other capacity building occurred through CS centrally funded programs, the IMCI dissemination workshop, regional sharing during the Technical Commission meetings, through sharing health results and lessons learned with other NGOs, at CRS country program meetings, the Child Survival Conference, presentations at the regional MEDICAM, and the PHD Technical Working Group.

Results:

1. CRS provided training to all levels of project staff. Program Area Managers (PAM) were key in project implementation. PAM developed annual plans for their programmatic area, and directed field staff to develop bi-weekly implementation and supervision plans. PAM received training in CS project intervention and program management.

2. PAM and field staff trained health center staff on child survival, outreach work, monitoring service delivery performance, and counseling.

3. Malaria prevention: CRS worked in collaboration with AADC and Cordaid that provided the insecticide and training in the impregnation technique.

4. Sanitation interventions: CRS used a participatory methodology in the well and latrine construction that was implemented with AADC and CRS funding, in which communities would provide labor, local materials, and sometimes in-cash contributions, and CRS would provide materials not available to communities. CRS also worked with local authorities and community leaders.

5. CRS has introduced the LQAS methodology in both districts. Initially, LQAS was used to develop the DIP, for monitoring the project's annual progress toward the objectives, and later, to carry out the final KPC study. Nevertheless, the training received was not sufficient to conduct an overall analysis and to obtain key CS indicators for the Final KPC.

ii. Problems and Lessons Learned Identified by the Project Team.

Migration was a problem throughout the life of the project. Many families come from all over Cambodia seeking work and/or land in the project area. When they do not find it in the Cambodian border areas, many continue onto Thailand for seasonal work, leaving home for several months. New communities, which are not fully integrated into the government system, are still being developed in the Sampov Loun OD. Inserting those families into the new structure

and obtaining their participation in community activities slowed the community work throughout the project.

In regard to the former Khmer Rouge, even though the peace accords were signed in 1992, their effective integration into Cambodian life and politics is still an ongoing process. The Cambodian population is still healing from one of the most ruthless wars in the history of the world. CRS' program aims to integrate the former Khmer Rouge and to reconcile both parties.

Given the long armed conflict and lack of human resources, there is a considerable number of health staff in temporary posts who lack formal education or training. A large number of them are VHVs and TBAs who received short training prior to assuming these positions.

The low and irregular salary of the government health staff and lack of support from the central level was and still is a major problem. Most HC staff have to spend time on other income generation activities in order to survive and thus are not available at the HC at all times. This is compounded by a high staff turnover at the HCs.

Some NGOs, other than CRS, are paying HC staff to do specific tasks, e.g. TB, Birth Spacing, HIV/AIDS, among others, which is causing internal problems within the HCs as they concentrate only on those jobs and unpaid staff do not feel valued.

The two elections that occurred during the life of the project (national and communal) delayed some of the project activities for several months. HC staff did not want to take part in community mobilization during election times, because this could be misinterpreted as their alliance with a political movement. Elections for community structures were not done for the same reasons. Also, during elections, CRS did not use government facilities and building for meetings to avoid political implications.

In the Sampov Loun OD, a former Khmer Rouge territory, the lack of human resources was even more noticeable. Thus, the MoH aimed to upgrade health staff by sending them to special courses: the primary nurses and midwives for 3 months, secondary nurses and midwives for 6 months, MAs for 18 months, and MDs for 14 months. While this should be beneficial in the future, this process seriously affected the delivery of services and some of the project activities and leadership of the OD and health centers during this time.

1. Lessons Learned

The introduction and expansion of health facility IMCI noticeably improved the quality of service delivery, health center management, and increased the demand for services.

In spite of low salaries and a basic lack of support from the higher levels, most HC staff demonstrated a high commitment to carry out their assignments.

With support of the Health Center Management Committees, the HCs were able to waive fees for poor and chronically ill patients.

Using OD and HC staff as trainers facilitated the institutionalization of project activities and high probability that HC training will continue after the project's termination. This also enhanced coordination among the levels of the health system. In addition, the use of participatory methodologies helped HC staff to identify real health problems and constraints in the community.

Finally, CRS and the PHD helped the Sampov Loun OD and HCs in the reconciliation process between the former Khmer Rouge and the people and health workers in the Royal Cambodian government system and areas.

2. Recommendations for improvement

It is highly recommended clinical IMCI and management training begin as early as possible. Strengthening of the monitoring of the quality of services delivered, feedback, and in-service training is recommended as well as fostering an exchange of experiences among ODs and HCs within the province and other provinces in the country.

d. Sustainability Strategy

The sustainability strategy of the project consists of three components: (1) the organizational development of communities and community structures through capacity building, (2) strengthening the institutional capacity of health centers and operational districts to improve the management and quality of health services, and (3) investing in the capacity of CRS national staff to continue to develop, maintain, and expand the Community Based Primary Health Care Program through transforming the present CRS program into a viable local organization.

Results

1. The organizational development of communities and community structures' goals were met. All villages had VHVs, and 64 VHCs were developed in 196 villages. All 64 VHC villages had water and sanitation projects. The purpose of the VHC is to improve and manage their own primary health situation which includes developing health projects. VHCs also facilitate community participation, and address gender issues for development and governance. Fifteen out of 16 HCs developed HCMCs that continue to function.

   CRS spent approximately two years developing VHVs for the project. The strategy was expanded from one HC to the next, involving HC staff and authorities. In the Sampov Loun OD, the development of VHVs was slower because it is a former Khmer Rouge Area and those communities only started to reintegrate in 1997. Also, migration to and from those areas is more frequent. Finally, road infrastructure and land mines are still a problem in most of those villages.

2. CRS wanted to have more women as VHVs. Culturally in Cambodia, women do not participate in these activities. In the zone formerly known as Khmer Rouge, women were promoted to work at the same level as men. In Sampov Loun OD, women also worked less

in the fields, leaving them more time for community activities. Women comprise 60% of VHVs, 56% of VHCs, and 52% of HCMCs.

3. CRS will reduce the support to 27 VHCs, because they already have the capacity to manage themselves. In other VHC villages, CRS and AADC funding will continue for an additional year. CRS will continue funding community structures through the HIV/AIDS and TB control programs. CRS has already submitted a project proposal to USAID to continue working in these two ODs.

4. CRS accomplished their objectives for building the capacity of HC and ODs to implement and manage IMCI, develop annual plans, drug management, accounting, and medical waste management. Specifically:
   - IMCI is being implemented in 16 out of 16 HCs. Drugs and supplies are in place and being replenished by the OD and MoH. Results from the final Health Facility Assessment show that case management has improved using IMCI. Both ODs, especially Sampov Loun health centers, will continue to need support, but ODs are gradually taking more responsibility supporting and supervising HCs.
   - The strategies in both ODs were different and also evolved differently over the life of the project. Bovel HC staff had formal training and was integrated in the national system since its re-construction, while in Sampov Loun-- the former Khmer Rouge area-- the capacity and skills of the staff were lower as they had not had the opportunity for formal or informal training. Also, illiteracy remains higher in Sampov Loun. Progress in Sampov Loun was affected by the fact that the staff from the former KR did not know the government systems. Despite this fact, they were committed, and they had a great desire to learn and to implement what they had learned.
   - Supervision is conducted by the OD supervisors on a regular basis in both ODs. (See the Health Facility Assessment for all the results of their supervision). OD supervisors are able to use feedback meetings with HC staff to solve problems and improve IMCI. The same pattern was observed in OD supervision and training of HC staff.

5. CRS national staff increased their responsibility in financial management, reporting, and program management.

   There were 7 international staff members when the Health Program began. At the child survival project's inception, there was one full time international advisor; however, in 2002, the advisor's time was split 50% for the regional and 50% for the project.

6. CRS and government partners are aware that the project is closing and know the areas in which CRS will not be able provide support in the future. They also know that CRS has submitted a project proposal to continue activities in the area, for all of the current ones, and that CRS still has funds to continue HIV/AIDS and TB activities.

7. CRS will continue strengthening OD and HC staff with additional funding and until ODs and HC can manage health programs without external assistance as much as possible given the funding available.

8. Activities for which CRS provided funding, such as Vitamin A National Days, NIP campaigns, either be assumed by the government or seek support from other sources.

9. Health centers will pay out of their budgets or will request support from the MoH through the ODs for medical supplies and equipment.

10. Community structures are volunteer workers, so technically they could continue with the work. However, there are some operational costs, like transportation, IEC materials, equipment, etc., that need to be covered. In some cases, HC will provide support through HCMCs, but this is an area that still needs more attention before CRS closes in the province.

11. TBAs are usually self sustainable because families are accustomed to paying them in cash or in-kind.

12. CRS has supported the local staff to develop a local NGO based on the structure developed by the project. Program staff have developed their organization and given it a local name meaning "Action for Health Development." They have worked on a vision, objectives, mission, constitution/bylaws, structures and policies and procedures. These have been approved by their Board of Directors and they will begin the registration processes with the government.
    - CRS will continue assisting the health program as it is being registered for at least 3 years.
    - CRS has stated that it would turn over the assets of the CRS health program to the local NGO when it is officially approved.
    - CRS will provide matching funds, specifically from HIV/AIDS, TB control programs, and AADC water and sanitation project. CRS will also provide assistance for fund raising, and on management and technical support.

C. PROJECT MANAGEMENT

1. Planning

CRS had an extensive involvement of stakeholders during the initial planning phase. At the national level, CRS consulted with the MoH and relevant programs and unit heads, UN agencies, the USAID local mission, and other partner organizations.

At the local level, CRS carried out a workshop with provincial and HC staff, community leaders and officers to prioritize the interventions and obtain agreements on the project strategies. At the community level, CRS also carried out a series of workshops with community leaders to discuss the strategies for the development the community structures. Selected PVOs working in this province were also invited to some of these workshops.

CRS involved district level and HC staff in the Baseline design and implementation through two workshops. The same were also involved in data collection analysis and in the development of the DIP. The CRS HQ Senior Technical Advisor (STA) and the Resident Program Advisor assisted the managers, advisor and Country Representative in the completion of the DIP planning process, including the results framework.

During the life of the project, CRS usually involved local partners from HCs, ODs and PHDs. CRS assisted ODs and HCs to develop annual, semiannual and quarterly action plans. At the community level, CRS used the Rapid Rural Appraisal methodology for identifying main health problems and developing project proposals for CRS. The VHCs developed annual health planning for their communities.

The DIP also served for CRS to develop an annual work plan with the assistance of the Resident Program Advisor. Based on this initial annual plan, program managers developed specific quarterly action plans, which were also used to monitor the project progresses.

The planning process allowed input from the partners at all levels into the initial proposal development, DIP and into the project through out the process at all levels which made it possible to implement the project.

Internally, CRS planning allowed input from CRS staff and provided a cycle that continued during the life of the project. It also served for monitoring project activities

2. Staff Training

CRS has made an effort to upgrade the technical skills of its personnel. The tables in Attachment E4 summarize major training activities for the staff by type of training activity, sources of training, how opportune were the trainings received in terms of timing, and comments on the training received. The first chart refers to the training received internally from CRS, and the second, training received from sources outside CRS.

CRS program managers reported that most training activities were appropriate and served to improve the project. Some deficiencies noted were: (1) Training received from CRS Country Program Finance and Administration Manager which was insufficient for budget development and monitoring the financial management of the project. Also, management training from headquarters was limited on the USAID requirements; and (2) Training received from outside sources, specifically on LQAS methodology did not address sufficiently data analysis and the construction of key indicators. Outside management training did not include financial management.

3. Supervision of Project Staff

CRS field staff supervision was based on two-week action plans developed and agreed with the program area managers. In addition, the new areas (Sampov Loun Phnom Prick and Kam Reang Operational District) had a team leader to coordinate activities for the OD. Project staff responsibilities were to provide TA, support and supervision to HCs and community structures. Supervision consisted of: (1) at the HC, project staff would carry out the quality checklist adopted from the MoH to monitor and supervise project interventions; and (2) at the village level, project staff had a form to compile project and demographic information from community structures, provide additional support and on-site training if needed.

Regular and systematic supervision of HC staff to community structures seldom occurred, only during planned campaigns and activities. The primary problems for not having a supervision system were lack of means of transportation and resources. In the case of HC midwives, who supervise village level TBAs, the lack of time to address both HC and community activities were a factor.

OD staff supervised HC staff on a regular basis. OD staff also applied the quality checklist to monitor the quality of services delivered.

There is a supervision system established from PHD to OD and HCs, but then it is interrupted to the village and community structure levels. CRS field staff has been filling the gap, and there is no evidence that the HC structure will institutionalize a supervision system to the community structures. It is recommended that CRS, in the remaining time of its presence in the province, design a strategy to expand the methodology and tools currently being utilized.

CRS staff reported differences when comparing supervision activities between old and new ODs. In general, the new OD CRS staff (Samphov Loun, Phnom Prick and Kam Reang) perceived that do not receive the same attention as the Bavel OD from CRS staff. They recommended that program area managers spend more time in the new OD. On the other hand, CRS Bavel OD staff perceived that it was enough for program area managers to supervise them based on the two-week plans, and they needed more freedom to make changes according to communities' availability and time. At some points, they reported that program area managers would change their plans the last minute, interfering with the regular work. Also, they recommended program area managers let them decide if they wanted to spend more time in the field than in the office.

4. Human Resources and Staff Management

The CRS Cambodia Child Survival project is managed under the CRS/Cambodia Country Program by the CRS Cambodia Country Representative, Richard Balmadier. The CRS Cambodia Country Program has developed personnel policies which are disseminated as a manual to every employee and used in decision making for staff management. If there are amendments and/or new policies these are disseminated to every employee. CRS headquarters and the CRS country program have developed procedures for inventory, procurement, financial management, and staff management which are standard with adaptations as needed to be specific for Cambodia. These are reviewed and revised periodically. The CRS Country Program Administrator and Financial Manager provide technical assistance to the CRS Battambang CBPHCP as needed.

All employees develop a performance plan at the beginning of the year. Staff is provided feed back on their performance during the year. At the end of the year, staff does a self appraisal and their supervisor does an appraisal. The two then discuss the results of the appraisal. The results of the appraisal are used to provide staff merit pay increases.

While there has been little staff turnover for the administrative and program staff, there has unfortunately, been turnover in the Clinical/Institutional Manager position. This position has had three managers with the last one being in place only for 6 months. While this did affect the work

at the OD level and supervision of CRS staff health facility activities, the strong support of the program manager for this component kept this from being a serious affect.

CRS maintained the, program and most of the other managers, and program and administrative staff project. The program advisor also served as the regional technical advisor for 50% of the time starting 2002 until 2006.

5. Financial Management

1. CRS HQ. The health technical unit of the Program Quality and Support Department (PQSD) of CRS Headquarters works with the CRS Headquarters Finance department to:
    - Review budget and budget narratives to ensure compliance with U.S. government regulations,
    - Maintain financial information and submission of all financial reports to USAID.

2. CRS/Cambodia's Finance department: Phnom Penh:
    - The Financial manager provides overall management for the CRS projects including the Battambang Child Survival project. A Deputy Account Manager in Phnom Penh works half time to provide support to the Battambang health program. All the monthly financial documents from the health program as well as the monthly financial reports including an excel spread sheet and reports from the Battambang Child Survival program accountant which have been reviewed by the Health Program Manager and or the Child Survival program advisor are provided monthly to Phnom Penh. The Deputy Account Manager reviews and verifies these documents. The Country Representative reviews this data and approves all entries into the Sun Systems database. (Agency wide, CRS uses the Sun Systems software for its financial accounting). The monthly financial report from Phnom Penh to Headquarters includes a trial balance, bank account reconciliation's, and budget comparison reports, is sent from CRS Phnom Penh to CRS/Baltimore 10 days after the end of the month. A Year End Close is performed at the end of each fiscal year, including a property inventory.
    - CRS follows Generally Approved Accounting Procedures (GAAP) as approved by the U.S. government. CRS is audited each year by Coopers and Lybrand. Internal audits of country programs are performed approximately every three years, including sometimes the physical presence of Cooper’s auditors along with CRS internal auditors.
    - Feedback is provided from the CRS/Cambodia Finance department to the Child Survival Program Manager and/or the Administrative Manager or the accountant as needed.

Process and responsibilities at the Field Level

1. Area Managers and field staff. At the field level project officers, request advances for project implementation or purchases of needed materials. These requests are verified by the appropriate Area Manager and approved by the Program Manager. Project Officers liquidate advances including providing appropriate documentation through receipts, trainee per diem

documentation records, and currency exchange rates. The liquidation is verified by the Area Managers and approved by the Program Manager and/or the Administrative manager.

2. Accounting/Cashier. The Accountant develops the vouchers for and documents approved requests and liquidations, maintain a ledger and excel spread sheet for disbursements and expenditures and documents the transactions on the spread sheets and develops the closing reports. CRS uses a standard account code system by which each category of items purchased has an account code. These codes are used to track costs incurred for each category. Disbursement vouchers and liquidation forms are developed and documented by the accountant. These are verified by the Administrative Manager and approved by the Program Manager. The Program Manager (In the absence of the Program Manager, the Health Program Advisor can sign) signs for money to be withdrawn from the bank. The cashier withdraws the money from the bank and pays the venders and provides the money to the staff as documented by the voucher. Petty cash is managed by the casher and administrative manager.

3. The Child Survival project budget is managed by the Child Survival Program manager and area managers with assistance from the Health Program Advisor when needed. An Annual Budget Plan including the annual plan for the Child Survival project is developed by the program and submitted to the CRS Country Program Representative who approves it and sends it on the region to be approved and then the region sends it on the CRS headquarters finance department. An end of the month, a financial report reviewed and approved by the Program Manager is provided to the Country Program Financial Department/ CRS County Representative. Budgets are reviewed and monitored on a monthly basis by the managers with the assistance of the advisor when needed. The process of budget revision is the same.

4. Support for finance to the Child Survival project:
    - The Health Program Advisor provides support for development of budgets, budget revisions, and budget monitoring when needed.
    - The CRS/Cambodia Finance department Finance Manager and the CRS Country Program Representative provide support to the field and communicate with CRS SEAPRO (Regional) finance and headquarters related to problems or questions which cannot be solved in the field.
    - CRS SEAPRO and Headquarters Finance department and managers provide support to CRS Cambodia and to the Child Survival project.
    - The CRS health program manager, Phnom Penh finance manager and Deputy Account Manager and the Battambang administrative manager, accountant and the health program advisor have received training in financial management of USG grants. The Battambang Administrative Manager has received additional training in CRS financial management at the regional level.

6. Logistics

Most of the procurement of supplies and vehicles, including motorbikes, were done by the Battambang program, supervised by the administrative manager and the program manager. Some other items were purchased by the Administrative manager in Phnom Penh.

At the beginning of the project, insecticides for bednet impregnation were obtained through the MoH, and then CRS obtained the insecticides directly from the company with funds from AADC, a Belgium NGO.

Distribution of the materials to the project sites was done by the CRS field staff. The bad road conditions delayed the distribution of materials and goods to the villages.

Quotes for materials over $500 was done by the purchaser in Battambang supervised by the Administrative manager, and in Phnom Penh by the purchaser, supervised by the Administrative Manager. The CRS Country Representative approved the purchasing.

CRS only provided emergency drugs. The need for drugs decreased during the life of the project because the government started supplying essential drugs. Sampov Loun OD had developed a revolving fund mechanism, and HCs would buy some drugs and materials from their budgets. Thmor Kol has recently started receive funds to create a revolving fund mechanism.

7. Information Management

CRS has used different data sources and methodologies to manage the project. All studies and evaluations were based on key standard Child Survival indicators.

1. CRS Management Information System (MIS)

CRS had developed MIS, which were revised after the MTE, aimed to collected data from the health centers and communities. CRS collected information from patients' registers and the health center HIS to monitor service utilization, number of cases ARI, CDD and Malaria, use of antibiotics and ORS, and immunization coverage.

At the village level, CRS obtain information on the health problems identified, development of community structures, and information about meetings, training and health education activities, village projects, and case referrals. Progress towards project indicators was collected on a monthly basis, reviewed by project managers, and entered into an Excel spread sheet for tracking progress toward targets, planning and reporting. Managers and staff analyzed the data quarterly and annually for decision making.

2. Use of Other Tools and Techniques for Monitoring

CRS used the LQAS sampling methodology for the baseline and final evaluation studies. Also, CRS used LQAS annually to monitor the progress of project indicators by supervision areas.

CRS develop checklists to monitor the quality of services delivered, initially, by project interventions, and then in 2004 integrated them into one checklist for IMCI. The results of the monitoring served to provide feed back and in-service TA. The checklist were developed based on MoH ones, but CRS added other components to observe management, supervision, accounting and infection control.

3. Health Center and Community Information Systems

Before CRS came into the Province, community chiefs had records of some basic demographic data. CRS developed a Village Health Record to collect, maintain and use other key information, such as chronic disease including (tuberculosis, HIV/AIDS), ANC, health education, case referrals, Vitamin A for children under 5 years of age and pregnant women, births and deaths for the community and the project. The VHR was also used for mobilizing children, pregnant women for immunization and Vitamin A and mothers for health education and outreach services and for making community annual health planning. For the revision of the village health records, CRS consulted the Provincial NIP

4. Health Center

CRS assisted HCs to use the HIS information for planning, monthly and quarterly reporting. CRS also assisted HC staff to develop tables and charts to present the information in a graphic format. Quality Performance Checklists were also used to monitor staff management and service performance to determine additional technical assistance and training.

5. Village Structures

At the village level, CRS used Participatory Rural Appraisal (PRA) and Community Diagnosis in collaboration with VHCs, to improve the project management at the community level, and for quarterly and annual health planning.

In summary, CRS had aimed to strengthen the government HIS system through funds and training for HC staff on HIS and program planning, and to community structures to improve health in their communities.

8. Technical and Administrative Support

During the life of the project, the Battambang CS project has received several technical and administrative support visits, from CRS headquarters and external entities. The tables in Attachment E5 depict the wide variety of TA received and comments made by the FE team regarding its usefulness and whether timing was appropriate.

9. Mission Collaboration

The FE Team Leader interviewed Ms. Chak Rya, Project Officer in charge of Child Survival, and USAID Mission in Cambodia. Ms. Rya is new in USAID Cambodia, but had references about CRS and the Battambang project. She added that the relationship between USAID and CRS has always been good. She also reported that whenever a project officer visits a USAID partner, he/she reports back to the office to keep everyone informed about field activities.

USAID does not have any bilateral programs with the Cambodia government, only through US-Based and three national NGOs. Some of international NGOs USAID agreements will close

soon, because they have more that 10 years working in the country. USAID has three major areas of work, HIV/AIDS prevention, and other infectious diseases, such as the TB, bird-flu, and family planning.

The total USAID budget for health varies between 21 - 35 million dollars. USAID has possibilities to continue providing funds to CRS, but it will depend on the field work. CRS has submitted a proposal for funding already, which results will be released soon. The evaluation of the proposal will be based on the lessons and success, and see whether this model can be replicated in other provinces in the country. In case CRS applies for further centrally funded CS project, the USAID Mission will support it.

10. Lessons Learned: Management

The following recommendations pertain to the overall results and attainments of the Battambang CS project, since every section discusses specific recommendations. The purpose of this section is to identify key project processes and activities that have proven to be effective, and to provide overall lessons learned and recommendations for future activities in the same region or in the country.

CRS' management approach is decentralized from CRS national office in both administration and substantive matters. This approach facilitated coordination and support to the PHD, ODs and HCs.

The Battambang CS project had a fair number of child health interventions, but within each intervention, there were a considerable number of activities and strategies to be carried out. It is recommended that CRS prioritize the number of activities and interventions and concentrate on the most successful. The most successful strategies were the introduction of IMCI and using LQAS annually to identify problems in implementing the interventions. IMCI has helped PHDs and ODs to provide child health interventions in an integrated and systematic manner. The factor that facilitated its introduction was that it was also a MoH priority that needed support to introduce and expand it.

IMCI is already institutionalized in the project area, but has been able to be instituted in many health centers in the province due to lack of financial support and but more efforts will be needed now to improve the quality of service delivery; i.e., a system to monitor the quality and performance of health workers delivering IMCI, logistic support to make basic medicines and supplies constantly available, and IMCI at the community level. The major challenge at this point is to establish a standardized and functional IMCI strategy at the village level.

CRS' main strategy was to work through the ODs and HCs; thus, although it was an appropriate strategy to improve the overall health systems in Battambang, CRS could not have full control of all factors that would affect the achievement of such results. Despite this, there is a positive trend across the majority of the CS and health indicators.

The PHD and ODs considered and included CRS' technical and financial contribution to the overall Provincial health program when ODs develop their operational plans, an important

achievement for CRS Battambang. Problems with the logistics systems (medicines and supplies for CS interventions) were delayed at times due to the poor road infrastructure and security reasons. For future projects, it is recommended that CRS develops a minimum package of management support to strengthen the local management capacity of the PHD, ODs and HCs to accelerate its implementation. This package could be used to strengthen the health information and logistic systems, and support strategic planning and sustainability. Some of these elements were part of CRS' project, but they were not implemented in a systematic manner.

CRS could strengthen technical assistance in three project phases: (1) at the beginning of the project and after the project has carried out the baseline study. A public health expert with experience in strategic planning and project management could help the team focus the project and design the elements based on the successes of this project; (2) after the mid-term evaluation, to assist the team make proper adjustments based on the MTE results; and (3) at the end of the project to assist the team to develop a reasonable phase out plan.

CRS will maintain its presence in the province, through the HIV/AIDS program and TA. Therefore, CRS will not need a large team and resources to continue activities, but will need to narrow down and continue some key technical support activities with regular monitoring visits such as support to carry out the quality checklist to improve the quality of service delivery.

D. OTHER ISSUES IDENTIFIED BY THE TEAM

There were no other issues identified by the FE team.

E. CONCLUSIONS AND RECOMMENDATIONS

1. The Partners and the Environment

This report documents a project in Cambodia to strengthen the capacities of the health sector and community structures to provide quality child health services. First, before making general conclusions about the principles and processes involved in such capacity-building efforts, some background is needed on the project's unique context.

After 20 years of war and the systematic destruction of the country's infrastructure and almost a total annihilation of educated citizens, the reconstruction of the health system started in 1993 after a peace accord was signed. The Bovel district health facilities started its reconstruction about that time, and Sampov Loun OD, a Khmer Rouge controlled region, started in 1998 approximately.

Reconstruction of the health system carried tremendous challenges for the population to access health services and health education due to the poor road infrastructure and land-mining, particularly in Sampov Loun OD.

Health personnel in Sampov Loun had limited formal education but had informal training. For the former Khmer Rouge staff special courses were developed by the MoH to bring them to an acceptable level.

Given those conditions, the needs were tremendous and the resources, even when combined with other donor agencies, could not guarantee the provision of even the very basics.

This social and political environment brought problems, but also opportunities. The country developed modern laws and procedures, such as the planning of a decentralized health system which is still undergoing development, but the basis is there to be endorsed and expanded.

2. Overall design, project interventions and key indicators

CRS concentrated on a small number of child health interventions focusing on IMCI, which was a wise decision, given the tremendous need. Expanding to other health interventions would have weakened the project, and the results would not have been as successful as the key indicators are showing. The confidence intervals did not overlap for most indicators, hence significant differences were observed between BL& FE results.

CRS focus remained on building the capacity of the local health system and community structures in order to make them sustainable by definition.

For the remaining period of CRS' presence in the province, it is recommended to focus on results rather than activities. CRS staff has had quite a large number of activities, particularly at the community level. Some of those were successful, but some were just repetitious. CRS needs to identify which were the most successful and cost efficient and focus only on those. On the same lines, CRS needs to re-prioritize interventions and select key objectives within each intervention.

3. Strategies for Results Attainment

One of the key and most successful strategies was the excellent relationship built between CRS and the MoH (PHD, ODs & HCs). CRS had a firm commitment to endorse and expand the MoH's programs and strategies in the Province.

The development of community structures is a national program, but the MoH did not have enough resources to implement it across the country, so it counted on the assistance of external organizations. In addition to that CRS expanded the work at the community level adding its own experience; e.g. facilitating water and sanitation projects with community structures and communities. The CRS team felt that the water and sanitation component complemented the project by providing the means for communities to practice the health behaviors.

Cambodia is slowly recovering economically and there are not enough jobs and salaries are low, so volunteer work has a low ceiling. In other words, CRS expected too much of the volunteer structures. Therefore, in some cases, community participation was high, but not across all villages. CRS needs to investigate further the factors that made those communities more active than others. It was mentioned in the body of the document several times that many of the villagers were too busy working on their on income generating activities, leaving less time to do volunteer work and this is likely the cause of poor volunteer rates in some communities.

It should be pointed out, however, that the Cambodian Primary Health Care Policy states that community structures should be on a volunteer basis. The Battambang Province policy for VHVs also states that they should be volunteers. There was very low rate of VHVs and VHC members who stopped to work. Were there other strategies that would allow community members to earn their living and at the same time had time to volunteer? While communities are willing to pay contributions for water and sanitation projects, few community members are ready and able to pay for community health services and the government does not have the funds to provide this support.

BCC is mentioned across the document, but CRS staff does not make a clear distinction among IEC, mass media campaigns and counseling; each has its own approach, purpose and timing. IEC materials were developed with specific messages and for specific purposes. They are pre tested before use. CRS did not develop mass media message, but rather used those developed by the MoH, UNICEF and others. CRS supported the expansion of exposure to mass media message of others on the radio, in the health facility and in the community (Along with discussions, questions and answers). CRS and health center staff received special training in counseling not only through IMCI but also counseling training. Training to health facility staff was provided with the specific objective of improving their counseling skills.

The FE findings and results mentioned several times that the level of education, particularly in Sampov Loun OD is low, but the IEC materials at the health center were all written and not designed for illiterate people. Nevertheless, it should be pointed out that those IEC materials – used at the HC on IMCI, the Mother's Counseling card, were developed by the MoH, WHO, UNICEF and the NGOs. It is a combination of pictures and words and was pre-tested nationally. It would be advisable for CRS to evaluate how IEC is being used and define whether they need further refinement, narrow down number of activities, develop more specific objectives and outputs. In other words, what specific child protective behaviors are being aimed for the community to adopt, and what would be the best mechanisms to achieve that, as opposed to carry out many community activities

Following the above paragraph, CRS needs to identify and document "Best Practices" and capitalize successes.

The value of CRS working in child health is that it should go beyond addressing a particular health concern in a "one-size-fits-all" manner. That is what was attempted in introducing community diagnosis, problem identification, and health planning, self evaluation, advocacy, and data analysis into the community process. This allowed the community structures and communities to address their issues not the one – size- fits- all. CRS needs to respond to particular communities' unmet needs, so they are cognizant of the way each particular community deals with illnesses, its beliefs about health and sickness, its attitudes toward available health care - all factors influencing patient access and compliance. It is this specialization - the CRS' ability to know and address local concerns which must be respected and fostered.

Not all attempts at standardization are inconsistent with community-based health care, of course. It is highly desirable, for example, to have minimal standards of care in specific illnesses. The

health sector has made attempts to develop a minimum package of skills (e.g., IMCI), an algorithm to reduce the amount of decision making by the primary health care worker. These strategies for standardizing quality of care were adopted by CRS and the local health system. Still, the variety of health problems; issues of service quality, access, and acceptability; the diversity of health care system missions; and the immediacy of CRS contact with communities continue to make the NGO sector a poor candidate for globalization. One size does not fit all, at least in child health.

To some, the term "capacity-building" is limited to training and upgrading human resources. However, acquiring new technical knowledge is only a small part of change. Building capacity of systems brings about more profound changes. CRS Battambang considered it necessary, but not sufficient, to upgrade the skills of NGO health staff and volunteers. Individual health workers practice within a structure. That structure needs to be strong, and all elements in place. CRS were committed to building capacity of their partner organizations to implement and manage quality health programs that could be sustained by local populations. So, in addition to technical instruction, they worked with the HC, ODs and community structures to examine and upgrade the functioning of administrative and financial systems; and improve referral practices and coordination.

Few in the health professions understand how long it takes to upgrade a local health system. There are many influencing factors, as mentioned above in the text. This problem is magnified when strengthening community structures. There is a need to be flexible when working with groups. The CRS partners started from different levels. Some took longer than others to improve their technical and management capacities. The timing for starting delivery of services will likely be slower than desired by the donors, who are usually under pressure for reporting immediate results.

Almost no published material exists on the time frame needed to establish a comprehensive technical and institutional strengthening strategy that works. Experience has shown that most community structures training programs are accomplished in less than three months, depending on the balance of classroom and on-the-job training. However, it is generally agreed that more time is needed to apply the processes that create competence, strengthen systems, and enhance empowerment and ownership.

4. The MOH/PHD/OD/HC as the Main Project Counterpart

CRS made a good effort identifying well qualified staff for the project. Everyone knows the importance of working with good people. The success of a program is often directly linked to the energy, thought, and hard work of the people working on the project. It is the same with the health system. It is important to work with a health system that are capable of doing a good job with the new technical programs, and staff who are eager to do so.

CRS found that many community structures were receiving relief funds from other donors for rebuilding after the armed conflict. Organizations were doing lots of things, but without focus. Many gave health talks and trained promoters to train communities, but they had little materials, and no key messages. Organizations had little understanding of what they wanted to change;

they wanted to help their communities but had no methods or materials. And donors just wanted to assist poor people affected by the war. Community organizations were attracted to the potential funding available through the health programs. They were less interested in the potential technical assistance.

A comprehensive technical and institutional strengthening strategy involves addressing issues of trust, up front. The processes for selecting community structures were transparent. It was essential that there was a good "fit" between the new technical interventions and the CRS mission and mandate.

"Vision" is the beginning of capacity-building. It is vision, not training per se, that make the support activities of lasting significance. It is very difficult to teach others vision. Probably it is best to step back first and try to understand what is not well-understood by the partners, and why.

Rather than just jumping in and training, training, training, it is better to establish a vision in the minds of the trainees. It's possible to give the local health system all kinds of skills, but if they don't see the value in the big picture of things, and don't see their place in the whole scheme, it is fruitless. Implementation is unlikely to be comprehensive or sustainable. In the case of CRS, it began with assisting the health care system and community structures to focus on the quality of care in their communities, and then to turn inward, and focus on the HCs' capacity to improve that quality of care.

5. Importance of the community structures being a voice of their communities

Donors and governments view community structures as filling the gaps in service delivery. Unfortunately this view sometimes results in a narrow perception of volunteer workers as tools of specific government health programs. According to this view, the ministry of health sets the needs and priorities and volunteer workers are expected to comply, somewhat akin with the expectations of government employees. Such a top-down attitude is often manifested in immunization programs, for example. Government NIP frequently regard community health volunteer as useful for increasing immunization coverage. CRS trained VHCs and VHVs to raise awareness about the need for timely and complete immunizations for children. They were trained to organize the community to be present when the immunization team comes to the community and follow-up the children who do not show for NIP sessions. However, the MoH/NIP program may have little interest in funding community structures to further train and empower the community health workers so that they can provide leadership within the community.

CRS needs to see community structures as contributing more to communities than filling gaps in government health services, a reason why CRS developed VHCs and expanded the role HCMC. Community structures also represent their communities and are a voice of the communities. This is especially true for women's organizations. Few of them fit the mold of being a health provider where government services are lacking. They more often serve as the voice of village women, and are concerned with gender equity, economic opportunity, domestic violence, education and women's rights. These women's organizations may not necessarily follow the say of the ministry of health, but they can and will respond to specific needs of women in the community.

Thus, when trying to expand child health care in remote communities, it is important to work with grass-roots organizations that focus on the needs of women, even if those organizations have not been engaged in health service provision.

Respecting the community structures' mandate and choice means accepting and working creatively with the volunteers contributions to community life. If the volunteers speak for those who traditionally have "no voice," then it must be helped to become an even stronger leader in the community, so that voice can be heard. These are the people who are the most marginal. They have many health problems but at least utilize health services. Viewing community structures only as a tool of policy is a limited vision that truncates the possibilities for affecting the lives of community people in a much richer and deeper way.

A question remains as to who will continue strengthening community structures after CRS leaves.

6. Monitoring and Evaluation

The CRS team introduced the LQAS methodology for BL, FE and annual monitoring. For monitoring purposes, the CRS team handled LQAS in a proper manner, but lacked skills to carry out an overall analysis for the entire project population as a whole and not by supervision area.

One of the problems perceived by the CRS team is that the training received by CSTS focused on the selection of the supervision areas, choosing the correct answers/decision rule by supervision area, but did not provide sufficient training to CRS staff on computer data analysis. The operational definitions on the KPC manual explains in detail how to calculate each CATCH indicators, by defining numerators and denominators, which is totally lacking when using the LQAS methodology.

CRS also used others sources of information and carried out studies. CRS needs to be commended for their effort to adapt and implement health facility assessments during the life of the project, including one at the end to complement the FE.

CRS assisted HCs to organize and strengthen HCMCs. The next step for HCs and HCMC is to be able to interpret, analyze and make decision based on simple and local indicators.

The information at community level, through the village health records (VHR) is rather long and needs to be streamlined. Communities do not need to collect that much information, and even less if it is to inform the health system. Communities need to collect only the information they need to identify their own health problems and to negotiate with the health systems how to solve them in a collaborative manner.

F. RESULTS HIGHLIGHTS –

1. Exclusive Breastfeeding

Infants who receive immediate and exclusive breast feeding until 6 months of age at the start of the project were the minority in Cambodia.

CRS and health center midwives conducted Focus Group Discussions to identify knowledge, practice, beliefs and barriers for Exclusive Breast feeding with 18 groups of 287 pregnant and lactating women. The FGD found that knowledge was generally low, but lower in young women and those in the rural areas. There was no difference between those delivered by TBAs or Midwives. Practice was low due to lack of knowledge, to beliefs that babies needed water to drink and to clean their mouths that mothers would not have enough milk after delivery, and unavailability of women to breast feed due to work outside the home.

A new strategy was developed to provide the key message of exclusive breast feeding in as many ways as possible with as much participation as possible to as many women as possible. The plan was to reach 5,102 pregnant women and lactating mothers with children less than 2 years old.

35 midwives and 166 TBAs in 15 health centers were trained on behavior change communication. Exclusive breast feeding messages were provided through regular breast feeding campaigns, special campaigns during World Breastfeeding Week, radio spots, video spots in the health centers , and counseling by TBAs and Midwives to pregnant women during ANC visits. The TBAs and midwives were very enthusiastic, Mother's Group Leaders assisted in mobilizing women in the communities. 15,430 women received the key messages for immediate and exclusive breastfeeding. In addition, breast feeding and complementary feeding were incorporated into the Child Survival Campaign which was conducted in all villages which reached 9,719 mothers. The Final KPC results found 98% of mothers of children 0 – 5 months old were exclusively breast feeding their infants until 6 months of age.

2. Promising Practice: Behavior Change Communication:

CRS, the HC and CS found that coverage for health education and behavior change was low and the target group (Mothers) was not being sufficiently reached using the methods of small group and peer education. They decided to target women of reproductive age through development of Mother's Groups of 20 women each. Each group would have two leaders who would assist in mobilizing the women, recording attendance and finding new often migrant women. VHVs and village chiefs organized the groups who selected their leaders. CRS and HC staff provided TOT to the VHVs who trained the MGLs. At the same time CRS and HC trained the VHVs in new methods for BCC for ARI, CDD, and Malaria using adult learning and on intervention topics using new interactive behavior change communication methods such as problem trees, correct and incorrect pictures, use of stories, case studies, demonstrations, drawings, and role plays.

The plan was to reach 24,897 women of reproductive age (15 – 45 years) in 196 villages for key health messages for behavior change.

24,897 mothers were formed into 1,045 groups with 2,090 mother's group leaders. 76% of the VHVs were trained on Malaria BCC, 80% of the VHVs trained on CDD BCC, 70% VHVs trained on ARI. VHVs reached 80% of mothers in the community through BCC to mother's groups. Because the change in the BCC strategy only started after midterm, the full effect of what could have been was not seen.

3. Malaria Prevention:

The Sampov Loun Operational District (OD), population 81,198, in 131 villages posed a problem for impregnated bed net malaria prevention due to the large numbers of migrants seeking seasonal and cross border work. However CRS is working with village health workers, local authorities, health center and OD staff with additional focus on migrants and residents living in the fields, in May 2004, impregnated 34,633 bed nets for 14,140 families for 84% of the families. CRS' November 2003 LQAS survey found that 98% of children under 5 were sleeping under impregnated bed nets at night. This activity was carried out again in 2005 with similar success. However, in 2006, according to the new MoH definition of malaria zones eligible for bed net impregnation, CRS only provided bed net impregnation to Category A villages in the Sampov Loun and Kleang Meas communes in the Bovel District. Normally, these villages are difficult to access, however, due to early and heavy rains in 2006, access was more difficult than usual and only 58% of the families in the Category A villages were reached. The final KPC found that 87.9% of the children in the Category A villages were sleeping under the impregnated bed nets.

4. Improved Health Care Service for children under 5 through Facility IMCI

Use of Facility-based IMCI has improved health care for children under five for common illness and has increased health center utilization in 7 Bovel District Health Centers and one health post serving 12,830 children under 5 and 8 Health Centers in Sampov Loun OD serving 12, 653 children < 5. Prior to this, assessment and classification of patients was incomplete, too many medicines in inadequate amounts were provided and little counseling was done. In collaboration with the Communicable Disease Department (CDC) of the MOH, CRS supported the training of PHD and OD directors and Technical Advisory Group and CRS as trainers in November 2002 and as supervisors in March 2003. PHD, OD and CRS with the MOH trained 30% of the Bovel staff in 2003 and the OD began doing monthly supervision. Monthly meetings are held with the Thmor Kol vice Director and CRS with health center staff to solve problems. CRS provided technical assistance using their IMCI checklist. The remaining 30% of Bovel staff completed training in September 2003. In July 2004, the training of the staff from the 8 Sampov Loun OD health centers was completed and implementation started. CRS used lessons learned in Bovel in the implementation of IMCI in Sampov Loun. The implementation of IMCI in both areas has been successful. It has improved the quality of care to children under 5 years of age, increased utilization of the health centers as seen in this report, and has also increased caretaker satisfaction according to interviews with caretakers that were conducted by OD supervisors. Although there is still room for improvement in assessment, classification, treatment, and counseling, all have progressed. CRS conducted a dissemination IMCI workshop with the PHD and MoH in the province which was well received by other OD directors and NGOs.

5. CBPHC model:

The CBPHCP model combining capacity building and support of community structures, while strengthening health center management is a good model for improving child health services. Through the model of an integrated approach, MPA health center management (accounts, infection control, drug management, HIS, and health planning) as well as care for children through IMCI and for PLHA through prophylaxis and treatment of OIs, counseling, referral and support for home care can be improved. At the same time target groups in communities through community structures receive C-IMCI key messages, awareness for the general public and specific target groups such as mothers, and those at most at risk for HIV (youth and migrants) but also develop the capacity to solve their own primary health problems, provide community based home care and support for PLHA. BCC can be carried out as water and sanitation needs are addressed by the community. Community input into health center management increases utilization and community –health center solidarity and income. Linkages between community structures and health center including support for outreach activities strengthen all the activities. CRS acknowledges that there is still a lot of work to do and some changes need to be made to improve especially the behavior change communication within the model however feel that the model has already shown it potential.

1. Innovative ideas:

Health Center Management Committees (Co-responsibility)

Intermediate Results
IR 1: Improved surveillance of disease
IR 2: Improved access to health services
IR 3: Improved coverage of Vitamin A and iron for children and pregnant women for prevention and treatment of anemia.

The purpose of the Community & Health Center Co-responsibility is that both levels would assume the accountability of the health project implementation and results.

Strategies:

- The VHVs and VHCs are responsible to report (verbally or written format) to the Health Center the occurrence of diseases or main health problems identified during community meetings, or if there is a disease outbreak. Some of the VHVs are members of the HCMC and others are part of the feed back committed from the community to the health center. The HC assigns staff to go to the village to explore the health problem identified and if needed, report to the OD or PHD if the health problem goes beyond the village. The HC makes a plan of action to respond. Surveillance leads to responses for disease outbreaks before they become serious.

- CRS, ODs, and HC staff formed Health Center Management Committee (HCMC), which consisted of HC staff, Commune Council members and representatives of the community structures. Usually, the HCMCs have 8-12 members, with the main role of increasing access and quality of the services delivered, improving information to the community and taking the

information from the community to the HC, monitoring expenses and transparency of the HC's financial management, decision making and improving access for the most marginalized.

Results:

1. Examples of Community & Health Center Co-responsibility were: In 2002 there was an outbreak of measles in the Kam Reang District. The community reported to the HC and the HC reported to the OD to carry out an immunization campaign. Also in Kam Reang, VHVs reported a case of poisoned water in a stream bordering Thailand. The community used the water for drinking, washing clothes. VHVs reported to the HC and OD, and PHD. The water was tested and it was found that it was contaminated by a chemical used for killing fish. The OD provided IV fluid and medicine and went to support the HC in investigation and treatment of cases.

   In the Bovel District, there was an outbreak of Dengue. Again, the community structures informed the health center who investigated and reported to the OD and PHD, and developed an action plan. A Dengue campaign was executed that promoted malaria prevention by the provision of HE to the communities and by mobilizing the community to destroy mosquito breeding sites using the larvicide Abate, and to clean and cover water jars. These measures prevented a serious outbreak of malaria.

   Monthly meetings were held to share information with the community. VHVs and TBAs go to the health centers to report on their activities and activities in their communities. They receive information from the health centers about health center plans. Referrals are done by VHV to HC and HC gives feed back to VHV during the meeting.

2. 15 out of 16 HC developed HCMCs which are functioning. Four HCMCs (Khnach Romeas, Bovel II, Serey Meachey and Takrey HCMC) were developed at the beginning of the project thus performing better than the rest. The monthly meetings occurred regularly in most HCMC. HCMC monitor and assist in the management of the health center service, finances and medicine, provide information from the community to the health center and health center to the community and solve problems that occur between the two. The also set up health center fee charges with community input and develop and monitor exemptions for the poor and the community structures.

   In one case, the Khanch Romeas HCMC provided financial support from their own revenues to the HCMC members. They are able provide funds for transport to the monthly meetings. The HCMC gave fee exemptions to mothers or families that did not have funds.

   The HCMC made sure that the HC provided services to all villages within the HC's catchments areas.

At the beginning CRS provided stationary to the HC, but after the development of the HCMC, the HC was able to use their own income for this.

2. Promising practice:
Breast feeding campaign, Child Survival Campaign, ORS system, linkages, VHR, BCC – use of participatory methods, campaigns, mothers groups, water and sanitation project contribute to the ability of villagers to implement key family practices, community health planning developed and used by VHC to improve the health of their community.

3. Best practice:

Breast feeding campaigns
IMCI strategy

1. Increased governance capacity in local institutions:

HCMC – community representation into the management of the health center services provides the community a say in what happens for their health care.
VHC – Community identification and resolution of their own health problems. VHCs allow community participation in the village and a means of advocacy with the health facilities and commune councils. Communities have a say and are owners of the community structures through elections and have a say in all the activities being done by the VHC in their villages. The VHCs and the communities gain skills for increasing their governance capacity through the VHV and community activities

2. Contribution to Scale/Scaling Up:

Facility IMCI implemented fully in two ODs with 25 HC.
Community structures in all villages
Immunization access with high coverage at 16 out of 16 HCs
Integration of HIV/AIDS and TB with Child Survival and Water and Sanitation

3. Development of materials:

IEC leaflets, posters, tool kit, self management and BCC curriculum, and VHC development guidelines.

4. Equity:

Health services available for all through exemption for the poor.
Projects in communities reach all members of the community.
Health education reaches all members of the community.
Women promoted to be leaders of community structures.

ATTACHMENT A: EVALUATION TEAM MEMBERS AND THEIR TITLES

Outside

N	Name	Titles
1	Dr. Castillo Marcelo	Team Leader (Consultant)
2	Elena McEwan	Senior Technical Advisor for Health (HQ)
3	Dr. Bun Sreng	MoH/Child Survival Member of Executive Secretariat and F-IMCI Trainer
4	Dr. Cheng Ly Sunkhieng	PHD MCH Manager
5	Dr. Saint ChinHan	Acting OD Director and Deputy OD Director (Thmor Kol OD)
6	Pan Sam Kol	Deputy OD Director (Sampov Loun)

CRS Personnel (Program)

N	Name	Titles
1	Lori Dostal	Health Program Advisor
2	Heng Bunsieth	Health Program Manager
3	Moul Vanna	MCH/HIV/AIDS Manager
4	Chhoun Sovann	Clinical/Institutional Manager
5	Mok Samoeun	Community Activities Manager
6	Sok Bunthoeun	Administrative & MIS Manager
7	Ly Chheam	Project Officer
8	Touch Sam Ol	Project Officer
9	Hun Youm	Project Officer
10	Vuth Thoeun	Project Officer
11	Thlang Sovann	Project Officer
12	Song Chanthy	Project Officer
13	Mai Hong	Project Officer
14	Heng Hean	Project Officer
15	Siv Kosal	Project Officer
16	Sim Sophear	Project Officer Midwife
17	Kong Chanthorn	Project Officer Midwife
18	Bou Sakun	Project Officer Midwife
19	Oum Buntha	Project Assistant Midwife

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Abbreviations/Acronyms

ARI	Acute Respiratory Infection
BV	Bovel
CBPHCP	Community-Based Primary Health Care Program
CDD	Control of Diarrhea Diseases
CRS	Catholic Relief Services
CSTS	Child Survival Technical Support
DPTHepB	Diphtheria, Pertussis, Tetanus, Hepatitis B
DHS	Demographic Health Survey
HC	Health Center
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IEC	Information, Education, Communication
IMCI	Integrated Management of Childhood Illness
KPC	Knowledge, Practice and Coverage Survey
LQAS	Lot Quality Assurance
MIS	Management Information System
MCH	Maternal and Child Health
MoH	Ministry of Health
NIP	National Immunization Program
OD	Operational District
ORS	Oral Rehydration Solution
SA	Supervisory Area
SL	Sampov Loun
TBA	Traditional Birth Attendant
TT	Tetanus Toxioid
UNICEF	United Nations Children's Fund
VHC	Village Health Committee
VHW	Village Health Worker
VHV	Village Health Volunteer
WHO	World Health Organization

Acknowledgement

We would like to acknowledge and thank the Provincial Health Department, Sampov Loun and Thmor Kol Operational District and Sampov Loun and Bovel Health Center staff, local authorities and community health workers who assisted us in organizing and conducting the survey.

We would like especially to thank all the surveyors (Community Based Home Care Team members, Village Health Committee Members, and Key Youth), who participated in conducting the KPC survey. They went out to do the interviews in difficult terrain and weather without complaint. Their interviews with mothers were done with care and consideration ensuring that information obtained was accurate. We really appreciate their contribution.

Also we would like to thank and acknowledge all of the CRS Project staff and managers who worked very hard to develop and translate the KPC questionnaire, organize the very difficult process for random sampling using the LQAS parallel sampling methodology, train the supervisors and interviewers, work closely with their community counterpart interviewers and ensured the quality of the data. They worked long hard hours in difficult conditions.

We also acknowledge the contributions of CRS administration and program data entry personnel who worked overtime to enter the data accurately and to finish the work on time.

We thank Dr. Ly Vanthy, our Cambodian consultant who developed the computer data format, providing training on data entry and cleaning, and spent many hours analyzing the KPC data. Not only did he perform the work for data analysis but also for capacity building for the CRS managers and staff. We thank Dr. Elena McEwan, CRS Headquarters Senior Technical Advisor who reviewed and ensured the quality of the data, Circe Trev, the external data quality control consultant and Dr. Marcelo Castrillo, the Child Survival Final Evaluation Team Leader for their input and assistance to ensure the quality of the data.

Executive Summary

Catholic Relief Services Community Based Primary Health Care Program began implementing their Child Survival Project Number 938-2001-A-0500-17 in October, 2001. Project activities were targeted over a 5 year period (October 1, 2001 to September 30, 2006) toward reducing morbidity and mortality in 23,049 children under the age of five and 36,491 are women of reproductive age in four districts. The total number of expected births during the life of project was estimated at 14,640. The total population is 177,824. There are 196 villages, 15 Health Centers, one health post and one referral hospital in the two Operational Districts in the four districts. These areas include former front-line areas in which conflict was intense from 1979 to 1996, and in which returned displaced people and new migrants continue to contend with land mines, accessibility problems for services, malaria, lack of water, and land disputes. The project area continued to experience population fluctuations due to the migration of people from all over Cambodia to these areas in search of land and work.

The project goal was to reduce morbidity and mortality in mothers and children by improving the capacity of communities and the health care system to manage and sustain Primary Health Care. The Child Survival project interventions were prevention of immunizable diseases (25%), Improved case management of acute respiratory illness (20%) diarrhea (30%) and malaria (25%)
The major strategic objectives were:

- Increase Immunizations and Vitamin A coverage for children under 2 years and pregnant women
- Improve knowledge and practices of mothers for prevention and seeking care for ARI, diarrhea diseases and malaria.
- Improve the quality of facility and community case management of ARI, CDD and malaria.
- Strengthen capacity of communities to self-manage community Primary Health Care.
- Improved competence of health facility and community health workers.

The Knowledge, Practice, Coverage 2000 + survey was conducted by Catholic Relief Services (CRS) to collect final data in the project area of Battambang Province, Cambodia as one of the final activities of the Child Survival Project, part of the CRS Community-Based Primary Health Care Program.

The objectives of this KPC survey were to:

- Determine the results of the project activities on mothers' knowledge and health practices for ARI, diarrhea and malaria prevention, seeking care and care giving.
- Determine the results of the project activities on immunization coverage for children and pregnant women.
- Determine the results of mother's knowledge and practice and coverage for cross cutting themes of water and sanitation, MCH including HIV/AIDS, and nutrition.
- Identify objectives met and celebrate the accomplishments with all stakeholders.
- Identify areas that need strengthening.
- Enhance the capacity of CRS National Staff to conduct future KPC surveys.
- Use findings for planning future projects and activities with stakeholders.

The KPC 2000+ Rapid Catch survey using the LQAS sampling methodology was conducted from August 2 through August 12 in 15 Supervisory Areas. Mothers of children 0 – 11 and 12 – 23 months were interviewed using parallel questions for age of the child and asking questions for ARI, CDD and Malaria in

both to ensure an adequate number of children with each illness. The unit of analysis was a supervision area which corresponded to a health center coverage area in an Operational District. This was chosen as the project worked both with the health centers and the communities they served and used the LQAS survey for the baseline and as a monitoring mechanism during the project. A sample size of 20 was chosen for each supervision area, as it reduces both types of alpha and beta errors to less than 10 percent. Data was analyzed in EPI Info Window based version 3.3.2.

Rapid CATCH Indicators

Indicators	Description	Baseline		Final Evaluation	
		Percent	Confidence Interval	Percent	Confidence Interval
Underweight Children	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)	28.0%	±5.6	19.5%	±3.2
Birth Spacing	Percentage of children age 0-23 months who were born at least 24 months after the previous surviving child	11.8%	±3.8	12.1%	±2.6
Delivery Assistance	Percentage of children age 0-11 months whose births were attended by skilled health personnel	42.4%	±9.3	62.%	±5.5
Maternal TT	Percentage of mothers of children age 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child	45.1%	±9.5	36.%	±5.7
Exclusive Breastfeeding	Percentage of infants age 0-5 months who were exclusively breastfed in the last 24 hours	11.8%	±7.3	98%	4.8
Complementary Feeding	Percentage of infants age 6-9 months receiving breast milk and complementary foods	89.0%	±18.7	*	*
Full Vaccination	Percentage of children age 12-23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	46%	±7.5	87.8%	±4.0
Measles	Percentage of children age 12-23 months who received a measles vaccine	34.1%	±8.6	75.3%	±4.9
Bed nets	Percentage of children age 0-23 months who slept under an insecticide-treated bed net the previous night (in malaria-risk areas only) *	84.3%	±10.8	87.9%	±3.5
Danger Signs	Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment	50.3%	±7.0	73.8%	±3.7
Sick Child	Percentage of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	20.4%	±7.0	84.9%	±4.4
HIV/AIDS	Percentage of mothers of children age 0-23 months who cite at least two known ways of reducing the risk of HIV infection	41.9%	±9.3	68.2%	±3.2
Hand washing	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	6.4%	±4.0	23.0%	±3.3

* Not collected for final KPC

The results of the final KPC was impressive due to the effort and investment put into the project by the staff and managers. Although there continues to be lower results in the Sampov Loun Operational District Supervisory areas, there was significant improvement that occurred due to the investments of effort and resources from the project resulting in many results being similar to Bovel where health staff have had more education and experience, where the community structures have been in place longer and where communities are more educated and stable.

Although immunization, outreach, access for seeking care and for health education were affected by the geographic difficulties of far distances on difficult roads especially during the rainy season and fluctuations of the population due to migration into and out of the area, the project was able to meet most of their objectives. In spite of many changes in health facility staff especially in Sampov Loun where nurses, midwives, medical assistants and doctors were sent for basic education at different times decreasing the numbers of available staff and creating need for additional technical assistance to temporary replacements the essential services were provided. and objective met.

1. PROJECT BACKGROUND

Catholic Relief Services Community Based Primary Health Care Program began implementing their Child Survival Project Number 938-2001-A-0500-17 in October, 2001. Project activities were targeted over a 5 year period (October 1, 2001 to September 30, 2006) toward reducing morbidity and mortality in 23,049 children under the age of five and 36,491 are women of reproductive age in four districts. The total number of expected births during the life of project was estimated at 14,640. The total population is 177,824. There are 196 villages, 15 Health Centers, one health post and one referral hospital in the two Operational Districts in the four districts. These areas include former front-line areas in which conflict was intense from 1979 to 1996, and in where returned displaced people and new migrants continue to contend with land mines, accessibility problems for services, malaria, lack of water, and land disputes. The project area continued to experience population fluctuations due to the migration of people from all over Cambodia to these areas and from these areas to neighboring Thailand in search of land and work during the life of the project.

The partners for CRS in the planning and implementation of project activities included the Communicable Disease Department of the MoH, health staff of the Provincial Health Department, Operational Districts, and health centers as well as communities and community health structures in the project area. The project interventions were in accordance with Ministry of Health policy and served to strengthen the activities of the public health sector in the project area. CRS worked closely with all levels of the Provincial Health Department and the Operational Districts to ensure mutual understanding and support for project activities.

The Battambang Child Survival Project utilized the Community-Based Primary Health Care Approach (CBPHC) in the organization of community and health center activities. This approach is "a strategy to improve the overall health status of communities by integrating community level and health center primary health care interventions, emphasizing community management and 'ownership' of preventive and promotional health activities.[1]" Through the CBPHCP approach the project sought to develop sustainable community health structures (Village Health Committees, Village Health Volunteers, and Traditional Birth Attendants) which would carry out behavior change communication /village health promotion / disease prevention activities and be linked with quality health center services. Capacity to implement project interventions was built at both the community and health center level through training activities, technical and material assistance.

The major project strategies were:

1. Community, household, and peer Behavior Change Communication activities
2. Sustainable community health management through community health structures
3. Technical and material support to government health services
4. Systematic monitoring and use of assessment and quality assurance tools

CRS collaborated with a number of partners in the development and implementation of this project through consultations, workshops, frequent visits and work with people in the field. During this process the Ministry of Health, Provincial Health Department, Operational Districts, health center staff, and community structures had opportunities to provide input and feedback. In addition, meetings and consultations took place with WHO, UNICEF, and the USAID Cambodia mission.

[1] CRS Community-Based Primary Health Care Implementation Guide, A practical guide for the organization of community health activities, CRS Battambang CBPHCP, June 2000.

The Battambang Child Survival Project was a new program with a total budget of US$ 2,033,057 representing a USAID investment of US$ 1,300,000. The total beneficiary population was 56,670 and the annual cost per beneficiary was $4.59. In addition to USAID funding, the project was supported by a CRS match comprised of CRS private funding and funding for the complementary water and sanitation portion of the project and in the last years, mosquito bed net impregnation from **Association Pour l'action De Developpement Communautaire (AADC)** and the chemical for impregnation of the mosquito bed nets and MCH interventions from CORDAID for the first two years of the project.

1.1. Program Goals and Objectives

Goal: To reduce morbidity and mortality in mothers and children by improving the capacity of communities and the health care system to manage and sustain Primary Health Care.

Objectives and Intervention Activities

Prevention of immunizable diseases (25%): Project efforts sought to increase immunization coverage for children less than two years of age through the establishment, improvement and maintenance of Health Center National Immunization Program (NIP) services, and the development of community immunization support systems through community health structures.

Improved case management of acute respiratory illness (20%): Activities improved Health Center case management using an integrated strategy (Facility IMCI) and referral systems and strengthened the ability of caretakers to recognize pneumonia danger signs, seek appropriate/timely care and provide appropriate home care including completing treatment and recommended follow up for their children.

Improved control of diarrhea diseases (30%): Interventions improved case management at Health Centers using an integrated strategy (Facility IMCI) and increased the capacity of caretakers to prevent diarrhea, provide home care including completing treatment and recommended follow up for their children and provide ORS, recognize danger signs of diarrhea and dehydration and seek appropriate/timely care. Complementary water and sanitation projects provided villagers with the means to adapt good practices.

Improved control of malaria (25%) – Project efforts were directed at improving capacity in pregnant women and caretakers to recognize signs/symptoms of malaria and seek appropriate treatment, and to prevent malaria through the use of impregnated bed nets. Up until year 5 of the project, impregnation of existing mosquito bed nets was done in all villages in the Sampov Loun Operational District. In year 5 of the project, the National Malaria Center policy was changed to only provide bed net impregnation to Villages that were designated Category A. According to the National Malaria Center, the criteria to identify Category A villages was any village less than 2 kilometers from the forest, or those villages close to streams and/or mountains in which villagers were considered to be at most at risk for malaria. Therefore in the Final Knowledge, Practice, Coverage (KPC) survey, information about impregnated bed net use was only collected in Category A villages. Activities also improved Health Center case management through the use of an integrated strategy (Facility IMCI).

Cross Cutting Strategies:
To carry out and sustain these interventions, the project implemented five cross-cutting strategies:

1. Build technical and management capacity at the Health Center, Operational District, community and CRS levels, including phasing in and strengthening of Facility IMCI.
2. Conduct Health Center, community structure and household Behavior Change Communication and counseling activities for behavior change.
3. Develop sustainable, quality community and facility health services and complementary linkages.
4. Joint planning, monitoring and evaluation using participatory assessments and quality assurance tools.
5. Transformation of CRS/Cambodia health staff into Cambodian health NGO.

1.2. Survey Objectives

The Knowledge, Practice, Coverage 2000 + survey was conducted by Catholic Relief Services (CRS) to collect final data in the project area of Battambang Province, Cambodia as one of the final activities of the Child Survival Project, part of the CRS Community-Based Primary Health Care Program.

The objectives of this KPC survey were to:

- Determine the results of the project activities on mothers' knowledge and health practices for ARI, diarrhea and malaria prevention, seeking care and care giving.
- Determine the results of the project activities on immunization coverage for children and pregnant women.
- Determine the results of mother's knowledge and practice and coverage for cross cutting themes of water and sanitation, MCH including HIV/AIDS, and nutrition.
- Identify objectives met and celebrate the accomplishments with all stakeholders.
- Identify areas that need strengthening.
- Enhance the capacity of CRS National Staff to conduct future KPC surveys.
- Use findings for planning future projects and activities with stakeholders.

2. PROCESS AND PARTNERSHIP BUILDING

In the health program, CRS' key counterparts are the communities, community health workers and structures, and government health staff and managers at the health center, Operational District, Provincial Health Department and Ministry of Health. A major program strategy was to develop the capacity of counterparts to develop, implement, and maintain sustainable health activities with increasing levels of self-management at both the health center and the community level.

PHD, OD, Health Center

The health center staff had been involved in the baseline survey and both the Operational District and health center staff had followed the progress toward objectives through analysis of their own health planning and of the CRS LQAS Annual Monitoring surveys. For the final KPC, CRS discussed the KPC survey methodology and the role of the health center staff with the Operational District Managers and health center staff. One health center staff in each Supervisory Area was involved in the KPC survey providing logistical information and support to the CRS staff supervisors and to the interviewers. The Health Center staff was very valuable for assisting with logistics and communication for the survey and the process provided them with an opportunity to learn about the knowledge, practice and coverage for health in their areas.

Community Involvement

All Villages Chiefs in the villages where the survey was to be conducted were informed about the KPC and along with the VHVs were involved in updating the village registers and setting up the lottery system. As a means of involving their community partners in the process, CRS recruited interviewers for the data collection from the Key Youth, Community Based Home Care Team and Village Health Committee members who had been working with CRS for a significant length of time in the CRS HIV/AIDS project. For the baseline survey, CRS had recruited Village Health Volunteers and Traditional Birth Attendants to assist as interviewers. The program decided to change the category of community structures to prevent bias as the work of the Village Health Volunteers and Traditional Birth Attendants was being assessed by the final survey.

Collaboration with other NGOs

For the baseline KPC survey, technical assistance and training was provided to CRS, ADRA, other Cambodian Child Survival Program managers and staff and their partners through the CSTS KPC 2000 + Learning Collaboration Workshop held in the CRS and ADRA project sites. The objective of the workshop was to provide CRS and ADRA staff and their partners with new knowledge for the KPC Survey and support for developing and implementing the process especially for data entry and analysis as well as an opportunity for the staff of other Child Survival programs in Cambodia and the region to share experience and begin to collaborate and a venue for CSTS to test their new KPC curriculum. Knowledge gained from this workshop was utilized for the Final KPC survey.

3. METHODS

3.1. Questionnaire:

For the baseline survey, CRS/Cambodia used the KPC 2000 survey instrument collecting data for:

- Respondent background information
- Household water and sanitation
- Breastfeeding and infant/child nutrition
- Childhood immunizations and vitamin A
- Sick child
- Diarrhea, Acute Respiratory Illness and Malaria
- Maternal and Child Health(MCH)
- Rapid Catch Question on HIV/AIDS
- Contact with village level workers
- Impregnated mosquito bed nets

For the final KPC questionnaires, the questionnaires were reviewed with the CRS Senior Technical Advisor, Elena McEwan from CRS Headquarters, Program Quality and Support Department during her visit in June 2006. The decision was made to limit the questions to only those which related to objective results. Category A classification was added to the village classification to document those villages which would have received mosquito bed net impregnation this year. (In past years all villages had received this, but in 2006, the MoH policy revised the policy to provide impregnation only to Category A villages defined as those villages within 2 kilometers of the forest, close to a stream or river and/or mountain)

The Program Manager translated the questionnaire. The Area Managers reviewed the translation. Modifications were made after the field test.
One questionnaire was developed for 0 – 11 months (72 questions) and one for 12 – 23 months (60 questions) with parallel sampling for age and both questionnaires asking questions for ARI, CDD, and Malaria Case Management to ensure a sufficient number of respondents to questions for child illness with ARI, CDD and Malaria.

3.2. Sampling Design

CRS Batambang (BTB) used the LQAS methodology to collect data on 15 supervision areas. A supervisory area corresponded to a health center catchments area that provides health service to an approximately 10,000 population. A sample size of 19 + 1 interviews for each age group was chosen for each supervision area to keep the alpha and beta errors to less than 10%.

Selection Processes

- **Location**
  1) The project area was divided into 15 supervisory areas corresponding to the health center coverage areas.
  2) Within in each supervisory area the procedures for selection was as follows:
     - First, a list of all accessible villages and their populations were prepared.
     - Second, the total population of the supervisory area was calculated by adding the population of all the villages belonging to it. The sampling interval was calculated by dividing the total supervision area population by 19.
     - Third, a random number was chosen between one and the sampling interval. This number became the first location site for the first interview.
     - Fourth, the random number and the sampling interval were added together to identify the second interview location, and so forth.
     - The process was repeated to identify the locations for interviews in all the supervisory locations. (See Annex: Random Sample Selection)

- **Respondent:**
  The village chief's family register was used to obtain create a lottery to use to obtain the first random sample in each village.
  1) The village chief's family register was updated for families with children 0 – 23 months that had moved into or out of the village.
  2) The VHV in each village then recorded the Mother's and one 0 – 23 months child's name on a slip of paper.
  3) Each paper was placed in a bag which was taken with the CRS supervisors when they went to the villages.
  4) In the village, the supervisors asked the villagers to draw out one paper from the bag to identify the family for the first interview.
  5) For parallel sampling, if the first child identified was a child 0 – 11 months then the next would be 12 to 23 months and vice versa. If there were children of both ages, the one whose name was on the paper was interviewed.
  6) To obtain the parallel sample, the supervisor would then spin a pen in front of the first house and then go three houses from the first house in the direction pointed to by the pen.

7) If there were more interviews to be done in that village, another name was pulled from the lottery to determine the next family to be interviewed and so on. (See Annex: Random Respondent Procedure)

3.3. Training:

3.3.1 Selection of Interviewers

CRS chose to select interviewers from the community structures. In the baseline, CRS chose the Village Health Volunteers (VHVs), Traditional Birth Attendants (TBAs) and the Village Health Committee (VHC) members as they knew the most about the villages. However in the final evaluation, it was decided that since the KPC would be providing an assessment of the work done by the VHVs and TBAs that it would be better to remove that potential bias. CRS recognized that women interviewers could have more rapport with the mothers as the mothers might feel more comfortable answering some questions if asked by another woman. Therefore, female Key Youth (at least 23 years old) and Community Based Home Care Team members were recruited to be the interviewers. The level of education at the community level is not very high and the workers although they had a great deal of experience either providing peer education or working with families with HIV/AIDS lacked experience in interviewing mothers. Therefore, the interview sought to identify the level of capacity to read, and write and follow written instructions as well as to communicate. Thirty two applicants were interviewed using the survey questionnaire to see how well they could read and write, follow written directions and conduct an interview. Out of the 32 applicants, twenty- three were chosen as interviewers to work on the two teams.

3.3.2 Supervisor Training:

Seven CRS program staff and six administration staff were trained by the CRS Program and Area Mangers for 1 day on the KPC data collection process and questionnaire. The trainers explained the KPC Survey process, reviewed the questionnaire, explained the LQAS Sampling technique and random sampling technique, presented examples of proper and improper interviewing, and demonstrated the correct methods to calculate birth dates, weigh the children, and introduced the use of the interview checklist and feedback process for ensuring the quality of the interview conducted by the interviewers.

The staff and supervisors made some suggestions for change to the questionnaire, which was then revised accordingly. The Manager/ staff developed the plan for notifying the local authorities and working with them to obtain the random sample for interviews in their villages, identified and organized interviewers and coordination teams and logistics.

3.3.3 Interviewer Training:

Interview training was provided to the village level interviewers for a two-day period. The training was a simplified version of the supervisor training. The LQAS Sampling technique and random sampling technique, roles of supervisors and interviewers were explained. There was a presentation by role-play on proper and improper interviewing techniques. The focus of the training was on introduction to and understanding and practice of the questions in the questionnaire. Each question and each instruction were discussed in detail with the whole group. Participants practiced interviewing using the questionnaire in the classroom. The supervisors used the interview checklist to provide feedback to the interviewers. This was followed by field practice of interviewing mothers in villages, which were not part of the project area.

3.3.4 KPC 2000 + Learning Collaboration Workshop CSTS

The CRS team utilized knowledge and skills learned in the KPC 2000 + Learning Collaboration Workshop provided by CSTS in 2001 for the final KPC survey, but did not feel confident to set up the computer data entry on EPI Info or to do the cleaning and analysis of the computer data by themselves. A consultant was hired to assist them in doing these activities.

3.4 Data Collection

Two data collection teams one for Sampov Loun Operational District Health Centers Supervisory Areas and one for Bovel district Health Centers Supervisory Areas were formed. The two teams were composed of one overall manager in Sampov Loun and two in Bovel. The overall managers were assisted by three supervisors and one driver in Bovel and four supervisors and two drivers in Sampov Loun.

The Sampov Loun team including interviewers stayed at the CRS staff house in Phnom Prick District. The CRS managers and staff in Bovel stayed in a guest house in Bovel District. Since the interviewers were all from Bovel District, they went home at night and came to work in the morning. Supervisors were responsible for determining the random parallel sampling , monitoring the quality of the interviews, calculating the first child and the second child's date of birth, weighing the child, checking all questionnaires for incomplete, missing or incorrect information and providing feedback to the interviewers. The overall supervisors solved problems and re- checked the questionnaires after the supervisors to determine any errors or omissions. The average interview took 45 – 50 minutes if child was sick in last 2 weeks.

The data collection took 7 days in the Bovel area and 8 days in the Sampov Loun due to the difficult roads and distant villages in addition to two days travel to and from Sampov Loun Operational District to Battambang.

Completed questionnaires were sent from the field to the Battambang Office every day by motor bike. From Sampov Loun Operational District this meant a least a 4 hour drive.

Major constraints and limitations:

Seventeen villages, five in Bovel and 12 in the Sampov Loun Operational District area were not accessible at this time of the survey due to road conditions and the heavy rains, so were not included in the randomizing for the survey.

The other constraints were time as the use of the LQAS and the random sample methodology resulted in long distances between interviews, movement back and forth within the village, and few interviews being done in one village. There was also difficulty in finding respondents for interviews as many mothers with children under two years of age were worked in the fields leaving the children with a sibling or other relative. Even though, villages that were not accessible had been removed from the random list (17) there were still several villages where the accessibility and population had changed: One village was not able to be accessed due to a broken bridge, another due to a badly deteriorated road and in another the villagers had moved leaving only 10 families in the village. Villages with similar characteristics near the chosen villages were substituted for these villages. Local trucks had to be hired to reach two communes, Ampil Pram Doeum (total of 30 kilometers) and Chakrey (total of 200 kilometers) as the roads were so difficult that CRS vehicles and motor bikes could not access the areas.

The program used the Salter scale for measuring the children's weight. Although this is an acceptable scale to use for measuring children's weights, it is not as accurate as electronic scales.

Quality Control Procedures

- **Quality control at the field:**

Quality control procedures occurred at several levels in the field. Supervisors calculated the age of the child and weighed the child and monitored the interviews by interviewers using an interview checklist. Every questionnaire was checked by the supervisors for errors or missed information before leaving the village. Supervisors used interviewer checklists to provide feedback to the interviewers. The overall coordinator/supervisors provided support and monitoring for the whole process especially focusing on providing supervision and support to weak supervisors and/or interviewers. They re-checked all questionnaires after the supervisors check before sending them on to the CRS Battambang office.

- **Quality control at the office**

After the questionnaires had been finalized they were sent to the CRS office in Battambang for data entry. At the office, the questionnaires were counted on arrival to see that the number of samples of each questionnaire had arrived. The questionnaires were then placed in the container for data entry. The data enter staff were provided a checklist with the SAs, Health Center name, villages with their sample numbers and the identification of each sample number, a code list for the SAs, code list for the supervisors, and names of interviewers to use in checking and entering the data. Each computer group was also provided a study identification numbers from Dr. Vanthy, the KPC consultant. Data enter staff were advised to organize the questionnaires and put the identification number on each before starting data entry and to check each questionnaire to ensure that they were entering the correct questionnaire, sample and identification number. They were advised to circle the sample number, identification number, district coverage and category A villages on their checklist so that there would be a way to easily see which had been entered. If the questionnaires were not completed on the same day, they were carefully marked and placed by the data team in a container to be continued the next day. When the SA questionnaires were completed, they were placed in separate containers for each SA for each age group so as to be able to be easily retrieved when needed.

3.5 Data Entry, Cleaning and Analysis

3.5.1. Data Entry

Dr. Ly Vanthy, the consultant hired by CRS to assist in data entry and analysis set up the EPI Info data entry template prior to coming to the CRS office. He then installed this into 4 computers at the CRS office and taught the CRS administration and program staff how to enter the data. Dr. Vanthy provided continued mentoring and support for two days. Continued supervision of the process was done by the program advisor during the time of data entry. Dr. Vanthy was available to the team by telephone but was not needed during this time. In his absence, if there were questions, they were brought to the Program Advisor who would either answer them or check with the field.

3.5.2. Data Cleaning

Dr. Vanthy returned to instruct and guide the data entry and program managers on data cleaning. It took almost two days to clean up (identify the problem of each question/variable of the groups and then correct in the software Epi Info 6.04 version questionnaire template). After the correction, each team had to verify by printing all questions/variables correcting.

3.5.3. Data Analysis

Using Epi Info 6.04 version, the files of each group (0-11 months and 12-23 months) were merged to get a file of 300 questions for 0-11 months and 12-23 months for a total of 600 questions for 0-23 months. Because of the limitations of Epi Info 6.04 version, Epi Info 2000 window based 3.3.2 version was used to analyze the data. The primarily analysis results were presented to CRS field staff, managers and advisor to give an opportunity to CRS staff to better understand the data analysis results from the survey and also to make sure that each project's indicator was properly calculated.

3.5.4. Data Quality Control

Due to concerns about the quality of the data analysis, the data and analysis was cross checked by an additional consultant, hired by CRS Headquarters. The consultant checked the data and verified the analysis providing feedback on problems. The data provided in the results is the final data verified by this quality control measure.

4. RESULTS

The results of the KPC survey are presented based on the target population (0-11, 12-23 and 0 -23 months) and project's locations (supervision areas and districts coverage). For the results of bed net characteristics, it is presented only for the villages that fall into category A as classified by the MoH being the villages in the malaria zones eligible for impregnation of mosquito bed nets.

4.1. Mother's Socio-demographic Characteristics

Table 4.1.1 shows the socio-demographic characteristics of the mothers, who were interviewed. Almost 80% of mothers' age ranged from 19-34 years old. In the baseline 67% of the mothers were below age 24 to 34 years of age. Distribution of mothers' age groups among the two districts was similar. Only 1.2% of mothers were less than 18 years old (all were in Sampov Loun Operational Districts). The total percent of mothers who had no schooling in the baseline was 33%. This decreased to 19.7% for the combined areas in the final. The baseline survey found that of the mothers who had no schooling 20.8% resided in Bovel and 43.6% in the Sampov Loun Operational District. In the final KPC survey of the mothers with no schooling, 26.3% resided in the Sampov Lou Operational District and 12.1% in Bovel. Half of the mothers in both districts received primary education from 1 to 5 years which was similar to the baseline. The majority of heads of households was the husband (80%), followed by the mothers themselves (16.3%) and then other relatives (2.7%). Women head of households in Bovel district was higher than in Sampov Loun Operational District area. This was similar to the baseline. The majority (78%) of the mothers reported that they did not do work outside the home. This was followed by those employed in harvesting/farming (11.7%) and selling food (6.3%). There was basically no difference between the two areas. However, as the survey only reached those mothers who were at home and the interviewers found that in many houses young children were left in the care of their siblings or elderly relatives, this is most likely not representative of the population in the areas.

Surprisingly, 82.2% of women reported having only one biological child under five years old and 17% reported having two children less than five years of age in both areas. This was similar to the findings in the baseline survey. The number of girls (53.5%) was higher than the number of boys (46.5%). In the baseline survey the balance was the opposite but not significant with the number of females being (48.8%) and males (51.2%) There was no significant variation between the numbers for the sex among the two districts in either survey. The highest number of children in the 0 – 11 month olds were in age groups 0-5 (23.7%) and was the

second highest were the 10-11 months (18.8%). Again, there was very small variation between the two districts. The numbers of children in the 0 – 11 months olds was similar in the baseline (29.4%). However, the next largest number in the baseline was the 5 -9 month olds at 19.3% with the 10 – 11 months olds only being 5.1%.

One of the problems that make accomplishing some of the project indicators difficult was migration in and out of the areas. Nonetheless, of those interviewed only 0.8% lived in the area for less than one year. Those living in the areas for 1 – 2 years were 11.4% and 3 years were 9.5%. Mothers reporting living in the area for 4, and 5 years were 11% while those reported living in the area for 6 – 10 years were 21%. More than half of respondents reported living in the project location from 1-10 years and those living in the area more than 10 years were (45.6%). Among the respondents who have lived in the area from 1-10 years, 65.9% were in the Sampov Loun Operational districts whereas; those who have lived more than 10 years, 64.7% were in Bovel district. However, since the survey was only able to interview those mothers who were at home, those doing migrant labor within Cambodia and those who move in and out of Cambodia into Thailand may have been missed. The question of the number of years families had lived in the area was not obtained in the baseline so no comparison could be made.

The mothers who took their children with them rather than leaving them at home when they went to work outside the home were only 6.5%. When the mother was away from home, the majority of children were left in the care of the grandmother (62.8%) with the second choice being other relatives (21.8%) and then the husband (17%) and then a sibling (16.5%). Mothers of children aged 0-11 months preferred to leave their child with grandmothers. More respondents in Sampov Loun district preferred to keep the child with the grandmother (79.7%) compared with Bovel district where only 43.6% gave this as the first choice. The respondents in Bovel district stating a preference to leave the children with the husband, older children and other relatives was higher than respondents in the Sampov Loun Operational districts. This finding was surprising as the survey team saw many households where younger children were left in the care of older siblings in both areas. However, as the interviews were done with mothers, there may have been differences in the households were mothers were home and those where they were not that were missed. The baseline survey did not ask this question.

Table 4.1.1. Socio-demographic Profile of the Sample Population by Districts and Age Groups

Categories	Bovel District				Sampov Loun Districts				Total (0-23) N=600				Total (both districts) (N=600)	
	n= 140 (0-11)		n= 140 (12-23)		n= 160 (0-11)		n= 160 (12-23)		Bovel n=280		S Loun n=320			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Age of Mother														
<18	0	0.0	0	0.0	5	3.1	2	1.25	0	0.0	7	2.2	**7**	**1.2**
19-24	56	40	45	32.1	70	43.8	69	43.1	101	36.1	139	43.4	**240**	**40.0**
25-34	64	45.7	61	43.6	61	38.1	42	26.3	125	44.6	103	32.2	**228**	**38.0**
>35	20	14.3	34	24.3	24	15.0	47	29.4	54	19.3	71	22.2	**125**	**20.8**
Years of Schooling														
None	16	11.4	18	12.9	46	28.8	38	23.8	34	12.1	84	26.3	**118**	**19.7**
1 to 5	69	49.3	71	50.7	73	45.6	90	56.3	140	50.0	163	50.9	**303**	**50.5**
> 6	55	39.3	51	36.4	41	25.6	32	20.0	106	37.9	73	22.8	**179**	**29.8**
Head Household														

Mother	28	20	32	22.9	14	8.8	24	15.0	60	21.4	38	11.9	**98**	**16.3**
Husband	105	75	100	71.4	144	90	131	81.9	205	73.2	275	85.9	**480**	**80.0**
Female relative	6	4.3	5	3.6	1	0.6	4	2.5	11	3.9	5	1.6	**16**	**2.7**
Other	1	0.7	3	2.1	1	0.6	1	0.6	4	1.4	2	0.6	**6**	**1.0**
Type of Work (Multiple responses)														
No work	120	83.9	98	69.5	129	77.7	121	73.8	218	77.9	250	78.1	**468**	**78.0**
Harvesting /farming	8	5.6	16	11.3	18	10.8	28	17.1	24	8.6	46	14.4	**70**	**11.7**
Housework	0	0	0	0.0	0	0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Handicrafts	3	2.1	6	4.3	1	0.6	0	0.0	9	3.2	1	0.3	**10**	**1.7**
Selling food	8	5.6	12	8.5	8	4.8	10	6.1	20	7.1	18	5.6	**38**	**6.3**
Salaried worker	0	0	0	0.0	1	0.6	0	0.0	0	0.0	1	0.3	**1**	**0.2**
Shop keeper	2	1.4	9	6.4	9	5.4	5	3.0	11	3.9	14	4.4	**25**	**4.2**
Others	2	1.4	0	0.0	0	0	0	0.0	2	0.7	0	0.0	**2**	**0.3**
No. of Biological Children U5														
1	111	79.3	120	85.7	124	77.5	138	86.2	231	82.5	262	81.9	**493**	**82.2**
2	28	20	19	13.6	35	21.9	20	12.5	47	16.8	55	17.2	**102**	**17.0**
3	1	0.7	1	0.7	1	0.6	2	1.3	2	0.7	3	0.9	**5**	**0.8**
>4	0	0	0	0	0	0	0	0	0	0.0	0	0.0	**0**	**0.0**
Sex of children U24 months														
Male	68	48.6	61	43.6	80	50	70	43.8	129	46.1	150	46.9	**279**	**46.5**
Female	72	51.4	79	56.4	80	50	90	56.3	151	53.9	170	53.1	**321**	**53.5**
Age of children in months														
0-5	60	42.9			82	51.3			60	21.4	82	25.6	**142**	**23.7**
6-9	23	16.4			22	13.8			23	8.2	22	6.9	**45**	**7.5**
10-11	57	40.7			56	35			57	20.4	56	17.5	**113**	**18.8**
12-23			140				160		140	50.0	160	50.0	**300**	**100**

Table 4.1.2. Who cares for the child if the mother is away?

Categories	**Bovel District**				**Sampov Loun District**				**Total (0-23) N=600**				**Total(both districts) (N=600)**	
	n= 140 (0-11)		**n= 140 (12-23)**		**n= 160 (0-11)**		**n= 160 (12-23)**		**Bovel n=280**		**S Loun n=320**			
	#	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
Away from home (Multiple responses)														
Grandmother	68	48.6	54	38.6	138	86.3	117	73.1	122	43.6	255	79.7	**377**	**62.8**
Husband	30	21.4	27	19.3	18	11.3	27	16.9	57	20.4	45	14.1	**102**	**17.0**
Older child	30	21.4	32	22.9	14	8.8	23	14.4	62	22.1	37	11.6	**99**	**16.5**
Other relatives	50	35.7	46	32.9	10	6.3	25	15.6	96	34.3	35	10.9	**131**	**21.8**
Neighbors	7	5.0	16	11.4	2	1.3	7	4.4	23	8.2	9	2.8	**32**	**5.3**
Maid	0	0.0	1	0.7	0	0.0	0	0.0	1	0.4	0	0.0	**1**	**0.2**
Nursery school	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Take with me	15	10.7	12	8.6	7	4.4	5	3.1	27	9.6	12	3.8	**39**	**6.5**

4.1.3. Duration of respondents residence in the village										
Ages	**0-11**				**12-23**				**Total Both Districts**	
Areas	**Bovel (n=139)**		**S Loun (n=160)**		**Bovel (n=139)**		**S Loun (n=160)**		**(N= 598)**	
#/%	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
<1	3	2.2	2	1.25	0	0.0	0	0.0	**5**	**0.8**
1	3	2.2	13	8.1	9	6.5	9	5.6	**34**	**5.7**
2	4	2.9	10	6.3	9	6.5	11	6.9	**34**	**5.7**
3	17	12.2	12	7.5	6	4.3	22	13.8	**57**	**9.5**
4	5	3.6	15	9.4	1	0.7	12	7.5	**33**	**5.5**
5	1	0.7	13	8.1	3	2.2	16	10.0	**33**	**5.5**
6 -10	16	11.5	57	35.6	21	15.1	35	21.9	**129**	**21.6**
11 - 15	12	8.6	13	8.1	11	7.9	32	20.0	**68**	**11.4**
16-20	13	9.4	13	8.1	9	6.5	16	10.0	**51**	**8.5**
21-25	36	25.9	10	6.3	36	25.9	7	4.4	**89**	**14.9**
26-30	20	14.4	2	1.3	23	16.5	0	0.0	**45**	**7.5**
>30	9	6.5	0	0.0	11	7.9	0	0.0	**20**	**3.3**
Total	**139**	**100**	**160**	**100**	**139**	**100**	**160**	**100**	**598**	**100**

4.2.Water, Sanitation and Hygiene Practices

Table 4.2.1 presents the information on water and sanitation facilities and hygiene practice of the respondents. More than 60% of mothers reported that they buried the babies' stool in the yard, followed by 34% who threw the stool in the toilet. In the baseline survey, only 13.2% threw the stool in the toilet which probably indicates an increase of toilets/latrines in the areas. The percent who buried the stool was similar in both surveys. However, 21.5% stated that they still left the stool on the ground. The baseline survey found that 27.7% left the stool on the ground. There was a 20% difference between Sampov Loun Operational districts and Bovel district with a higher percent throwing the stool into the toilet in Bovel and a higher percentage burying the stool in the yard in Sampov Loun districts.

Garbage disposal by burning was practiced by the highest number of respondents in all districts (79.8%) and also in the baseline survey. Garbage disposal in an open pit was 31.3%. Use of a closed pits which is a good practice for objects that cannot be safely burned was only used 9.8% with 13.1% in Sampov Loun districts and 6.1% in Bovel. Use of closed pits was 3% in the baseline.

Hand washing before food preparation (94.3%) was common practice. Washing hands after defecation reached 59.5%, and after attending to a child who has defected reached 46.5%. This was seen in both areas and equally among the mother of children aged 0-11 and 12 -23 months. This was an increase from the baseline where only 22% washed hands after defecation and 16.6% after attending a child who had defecated. In addition, reported practice of washing hand with soap increased to 97.3% from the baseline of 68.5% with no variation between the two areas or mothers of children 0-11 and 12-23 months old (Table 4.2.1). However, the percentage of mothers interviewed who answered that they did all four practices: 1)

Washing hands after defecation, 2) Washing hands after attending a child who had defecated, 3) Washing hands before food preparation, and 4) Washing hands before feeding a child was only 23%. (Table 4.2.2)

Table 4.2.1. Water and Sanitation Facilities and Hygiene Practices by Districts and Age Groups

Categories	Bovel District				Sampov Loun District				Total (0-23) N=600				Total(both districts) (N=600)	
	n= 140 (0-11)		n= 140 (12-23)		n= 160 (0-11)		n= 160 (12-23)		Bovel n=280		S Loun n=320			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Practice of disposal babies' stool (Multiple responses)														
Throw in toilet	65	46.4	57	40.7	41	25.6	41	25.6	122	43.6	82	25.6	**204**	**34.0**
Buried in yard	57	40.7	87	62.1	104	65.0	125	78.1	144	51.4	229	71.6	**373**	**62.2**
Left on ground	29	20.7	15	10.7	52	32.5	31	19.4	44	15.7	83	25.9	**127**	**21.2**
Others	6	4.3	10	7.1	5	3.1	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Practice of garbage disposal (Multiple responses)														
Open pit	50	35.7	44	31.4	44	27.5	50	31.3	94	33.6	94	29.4	**188**	**31.3**
Close pit	10	7.1	7	5.0	27	16.9	15	9.4	17	6.1	42	13.1	**59**	**9.8**
Anywhere	15	10.7	15	10.7	24	15.0	18	11.3	30	10.7	42	13.1	**72**	**12.0**
Burning	97	69.3	103	73.6	137	85.6	142	88.8	200	71.4	279	87.2	**479**	**79.8**
Others	4	2.9	0	0.0	1	0.6	0	0.0	4	1.4	1	0.3	**5**	**0.8**
Practice of washing hand (Multiple responses)														
Never	0	0.0	0	0	0	0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Before food preparation	138	98.6	133	95.0	147	91.9	148	92.5	271	96.8	295	92.2	**566**	**94.3**
After defecation	78	55.7	85	60.7	97	60.6	97	60.6	163	58.2	194	60.6	**357**	**59.5**
After attending to a child who has defected	59	42.1	59	42.1	86	53.8	75	46.9	118	42.1	161	50.3	**279**	**46.5**
Others	41	29.3	0	0.0	63	39.4	0	0.0	41	14.6	63	19.7	**104**	**17.3**
Used Soap	140	100	137	97.9	154	96.2	153	95.6	277	98.9	307	95.9	**584**	**97.3**

Table 4.2.2 Hand Washing (For all 4 practices) by supervision areas																	
Supervision areas		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**Totals**
Ages	**0 to 11**	1	1	1	5	0	4	8	2	5	8	9	5	9	6	4	
	12 to 23	2	2	1	4	4	4	6	4	7	6	6	9	6	2	7	
Total who practice all 4 practices		**3**	**3**	**2**	**9**	**4**	**8**	**14**	**6**	**12**	**14**	**15**	**14**	**15**	**8**	**11**	**138**
Total number interviewed	**0 to 23**	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	**600**
Percent		**8**	**8**	**5**	**22**	**10**	**20**	**35**	**15**	**30**	**35**	**38**	**35**	**38**	**20**	**28**	**23%**

4.3. Immunization and Vitamin A Coverage

4.3.1. Immunizations for children:

The Cambodian Ministry of Health defines a fully immunized child as, “a child of 12-23 months having BCG, three doses of polio, three DPTHepB and measles vaccination.” BCG is not considered part of the full immunization when coverage rate is calculated under CSTS guideline. This report follows the Cambodia MOH definition in calculating the full immunization coverage.

Out of the 300 children 12-23 months, 255 (85%) of the children had immunization cards with only 45 children having lost their cards or did not have their immunization cards. In the baseline survey, only 56% of the children had immunization cards. The full immunization coverage rate changes depend upon how the denominator is defined. If it is assumed that absence of vaccination card also means absence of vaccination, and all children between 12-23 months are considered, then the denominator increases, which in turn reduces full vaccination coverage. However, if only those who have the vaccination card are considered as the denominator for calculating full vaccination coverage, then coverage increases as the denominator is reduced. Mother's recall can be added but is less reliable. This survey looked at both measures for the vaccine coverage.

The overall fully immunized coverage rate was 87.8% as shown in table 4.3.1.1 for children aged 12-23 months old as documented by card. For fully immunized with card documentation, Bovel district had a higher coverage rate (93.3%) compared with the Sampov Loun Operational districts (81.9%). In addition, among those who did not have cards, 10 in Bovel district and 15 in Sampov Loun district were fully immunized by mother’s report (no card documentation).

Supervision areas (SA): 1, 2, 3, 5, 6, 7 and 13 had high coverage whereas the rest of the SAs were below the average coverage for the decision rule. All SAs below the average coverage were in the Sampov Loun district except for SA 4 in Bovel district. This was expected in the Sampov Loun Operational districts due to the fact that the staff had less education and experience in providing immunizations than the staff in Bovel and also that the many parents in the communities have less knowledge regarding the importance of immunizations for the health of their children due to their past isolation and lack of access to immunization services. In spite of this, the Sampov Loun fully immunized coverage surpassed the expectation of the project which set the indicator for fully immunized at only 60% with the actual results being 81.9% by card

and 65% with and without card. However there is a need to continue to support these still new staff and communities to increase and maintain this coverage for full immunization for children. SA 4, Ampil Pramdoeum health center coverage area has been very difficult to access due to bad road conditions.

(Table 4.3.1.2): Looking at BCG and measles coverage for all the children in the sample area using the denominator of 300 assumes that no card means no immunization decreases the BCG coverage to 84% and the measles coverage to 75% combining both areas. However if you add the 25 fully immunized by recall BCG coverage is 92.3% and measles is 83.6%.

Table 4.3.1.3 shows the coverage of each vaccine by districts by card. In general, the project had high immunization coverage (more than 80%) for each vaccine. In Sampov Loun district, Measles was lower than in Bovel district (83.5% vs. 93.8%). Full immunization coverage was high compared with the baseline survey, in Bovel district (93.8 vs. 66.6%), Sampov Loun (81.9% vs. 27.7%) and both district (87.8% vs. 46 %.) Measles in Bovel district (93.80% versus 70.6%) and Sampov Loun (83.5% versus 57.8%) Table 4.3.1.4 shows the coverage of each vaccine by district for all children with and without a card (with and without recall) Objectives for fully immunized for children were met even if using the calculation of all children as the total fully immunized in Bovel was 86% and in Sampov Loun Operational Districts was 65%. The target was 80% for Bovel and 60% for Sampov Loun Operational Districts.

During the project period, Cambodia introduced the combination DPTHepB and HepB birth dose. The survey did not seek to determine the coverage for this. However, the project had disseminated information about HepB birth dose and the addition of HepB to DPT to the communities through a campaign, ANC counseling and TBA education to their clients.

Table 4.3.1.1.Fully immunized coverage when only those having vaccination cards were considered in denominator (Those with cards were 255)

		12-23	
Supervision Area	**Total Correct**	**Decision Rule**	**Sample Size**
SA1	20	16	20
SA2	18	16	20
SA3	16	14	17
SA4	15*	14	18
SA5	18	15	19
SA6	16	14	17
SA7	17	14	18
SA8	12*	13	15
SA9	15*	14	16
SA10	12*	13	15
SA11	10*	11	13
SA12	15*	14	17
SA13	16	14	18
SA14	14*	14	17
SA15	10*	13	15
Total Average	**224**		**255**

224/255*100= 87.8% or 90% for decision rule (16)

*. Below average

Table 4.3.1.2. BCG and Measles coverage by Age Groups (12-23) (for all children with and without a card).

Supervision Area	BCG			Measles		
	Total Correct	Decision Rule	Sample Size	Total Correct	Decision Rule	Sample Size
SA1	20	15	20	20	13	20
SA2	18	15	20	18	13	20
SA3	19	15	20	16	13	20
SA4	17	15	20	15	13	20
SA5	18	15	20	18	13	20
SA6	17	15	20	16	13	20
SA7	17	15	20	17	13	20
SA8	14*	15	20	12*	13	20
SA9	16*	15	20	15*	13	20
SA10	15*	15	20	12*	13	20
SA11	14*	15	20	10*	13	20
SA12	15*	15	20	15	13	20
SA13	18	15	20	16	13	20
SA14	18	15	20	14	13	20
SA15	16*	15	20	10*	13	20
Total Average	**252**	15	**300**	**224**		**300**

252/300*100= 84 % for decision rule (15)

*. Below average

224/300*100= 75% % for decision rule (13)

*. Below average

Table 4.3.1.3. Immunization coverage (by card) by vaccine and fully immunized comparing project areas: Bovel and Sampov Loun (255 children had a card)

Vaccine	Bovel (n=128)		Sampov Loun (n=127)		Project Area (N=255)	
	#	%	#	%	#	%
BCG	126	98.4	126	99.2	252	98.8
P1	125	97.7	127	100.0	252	98.8
P2	125	97.7	120	94.5	245	96.1
P3	122	95.3	118	92.9	240	94.1
DPT1/HB1	125	97.7	126	99.2	251	98.4
DPT2/HB2	125	97.7	119	93.7	244	95.7
DPT3/HB3	122	95.3	117	92.1	239	93.7
Measles	120	93.8	106	83.5	226	88.6
Fully Immunized	120	**93.8**	104	**81.9**	224	**87.8**

Note: Denominator is all children who had card (255= 128 in Bovel and 127 in Sampov Loun)

Table 4.3.1.4. Immunization coverage by vaccine and fully immunized comparing project areas: Bovel and Sampov Loun for children with and without the card (recall is included separately in the calculation)								
Vaccine	Bovel (n=140		Sampov Loun (n=160)		Project Area (N=300) (without recall)		Project Area (N=300) (with recall)	
	#	%	#	%	#	%	#	%
BCG	126	90	126	78.8	252	84	277	92
P1	125	89,2	127	79.4	252	84	277	92
P2	125	89.2	120	75	245	81.6	270	90
P3	122	87	118	73.7	240	80	265	88
DPT1/HB1	125	89.2	126	78.7	251	83.6	276	92
DPT2/HB2	125	89.2	119	74.3	244	81.3	269	89.6
DPT3/HB3	122	87	117	73.1	239	79.6	264	88
Measles	120	85.7	106	66.3	226	75.3	251	83.6
Fully Immunized	120	**85.7**	104	**65**	**224**	**74.6**	249	**83**

Comparison with the Cambodia DHS was made using the combined project card and recall for all children rather than only by card as the CDHS combined cards and recall. However, since the percentage of children with cards was 37% higher in the project area than in Cambodia, the actual coverage in the project area is most likely higher than in Cambodia and possibly in Battambang province.

4.3.1.5. Comparison with Cambodia DHS			
Vaccine	**Combined District**	**DHS 2005-06 Battambang**	**DHS 2005-06 Cambodia**
Cards	85%	_	48%
BCG	92%	95.5%	91.4%
DPT/HepB3	88%	88.3%	78.3%
Measles	83.6%	87.6%	76.9%
Fully Immunized	83%	82.4%	66.6%

4.3.2. Vitamin A Coverage

Children aged 12-23 months who had received a Vitamin A capsule documented by card in the last 6 months were 69.4% (Table 4.3.2.1). Both Sampov Loun districts (89.1% and Bovel district increased their coverage to reach a combined average of 69.4% with 89.1% in Bovel and 49.6% in Sampov Loun compared with the baseline of 47.2% in Sampov Loun Operational districts and 60.6% in Bovel respectively. The very small

increase for Sampov Loun Operational districts is thought to be due to the fact that the staff were not all recording the Vitamin A on the immunization cards. CRS has discovered during their last LQAS survey in 2005 that the Sampov Loun Operational district staff did not think that they needed to record Vitamin A on the immunization card. Although, there were attempts to change this practice, it did not occur soon enough. The results by supervision areas (Table 4.3.2.2), SA: 1 to 7 had high coverage ranged from 80 to 95%, whereas SA: 8 to 15 all were below average coverage ranged from 40% to 65%. Unfortunately, the survey did not ask for Vitamin A by recall from 12 – 23 months or from 0 – 11 months.

Table 4.3.2.1. Vitamin A coverage (by card) by districts of children aged 12-23 months

Vitamin A	Bovel (n=128)		Sampov Loun (n=127)		Project Area (N=255)	
	#	%	#	%	#	%
Received Vitamin A. A	114	89.1	63	49.6	177	69.4

Table 4.3.2.2. Vitamin A coverage for 12 – 23 month olds by immunization card (This did not include 6 – 11 month olds or recall)

	12-23		
Supervision Area	**Total Correct**	**Decision Rule**	**Sample Size**
SA1	19	12	20
SA2	18	12	20
SA3	16	10	17
SA4	14	11	18
SA5	14	11	19
SA6	15	10	17
SA7	18	11	18
SA8	5*	9	15
SA9	9*	9	16
SA10	9*	9	15
SA11	5*	8	13
SA12	11*	10	17
SA13	9*	11	18
SA14	9*	10	17
SA15	6*	9	15
Total Average	**177**		**255**

177/255*100= 69.4% or 70% for decision rule (12)
*. Below average

4.3.3. Tetanus Toxiod Immunization Before or During Last Pregnancy

Table 4.3.3.2 shows that 36.7% of mothers having children aged 0-11 months of age in both districts with card documentation received two or more doses of tetanus toxiod before and/or during their last pregnancy.

In addition, mothers reported (no card documentation) received two or more doses of tetanus toxiod before and/or during their last pregnancy were 11.3% (Table 4.3.3.3). The variation among the two districts was very small.

This was a decrease from the baseline where the average coverage in both districts was 45.1% with 45.9% in Bovel and 44.3% in Sampov Loun compared with the final KPC: 36.7% with 38.2% in Bovel and 35.3% in Sampov Loun respectively. However, in the baseline the results were based only on the recall of the mothers. There was no card documentation. The CDHS 2005-2006 reported results of interviewees recall that they had received one injection during their pregnancy at 76.7%.

Table 4.3.3.1. Two or more TT injection during pregnancy reported by women having children aged 0-11 months

Supervision Area	Total Correct	Decision Rule	Sample Size
SA1	6	4	20
SA2	8	4	20
SA3	13	4	20
SA4	6	4	20
SA5	6	4	20
SA6	9	4	20
SA7	7	4	20
SA8	9	4	20
SA9	8	4	20
SA10	6	4	20
SA11	4	4	20
SA12	9	4	20
SA13	10	4	20
SA14	4	4	20
SA15	5	4	20
Total Average	**110**		**300**

110/300*100= 36.6% or 35% for decision rule (4)

*. Below average

There were no SAs below average for TT injections during pregnancy but SA 14 and SA11 in Sampov Loun were close. SA3 and SA10 were the highest for the SAs. One of the problems with analyzing the data for TT in pregnancy is that many women have already reached full TT status and therefore are not obtaining TT during their pregnancy but as this was not information obtained in the survey this is not reflected in the results.

Table 4.3.3.2. TT coverage (card documented) before and during last pregnancy by districts						
Tetanus Toxid	**Bovel (n=144)**		**Sampov Loun (n=156)**		**Total (N=300*)**	
Two or more	#	%	#	%	#	%
	55	38.2	55	35.3	110	36.7

*. Among 300 interviewed mothers who had children aged 0-11 moths old, 131 (BV=60+ SL=71) mothers had TT card.

Table 4.3.3.3 TT coverage (no card documented) before and during last pregnancy by districts						
Tetanus Toxid	**Bovel (n=144)**		**Sampov Loun (n=156)**		**Total (N=300*)**	
Two or more	#	%	#	%	#	%
	16	11.1	18	11.5	34	11.3

*. Among 300 interviewed mothers who had children aged 0-11 moths old, 169 (BV=78+SL=91) mothers did not have TT card (lost, never had, don't know).

4.4. Sick Child

Seventy four percent of mothers having children aged 0-11 and 12-23 months old had knowledge of two signs of illness that would indicate need for treatment (Table 4.4.1) compared with 50% at the baseline. The most frequently reported signs were high fever (90%); fast or rapid breathing (50%); vomiting every thing (40%); and convulsion (20%). The rest of signs reported were a very small percentage. There was not a significant difference in knowledge between mothers of children age 0 – 11 months or 12 -23 months or between the project areas.

The percentage of sick children age 0 – 23 months who received increased fluids and continued feeding during an illness in the past two weeks was 84.9% compared with the baseline of 20.4%.

Among the 597 respondents, 65.2% (389/597) consulted someone in the village before going to seek care from health providers. The most frequently person's consultation were: a neighbor (48.8%); grand parents (32.9%); VHV (26%); VHC (8.5%); TBA (3.6%) and Community Based Home Care Team members (2.6%) respectively. Mothers reported that the majority of those who they consulted referred them to health providers (80.5%). Treatment was provided by 22.9% and health education by 19.5%. The majority of mothers (95.2%) reported that they were the ones who made the decision to seek care with 69.2% reporting that their husband would make the decision and 17.8% stated that the decision would be made by their mothers.

Table 4.4.1. Mother's knowledge of two signs of sickness by supervision areas and age groups								
	0-11			12-23			0-23	
Supervision Area	Total Correct	Decision Rule	Sample Size	Total Correct	Decision Rule	Sample Size	Total Correct	Sample Size
SA1	14	12	20	15	13	20	29	40
SA2	15	12	20	15	13	20	30	40
SA3	16	12	20	13	13	20	29	40
SA4	13	12	20	15	13	20	28	40
SA5	15	12	20	16	13	20	31	40
SA6	15	12	20	16	13	20	31	40
SA7	18	12	20	18	13	20	36	40
SA8	9*	12	20	15	13	20	24	40
SA9	17	12	20	14	13	20	31	40
SA10	18	12	20	15	13	20	33	40
SA11	14	12	20	16	13	20	30	40
SA12	12	12	20	16	13	20	28	40
SA13	15	12	20	16	13	20	31	40
SA14	12	12	20	13	13	20	25	40
SA15	13	12	20	14	13	20	27	40
Total							443	600
Average	216		300	227		300	443	600

0 – 11: 216/300 = 72% for 70% Decision Rule = 12 , 12 – 23 – 227/300 = 76% = 75% decision rule = 13 , 0 – 23 = 443/600= 73.8

4.5. Diarrhea

Children 0-23 moths old who were reported to have diarrhea in the last two weeks (Table 4.5.1) for 0 – 23 months were 28.3%. Out of these, 30% of children aged 0-11 months old and 26.3% of children aged 12-23 months old had diarrhea in the last two weeks. The prevalence of diarrhea found during this survey was lower than the baseline survey of 48% for children aged 0-23 months old, 46.7% for children aged 12-23 months old and 48.6% for children aged 0-11 months old. However, this survey was conducted in a different season of the year than the baseline. The baseline was conducted in early December which is winter in Cambodia, whereas this final survey was conducted in the rainy season. Normally, the prevalence of diarrhea is higher in the summer. For children age 0 – 11 months old, the prevalence of diarrhea was very low in SA7 whereas SA: 4, 8, 9, 11 had a high prevalence of diarrhea. The reasons for the high prevalence of diarrhea could be due to a lack of hygiene, sanitation and importantly of safe drinking water.

Table 4.5.1. Prevalence of reported diarrhea by supervision areas and age groups						
	0-11			12-23		
Supervision Area	Total Correct	Decision Rule	Sample Size	Total Correct	Decision Rule	Sample Size
SA1	7	3	20	5	2	20
SA2	6	3	20	5	2	20
SA3	5	3	20	4	2	20
SA4	9	3	20	3	2	20

SA5	5	3	20	4	2	20
SA6	3	3	20	5	2	20
SA7	2*	3	20	5	2	20
SA8	9	3	20	5	2	20
SA9	8	3	20	4	2	20
SA10	3	3	20	4	2	20
SA11	8	3	20	10	2	20
SA12	7	3	20	10	2	20
SA13	6	3	20	7	2	20
SA14	7	3	20	6	2	20
SA15	6	3	20	2	2	20
Total Average	**91**		**300**	**79**		**300**

91/300*100= 30%for decision rule (3)
*. Below average
For 0 – 23 : 170/600 = 28.3%

79/300*100= 26.3% or 25 %for decision rule (2)
*. Below average

The major signs of diarrhea that caused mothers to worry and seek care were fever and diarrhea getting worst at 55.3% (94/170), followed by inability to drink and eat 42.3% (72/170), continuing diarrhea 28.2% (48/170) and blood in the stool 20.5% (35/170). Mothers having children aged 12-23 months old reported children being unable to drink and eat (79.7%) higher than mothers having children aged 0-11 months old (9.9%) The other signs mentioned showed only very minor differences. However, only 18 % of mothers could give two danger signs of diarrhea and/or dehydration. (Table 4.5.2)

On the average 73% of mothers having children aged 0-23 months old who had diarrhea in the last two seeks sought care out side home for their child there was no real variation between the two age groups.

Nearly half of the mothers reported gave ORS to treat her child, while s/he got diarrhea. This was higher than in baseline survey which was 12% (Table 4.5.7). Mothers reporting giving pills or syrups for diarrhea were 41.2%, home made fluid were 22.4% and 15.9% reported that they did nothing. Mothers in Bovel district reported giving ORS, Home Fluid and pills and syrups more than mothers in Sampov Loun district. There was very little difference among the different age groups for this practice. The ORS use reported by the CDHS 2005-06 both; Battambang and Nationwide was 21.1%.

4.5.2. Two Danger signs of diarrhea and dehydration, just asked to mothers with children who had diarrhea two weeks before the survey.

Supervisory Areas		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	
Numerator Two signs mentioned	0 to 11		3	1							1		5	6			
	12 to 23		4		1						1	3	3			3	
		0	**7**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**8**	**6**	**0**	**3**	**31**
Denominator Children with diarrhea	0 to 11	7	6	5	9	5	3	2	9	8	3	8	7	6	7	6	
	12 to 23	5	5	4	3	4	5	5	5	4	4	10	10	7	6	2	
		12	**11**	**9**	**12**	**9**	**8**	**7**	**14**	**12**	**7**	**18**	**17**	**13**	**13**	**8**	**170**
Percent		**0**	**0.6**	**0.1**	**0**	**0**	**0**	**0**	**0**	**0**	**0.3**	**0.2**	**0.5**	**0.5**	**0**	**0.38**	**18.2%**

Table 4.5.3 Mothers' seeking advice/treatment for diarrhea from outside home by supervision areas and age groups

	0-11			12-23		
Supervision Area	**Total Correct**	**Decision Rule**	**Sample Size**	**Total Correct**	**Decision Rule**	**Sample Size**
SA1	6	1	7	4	1	5
SA2	5	1	6	3	1	5
SA3	2	1	5	3	1	4
SA4	7	1	9	2	1	3
SA5	5	1	5	4	1	4
SA6	3	1	3	4	1	5
SA7	2	1	2	5	1	5
SA8	7	1	9	4	1	5
SA9	6	1	8	4	1	4
SA10	2	1	3	4	1	4
SA11	5	1	8	7	1	10
SA12	4	1	7	5	1	10
SA13	5	1	6	6	1	7
SA14	4	1	7	1	1	6
SA15	4	1	6	1	1	2
Total Average	**67**		**91**	**57**		**79**

67/91*100= 73.6% or 75% for decision rule 1 57/79*100= 72 % or 70% for decision rule 1
124/170*100= 73%

4.5.4. Seeking Appropriate Care for Diarrhea (Appropriate care is defined as care at the public hospital and/or public health center

Supervisory Areas		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	
Numerator	0 to 11	6	5	2	7	5	3	2	7	4	1	3	4	3	2	2	
	12 to 23	4	3	3	1	3	3	4	2	2	2	3	4	2	1	0	
Total		**10**	**8**	**5**	**8**	**8**	**6**	**6**	**9**	**6**	**3**	**6**	**8**	**5**	**3**	**2**	**93**
Denominator	0 to 11	6	5	2	7	5	3	2	7	6	2	5	4	4	5	4	
	12 to 23	4	3	3	2	4	4	5	4	4	4	7	5	6	1	1	
Total		**10**	**8**	**5**	**9**	**9**	**7**	**7**	**11**	**10**	**6**	**12**	**9**	**10**	**6**	**5**	**124**
Percent		**1**	**1**	**1**	**1**	**0.9**	**0.9**	**1**	**0.8**	**1**	**0.5**	**0.5**	**0.9**	**0.5**	**0.5**	**0.4**	**75%**

Table 4.5.6.Treatment given to treat diarrhea (Multiple responses)														
	0-11				12-23				0-23				Both Districts (n=170)	
	Bovel (n=37)		S Loun (n=54)		Bovel (n=31)		S Loun (n=48)		Bovel (n=68)		S Loun (n= 102)			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Nothing	4	10.8	13	24.1	2	6.5	8	16.7	6	8.8	21	20.6	**27**	**15.9**
ORS	19	51.4	18	33.3	21	67.7	20	41.7	40	58.8	38	37.3	**78**	**45.9**
Home made fluid	10	27.0	9	16.7	11	35.5	8	16.7	21	30.9	17	16.7	**38**	**22.4**
Pill or syrup	16	43.2	21	38.9	13	41.9	20	41.7	29	42.6	41	40.2	**70**	**41.2**
Injection/IV	0	0.0	0	0.0	0	0.0	4	8.3	0	0.0	4	3.9	**4**	**2.4**
Home made remedies	0	0.0	2	3.7	0	0.0	4	8.3	0	0.0	6	5.9	**6**	**3.5**

Table 4.5.8. shows where mothers took their child for advice or treatment. The first choice of the mother was the health center at 71.8%, followed by private practitioners at 12.1% and private clinics at 8.1%. These results were contrasted with the baseline survey where the first choice was private practitioners at 47% and the health center at 25%. The DHS 2005-06 found only 49.8% mothers sought care or treatment from the public health facility/provider. If mothers took their child some place else after seeking care at their first choice the second choice was equal for the health center and private provider at 20.2% followed by VHW/TBA/VHC at 10.5% and the private clinic at 8.9%. Mothers having children 0-11 and 12-23 months old in Bovel district reported going to the health center more than mothers in Sampov Loun district.

Table 4.5.8. Choice of facility for care and treatment (Appropriate care = (Care at Public Hospital and HC)														
	0-11				12-23				0-23				Both Districts (n=124)	
	Bovel (n=30)		S Loun (n=37)		Bovel (n=25)		S Loun (n=32)		Bovel (n=55)		S Loun (n= 69)			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
First place														
Public Hospital	2	6.7	0	0	0	0.0	2	6.3	2	3.6	2	2.9	**4**	**3.2**
Public HC	28	93.3	26	70.3	21	84.0	14	43.8	49	89.1	40	58.0	**89**	**71.8**
Private hospital/Clinic	0	0.0	8	21.6	0	0.0	2	6.3	0	0.0	10	14.5	**10**	**8.1**
Private practitioner	0	0.0	1	2.7	1	4.0	13	40.6	1	1.8	14	20.3	**15**	**12.1**
VHW/TBA/VHC	0	0.0	1	2.7	2	8.0	0	0.0	2	3.6	1	1.4	**3**	**2.4**
Traditional healer	0	0.0	1	2.7	0	0.0	0	0.0	0	0.0	1	1.4	**1**	**0.8**

Market	0	0.0	0	0	1	4.0	0	0.0	1	1.8	0	0.0	**1**	**0.8**
Pharmacy	0	0.0	0	0	0	0.0	1	3.1	0	0.0	1	1.4	**1**	**0.8**
Community distributors	0	0.0	0	0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Friend/Relative	0	0.0	0	0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Other	0	0.0	0	0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Where else														
Public Hospital	1	3.3	2	5.4	1	4.0	0	0.0	2	3.6	2	2.9	**4**	**3.2**
Public HC	11	36.7	6	16.2	8	32.0	0	0.0	19	34.5	6	8.7	**25**	**20.2**
Private hospital/Clinic	1	3.3	3	8.1	1	4.0	6	18.8	2	3.6	9	13.0	**11**	**8.9**
Private practitioner	9	30.0	5	13.5	8	32.0	3	9.4	17	30.9	8	11.6	**25**	**20.2**
VHW/TBA/VHC	0	0.0	2	5.4	0	0.0	11	34.4	0	0.0	13	18.8	**13**	**10.5**
Traditional healer	0	0.0	1	2.7	0	0.0	0	0.0	0	0.0	1	1.4	**1**	**0.8**
Market	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Pharmacy	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Community distributors	0	0.0	0	0.0	0	0.0	1	3.1	0	0.0	1	1.4	**1**	**0.8**
Friend/Relative	0	0.0	0	0.0	1	4.0	0	0.0	1	1.8	0	0.0	**1**	**0.8**
No where	0	0.0	0	0.0	10	40.0	0	0.0	10	18.2	0	0.0	**10**	**8.1**
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**

4.6. Acute Respiratory Infections (ARI)

Forty-two percent (252/600) of mothers having children 0-23 months old reported their children suffered from cough in the last two weeks (Table 4.6.1.). There were more children aged 12 – 23 months in SA1,2,3,13,14 and more children aged 0 – 11 months in SA:2,6,9 who had cough than in other SAs.

For the combined age groups, 72% of the mothers reported that their children suffering from cough also had difficult breathing and/or fast breathing. (Table 4.6.2). The prevalence of cough and difficult breathing and fast breathing was high in SA: 13, 14 for children aged 12-23 months and SA 1 for children aged 0-11 months. Mothers of both age groups (very small variation between the two groups) reported that fast breathing 78.5% (471/600), difficult breathing 64.7% (388/600), and fever 57.7% (346/600) were the major signs causing mothers to seek care outside their homes. However, only 62.5% gave both rapid and difficult breathing as danger signs for seeking care.

Table 4.6.1. Prevalence of reported cough by supervision areas and age groups

	0-11			12-23		
Supervision Area	**Total Correct**	**Decision Rule**	**Sample Size**	**Total Correct**	**Decision Rule**	**Sample Size**
SA1	9	5	20	11	5	20
SA2	13	5	20	11	5	20
SA3	5	5	20	12	5	20
SA4	7	5	20	5	5	20
SA5	5	5	20	5	5	20
SA6	11	5	20	7	5	20

SA7	7	5	20	6	5	20
SA8	9	5	20	8	5	20
SA9	12	5	20	7	5	20
SA10	9	5	20	9	5	20
SA11	10	5	20	8	5	20
SA12	8	5	20	8	5	20
SA13	8	5	20	11	5	20
SA14	6	5	20	12	5	20
SA15	7	5	20	6	5	20
Total Average	**126**		**300**	**126**		**300**

126/300*100= 42% or 40 %for decision rule (5)
*. Below average

126/300*100= 42% or 40%for decision rule (5)
*. Below average

Table 4.6.2. Prevalence of reported cough with difficult breathing or breast faster or fast breaths by supervision areas and age groups

	0-11			**12-23**		
Supervision Area	**Total Correct**	**Decision Rule**	**Sample Size**	**Total Correct**	**Decision Rule**	**Sample Size**
SA1	9	3	9	8	3	11
SA2	6	3	13	5	3	11
SA3	5	3	5	5	3	12
SA4	4	3	7	4	3	5
SA5	3	3	5	5	3	5
SA6	7	3	11	4	3	7
SA7	4	3	7	5	3	6
SA8	8	3	9	7	3	8
SA9	6	3	12	6	3	7
SA10	8	3	9	7	3	9
SA11	6	3	10	7	3	8
SA12	7	3	8	7	3	8
SA13	5	3	8	9	3	11
SA14	4	3	6	10	3	12
SA15	5	3	7	6	3	6
Total Average	**87**		**126**	**95**		**126**

87/126 = 69% 95/126 = 75% 0 – 23 months = 72%

4. 6.3. Signs of ARI causes mother to seeking care outside (Multiple responses)

	0-11(n=300)		**12-23 (n=300)**		**Two Districts**	
	#	**%**	**#**	**%**	**#**	**%**
Fast breathing	230	76.7	241	80.3	**471**	**78.5**
Difficult breathing	195	65.0	193	64.3	**388**	**64.7**
Chest pulling	65	21.7	64	21.3	**129**	**21.5**
Fever	163	54.3	183	61.0	**346**	**57.7**
Cough	110	36.7	124	41.3	**234**	**39.0**

Lost appetite	4	1.3	11	3.7	**15**	**2.5**
Don't know	16	5.3	10	3.3	**26**	**4.3**

4.6.4. Danger signs for ARI (mothers know two danger signs for seeking care for ARI: rapid and difficult breathing																	
Supervisory Area		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**Totals**
	0 to 11	12	13	11	16	15	13	16	16	11	12	13	8	12	13	12	193
	12 to 23	10	12	13	16	17	12	14	12	12	9	8	14	9	11	13	182
Numerator		**22**	**25**	**24**	**32**	**32**	**25**	**30**	**28**	**23**	**21**	**21**	**22**	**21**	**24**	**25**	**375**
Denominator	0 to 23	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	600
Percentage		**0.6**	**1**	**0.6**	**1**	**0.8**	**1**	**1**	**1**	**1**	**0.5**	**1**	**0.6**	**0.5**	**0.6**	**0.6**	**62.5%**

Among 182 mothers who reported that their children aged 0 – 23 months had cough with difficult and/or rapid breathing, 81.8% (149/182) sought care. The health center (64.4%) was the first place that mothers with children aged 0-23 months reported taking their children for advice or treatment with 24.8% seeking care from a private practitioner and 4 % from the hospital (Table 4.6.6). In the baseline survey, only 19.6% sought care from the health center, 35.6% from the private practitioner, and 21.5% bought medicine from the market. If the mother took the child to another place after seeking care at her first choice, 31.5% went to a private practitioner, 15.4% went to the health center and 5.4% went to the public hospital. Forty five % of the mothers reported that they did not go anywhere else after their first choice when they were under the care of their first choice practitioner. More mothers in Bovel district with children age 0-23 months sought care and treatment from the health centers and hospital than mothers in Sampov Loun district. This may have to do with the perceived quality of care and/or with the distances from the villages to the health centers and to the difficult roads.

Mothers of children aged 0-23 months with cough and difficult and/or rapid breathing reported that the most frequently medicines given to her child were Paracetamol at 71.8% (107/149); Amipicilin/Amoxicilin at 46.3% (69/149); and an unknown medicine at 24.2% (36/149).

4.6.5. Appropriate Care seeking for Pneumonia (The appropriate facility for seeking care promoted by the project were the public hospital and health centers depending on the severity of the illness.																
Supervisory Areas	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	Totals
0 to 11	6	5	2	2	2	6	4	1	5	5	3	5	1	2	0	
12 to 23	6	4	4	2	4	2	5	2	4	3	2	5	6	3	1	
Numerator	**12**	**9**	**6**	**4**	**6**	**8**	**9**	**3**	**9**	**8**	**5**	**10**	**7**	**5**	**1**	**102**
0 to 11	7	6	4	3	3	7	4	4	5	6	5	6	3	4	4	
12 to 23	6	4	5	4	5	3	5	3	5	7	6	7	8	6	4	
Denominator	**13**	**10**	**9**	**7**	**8**	**10**	**9**	**7**	**10**	**13**	**11**	**13**	**11**	**10**	**8**	**149**
Percent	**0.9**	**0.9**	**1**	**1**	**1**	**0.8**	**1**	**0.43**	**0.9**	**0.6**	**0.45**	**0.77**	**0.64**	**0.5**	**0.13**	**68.5%**

Table 4.6.6.Places to go for advice or treatment of ARI by districts and age groups							
	0-11 (n=91)		**12-23 (n=79)**		**Total (0-23)**		**Both District (n=149)**
	Bovel (n=34)	**S Loun (n=37)**	**Bovel (n=32)**	**S Loun (n=46)**	**Bovel (n=66)**	**S Loun (n=83)**	

	#	%	#	%	#	%	#	%	#	%	#	%	#	%
First place														
Public Hospital	2	5.9	0	0.0	1	3.1	3	6.5	3	4.5	3	3.6	**6**	**4.0**
Public HC	25	73.5	22	59.5	26	81.3	23	50.0	51	77.3	45	54.2	**96**	**64.4**
Private hospital/Clinic	1	2.9	0	0.0	1	3.1	1	2.2	2	3.0	1	1.2	**3**	**2.0**
Private practitioner	5	14.7	12	32.4	3	9.4	17	37.0	8	12.1	29	34.9	**37**	**24.8**
VHW/TBA/VHC	0	0.0	0	0.0	0	0.0	1	2.2	0	0.0	1	1.2	**1**	**0.7**
Traditional healer	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Market	1	2.9	3	8.1	1	3.1	0	0.0	2	3.0	3	3.6	**5**	**3.4**
Pharmacy	0	0.0	0	0.0	0	0.0	1	2.2	0	0.0	1	1.2	**1**	**0.7**
Community distributors	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Friend/Relative	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Where else (Multiple responses)														
Public Hospital	2	5.9	1	2.7	3	9.7	2	4.3	5	7.6	3	3.6	**8**	**5.4**
Public HC	7	20.6	3	8.1	7	22.6	6	13.0	14	21.2	9	10.8	**23**	**15.4**
Private hospital/Clinic	2	5.9	4	10.8	0	0.0	0	0.0	2	3.0	4	4.8	**6**	**4.0**
Private practitioner	12	35.3	7	18.9	11	35.5	17	37.0	23	34.8	24	28.9	**47**	**31.5**
VHW/TBA/VHC	0	0.0	2	5.4	0	0.0	0	0.0	0	0.0	2	2.4	**2**	**1.3**
Traditional healer	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Market	2	5.9	1	2.7	0	0.0	0	0.0	2	3.0	1	1.2	**3**	**2.0**
Pharmacy	0	0.0	0	0.0	1	3.2	0	0.0	1	1.5	0	0.0	**1**	**0.7**
Community distributors	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Friend/Relative	1	2.9	0	0.0	0	0.0	0	0.0	1	1.5	0	0.0	**1**	**0.7**
No where	14	41.2	19	51.4	15	48.4	20	43.5	29	43.9	39	47.0	**68**	**45.6**
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**

4.7. Fever/Malaria

In a malaria zone, fever is often taken as a proxy for malaria, although fever has many causes. Because a part of our target project (Sampov Loun Operational District health center coverage areas: SA 8 - 15 are in the malaria zone and one of the project interventions was malaria case management, the KPC survey collected data on prevalence of fever/malaria with the reservation that fever has many causes but in a malaria zone, malaria must be one of the primary considerations. Fever/malaria prevalence of children aged 12-23 months (27.3%) was higher than in children aged 0-11 months (22.3%) (Table 4.7.1) Both districts had similar statistics for having fever/malaria in the last two weeks. Among the entire SAs within the project, SA7 had fever/malaria prevalence lower than the other SAs. The prevalence of fever/malaria in the baseline survey was 42%. Even in the malaria zone, malaria is decreasing in areas that are not near forests. The most frequent signs that mothers reported which made her think that her child might have malaria were fever 94.8% (569/600); chills 93.5% (561/600); and bone pain 9.3% (56/600). Regarding knowledge of the cause of malaria, mothers had very high knowledge at 96.8% (581/600) (Table 4.7.3).

Eighty four mothers having children aged 0-23 months with fever sought advice or treatment. (Table 4.7.2.) Across the SAs of both age groups of mothers reported a very high percentage of seeking care outside the home when the children had fever/malaria.

Only 46.1% (59/128) mothers having children aged 0-23 months old treated their child with medicine before going to the health center or hospital. Among children aged 0-23 months old who was treated before going to health center and/or hospital the medicines given most frequently were Paracetamol at 68% (87/128), Ampicilin/Amoxicilin at 68% (87/128); and Co-Trimoxazole at 4.6% (6/128). No malaria medicines were given to the children who had fever.

Table 4.7.1. Prevalence of reported fever by supervision areas and age groups

	0-11			12-23		
Supervision Area	**Total Correct**	**Decision Rule**	**Sample Size**	**Total Correct**	**Decision Rule**	**Sample Size**
SA1	5	1	20	3	3	20
SA2	7	1	20	9	3	20
SA3	5	1	20	7	3	20
SA4	5	1	20	5	3	20
SA5	5	1	20	8	3	20
SA6	2	1	20	3	3	20
SA7	1	1	20	3	3	20
SA8	3	1	20	6	3	20
SA9	7	1	20	6	3	20
SA10	5	1	20	4	3	20
SA11	3	1	20	6	3	20
SA12	4	1	20	4	3	20
SA13	6	1	20	6	3	20
SA14	4	1	20	6	3	20
SA15	6	1	20	6	3	20
Total Average	**68**		**300**	**82**		**300**

68/300*100= 22.6% or 20 %for decision rule (1)
*. Below average

82/300*100= 27.3% or 30 %for decision rule (3)
*. Below average

4.7.2. Seeking Appropriate Care for Malaria (Appropriate care promoted by the project was at the public hospital and/or HC)																
Supervisory Areas	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	**Totals**
0 to 11	5	5	2	4	5	2	1	2	4	1	1	3	3	1	1	
12 to 23	3	6	6	4	6	2	2	3	2	2	1	1	2	4	0	
Numerator	**8**	**11**	**8**	**8**	**11**	**4**	**3**	**5**	**6**	**3**	**2**	**4**	**5**	**5**	**1**	**84**
0 to 11	3	7	7	5	8	3	2	3	5	4	5	3	6	6	3	
12 to 23	5	7	4	5	5	2	1	3	5	4	3	3	5	3	3	
Denominator	**8**	**14**	**11**	**10**	**13**	**5**	**3**	**6**	**10**	**8**	**8**	**6**	**11**	**9**	**6**	**128**
Percentage	**1**	**1**	**0.7**	**1**	**0.8**	**0.8**	**1**	**1**	**1**	**0.4**	**0.3**	**0.7**	**0.5**	**0.6**	**0.17**	**65.6%**

Table 4.7.3. Mother's Knowledge on cause of malaria (multiple responses)														
	0-11 (n=300)				**12-23 (n=300)**				**0-23 (N=600)**				**Both Districts (n=600)**	
	Bovel (n=140)		S Loun (n=160)		Bovel (n=140)		S Loun (n=160)		Bovel (n=280)		S Loun (n=320)			
	#	%	#	%	#	%	#	%	#	%	#	%	**#**	**%**
Mosquito bites	135	96.4	155	96.9	134	95.7	157	98.1	269	96.1	312	97.5	**581**	**96.8**
Witchcraft	9	6.4	4	2.5	9	6.4	4	2.5	18	6.4	8	2.5	**26**	**4.3**
Intravenous drug use	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Blood transfusion	0	0.0	0	0.0	4	2.9	5	3.1	4	1.4	5	1.6	**9**	**1.5**
Injections	2	1.4	1	0.6	2	1.4	2	1.3	4	1.4	3	0.9	**7**	**1.2**
Sharing razor blades	0	0.0	0	0.0	0	0.0	1	0.6	0	0.0	1	0.3	**1**	**0.2**
Kissing	1	0.7	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	**1**	**0.2**
Don't know	4	2.9	4	2.5	0	0.0	0	0.0	4	1.4	4	1.3	**8**	**1.3**
Other: dink unboil water, drink unsafe water, stay in malaria zone,	50	35.7	37	23.1	46	32.9	37	23.1	96	34.3	74	23.1	**170**	**28.3**

Mothers reported that their first choice for seeking advice and treatment for fever was the health center at 61.7% with the private practitioner at 22.7%, and the market at 3.9%. (Table 4.7.4) In the baseline survey, only 16.4% sought care at the health center, while 40.4% sought care from the private practitioner and 24 % bought medicine from the market. When mothers reported taking their child to another place after seeking care at their first choice they reported going to the private practitioner (26.6%), health center (12.5%) and hospital (7%). The majority reported that they did not go anywhere else to seek care (46.9%). For the first choice, mothers in Bovel district reported going to the health center and hospital more than mothers in Sampov Loun districts.

Table 4.7.4. Places go for advice and treatment of fever

	0-11 (n=68)				12-23 (n=82)				0-23 (n=128)				Both Districts (n=128)	
	Bovel (n=29)		S Loun (n=29)		Bovel (n=35)		S Loun (n=35)		Bovel (n=64)		S Loun (n= 64)			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
First place														
Public Hospital	1	3.4	1	3.4	0	0.0	3	8.6	1	1.6	4	6.3	**5**	**3.9**
Public HC	23	79.3	15	51.7	29	82.9	12	34.3	52	81.3	27	42.2	**79**	**61.7**
Private hospital/Clinic	0	0.0	1	3.4	1	2.9	5	14.3	1	1.6	6	9.4	**7**	**5.5**
Private practitioner	4	13.8	7	24.1	5	14.3	13	37.1	9	14.1	20	31.3	**29**	**22.7**
VHW/TBA/VHC	0	0.0	2	6.9	0	0.0	1	2.9	0	0.0	3	4.7	**3**	**2.3**
Traditional healer	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Market	1	3.4	3	10.3	0	0.0	1	2.9	1	1.6	4	6.3	**5**	**3.9**
Pharmacy	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Community distributors	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Friend/Relative	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Where else (Multiple responses)														
Public Hospital	1	3.4	3	10.3	2	5.7	3	8.6	3	4.7	6	9.4	**9**	**7.0**
Public HC	2	6.9	2	6.9	5	14.3	7	20.0	7	10.9	9	14.1	**16**	**12.5**
Private hospital/Clinic	1	3.4	2	6.9	0	0.0	1	2.9	1	1.6	3	4.7	**4**	**3.1**
Private practitioner	7	24.1	7	24.1	9	25.7	11	31.4	16	25.0	18	28.1	**34**	**26.6**
VHW/TBA/VHC	0	0.0	0	0.0	2	5.7	1	2.9	2	3.1	1	1.6	**3**	**2.3**
Traditional healer	1	3.4	0	0.0	0	0.0	0	0.0	1	1.6	0	0.0	**1**	**0.8**
Market	0	0.0	2	6.9	2	5.7	2	5.7	2	3.1	4	6.3	**6**	**4.7**
Pharmacy	1	3.4	0	0.0	0	0.0	1	2.9	1	1.6	1	1.6	**2**	**1.6**
Community distributors	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Friend/Relative	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
No where	11	37.9	17	58.6	18	51.4	14	40.0	29	45.3	31	48.4	**60**	**46.9**
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**

Use of bed net for malaria prevention

In the last year of the project, only 157 households interviewed in the project area met the criteria of the MoH to be classified as being in the malaria zone "Village A" category (within two kilometers of forest, mountain or stream). Prior to this year, mosquito bed net impregnation was conducted for residents in all villages in the Sampov Loun Operational District and in Kleang Meas Commune in Bovel. In 2006, only mothers living in Category A villages were interviewed regarding their use of impregnated mosquito bed nets as only those residents were eligible for receiving mosquito bed net impregnation under the MoH revised regulation. Out of these, only four households were interviewed in Bovel district and the rest were in Sampov Loun Operational districts as there is only one commune in Bovel that is considered to be a malaria zone. Hundred percent of the respondents reported having a mosquito bed net. The practice of dipping or soaking the net with the repellent chemical was very high at 92.4%. Households who reported that they did not dip or soak in a liquid to repel mosquitoes in Sampov Loun Operational districts were only 7.6% and these were in children age 12 – 23 months (Table 4.7.5). Mothers reported dipping or soaking the bed net within the last two months at 41.1 %(65/157), three months ago 26.8 % (42/157) and one month ago 17.2 %(27/157). The majority of the respondents reported never washing the bed net at 54.1% (85/157), washed one time at 22.9% (36/157) and two times at 13.4% (21/157).

The condition of bed net was reported as good in 80.3% (126/157) and as damaged in 19.7% (31/157). Mothers reporting that her children slept under the impregnated bed net last night were **87.9%** with no variation between the two age groups. In addition, mothers who also reported that her husband and she slept under the impregnated bed net were 61.3% and husband and her older children and she slept under the impregnated bed net were 12.1%. The majority of the respondents had a very high knowledge on the advantage of sleeping under an impregnated bed nets.

Table 4. 7.5. Household practice for' soaking or dipping' impregnating bed nets

	0-11 (n=78)				12-23 (n=79)				0-23 (both districts) (n= 157)	
	Bovel(n=2)		S Loun (n=76)		Bovel (n=2)		S Loun (n=77)			
	#	%	#	%	#	%	#	%	#	%
Yes	2	100	76	100	2	100	65	84.4	145	92.4
No	0	0	0	0	0	0	12	15.6	12	7.6
Household's be net condition										
Good	2	100	61	80.3	2	100	61	79.2	126	80.3
Damaged	0	0	15	19.7	0	0	16	20.8	31	19.7

Table 4. 7.5. Household's members who slept under impregnated bed nets last night										
	0-11				12-23				Both districts (n=157)	
	Bovel (n=2)		S Loun (n=76)		Bovel (n=2)		S Loun (n=77)			
	#	%	#	%	#	%	#	%	#	%
Children	2	100	68	89.5	2	100	66	85.7	**138**	**87.9**
Mother	0	0	-	0.0	0	0	0	0.0	**0**	**0.0**
Husband	0	0	-	0.0	0	0	0	0.0	**0**	**0.0**
Others:	2	100	70	92.1	2	100	66	85.7	**140**	**89.2**
- Mother+ Husband	2	100	51	67.1	0	0	46	59.7	**99**	**63.1**
- Mother	0	0	11	14.5	0	0	8	10.4	**19**	**12.1**
- Husband	0	0	1	1.3	0	0	0	0.0	**1**	**0.6**
- Mother+ Husband +Older children	0	0	7	9.2	0	0	12	15.6	**19**	**12.1**

HIV/AIDS: 4.8

Almost all of the mothers reported that they have heard of an illness called AIDS at 99.6% (598/600). This figure compares with the DHS 2005-06 which reported 98.6%. Of the ways to prevent getting HIV/AIDS or the virus causing HIV/AIDS the most frequent answer was using condoms at 89.8%, followed by avoiding sharing razors (47.7%) and being faithful at 15.1%. Mothers of children aged 12-23 months old reported being faithful, limiting the number of sexual partners, avoid sex with sex worker, and avoid sex with person having more partners was more often than mothers having children aged 0-11 months.

4.8.1: HIV/AIDS: Mothers know two preventive measures by Supervision area																
Supervisory Areas	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	
12 to 23	15	14	15	16	13	16	15	8	8	13	12	13	14	14	11	
0 to 11	12	17	13	17	12	14	16	13	14	16	13	13	18	12	12	
Numerator	**27**	**31**	**28**	**33**	**25**	**30**	**31**	**21**	**22**	**29**	**25**	**26**	**32**	**26**	**23**	**409**
Denominator 0 to 23	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	600
Percentage	**0.675**	**0.78**	**0.7**	**0.83**	**0.6**	**0.75**	**0.78**	**0.5**	**0.55**	**0.73**	**0.63**	**0.65**	**0.8**	**0.65**	**0.58**	**68.2%**

Table 4.82. Mother's knowledge how to prevent HIV/AIDS by districts and age groups

	0-11 (n=300)				12-23 (n=300)				Total (0-23)				Both districts (n=598)	
	Bovel (n=140)		S Loun (n=158)		Bovel (n=140)		S Loun (n=160)		Bovel (n=280)		S Loun (n= 318)			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Nothing	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Abstinent	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Use condoms	130	92.9	137	86.7	132	94.3	138	86.3	262	93.6	275	86.5	**537**	**89.8**
Be faithful	0	0.0	0	0.0	47	33.6	43	26.9	47	16.8	43	13.5	**90**	**15.1**
Limit no. of sex partners	1	0.7	9	5.7	3	2.1	6	3.8	4	1.4	15	4.7	**19**	**3.2**
Avoid sex with SW	0	0.0	0	0.0	21	15.0	29	18.1	21	7.5	29	9.1	**50**	**8.4**
Avoid sex with persons have more partners	0	0.0	0	0.0	12	8.6	22	13.8	12	4.3	22	6.9	**34**	**5.7**
Avoid sex with persons of the same sex	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Avoid sex with IUD person	0	0.0	0	0.0	7	5.0	4	2.5	7	2.5	4	1.3	**11**	**1.8**
Avoid Blood transfusion	30	21.4	44	27.8	33	23.6	30	18.8	63	22.5	74	23.3	**137**	**22.9**
Avoid kissing	2	1.4	1	0.6	0	0.0	0	0.0	2	0.7	1	0.3	**3**	**0.5**
Avoid mosquito bites	1	0.7	2	1.3	1	0.7	4	2.5	2	0.7	6	1.9	**8**	**1.3**
See protection from TH	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	1	0.3	**1**	**0.2**
Avoid Sharing razors	62	44.3	83	52.5	64	45.7	76	47.5	126	45.0	159	50.0	**285**	**47.7**
Others(do not use needle together)	9	6.4	1	0.6	0	0.0	0	0.0	9	3.2	1	0.3	**10**	**1.7**

4.9. Nutrition

4.9.1. Malnutrition

Measuring weights for age was used to assess the nutritional status of children less than two years of age. Table 4.9.1.1 shows the nutritional status of children in the project, 19.5% of children aged 0-23 months were found to be below -2SD and 3% below -3SD of weights for age. The majority of these children were boys residing in the Sampov Loun Operational districts and falling in the age group of 12-23 months. This was improved compared to the baseline survey result where 28% of the children were found to be below -2 SD. Only one of the children was reported as having edema.

Table 4.9.1.1. Malnutrition by district, sex and age groups

	0-11								12-23													
	Bovel (n=140)				S Loun (n=160)				Bovel (n=160)				S Loun (n=140)				0-23				Both sexes and Districts (0-23) (N=600)	
	Boy		Girl		Boy		Girl		Boy		Girl		Boy		Girl		Boy (n=279)		Girl (n=321)			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
- 2 SD	2	1.4	2	1.4	10	6.3	8	5.0	29	18.1	18	11.3	31	22.1	17	12.1	72	25.8	45	14.0	117	19.5
- 3 SD	0	0.0	0	0.0	2	1.3	3	1.9	6	3.8	4	2.5	2	1.4	1	0.7	10	3.6	8	2.5	18	3.0

4.9.2. Breast feeding/ Complementary Feeding

Breast feeding is an important part of the children nutrition. It contributes to prevent infections and provide passive immunization. Ninety-eight percent (139/142) of mothers having children aged 0-5 months reported that they were currently breast feeding (table 4.9.2.3). This was very high compared with the baseline was 12% and DHS 2005-06 was 60%.

Among mothers with children 0-11 months, 78.1% (232/297) reported that they started breast feeding within one hour after delivery, and 19.9% (59/297) started within the first day (Table 4.9.2.1). Mothers also reported that they gave the liquid that came from breast (colostrums) 95.3% which was an increase from the baseline which was only 81%. Only 14 mothers (4.7%) reported giving something (prelacteal) before initiate breast feeding (Table 4.9.2.1) which was a great decrease from the baseline survey results of 79%. Among those pretacteal, plain water 42.9%, powdered milk 28.6% and sugar water 21.4% were the first choices.

Table 4.9.2.3 shows the feeding practices among children aged 6-11 months old. Food made from grains: rice, porridge, corn, wheat (77.8%); Pumpkin, carrots, yellow or red sweet potatoes at 29.7%, vegetable: banana, tomatoes (51%); green leafy vegetable (50%); meat, fish or egg (41.1%); mango, papaya, orange (32.9%); and any food made from oil, fate or butter was 27.8%. There was an increase in provision of foods other than grains from the baseline survey which found: green leafy vegetables at 9.4%, and meat, fish, poultry, or eggs at 15.2% and pumpkin, carrots, yellow or red sweet potatoes at 6.7%.

Table 4.9.2.1. Breastfeeding and Associated Practice mothers with children 0-11 months(N=300)		
	#	%
Breastfeeding		
Currently breastfeeding	297	99.0
Ever or not breastfeeding	3	1.0
Gap between Breastfeeding and delivery (N=297)		
Within 1 hour	232	78.1
After 1 hour (within 1 day)	59	19.9
Other	6	2.0
Feed colostrums (N=300)	286	95.3
Pretacteals (N=300)	14	4.7
Types of prelacteals (Multiple responses ;n=14)		
Powdered milk	4	28.6
Plain water	6	42.9
Sugar water	3	21.4
Sugar-salt water solution	1	7.1
Fruit juice	0	0.0
Infant formula	0	0.0
Tea	0	0.0
Traditional Herb	1	7.1
Honey	0	0.0
Condensed milk	0	0.0

Table 4.9.2.3 Recall of food intake for children 6 – 11 months in the last 24 hours		
Types of Foods (6-11 months; n=158)		
Any food made from grains: corn, wheat...etc	123	77.8
Pumpkin, carrots, yellow or red sweet potatoes	47	29.7
Any food made from roots, tuber corn, wheat...etc	17	10.8
Any green vegetable	79	50.0
Mango, papaya, orange	52	32.9
Any other fruits and vegetable: banana, apple	82	51.9
Meat, fish, eggs	65	41.1
Any fruit from legumes	23	14.6
Any food made from oil, fat	44	27.8
Other(drink only water)	2	1.3

4.9.2.3 : Exclusive Breast fed (Child 0 – 6 months who was given only breast milk)																	
Supervisory Areas		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	
Numerator		8	8	10	13	6	5	9	13	10	9	8	11	9	10	10	**139**
Denominator	0 to 5	8	8	10	13	7	5	9	13	10	10	8	11	9	11	10	**142**
		1	**1**	**1**	**1**	**0.9**	**1**	**1**	**1**	**1**	**0.9**	**1**	**1**	**1**	**0.91**	**1**	**98%**
Percentage		**1**	**1**	**1**	**1**	**0.9**	**1**	**1**	**1**	**1**	**0.9**	**1**	**1**	**1**	**0.91**	**1**	**98%**

5. Maternal Health

Maternal health is an important contributing factor for child survival. Mothers must have enough knowledge and skills to identify danger signs and symptoms during pregnancy and seek appropriate health care when needed.

Mothers of children aged 0-11 months reported having 3 to 5 antenatal checkups during their last pregnancy at 61.9% (Table 5.1). Of this, the percentage of mothers in Bovel district was higher than the mothers in the Sampov Loun district. This practice was higher than baseline survey of 32%.

Mothers described bleeding (35.7%); swelling of body/ hands/face (35.7%); shortness of breath (21.7%) and fever (17%) as the major signs indicating need for health care (Table 5.1.2). This knowledge was higher than the baseline survey.

Table 5.1 Women reported having antenatal visits during pregnancy

	Bovel (n=139)		**Sampov Loun(n=160)**		**Total (N=299)**	
	#	%	#	%	#	%
1	12	8.6	30	18.8	42	14.0
2	11	7.9	16	10.0	27	9.0
>2-5	92	66.2	93	58.1	185	61.9
>5	24	17.3	21	13.1	45	15.1

Table 5.1.2. Knowledge of signs during pregnancy indicating need for seeking health care (N=300)/Multiple Responses

	#	%
Fever	51	17
Shortness of breath	65	21.7
Bleeding	107	35.7
Swelling of body	107	35.7
Others(abdominal pain, head ach, weak, vertigo)	133	44.3

For seeking care/treatment for danger signs during pregnancy mothers reported going to the public health center (81.2%); private practitioner (11.7%); and hospital (4.7%) (Table 5.1.3). In the baseline survey, 50.2% sought care at the health centers as their first choice. This indicated that mothers have confidence in the quality of health services and indicate that the public services may also cost less compared to the private clinics.

Maternal mortality and morbidity can be reduced by increasing safe delivery. Assisted delivery reduces the risks to mothers and infant during delivery. The survey found that mothers reported that their delivery was attended by trained personnel at 62% (table 5.1.5), followed by a TBA at 37.3% (table 5.1.4). This was in contrast with the baseline where TBAs were 56.2% and midwives 41.1%. The DHS 2005-06 reported that 43.8% of deliveries were performed by a health professional (doctor, nurse and midwife). Mothers in Bovel district reported deliveries assisted by midwives more than mothers in Sampov Loun district.

Table 5.1.3. First place to go for advice/treatment of symptoms during pregnancy (N= 298)

	#	%
Public Hospital	14	4.7
Public Health center	242	81.2
TBA	2	0.7
Community Health Worker	3	1.0
Private Practitioners(any kind)	35	11.7
Traditional Healer	0	0.0
Pharmacy	2	0.7
Community distributors	0	0.0
Friends/relatives	0	0.0
Other	0	0.0

Table 5.1.4. Assisted Delivery by Type of Health Provider(N= 300)

	Bovel (n=140)		Sampov Loun (n=160)		Total (n=300)	
	#	%	#	%	#	%
Doctor	0	0.0	0	0.00	0	0
Medical Assistance	0	0.0	0	0.0	0	0
Nurse	1	0.7	0	0.0	1	0.3
Midwife	93	66.4	90	56.3	183	61.0
TBA	45	32.1	67	41.9	112	37.3
	1	0.7	2	1.3	3	1.0

CHW						
Family Member	0	0.0	1	0.6	1	0.3
Other	0	0.0	0	0.0	0	0.0

5.1.5. Delivery by trained personnel (Trained personnel is defined as a midwife, medical assistant or doctor)																	
Supervisory Area		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Numerator	4	19	19	15	11	8	12	9	11	7	9	11	12	14	13	13	**187**
Denominator		20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	**300**
Percent		**0.95**	**1**	**0.75**	**0.55**	**0**	**0.6**	**0.5**	**0.6**	**0.4**	**0.45**	**0.55**	**0.6**	**0.7**	**0.65**	**0.65**	**62%**

6. Discussion

The final KPC survey was conducted in August 2006 while the baseline was conducted in early December. This may have accounted for some differences in prevalence of ARI, diarrhea and malaria. Migration (movement in and out of the area) especially in the Sampov Loun Operational districts was considered to be a problem for providing. Therefore, the project decided to attempt to determine how long the mother's interviewed had been residents in the area. However, the results obtained may not really give an accurate picture as the more mobile population may not have been in place to be interviewed. This also may have affected the results for schooling and work outside the home as well.

The project included a complementary water and sanitation village project component and this plus the behavior change communication efforts through project education, behavior change by VHVs, and campaigns brought good results. However, failure to ask mothers for the four hand washing practices resulted in less than hoped for results for this indicator. However, the individual results were significantly improved from the baseline findings: washing hand after defecation (59.5%) and after tending to a child who has defecated (46.5%) and washing hands with soap (68.5%) increased significantly from the baseline of 22% after defecation, 16.6% after tending to a child who has defecated and to 97.3% for washing hands with soap.

Objectives for fully immunized for children were met even if the calculation of all children were used as the total fully immunized: Bovel was 86% and Sampov Loun Operational Districts was 65%. The target was 80% for Bovel and 60% for Sampov Loun Operational Districts. Tetanus Toxoid coverage in the final survey was found to be lower than baseline. However, the final KPC used card documentation as the numerator while the baseline used only recall. While the survey did not document it, there has long been discussion that documenting the coverage of TT2 for pregnancy is difficult due to the fact that many women have already received full immunization of five Tetanus Toxoid. The results did not show the desired increase in Vitamin A coverage which the project and health staff feel was due to the fact the survey only used card documentation and in Sampov Loun Operational District, the health staff did not all record the Vitamin A on the immunization cards. The target was reached in Bovel district.

The survey showed that mothers had increased knowledge on general danger signs of child illness and also specific danger signs for pneumonia and diarrhea/dehydration and had increased seeking appropriate

care/treatment. In addition, mothers reported giving more breastfeeding, fluids and foods when their child was sick.

Prevalence of diarrhea was still high despite the rainy season, but it was lower than the baseline survey. The practice of providing ORT both through providing ORS (45.9%) and Home Based Fluids (22.4%) increased significantly from the baseline of 12.8% for ORS and 5.1% for HBF. There was also a decrease in mothers giving pills and/or syrup from 68.6% to the final of 41.2%, but this continues to need more work. There is a strong cultural tendency among mothers that if the child is ill a pill or even better an injection will make the child improve faster and they are often unsatisfied if they do not receive this from the health providers. Health practitioners have to work hard to convince mothers that ORS is the best things for their child with diarrhea.

Prevalence of ARI was still high but lower than the baseline survey, this may be due to the seasonal pattern of disease (baseline was conducted in the winter, whereas the final was conducted in the rainy season). Mothers seeking appropriate care for their children with pneumonia increased greatly from 19.6% seeking care from the health center and 35.6% from the private practitioner at the baseline to 64.4% seeking care from the health centers in the final KPC.

There was very high knowledge of mothers on the cause of malaria. During the survey in category A villages, interviewers found that most mosquito bed nets were in good condition (80.3%) and mothers reported that most had been impregnated (92.4%). Mothers reported that 87.9% of the children slept under the impregnated mosquito bed net.

Malnutrition was still high especially in Sampov Loun Operational districts among male children aged 12-23 months however, it was decreased from the baseline of 28% -2 SD and was also lower than DHS 2005-06: -2SD (Battamang 29.8%; Cambodia 35.6%) and -3SD (Battambang 2.4 % and Cambodia 6.9%). In the project areas, mothers reported practicing exclusive breast feeding for the first 6 months 98% compared to the baseline of (12%).

The improvement in the practice of pregnant women for ANC visits and delivery assisted by a trained provider is significant. Mothers reported 3- 5 ANC visits increasing from 32% in the baseline to 61.9% in the final. Also there was an increase of delivery by midwives from 41% to 61% which was also higher than the DHS 2005-06.

The project has invested efforts and resources to build the capacity of staff and increase the knowledge of mothers in both Bovel and Sampov Loun Operational districts resulting in most of the results of the program interventions being met.

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7. Integrated Management of Childhood Illnesses Booklet, Cambodia MoH, WHO and Unicef, 2003.

Annexes

1. **Annex A Map of the project**
2. **Annex B LQAS Random Sampling Procedure**
3. **Annex C Sample of the Survey by Supervisory Area**
4. **Annex D Supervisory Area Codes**
5. **Annex E Questionnaire of the Survey**

Attachment C1

Catholic Relief Services (CRS)

Knowledge Practice and Coverage (KPC) Survey (0 – 11 Months)

August 2006

INFORMED CONSENT

Hello. My name is _____, and I am working with Catholic Relief Services (CRS). We are conducting a survey and would appreciate your participation. I would like to ask you about your health and the health of your youngest child under the age of two, including weighing your child**.** This information will help Catholic Relief Services (CRS) to plan health services and assess whether it is meeting its goals to improve children's health. The survey usually take **1** hours to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons. Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED	1	RESPONDENT DOES NOT AGREE TO BE INTERVIEWED	2

Catholic Relief Services (CRS)
Knowledge Practice and Coverage (KPC) Survey (0 – 11 Months)
August 2006

SUPERVISORY AREA #_____SAMPLE # _____ IDENTIFICATION # _____

Health Center Name_____ Village Name _____ Category A Village Village #_____

What are the ages of your child? All questions are to be address to mothers with a child less than 24 months of age.

Interview date dd/mm/yy	**Reschedule In dd/mm/yy**
_____ Interviewer	
_____ Supervisor	

IDENTIFYING INFORMATION

1. _____
Name of Mother

2. _____
Age of Mother

3. How many children living in this household are under age five?

4. How many of those children are your biological children?

5.

<u>If Only 1 Child Under Five</u>: name, sex and date of birth of that child

Interviewed Child	Name	Sex	Date of Birth	Age in Months
		1. M **2** F	_____/_____/_____ dd / mm / yy	_____ **Months**
		1. M **2.** F	_____/_____/_____ dd / mm / yy	_____ **Months**

RESPONDENT BACKGROUND

6. How long have you lived in this villages: **Record in years_____ months _____**

7. For how many years have you attended school? Years in School If never - 00

8. Who is the head of this household?

1. Mother.....**1.**ˆ
2. Husband.....**2.**ˆ
3. Female relative.....**3.**ˆ
96. Other _____ **96.**ˆ

9. Do you work outside of the home to earn money?
<u>Record All</u>. **<u>Anything else</u>?**

A. No.....**A.**ˆ
B. Handicrafts.....**B.**ˆ
C. Harvesting.....**C.**ˆ
D. Sell food.....**D.**ˆ
E. Shopkeeper/ Street/ Vendor.....**E.**ˆ
F. Household worker.....**F.**ˆ
G. Salaried worker.....**G.**ˆ
X. Other _____ **X.**ˆ

10. Who takes care of **(NAME)** when you are away from home? **Record All.** **Anything else?**

A. Mother..... **A.**ˆ
B. Husband..... **B.**ˆ
C. Older children ..... **C.**ˆ
D. Other relatives..... **D.**ˆ
E. Neighbors/ Friends..... **E.**ˆ
F. Maid ..... **F.**ˆ
G. Nursery school ..... **G.**ˆ
H. Take child with me ..... **H.**ˆ
X. Other _____ **X.**ˆ

HOUSEHOLD WATER AND SANITATION

I would like to ask some questions about your household:

11. What happens with the stools of babies and young children in your household who do not use the toilet facility?
Record All. **Anything else?**

A. Thrown in toilet/ Latrine..... **A.**ˆ
B. Buried in yard..... **B.**ˆ
C. Not disposed of/ Left on the ground ..... **C.**ˆ
X. Other _____**X.**ˆ

12. What do you do with your garbage?
Record All. **Anything else?**

A. Open pit ..... **A.**ˆ
B. Closed pit..... **B.**ˆ
C. Anywhere ..... **C.**ˆ
D. Burning..... **D.**ˆ
X. Other _____ **X.**ˆ

13. When do you wash your hands? **Record All.** **Anything else?**
A. Never ..... **A.**ˆ
B. Before prepare food ..... **B.**ˆ
C. After defecation..... **C.**ˆ
D. After attending to a child who has defecated ..... **D.**ˆ
X. Others _____ **X.**ˆ

14. Do you use soap?
1. Yes..... **1.**ˆ
2. No **2.**ˆ

Maternal and Newborn Questions

15. How many times did you see someone for care during your pregnancy with NAME?
Number of Times _____

16. Do you have a card where your Tetanus (TT) vaccinations are written down? **May I see it please?**

1. Yes, seen by interviewer ..... **1.** ˆ
2. Not available/ lost/ misplaced ..... **2.** ˆ **→Go to question # 18**
3. Never had ..... **3.** ˆ **→Go to question #18**
8. Don't know ..... **8.** ˆ **→ Go to question #18**

17. Copy date for each TT from the card.
Write **44** in day column if card shows that a vaccination was given but no date is recorded.

Tetanus	Day		Month		Year			
TT 1								
TT 2								
TT 3								
TT 4								
TT 5								

If card recorded above go to Question # 20

18. Before you gave birth to (NAME) did you receive an injection in your arm to prevent the baby from getting tetanus that is convulsions after birth: **ASK ONLY if NO CARD**

1. Yes ..... **1.** ˆ
2. No ..... **2.** ˆ
8. Don't know ..... **8.** ˆ

If Yes, ask number of times (question # 19).
If No or Don't Know → Go to question # 20

19. Number of times **:**

1. Once ..... **1.** ˆ
2. Two ..... **2.** ˆ
3. Two + ... **3.** ˆ
8. Do not know ..... **8.** ˆ

20. What are the symptoms during pregnancy indicating the need to seek health care?
Record All. **Anything else?**

A. Fever ..... **A.** ˆ
B. Shortness of breath ..... **B.** ˆ
C. Bleeding ..... **C.** ˆ
D. Swelling of the body/ Hands/Face ..... **D.** ˆ
X. Other _____ **X.** ˆ
Z. Don't know ..... **Z.** ˆ

21. Where is the first place you would go for care if you had these symptoms?
One Answer Only

1. Public Hospital..... **1.**ˆ
2. Health Center..... **2.**ˆ
3. Traditional birth attendant..... **3.**ˆ
4. Community health worker..... **4.**ˆ
5. Private practitioner (any kind)..... **5.**ˆ
6. Traditional healer..... **6.**ˆ
7. Pharmacy..... **7.**ˆ
8. Community distributor..... **8.**ˆ
9. Friend/ Relative..... **9.**ˆ
96 Other _____ **96.**ˆ

22 . When you gave birth to **(NAME)** who assisted you with the delivery? **One Answer Only**

1. Doctor..... **1.**ˆ
2. Medical assistant..... **2.**ˆ
3. Nurse..... **3.**ˆ
4. Midwife..... **4.**ˆ
5. Traditional birth attendant..... **5.**ˆ
6. Community health worker..... **6.**ˆ
7. Family member..... **7.**ˆ
8. No One..... **8.**ˆ
96. Other _____ **96.**ˆ

BREASTFEEDING AND INFANT/CHILD NUTRITION

23. Did you ever breastfeed **(NAME)**?

1. Yes..... **1.**ˆ
2. No..... **2.**ˆ
If NO, Go to QUESTION # 29

24. How long after birth did you first put **(NAME)** to the breast?

1. Immediately/ Within first hour after delivery……**1.**ˆ
2. After the first hour within 1 day……...……..… **2.**ˆ
96. Other _____ **96.**

25. During the first three days after delivery did you give (NAME) the liquid that came from your breasts?

1. Yes..... **1.**ˆ
2. No..... **2.**ˆ
8 Don't know..... **8.**ˆ

26. During the first three days after delivery, did you give **(NAME)** anything else to eat or drink before feeding him/her breast milk?

1. Yes ..... **1.** ˆ
2. No ..... **2.** ˆ
8. Don't know ..... **8.** ˆ

If No or Don't Know → Go to QUESTION # 28
if under 6 months → Go to QUESTION # 29

27. What did you give **(NAME)**?
Record All Anything else?

A. Powder Milk ..... **A.** ˆ
B. Plain water ..... **B.** ˆ
C. Sugar water ..... **C.** ˆ
D. Sugar-salt-water solution ..... **D.** ˆ
E. Fruit juice ..... **E.** ˆ
F. Infant formula ..... **F.** ˆ
G. Tea ..... **G.** ˆ
H. Traditional Herb ..... **H.** ˆ
I. Honey ..... **I.** ˆ
J. Sweetened condensed milk like Alaska ..... **J.** ˆ
X. Other _____ **X.** ˆ

28. Did **(NAME)** eat or drink any of the following yesterday during the day or at night? **(Only ASK (NAME) AGE < 6 MONTHS)**
Record All. Anything else?

A. Breastmilk? ..... **A.** ˆ
B. Plain water? ..... **B.** ˆ
C. Any other liquid such as sugar water, tea, coffee, carbonated drinks, or soup broth? .... **C.** ˆ
D. Mashed, pureed, or semi or solid food ..... **D.** ˆ
X. Other _____ **X.** ˆ

29. Now I would like to ask you about the types of foods **(NAME)** ate yesterday during the day and at night. **(Ask this question only of mother's child (NAME) is 6 months to 11 months)**
Read the answers to the mother and check the answers she gives.
Record All.

A. Any foods made from grains such as rice, porridge, corn, wheat or other local grain? ..... **A.** ˆ
B. Pumpkin, carrots, yellow or red sweet potatoes? ..... **B.** ˆ
C. Any other food made from roots or tubers, e.g. white potatoes, white yams, or other? ..... **C.** ˆ
D. Any green leafy vegetables? ..... **D.** ˆ
E. Mango, Papaya, orange, palm fruit? ..... **E.** ˆ
F. Any other fruits and vegetables, e.g. bananas, apples/sauce, tomatoes? ..... **F.** ˆ
G. Meat, poultry, fish, shellfish or eggs? ..... **G.** ˆ
H. Any foods made from legumes [e.g. lentils, beans, soybeans, pulses, or peanuts]? ..... **H.** ˆ
I. Any food made with oil, fat, or butter? ..... **I.** ˆ
X. Other _____ **X.** ˆ

30. Does **(NAME)** have an Immunization Card (Yellow card)?

1. Yes ..... **1.** ˆ
2. No ..... **2.** ˆ
If No → Go to QUESTION # 32

31. May I see **(NAME)** card?

Check to see the card and check.

1. Yes ..... **1.** ˆ
2 No ..... **2.** ˆ

CHILDHOOD ILLNESS
SICK CHILD

32. Sometimes children get sick and need to receive care or treatment for illnesses. What are the signs of illness that would indicate your child needs treatments?

Check all mother says Anything else?

A. Don't Know ..... **A.** ˆ
B. Looks unwell or not playing normally ..... **B.** ˆ
C. Not eating or drinking ..... **C.** ˆ
D. Lethargic or difficult to wake ..... **D.** ˆ
E. High fever ..... **E.** ˆ
F. Fast or rapid breathing ..... **F.** ˆ
G. Vomits everything ..... **G.** ˆ
H. Convulsions ..... **H.** ˆ
I. Other _____ **.I.** ˆ
J. Other _____ **J.** ˆ
K. Other _____ **K.** ˆ

33. When **(NAME)** is sick do you consult with anyone in the village before taking the child to seek care from a health provider?

1. Yes ..... **1.** ÿ
2. No ..... **2.** ÿ
If NO →Go to QUESTION # 36

34. Who did you ask? **Record All** **Anyone else?**

A. VHV ..... **A.** ˆ
B VHC ..... **B.** ˆ
C. TBA ..... **C.** ˆ
D. CBHCT ..... **D.** ˆ
E. Mother Group Leader ..... **E.** ˆ
F. Husband ..... **F.** ˆ
G. Neighbor ..... **G.** ˆ
H. Grandparents ..... **H.** ˆ
X. Other _____ **X.** ˆ

35. What did they do?

Record All **Anything else?**

A. Nothing ..... **A.**ÿ
B. Refer ..... **B.**ÿ
C. Health Education..... **C.**ÿ
D. Gave Treatment..... **D.**ÿ
E. Follow up..... **E.**ÿ
X. Other_____**X.**ÿ

36. Who decides where you should go to seek care for **(NAME's)** Illness?

Record All **Anything else?**

A Mother ..... **A.**ˆ
B. Husband ..... **B.**ˆ
C. Mother of mother..... **C.**ˆ
D. Mother-in-law..... **D.**ˆ
E Friend/Neighbors ..... **E.**ˆ
Z. Others _____**Z.**

37. When **(NAME) is sick do** you breastfeed him/her less than usual, about the same amount, or more than usual?

1. Less..... **1.** ˆ
2. Same ..... **2.** ˆ
3. More..... **3.** ˆ
4. Child not Breastfed..... **4.** ˆ

38. When **(NAME)** is sick he/she offered less than usual to drink, about the same amount, or more than usual to drink?

1. Child Not Yet Drinking..... **1.**ˆ
2. Less..... **2.**ˆ
3. Same **3.**ˆ
4. More..... **4.**ˆ
5. Nothing to Drink..... **5.**ˆ
8. Don't Know **8.**ˆ

39. When **(NAME)** is sick was he/she offered less than usual to eat, about the same amount, or more than usual to eat?

1. Child Not Yet Eating ..... **1.** ˆ
2. Less..... **2.** ˆ
3. Same ..... **3.** ˆ
4. More..... **4.** ˆ
5. Nothing to eat..... **5.** ˆ
8. Don't Know ..... **8.** ˆ

DIARRHEA CASE MANAGEMENT

40. Has **(NAME)** had diarrhea in the last 2 weeks?

1. Yes..... **1.**ˆ
2. No **2.**ˆ
8. Don't Know **8.**ˆ
If No or Don't Know→ Go to ARI # 46

41. When (**NAME**) had diarrhea what difficulties made you worry and go to get treatment outside your home?

Record All **Anything else?**

A. Blood in the stool ..... **A.** •
B. Diarrhea was getting worse..... **B.** •
C. Diarrhea was continuing a long time(more than 3 days) ..... **C.** •
D. Fever ..... **D.** •
E. Vomiting after drinking ..... **E.** •
F. Vomiting everything..... **F.** •
G. Very sleepy..... **G.** •
H. Irritable..... **H.** •
I. Unable to eat or drink ..... **I.** •
J. Dry mouth and skin ..... **J.** •
K. Sunken eyes ..... **K.** •
L. Sunken Fontanel ..... **L.** •
M. No urination ..... **M.** •
N. Very Thirsty ..... **N.** •
X. Other _____ **X.** •
Z. Don't Know ..... **Z.** •

42. Did you give **(NAME)** something to treat the diarrhea before you took him/her to see a health provider?

Record All. **Anything else?**

A. Nothing..... **A.** ˆ
B. Fluid from ORS packet..... **B.** ˆ
C. Home-Based Fluid ..... **C.** ˆ
D. Pill or Syrup..... **D.** ˆ
E. Injection..... **E.** ˆ
F. IV ..... **F.** ˆ
G. Home remedies/herbal medicines..... **G.** ˆ
X. Other_____ **X.** ˆ

43. Did you seek advice or treatment from someone outside of the home for **(NAME's)** Diarrhea?

1. Yes..... **1.** ˆ
2. No ..... **2.** ˆ
If NO →Go to ARI QUESTION # 46

44. Where did you **first** go for advice or treatment?

One Answer Only

1. Hospital..... **1.** ˆ
2. Health Center ..... **2.** ˆ
3. Private Hospital/Clinic ..... **3.** ˆ
4. Private Practitioner..... **4.** ˆ
5. Village Health Worker/TBA/VHC ..... **5.** ˆ
6. Traditional Healer..... **6.** ˆ
7. Market..... **7.** ˆ

8. Pharmacy ..... **8.** ˆ
9. Community Distributors ..... **9.** ˆ
10. Friend/Relative ..... **10.** ˆ
88. Other _____ **88.** ˆ

45. Where **else** did you go for advice or treatment? .....
Record All **Anything else?**

A. Hospital ..... **A.** ˆ
B. Health Center ..... **B.** ˆ
C. Private Hospital/Clinic ..... **C.** ˆ
D. Private Practitioner ..... **D.** ˆ
E. Village Health Worker/TBA/VHC/VHV ..... **E.** ˆ
F. Traditional Healer ..... **F.** ˆ
G. Market ..... **G.** ˆ
H. Pharmacy ..... **H.** ˆ
I. Community Distributors ..... **I.** ˆ
J. Friend/Relative ..... **J.** ˆ
K. No where else ..... **K.** ˆ
Z. (Other)_____ **Z.** ˆ

ACUTE RESPIRATORY INFECTIONS (ARI)
Case Management

46. What problems of respiration would cause you to seek care for your child outside your home?
Record All **Anything else?**

A. Fast breathing…… **A.** •
B. Difficult breathing…… **B.** •
C. Chest pulling in…… **C.** •
D. Fever…… **D.** •
E. Cough…… **E.** •
F. Loss of appetite…… **F.** •
Z. Don't know…… **Z.** •

47 . Has **(NAME)** had an
illness with a cough at any time in the last two weeks?

1. Yes…… **1.** ˆ
2. No…… **2.** ˆ
8. Don't Know…… **8.** ˆ

If No or Don't Know → Go to MALARIA, Question # 53

48. When **(NAME)** had a illness with a cough, did he/she have trouble breathing or breath faster than usual with short, fast breaths?

1. Yes…… **1.** ˆ
2. No…… **2.** ˆ
8. Don't Know…… **8.** ˆ

If No or Don't Know →Go to MALARIA, Question # 53

49. Did you seek advice or treatment for the cough/fast breathing?

1. Yes……**1.** ˆ
2. No……**2.** ˆ

If No or Don't Know →Go to MALARIA, Question # 53

50. Where did you **first** go for advice or treatment?
One Answer Only

1. Hospital ……**1.**ˆ
2. Health Center ……**2.**ˆ
3. Private Hospital/Clinic……**3.**ˆ
4. Private Practitioner ……**4.**ˆ
5. Village Health Worker/TBA/VHC……**5**ˆ

6. Traditional Healer ……**6.**ˆ
7. Market ……**7.**ˆ
8. Pharmacy……**8.**ˆ
9. Community Distributors……**9.**ˆ
10. Friend/Relative ……**10.**ˆ
88. Other _____ **88.**ˆ

51. Where **else** did you go for advice or treatment?
Record All **Anything else?**

A Hospital ……**A.**ˆ
B. Health Center……**B.**ˆ
C. Private Hospital/Clinic……**C.**ˆ
D. Private Practitioner……**D.**ˆ
E. Village Health Worker/TBA/VHC/VHV ……**E.**ˆ

F. Traditional Healer ……**F.**ˆ
G. Market ……**G.**ˆ
H. Pharmacy ……**H.**ˆ
I. Community Distributors ……**I.**ˆ
J. Friend/Relative ……**J.**ˆ
K. No where else……**K.**ˆ
X. t Other _____ **X.**ˆ

52. Which medicines were given to **(NAME)?**
Record All **Anything else?**

A. Nothing……**A.**ÿ
B. Tablets – Do not know the name of medicine. ……**B.**ÿ
C. Aspirin ……**C.**ÿ
D. Paracetamol ……**D.**ÿ
E. Cotrimoxazole……**E.**ÿ

F Amoxycillin/Ampicillin……..……..**F.**ÿ
G Injection – Do not know name of medicine…...……**G.**ÿ
X. Other _____ **X.**ÿ
Z Don't Know……..……...**Z.**

MALARIA
Case Management

53. What problems would make you think that you or NAME had malaria? **Record All** **Anything else?**

A. Fever…….**A.** •
B. Chills…….....……**B.** •
C. Muscle pain…….**C.** •
D. Bone pain……**D.** •
E. Lack of appetite……..…**E.** •
F. Nausea…….……...…**F.** •
G. Vomiting…….....**G.** •
H. Abdominal pain……....**H.** •
I. Diarrhea…….....**I.** •
J. Pale mucus membranes or skin…….**J.** •

54. Has **(NAME)** been ill with fever in the last two weeks?

1. Yes…….…….…..……..**1.**ˆ
2. No…….……...…….…….**2.**ˆ
8. Don't Know…….……..……..…….…...**8.**ˆ
If NO or DON'T KNOW ® GO to QUESTION # 61

55. Did you seek advice or treatment for **(NAME'S)** fever?

1. Yes…….……...…….…..……..**1.**ˆ
2. No…….……...…….…..…….**2.**ˆ
If NO ® GO to QUESTION # 61

56. Where did you **first** go for advice or treatment?
One Answer Only
1. Hospital ……..…….……...……...……..**1.**ˆ
2. Health Center ……...……..…..…...……...……....**2.**ˆ
3. Private Hospital/Clinic…….....…….….**3.**ˆ
4. Private Practitioner ……...…….……...……..…...**4.**ˆ
5. Village Health Worker/TBA/VHC…… **5.** ˆ

6. Traditional Healer ...……...…**6.**ˆ
7. Market ...……...…….……**7.**ˆ
8 Pharmacy...…….……**8.**ˆ
9. Community Distributors…….….**9.**ˆ
10. Friend/Relative ……**10.**ˆ
88. Other _____ **88.**ˆ

57. Where **else** did you go for advice or treatment?

Record All **Anything else?**

A. Hospital …….……**A.**ˆ
B. Health Center……..…….……**B.**ˆ
C. Private Hospital/Clinic……..……..……**C.**ˆ
D. Private Practitioner……...……..……**D.**ˆ
E. Village Health Worker/TBA/VHC/VHV ……..…..…**E.**ˆ

F. Traditional Healer ……..……**F.**ˆ
G. Market ……**G.**ˆ
H. Pharmacy …….……**H.**ˆ
I. Community Distributors ……**I.**ˆ
J. Friend/Relative …….…… **J.**ˆ
K. No where else……..……**K.**ˆ
X. Other _____ **X.**ˆ

Attention! Read and follow below:
If (NAME) was ever taken to a Hospital or Health Center ® Go to QUESTION # 58
If (NAME) was not ever taken to a Hospital or Health Center ® Go to QUESTION # 59

58. Was **(NAME)** treated with any medicine(s) before going to the Hospital or Health Center?

1. Yes ……**1.**ÿ ® **Go to QUESTION # 60**
2. No ……..**2.**ÿ**If NO ® Go to QUESTION # 61**
8. Don't Know ……**8.**ÿ**If DON'T KNOW ® Go to # 61**

59. Was **(NAME)** treated with any medicines by you?

1. Yes ……..**1.**ÿ **if Yes ® Go to QUESTION # 60**
2 No ……..…**2.**ÿ **If NO ® Go to QUESTION # 61**
8. Don't Know ……...**8.**ÿ ® **Go to QUESTION # 61**

60. Which medicines were given to **(NAME)** for his/her fever?
Check All Mother Says
If mother cannot remember the names of the medicine, ask to see the medicine. If she does not have the medicine shows her the medicines of pictures of the medicine and ask her to identify them.

ANTIMALARIAL MEDICINES:

A. CHLOROQUINE ……..……**A.**ÿ
B. MEFLOQUINE ……..……..…..…….……**B.**ÿ
C. A + B (ENFANT) ……..….…..**C.**ÿ
D. QUININE……...…….……**D.**ÿ
E. ARTESUNATE…….……..…….....**E.**ÿ

OTHER MEDICINES

F. Aspirin…….…...……...**F.**ÿ
G. Paracetamol ……..……..……..……**G.**ÿ
H. Co-Trimoxazole **..**…….……..……...……...**H.**ÿ
I. Ampicillin/ Amoxillicin…….……...……**I.**ÿ
K . Tetracycline…….……**J.**ÿ
X Other _____ **X.**ÿ
Z. Unknown Medicine …….……...……...**Z.**ÿ

61. What causes Malaria?

RECORD ALL **Anything else?**

A. Mosquito Bites…….…….…….….……**A.**ÿ
B. Witchcraft…….……..….….…….,,,……**B.**ÿ
C. Intravenous drug use…….……...…….…,,…….….…**C.**ÿ
D. Blood transfusions …….……,,….….……**D.**ÿ
E. Injections…….…….…...……..**E.**ÿ
F. Sharing Razor Blades…….…….……...……...……**F.**ÿ
G. Kissing …….…….….……..**G.**ÿ
W. Other _____**W.** ÿ
X. Other _____ **X.**ÿ
Z. Don't Know …….……..….….….….**Z.**ÿ

If category A village ask mosquito bednet use and maintenance. If not category A village skip to question # 68

MOSQUITO BEDNET USE AND MAINTENANCE

62. Do you have any bednets in your house?

1. Yes…….……...…….…….…….**1.**ˆ
2. No…….……...….….….….**2.**ˆ
8. Don't Know…….…….….….**8.**ˆ

If NO or DON'T KNOW ® HIV/AIDS # 68

63. Was the bednet ever soaked or dipped in a liquid to repel mosquitoes or insects?

1. Yes……**1.**ˆ
2. No……**2.**ˆ
8. Don't Know……**8.**ˆ

If NO or DON'T KNOW ® HIV/AIDS # 68

64. How long ago was the bed net last soaked or dipped?

Record Answer in Months
Less than 1 month = 00

# of Months ☐☐

8. Don't Know ……**8.**ÿ

65. Have you or someone else in your house ever washed the bed net?

If NO- Record 00
If Yes – Record Number of Times ☐☐

8. Don't Know ……**8.**ÿ

66. Ask to see the treated bed net and inspect it for holes or tears.

1. No holes/tears = Good Condition……**1.**ÿ
2. Visible holes/tears = Damaged ……**2.**ÿ

67. Who slept under the treated bed net last night?

AChild (NAME) (one chosen for the interview)……**A.**ÿ
B Mother ……**B.**ÿ
C. Husband ……**C.**ÿ
X. Other_____ **X.**ÿ

HIV/AIDS

68. Have you ever heard of an illness called AIDS?

1. Yes……**1.**ˆ
2. No……**2.**ˆ

If NO ® Go to QUESTION # 70

69. What can a person do to avoid getting AIDS or the virus that causes AIDS?
Record All Answers **Anything else?**

A. Nothing ……**A.**ÿ
B. Abstain From Sex ……**B.**ÿ
C. Use Condoms……**C.**ÿ
D. Limit sex to one partner/stay faithful to one partner……**D.**ÿ
E. Limit Number of sexual partners……**E.**ÿ
F. Avoid sex with Prostitutes ……**F.**ÿ
G. Avoid sex with persons who have many partner……**G.**ÿ
H. Avoid Intercourse with persons of the same sex……**H.**ÿ
I. Avoid sex with persons who inject drugs intravenously……**I.**ÿ
J. Avoid blood transfusions……**J.**ÿ
K. Avoid kissing……**K.**ÿ
L. Avoid mosquito bites……**L.**ÿ
M. See protection from a Traditional Healer……**M.**ÿ
N. Avoid sharing razors, razor blades……**N.**ÿ
W. Other _____ **W.**ÿ
X. Other _____ **X.**ÿ
Z. Don't Know … ……**Z.**ÿ

Anthropometry

70. May I weigh (NAME)?
1. Yes……**1.**ˆ
2. No……**2.**ˆ

71. If Mother Agrees, Weigh the Child and Record Weight Below. Record to the nearest Tenth. (.1Kilo)
_____ _____ . _____ **Kilograms**

72. Check edema with pitting.

1. Yes……**1.**ˆ
2. No……**2.**ˆ

Attachment C2

Knowledge Practice and Coverage (KPC) Survey (12 – 23 months)

August, 2006

INFORMED CONSENT

Hello. My name is _____, and I am working with Catholic Relief Services (CRS). We are conducting a survey and would appreciate your participation. I would like to ask you about your health and the health of your youngest child under the age of two including weighing your child. This information will help Catholic Relief Services (CRS) to plan health services and assess whether it is meeting its goals to improve children's health. The survey usually takes **1** hour to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons. Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED	1	RESPONDENT DOES NOT AGREE TO BE INTERVIEWED	2

Attachment C2

ID # _____

Catholic Relief Services (CRS)
Knowledge Practice and Coverage (KPC) Survey (12 – 23 Months)
August 2006

SUPERVISORY AREA #_____SAMPLE # _____ IDENTIFICATION # _____

Health Center Name_____Village Name _____ Category A Village Village#_____

What are the ages of your children? All questions are to be address to mothers with a child less than 24 months of age.

Interview date Reschedule Interview

dd/mm/yy dd/mm/yy

_____
Interviewer

_____
Supervisor

IDENTIFYING INFORMATION

1. _____
Name of Mother

2. _____
Age of Mother

3. How many children living in this household are under age five?

4. How many of those children are your biological children?

5. **<u>If Only 1 Child Under Five</u>:** name, sex and date of birth of that child

<u>If More Than 1 Child Under Five</u>: names, sex, and date of birth of your two youngest children?

Check box for child to be interviewed

Interviewed Child	Name	Sex	Date of Birth	Age in Months
		1 M **2.** F	_____/_____/_____ dd/ mm / yy	_____ **Months**
		1. M **2.** F	_____/_____/_____ dd / mm / yy	_____ **Months**

ID # _____

RESPONDENT BACKGROUND

6. How long did you live in the community? Years_____Months _____

7 . For how many years have you attended school? Years in School If never - 00

8. Who is the head of this household?

1. Mother ……**1.**ˆ
2. Husband ……**2.**ˆ
3. Female relative ……**3.**ˆ
X. Other ……**X.**ˆ

9. Do you work outside of the home to earn money?
Anything else?

A. No……**A.**ˆ
B. Handicrafts……**B.**ˆ
C. Harvesting …… **C.**ˆ
D. Sell food ……**D.**ˆ
E. Shopkeeper/ Street/ Vendor……**E.**ˆ
F. Household worker…… **F.**ˆ
G.Salaried worker…… **G.**ˆ
X. Other _____ **X.**ˆ

10. Who takes care of **(NAME)** when you are away from home? **Record All.** **Anything else?**

A. Mother ……**A.**ˆ
B. Husband……**B.**ˆ
C. Older children……**C.**ˆ
D. Other relatives ……**D.**ˆ
E. Neighbors/ Friends……**E.**ˆ
F. Maid ……**F.**ˆ
G. Nursery school……**G.**ˆ
H. Take child with me……**H.**ˆ
X. Other _____ **X.**ˆ

HOUSEHOLD WATER AND SANITATION

I would like to ask some questions about your household:

11. What happens with the stools of babies and young children in your household who do not use the toilet facility ? **Anything else?**

A. Thrown in toilet/ Latrine……**A.** ˆ
B. Buried in yard ……**B.** ˆ
C. Not disposed of/ Left on the ground ……**C.** ˆ
X. Other _____**X.** ˆ

12. What do you do with your garbage?
Record All. **Anything else?**

A. Open pit ……**A.**ˆ
B. Closed pit……**B.**ˆ
C. Anywhere ……**C.**ˆ
D.Burning ……**D.**ˆ
X. Other _____**X.**ˆ

13. When do you wash your hands? **Record All.** **Anything else?**

A. Never ……**A.**ˆ
B. Before prepare food……**B.**ˆ
C. After defecation……**C.**ˆ
D. After attending to a child who has defecated……**D.**ˆ
X. Others _____ **X.** ˆ

14. Do you use soap?
1. Yes……**1.**ˆ
2. No……**2.**ˆ

CHILDHOOD IMMUNIZATION

15. Did **(NAME)** take a Vitamin A dose like this during the last 6 months? **Show Capsule**

1. Yes ……..……..**1.** ˆ
2. No …….…….……..**2.** ˆ
8. Don't know……...……..…….…**8.** ˆ

16. Do you have a card where **(NAME's)** vaccinations are written down? **May I see it please?**

1. es, seen by interviewer……..……..……...…….**1.** ˆ
2. Not available/ lost/ misplaced……...……..**2.** ˆ →**Go to question # 19**.
3. **Never had a card.** …….**3.** ˆ → **Go to question # 19**
8. Don't know ……...…..**8.** ˆ → **Go to question # 19**

17. Copy vaccination Date for each Vaccine from the card.
Write 44 in day column if card shows that a vaccination was given but no date is recorded.

Vaccine	Day		Month		Year			
BCG								
Polio 1 **(P1)**								
Polio 2 **(P2)**								
Polio 3 **(P3)**								
DPT/HB1 **(DTC/HB1)**								
DPT/HB2 **(DTC/HB2)**								
DPT/HB3 **(DTC/HB3)**								
Measles								
Vitamin A (Most recent)								

18. Has **(NAME)** received any vaccinations that are not recorded on this card?

1.Yes …….…..……..**1.** ˆ → **Go to question # 19**
2. No …….……**2.** ˆ → **Go to question #20**
8. Don't know ……...…….…**8.** ˆ → **Go to question #20**

19. Please tell me if (NAME) ever received any of the following vaccinations?

19.A. **BCG** vaccination against tuberculosis, that is, an injection in the upper left arm that usually causes a scar.

1Yes ……..……..……..……..…….**1.** ˆ
2.No ……..……..……..……..……...…….**2.** ˆ
8.Don't know……..……...……..….……..**8.** ˆ

19. B. Polio vaccine, that is, drops in the mouth?

1. Yes……**1.** ˆ
2. No……**2.** ˆ
8. Don't know……**8.** ˆ
If No or Don't know → Go to question # 19D

19. C. How many times was the polio vaccine received? Number of times?

19. D. DPT/Hepatitis vaccination, that is, an injection given in the right upper leg sometimes at the same time as Polio drops?

1. Yes ……**1.**ˆ
2. No ……**2.**ˆ
8. Don't know……**8.**ˆ
If No or Don't Know → Go to question # 19F

19. E. How many times did the child receive DPT/Hepatitis?
Number of times?

19.F. An injection to prevent measles (Left upper arm)

1. Yes ……**1.**ˆ
2. No ……**2.**ˆ
8. Don't know……**8.**ˆ

CHILDHOOD ILLNESS
SICK CHILD

20. Sometimes children get sick and need to receive care or treatment for illnesses. What are the signs of illness that would indicate your child needs treatments?

Check all mother says; Anything else?

A. Don't Know ……**A.**ˆ
B. Looks unwell or not playing normally ……..**B.**ˆ
C. Not eating or drinking……**C.**ˆ
D. Lethargic or difficult to wake ……**D.**ˆ
E. High fever……**E.**ˆ
F. Fast or rapid breathing ……**F.**ˆ
G. Vomits everything ……**G.**ˆ
H. Convulsions ……**H.**ˆ
I. Other _____ **I.**ˆ
J. Other _____ **J.**ˆ
K. Other _____**K.** ˆ

21. When (NAME) is sick do you consult with anyone in the village before taking (NAME) to seek care from a health provider?

1.Yes ……**1.**ÿ
2. No ……**2.**ÿ
If NO → Go to QUESTION # 24

22. Who did you ask? **Record All** **Anyone else?**

A. VHV……..……**A.**ˆ
B. VHC……..…….……..…**B.**ˆ
C. TBA…….……**C.**ˆ
D. CBHCT……**D.**ˆ
E. Mother Group Leader ……**E.**ˆ
F. Husband ……..……**F.**ˆ
G. Neighbor ……..…**G.**ˆ
H. Grandparents ……..……**H.**ˆ
X. Other_____**X.**ˆ

23. What did they do?

Record All **Anything else?**

A. Nothing ……...**A.**ÿ
B. Refer……..……..**B.**ÿ
C.Health Education……**C.**ÿ
D. Gave Treatment…….……**D.**ÿ
E. Follow up……**E.**ÿ
X. Other_____**X.**ÿ

24. Who decides where you should take **(NAME's)** to seek care when he/she is ill?

Record All **Anything else?**

A. Mother …….……**A.** ˆ
B. Husband …….……**B.** ˆ
C. Mother of mother……..…….……**C.** ˆ
D. Mother-in-law……..……**D.** ˆ
E. Friend/Neighbors ……..…….……**E.** ˆ
Z. Others _____**Z.**

25. When **(NAME)** is sick do you breastfeed him/her less than usual, about the same amount, or more than usual?

1. Less……...…….……...……...……**1.** ˆ
2. Same……...…….……...….……**2.** ˆ
3. More……...……..**3.** ˆ
4. Child not Breastfed……...……..…….……..……..**4.** ˆ

26. When **(NAME)** is sick do you offer him/her less than usual to drink, about the same amount, or more than usual to drink?

1. Child Not Yet Drinking……...**1.**ˆ
2. Less……...…….……...……..**2.**ˆ
3. Same……...…….……..…**3.**ˆ
4. More……...…….…….……..…….……..**4.**ˆ
5. Nothing to Drink……...…….……...……...……..**5.**ˆ
8. Don't Know……...…….……...……...**8.**ˆ

27. When **(NAME)** is sick do you offer him/her less than usual to eat, about the same amount, or more than usual to eat?

1. Child Not Yet Eating……..**1.** ˆ
2. Less……...…….……...…….**2.** ˆ
3. Same……...……...…….……..**3.** ˆ
4. More……...……...…….…… ..**4.** ˆ
5. Nothing to eat ……...……...…….**5.** ˆ
8. Don't Know……...…….…….……...**8.** ˆ

DIARRHEA CASE MANAGEMENT

28. Has (NAME) had diarrhea in the last 2 weeks?

1. Yes……...……..**1.**ˆ
2. No……...……..……**2.**ˆ
8. Don't Know ……...……...……..**8.**ˆ

 # 34 . If No or Don't Know → Go to ARI QUESTION # 34

29. When (**NAME**) had diarrhea what difficulties made you worry and go to get treatment outside your home?

Record All **Anything else?**

A. Blood in the stool……**A.** •
B. Diarrhea was getting worse……**B.** •
C. Diarrhea was continuing a long time (more than 3 days)….**C.** •
D. Fever …….……..**D.** •
E. Vomiting after drinking……**E.** •
F. Vomiting everything……**F.** •
G. Very sleepy…….……..**G.** •
H. Irritable……..**H.** •
I. Unable to eat or drink……**I.** •
J. Dry mouth and skin.……..**J.** •
K. Sunken eyes…….……..……**K.** •
L. Sunken Fontanel …… …….……..……**L.** •
M. No urination …… …….……..…….....…**M.** •
N. Very Thirsty …….……..…….....……**N.** •
X. Other _____**X.** •
Z. Don't Know ……..**Z.** •

30. Did you give **(NAME)** something to treat the diarrhea before you took him/her to see a health provider?
Record All. **Anything else?**

A. Nothing……**A.**ˆ
B. Fluid from ORS packet ……**B.**ˆ
C. Home-Based Fluid……**C.**ˆ
D. Pill or Syrup……**D.**ˆ
E. Injection……**E.**ˆ
F. IV ……**F.**ˆ
G.Home remedies/herbal medicines……**G.**ˆ
X. Other _____**X.** ˆ

31. Did you seek advice or treatment from someone outside of the home for **(NAME's)** Diarrhea?

1. Yes……**1.** ˆ
2. No……**2.** ˆ
 # 34 If NO → Go to ARI QUESTION # 34

32. Where did you **first** go for advice or treatment?
One Answer Only

1. Hospital ……**1.**ˆ
2. Health Center ……**2.**ˆ
3. Private Hospital/Clinic……**3.**ˆ
4 Private Practitioner ……**4.**ˆ
5. Village Health Worker/TBA/VHC……**5.**ˆ

6. Traditional Healer ……**6.**ˆ
7. Market ……**7.**ˆ
8. Pharmacy……**8.**ˆ
9. Community Distributors……**9.**ˆ
10. Friend/Relative ……**10.**ˆ
88. Other _____**88.**ˆ

33. Where else did you go for advice or treatment?
Record All **Anything else?**

A. Hospital ……**A.**ˆ
B. Health Center……**B.**ˆ
C. Private Hospital/Clinic……**C.**ˆ
D. Private Practitioner……**D.**ˆ
E. Village Health Worker/TBA/VHC ……**E.**ˆ

F. Traditional Healer ……**F.**ˆ
G Market ……**G.**ˆ
H. Pharmacy ……**H.**ˆ
I. Community Distributors ……**I.**ˆ
J. Friend/Relative ……**J.**ˆ

K. No where else…….……..**K.**ˆ
Z. (Other) _____**Z.**ˆ

ACUTE RESPIRATORY INFECTIONS (ARI)
Case Management

34. What problems of respiration would cause you to seek care for your child outside your home?
Record All **Anything else?**

A. Fast breathing……**A.** •
B. Difficult breathing……**B.** •
C. Chest pulling in…….……**C.** •
D. Fever……...……**D.** •
E. Cough…….....**E.** •
F. Loss of appetite……..…**F.** •
Z Don't know…….……..**Z.** •

35. Has **(NAME)** had an
illness with a cough at any time in the last two weeks?

1. Yes…….…….….…….……**1.**ˆ
2. No…….…….….…….……**2.**ˆ
8. Don't Know…….……..……...…..……**8.**ˆ
 # 41, If No or Don't Know → Go to MALARIA, Question# 41

36. When **(NAME)** had a illness with a cough, did he/she have trouble breathing or breathe faster than usual with short, fast breaths?

1. Yes…….……...…….….……**1.**ˆ
2. No…….……...….….……**2.**ˆ
8. Don't Know…….……..…….….……..**8.**ˆ
 # 41. If No or Don't Know →Go to MALARIA, Question# 41

37. **Did you seek advice or treatment for the cough/fast breathing?**
1. Yes…….……...….….……**1.**ˆ
2. No…….……..….….……**2.**ˆ
8. Don't Know…….……..…….….……**8.**ˆ
 # 41. If No or Don't Know →Go to MALARIA, Question # 41

38. Where did you first go for advice or treatment?
One Answer Only

1. Hospital ……..……..……..……..……..**1.**ˆ
2. Health Center ……..……..…..……..……...**2.**ˆ
3. Private Hospital/Clinic……...……..…..…….**3.**ˆ
4. Private Practitioner ……...……...…….……..……..**4.**ˆ
5. Village Health Worker/TBA/VHC …….**5.**ˆ
6. Traditional Healer ...……**6.**ˆ
7. Market ...……...…….……**7.**ˆ
8. Pharmacy...…….…….**8.**ˆ
9. Community Distributors…….….**9.**ˆ
10. Friend/Relative ……**10.**ˆ
88. Other _____ **88.**ˆ

39. Where **else** did you go for advice or treatment?
Record All **Anything else?**

A. Hospital …….…….……**A.**ˆ
B. Health Center……..…….…….**B.**ˆ
C. Private Hospital/Clinic……..……..……**C.**ˆ
D. Private Practitioner……...……..……**D.**ˆ
E. Village Health Worker/TBA/VHC/VHV ……..…….….**E.**ˆ

F. Traditional Healer ……..……**F.**ˆ
G. Market …….…….**G.**ˆ
H. Pharmacy …….….……**H.**ˆ
I. Community Distributors ……..**I.**ˆ
J. Friend/Relative …….…… **J.**ˆ
K. No where else…….……..**K.**ˆ
Z. Other _____**Z.**ˆ

40. Which medicines were given to **(NAME)?**
Record All **Anything else?**

A. Nothing……..….…...…….**A.**ÿ
B. Tablets – Do not know the name of medicine. ….……..……..**B.**ÿ
C. Aspirin …….…….…..….……**C.**ÿ
D. Paracetamol …….…...……..……**D.**ÿ
E. Cotrimoxazole……...…….…….……**E.**ÿ
F. Amoxycillin/Ampicillin……..……..**F.**ÿ
G. Injection – Do not know name of medicine…...……**G.**ÿ
X. Other _____ **X.**ÿ
Z Don't Know……..……...**Z.**

MALARIA
Case Management

41. What problems would make you think that you or **(NAME)** had malaria? **Record All** **Anything else?**

A. Fever……...**A.** •
B. Chills…….....……..**B.** •
C. Muscle pain……**C.** •
D. Bone pain……**D.** •
E. Lack of appetite……...……**E.** •
F. Nausea…….…….....…**F.** •
G. Vomiting…….....……..**G.** •
H. Abdominal pain……...**H.** •
I. Diarrhea…….....…**I.** •
J. Pale mucus membranes or skin……**J.** •

42. Has **(NAME)** been ill with fever in the last two weeks?

1. Yes……...……..…**1.**ˆ
2. No……...…….……**2.** ˆ
8. Don't Know……...…….…**8.**ˆ
If NO or DON'T KNOW ® GO to QUESTION # 49

43. Did you seek advice or treatment for **(NAME)** fever?

1. Yes……...……..**1.**ˆ
2. No……...……..….…….**2.**ˆ
If NO ® GO to QUESTION # 47

44 Where did you **first** go for advice or treatment?
One Answer Only
1. Hospital ……...……...……...……..**1.**ˆ
2. Health Center ……...……...…...……...……...**2.**ˆ
3. Private Hospital/Clinic……...……...…...…….**3.**ˆ
4. Private Practitioner ……...……...……..……..**4.**ˆ
5. Village Health Worker/TBA/VHC…….**5.**ˆ
6. Traditional Healer ...……**6.**ˆ
7. Market ...……...……..……**7.**ˆ
8 Pharmacy...…….…….**8.**ˆ
9. Community Distributors…….….**9.** ˆ
10. Friend/Relative ……**10.** ˆ
88. Other _____ **88.** ˆ

45. Where **else** did you go for advice or treatment?
Record All **Anything else?**

A. Hospital ……**A.**ˆ
B. Health Center……**B.**ˆ
C. Private Hospital/Clinic……**C.**ˆ
D. Private Practitioner……**D.**ˆ
E. Village Health Worker/TBA/VHC……**E.**ˆ

F. Traditional Healer ……**F.**ˆ
G Market ……**G.**ˆ
H Pharmacy ……**H.**ˆ
I. Community Distributors ……**I.**ˆ
J. Friend/Relative ……**J.**ˆ
K. No where else……**K.**ˆ
X. Other _____**X.**ˆ

Attention! Read and follow below:

If (NAME) was ever taken to a Hospital or Health Center ® Go to QUESTION # 46

If (NAME) was not ever taken to a Hospital or Health Center ® Go to QUESTION # 47

46. Was **(NAME)** treated with any medicine(s) before going to the Hospital or Health Center?

1. Yes ……**1.** ÿ ® **If Yes ® Go to QUESTION # 48**
2. No ……**2.** ÿ ® **If No ® Go to QUESTION # 49**
8. Don't Know ……**8.**ÿ **If DON'T KNOW ® Go to QUESTION # 49**

47Was **(NAME)** treated with any medicines by you?

1. Yes ……**1.**ÿ **If Yes ® Go to QUESTION # 48**
2. No ……**2.**ÿ **If No ® Go to QUESTION # 49**
8. Don't Know ……**8.**ÿ ® **Go to QUESTION # 49**

48. Which medicines were given to **(NAME)** for his/her fever?

Check All Mother Says

If mother cannot remember the names of the medicine, ask to see the medicine. If she does not have the medicine show her the medicines of pictures of the medicine and ask her to identify them.

ANTIMALARIAL MEDICINES:

A. CHLOROQUINE …… **A.**ÿ
B. MEFLOQUINE …… **B.**ÿ
C. A + B (ENFANT) …… **C.**ÿ
D. QUININE…… **D.**ÿ
E. ARTESUNATE…… **E.**ÿ

OTHER MEDICINES

F. Aspirin…… **F.**ÿ
G Paracetamol …… **G.**ÿ
H. Co-Trimoxazole …… **H.**ÿ
I Ampicillin/ Amoxillicin…… **I.**ÿ
J. Tetracycline…… **J.**ÿ
X. Other _____ **X.** ÿ
Z. Unknown Medicine …… **Z.** ÿ

49. What causes Malaria?

RECORD ALL **Anything else?**

A. Mosquito Bites…… **A.** ÿ
B. Witchcraft…… **B.** ÿ
C. Intravenous drug use…… **C.** ÿ
D. Blood transfusions …… **D.** ÿ
E. Injections…… **E.** ÿ
F. Sharing Razor Blades…… **F.** ÿ
G. Kissing …… **G.** ÿ
W. Other _____ **W.** ÿ
X. Other _____ **X.** ÿ
Z. Don't Know …… **Z.** ÿ

If category A village ask mosquito bednet use and maintenance. If not category A village skip to question # 58

MOSQUITO BEDNET USE AND MAINTENANCE

50. Do you have any bednets in your house?

1. Yes…… **1.**ˆ
2. No…… **2.**ˆ **If NO or DON'T KNOW ® HIV/AIDS # 56**
8. Don't Know…… **8.**ˆ **If NO or DON'T KNOW ® HIV/AIDS # 56**

51. Was the bednet ever soaked or dipped in a liquid to repel mosquitoes or insects?

1. Yes……**1.** ˆ
2. No……**2.** ˆ
8. Don't Know……**8.** ˆ
If NO or DON'T KNOW ® Go to QUESTION # 56

52. How long ago was the bed net last soaked or dipped?

Record Answer in Months
Less than 1 month = 00
# of Months [ ][ ]

8. Don't Know ……**8.**ÿ

53. Have you or someone else in your house ever washed the bed net?

If NO- Record 00
If Yes – Record Number of Times [ ][ ]
8. Don't Know ……**8.**ÿ

54. Ask to see the treated bednet and inspect it for holes or tears.

1. No holes/tears = Good Condition……**1.**ÿ
2. Visible holes/tears = Damaged ……**2.**ÿ

55. Who slept under the treated bednet last night?

A. Child **(NAME)** (one chosen for the interview)……**A**.ÿ
B. Mother ……**B.**ÿ
C. Husband ……**C.**ÿ
X. Other_____**X**.ÿ

HIV/AIDS QUESTIONS

56. Have you ever heard of an illness called AIDS?

1. Yes……**1.**ˆ
2 No……**2.**ˆ
 # 58. If NO ® Go to QUESTION # 58

57. What can a person do to avoid getting AIDS or the virus that causes AIDS?
<u>Record All Answers</u> **<u>Anything else</u>?**

A. Nothing ……**A.**ÿ
B. Abstain From Sex ……**B.**ÿ
C. Use Condoms……**C.**ÿ
D. Limit sex to one partner/stay faithful to one partner……**D.**ÿ
E. Limit Number of sexual partners……**E.**ÿ

F. Avoid sex with Prostitutes …….…….....….……**F.**ÿ
G. Avoid sex with persons who have many partners..…….....**G.**ÿ
H. Avoid Intercourse with persons of the same sex…….**H.**ÿ
I. **I** Avoid sex with persons who inject drugs intravenously…….…….……..**I.**ÿ
J. **J.** Avoid blood transfusions……..…….……..……..…..**J.**ÿ
K. **K.** Avoid kissing…….…….……...…....….**K.**ÿ
L. **L.** Avoid mosquito bites…….…….--…….….**L.**ÿ
M. **M.** See protection from a Traditional Healer…….…….**M.**ÿ
N. Avoid sharing razors, razor blades……..……**N.**ÿ
O. **W.** Other _____ **W.** ÿ
P. **X.** Other _____ **X.** ÿ
Q. **Z.** Don't Know _____**Z.**ÿ

Anthropometry

58. May I weigh **(NAME)?**

1. Yes…….……...….……..…….……**1.**ˆ
2 No…….…..…....……..……..…….…….….**2.**ˆ

59. If Mother Agrees, Weigh the Child and Record Weight Below. Record to the nearest Tenth. (.1kg)

_____ _____ . _____ Kilograms

60. Check edema with pitting.

1. Yes…….……...….……..…….…….……**1.**ˆ
2. No…….…..…....……..……..…….…….…..**2.**ˆ

LQAS Random Sampling Procedure for LQAS

This procedure is for final KPC for both Bavel and Sampov Loun Operatinal District. All team supervisors have to follow the random sampling procedure as below:

1. Questionnaires:

For this final KPC survey there are 2 different questionnaires: one for the age group of the children 0-11 months and one for 12-23 months.

2. Interviews:

Interviews will be done with the mother's of children age 0-11 months and 12-23 months.

3. Random Sampling:

The random sampling list shows how many samples will be done for each village. If the list shows one, this means that there will be one parallel sampling done in that village. If the list shows two, this means that there will be 2 parallel sampling done in that village. **One parallel sample means two interviews (one for 0-11 months and one for 12-23 months) and two parallel sample means four interviews (two for 0-11 months and two for 12-23 months):**

One interview will be for age of 0-11 months and another one will age 12-23 months. ***See KPC Random sampling list for the number of sample for each village.*** The team supervisors will have the random sampling list.

4. Random Sampling Method:

All of the team supervisors will have all of the lottery names for each village *(The lottery has the name of a child less than 24 months and name of the mother).* The lottery is kept in the plastic bag for each village *(this was done by CRS Community Project Officer and Village Health Volunteers).*

The team supervisor has to take the lottery to the village when they go to do KPC. The team supervisor will ask the villager to pick a name from the lottery for the first child and the parallel will be done by spinning the pen to find the direction and walk pass 3 houses from the previous house to find the next child *(if the lottery child is age 0-11 months, the parallel child must be age 12-23 months and if the lottery child is 12-23 months the parallel child must be age 0-11 months).*

If the random sampling list shows two samples this means that there will be two parallel sampling done in that village, so two children will be randomized by lottery and two children will be randomized by spinning the pen to find the direction and walk pass 3 houses from the previous house to find the next child *(if the lottery child is age 0-11 months, the parallel child must be age 12-23 months and if the lottery child is 12-23 months the parallel child must be age 0-11 months).*

If the random sampling list shows three samples this means that there will be three parallel done in this village, so three children will be random sampled by lottery and three will be randomized by the pen to find the direction and walk pass 3 houses from the previous house to find the next child *(if the lottery child is age 0-11 months, the parallel child must be age 12-23 months and if the lottery child is 12-23 months the parallel child must be age 0-11 months).*

Final KPC
July 18, 2006
Khanch Romeas (SA1)

RI: 609
RN: 502

Health Center	Geography			Demography			First Sample Selection		Second Sample Section	
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #
Khnach	1	1	Roung Ampil	256	1,703	1,703	[1] 1,111, [2] 1,613	1 & 2	[21&22]	21&22
Romeas	2	2	Kosh Ream	448	2,543	4,246	[3] 2,115, [4] 2,617, [5] 3,119, [6] 3,621, [7] 4,123	3, 4, 5, 6, & 7	[23,24,25, 26 & 27]	23,24,25,26 &27
SA 01	3	3	Khnach Romeas	504	2,986	7,232	[8] 4,625, [9] 5,127 [10] 5,629, [11] 6,131, [12] 6,633, [13] 7,135	8,9,10, 11,12 & 13	[28,29,20, 31, 32 &33]	28,29,20,31,32 &33
	4	4	Svay Sor	114	618	7,850	[14] 7,637	14	[34]	34
	5	5	Prey Sangha	313	1,788	9,638	[15] 8,139, [16] 8,641, [17] 9,143	15,16 &17	[35,36&37]	35,36&37
	6	6	Balang Loeu	226	1,309	10,947	[18] 9,645, [19]10,147, [20E]10,649	18,19 &20	[38,39 &40E]	38,39 &40
	7	7	Balang Meanchey	107	630	11,577				

Final KPC
July 18, 2006
Bovel II (SA2)

RI: 702
RN: 573

Health Center	Geography			Demography			First Sample Selection		Second Sample Section	
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #
Bovel II	8	1	Svay Chrum	209	1,134	1,134				
	9	2	Don Av	107	613	1,747	[1] 1,275,	41	[21]	61
SA 02	10	3	Slor Khlanch	289	1,459	3,206	[2]1,848, [3] 2,421, [4] 2,994	42, 43 & 44	[22,23 & 24]	62, 63 & 64
	11	4	Bovel II	470	2,406	5,612	[5] 3,567, [6] 4,140, [7] 4,713, [8] 5,286	45, 46, 47 & 48	[25,26,27 &28]	65, 66, 67 & 68
	12	5	Prey Totoeung I	237	1,251	6,863	[9] 5,859, [10] 6,432	49 & 50	[29&30]	69 & 70
	13	6	Prey Totoeung II	459	2,305	9,168	[11] 7,005, [12] 7,578, [13] 8,151 [14] 8,724	51, 52, 53 & 54	[31,32,33 &34]	71, 72, 73 & 74
	14	7	Sang Rang	358	1,980	11,148	[15] 9,297, [16] 9,870, [17] 10,443, [18] 11,016	55, 56, 57 & 58	[35,36,37& 38]	75, 76, 77 & 78
	15	8	Spean Kandol	259	1,265	12,413	[19] 11,589, [20E]12,162	59 & 60	[39&40E]	79 & 80
	16	9	Kok	180	927	13,340				

Final KPC
July 18, 2006
Bovel I (SA3)

RI: 662
RN: 601

Health Center	Geography			Demography			First Sample Selection		Second Sample Section	
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #
Bovel I	17	1	Samaki	127	734	734				
	18	2	K Pong Chhnang II	172	828	1,562	[1] 1,263,	81	[21]	101
SA 03	19	3	Tomnop Toeuk	257	1,304	2,866	[2] 1,864, [3] 2,465	82 & 83	[22 & 23]	102 & 103
	20	4	K Pong Chhnang I	208	1,024	3,890	[4] 3,066, [5] 3,667	84 & 85	[24 & 25]	104 & 105
	21	5	Peam	279	1,438	5,328	[6] 4,268, [7] 4,869	86 & 87	[26 & 27]	106 & 107
	22	6	Kampong Phnov	293	1,584	6,912	[8] 5,470, [9] 6,071, [10] 6,672	88, 89 & 90	[28, 29 & 30]	108, 109 & 110
	23	7	Sangke Vea	208	1,023	7,935	[11] 7,273, [12] 7,874	91 & 92	[31 & 32]	111 & 112
	24	8	Stoeung Datch	246	1,220	9,155	[13] 8,475, [14] 9,076	93 & 94	[33 & 34]	113 & 114
	25	9	Datch Proth	251	1,159	10,314	[15] 9,677, [16] 10,278,	95 & 96	[35 & 36]	115 & 116
	26	10	Bovel I	416	2,272	12,586	[17] 10,879, [18] 11,486, [19] 12,081, [20E]12,586	97, 98, 99 & 100	[37, 38, 39 & 40E]	117, 118 119 & 120

Final KPC

July 18, 2006

Ampil Pramdoeun (SA4)

RI: 393

RN: 324

Health Center	Geography			Demography			First Sample Selection		Second Sample Section	
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #
Ampil	27	1	Ta Khiev	200	1,009	1,009	[1] 717	121	[21]	141
Pramdoeum	28	2	Bou Roun	304	1,570	2,579	[2] 1,041, [3] 1,365, [4] 1,689, [5] 2,013, [6] 2,337, [7] 2,661	122, 123, 124, 125, 126 & 127	[22, 23, 24, 25, 26 & 27]	142,143,144, 145, 146 & 147
SA 04	29	3	Dong	147	1,086	3,665	[8] 2,985, [9] 3,309, [10] 3,633	128, 129 & 130	[28, 29 & 30]	148, 149 & 150
	30	4	Ampil	294	1,001	4,666	[11] 3,957, [12] 4,281, [13] 4,605	131, 132 & 133	[31, 32 & 33]	151, 152 & 153
	31	5	Siem	200	993	5,659	[14] 4,929, [15] 5,253, [16] 5,577	134, 135 & 136	[34, 35 & 36]	154, 155 & 156
	32	6	Stapor I	115	798	6,457	[17] 5,901, [18] 6,225	137 & 138	[37 & 38]	157 & 158
	33	7	Dangkor Kramang	204	1,014	7,471	[19] 6,549, [20E] 6,873	139 & 140	[39 & 40E]	159 & 160

Final KPC
July 18, 2006
Prey Kposh (SA 5)

RI: 538
RN: 378

Health Center	Geography			Demography			First Sample Selection		Second Sample Section	
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #
Prey	34	1	Tahy	176	1,122	1,122	[1] 916	161	[21]	181
Kposh	35	2	Po	221	1,065	2,187	[2] 1,294, [3] 1,672, [4] 2,050	162, 163 & 164	[22, 23 & 24]	182, 183 & 184
SA 05	36	3	Tamat	232	1,191	3,378	[5] 2,428, [6] 2,806, [7] 3,184	165, 166 & 167	[25, 26 & 27]	185, 186 & 187
	37	4	Mak Khloeu	223	1,233	4,611	[8] 3,562, [9] 3,940, [10] 4,318	168, 169 & 170	[28, 29 & 30]	188, 189 & 190
	38	5	Prey Kposh	290	1,685	6,296	[11] 4,696, [12] 5,074, [13] 5,452, [14] 5,830, [15] 6,208	171, 172, 173, 174 & 175	[31, 32, 33, 34 & 35]	191, 192, 193, 194 & 195
	39	6	Dangkor Pen	254	1,444	7,740	[16] 6,586, [17] 6,964, [18] 7,342, [19] 7,720, [20E] 8,098	176, 177, 178 & 179, 180	[36, 37, 38 & 39, 40E]	196, 197, 198 & 199, 200
	40	7	Sranal	270	1,437	9,177				
	41	8	Kbal Thnorl	203	1,048	10,225				

Final KPC
July 18, 2006
Lovea (SA6)

RI: 499
RN: 359

Health Center	Geography			Demography			First Sample Selection		Second Sample Section	
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #
Lovea	42	1	Cham Ka	96	472	472				
SA 06	43	2	Lovea	323	1,622	2,094	[1] 858, [2] 1,217, [3] 1,576, [4] 1,935	201, 202, 203 & 204	[21, 22, 23 & 24]	221, 222, 223 & 224
	44	3	Kbal Spean	188	967	3,061	[5] 2,294, [6] 2,653, [7] 3,012	205, 206 & 207	[25, 26 & 27]	225, 226 & 227
	45	4	Lovea Chas	205	1,013	4,074	[8] 3,371, [9] 3,730	208 & 209	[28 & 29]	228 & 229
	46	5	Don Nhem	197	991	5,065	[10]4,089, [11]4,448, [12] 4,807	210, 211 & 212	[30, 31 & 32]	230, 231 & 232
	47	6	Dang Kor	133	633	5,698	[13]5,166, [14] 5,525	213 & 214	[33 & 34]	233 & 234
	48	7	Rean Sena	170	827	6,525	[15]5,884, [16] 6,243	215 & 216	[35 & 36]	235 & 236
	49	8	Don Ork	127	736	7,261	[17]6,602, [18] 6,961	217 & 218	[37 & 38]	237 & 238
	50	9	Ping Pong	181	897	8,158	[19]7,320, [20E]7,679	219 & 220	[39 & 40E]	239 & 240
	51	10	Svay Prey	264	1,325	9,483				

Final KPC
July 18, 2006
Kdol Tahen and Khlang Meas (SA7)

RI: **1,093**
RN: **697**

Health Center	Geography			Demography			First Sample Selection		Second Sample Section		Category
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #	A Village
Kdol	52	1	Boeung Anlork	50	400	400					
Tahen	53	2	Thmey	79	419	819					
	54	3	Damnak Dangkor	145	612	1,431					
	55	4	Kdol Loeu	115	735	2,166	[1] 1,790	241	[21]	261	
SA 07	56	5	Toul Krasang	151	811	2,977	[2] 2,487	242	[22]	262	
	57	6	Peam	87	339	3,316	[3] 3,184	243	[23]	263	
	58	7	Kan Dal	108	676	3,992	[4] 3,881	244	[24]	264	
	59	8	San	133	697	4,689	[5] 4,578	245	[25]	265	
	60	9	Kdol Krom	127	818	5,507	[6] 5,275	246	[26]	266	
	61	10	Tahen	289	1,513	7,020	[7] 5,972, [8] 6,669	247& 248	[27 & 28]	267 & 268	
	62	11	Soun Sla	320	1,402	8,422	[9] 7,366, [10] 8,063	249 & 250	[29 & 30]	269 & 270	
	63	12	Bour	225	1,040	9,462	[11] 8,760, [12] 9,457	251 & 252	[31 & 32]	271 & 272	
Khlang	64	13	O'Don Pov	179	2,010	11,472	[13]10,154, [14] 10,851	253 & 254	[33 & 34]	273 & 274	
Meas	65	14	Kampong Makak	101	487	11,959	[15] 11,548	255	[35]	275	
	66	15	Khlang	105	413	12,372	[16] 12,245	256	[36]	276	
	67	16	Chrang Bak	164	830	13,202	[17] 12,942	257	[37]	277	
	68	17	Anlong Rang	119	749	13,951	[18] 13,639	258	[38]	278	
	69	18	Bour Sangkreach	91	580	14,531	[19]14,336 [20E]15,033	259 & 260	[39 & 40E]	279 & 280	**A**
	70	19	Trapang Kbal Svar	79	337	14,868					
	71	20	Prey Thom	147	678	15,546					
	72	21	Prap Hep	103	518	16,064					
	73	22	Toul Snoul	107	545	16,609					
	74	23	Tumnop Trakoun	332	1,668	18,277					
	75	24	Boeung Sangke	113	650	18,927					
	76	25	Takot	186	926	19,853					
	77	26	Anlong Rey	114	698	20,551					
	78	27	Srash Toeuk	40	225	20,776					

Final KPC
July 18, 2006
Takrey (SA8)

RI: 482
RN: 368

Health Center	Geography			Demography			First Sample Selection		Second Sample Section		Category
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #	A Village
Takrey	79	1	Kam Prang	172	1,327	1,327	[1] 850, [2]1,218	281 & 282	[21 & 22]	301 & 302	
SA 08	80	2	Kampong Chamlong Leu	263	1,293	2,620	[3] 1,586, [4] 1,954, [5] 2,322	283, 284 & 285	[23, 24 & 25]	303, 304 & 305	**A**
	81	3	Toul Til	142	674	3,294	[6] 2,690, [7] 3,058	286 & 287	[26 &27]	306 & 307	
	82	4	Takrey	171	917	4,211	[8] 3,426, [9] 3,794, [10] 4,162	288, 289 & 290	[28, 29 & 30]	308, 309 & 310	
	83	5	Damnak Sala	148	654	4,865	[11] 4,530	291	[31]	311	
	84	6	Srash Toeuk	151	775	5,640	[12] 4,898, [13] 5,266, [14] 5,634	292, 293 & 294	[32, 33 &34]	312, 313 & 314	
	85	7	Srash Kampork	123	567	6,207	[15] 6,002	295	[35]	315	
	86	8	O' Chamlorng Krom *	124	562	6,769	[16] 6,370, [17] 6,738	296 & 297	[36 & 37]	316 & 317	**A**
	87	9	Sam Soeup	526	2,389	9,158	[18] 7,106, [19] 7,474, [20E] 7,842	298, 299 & 300	[38, 39 & 40E]	318, 319 & 320	**A**

Unable to go to Chamlorng Krom due to bridge broken. Samples moved to Kampong Chamlong Leu as these vilages are close together.

Final KPC
July 18, 2006
Kam Reang (SA 9)

RI: **316**
RN: **265**

Health Center	Geography			Demography			First Sample Selection		Second Sample Section		Category
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #	A Village
Kam Reang	88	1	Kam Reang	151	787	787	[1] 581	321	[21]	341	
	89	2	Svay Veng	91	382	1,169	[2] 846, [3] 1,111	322 & 323	[22 & 23]	342 & 343	
	90	3	Svay Sor	241	1,105	2,274	[4] 1,376, [5] 1,641, [6] 1,906, [7] 2,171	324, 325, 326 & 327	[24, 25, 25 & 27]	344, 345, 346 & 347	
SA 09	91	4	Sralov Torng	163	799	3,073	[8]2,436, [9] 2,701, [10] 2,966	328, 329 & 330	[28, 29 &30]	348, 349 & 350	
	92	5	Roka Bosh	180	830	3,903	[11]3,231, [12]3,496, [13] 3,761	331, 332 & 333	[31, 32 & 33]	351, 352 & 353	**A**
	93	6	O' Chrey	192	883	4,786	[14]4,026, [15]4,291, [16] 4,556	334, 335 & 336	[34, 35 & 36]	354, 355 & 356	**A**
	94	7	Prash Puth	119	504	5,290	[17]4,821, [18] 5,086	337 & 338	[37 & 38]	357 & 358	**A**
	95	8	Thmey	37	203	5,493	[19]5,351, [20E]5,616	339 & 340	[39 & 40E]	359 & 360	
	96	9	Sam Roung	104	520	6,013					

Final KPC
July 18, 2006
Trang (SA10)

RI: **811**
RN: **696**

Health Center	Geography			Demography			First Sample Selection		Second Sample Section		Category
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #	A Village
Trang	97	1	O' Anlok	413	2,181	2,181	[1] 1,507	361	[21]	381	
SA 10	98	2	Dey Krahorm	219	1,131	3,312	[2] 2,203, [3] 2,899	362 & 363	[22 & 23]	382 & 383	
	99	3	O' Chamlorng	125	556	3,868	[4] 3,595	364	[24]	384	
	100	4	Tasen	159	789	4,657	[5] 4,291	365	[25]	385	
	101	5	Svay Prey	57	348	5,005	[6] 4,987	366	26	386	
	102	6	Lovea Tee	156	789	5,794	[7] 5,683	367	27	387	
	103	7	Kandal (Trang)	138	583	6,377					
	104	8	Thmey	150	743	7,120	[8] 6,379, [9] 7,075	368 & 369	28 & 29	388 & 389	
	105	9	Trang	90	468	7,588					
	106	10	O' Koki (Trang)	59	249	7,837	[10] 7,771	370	[30]	390	**A**
	107	11	Svay	157	749	8,586	[11] 8,467	371	[31]	391	
	108	12	Dong	472	2,329	10,915	[12] 9,163, [13] 9,859, [14] 10,555	372, 373 & 374	[32, 33 & 34]	392, 293 & 394	
	109	13	O' Da Loeu	151	744	11,659	[15] 11,251	375	[35]	395	
	110	14	Svay Thom	48	275	11,934					
	111	15	Boeung Rang	117	624	12,558	[16] 11,947	376	[36]	396	
	112	16	O' Da	96	537	13,095	[17] 12,643	377	[37]	397	
	113	17	Kandal (O'Da)	48	250	13,345	[18] 13,339	378	[38]	398	
	114	18	Svay Chrum	65	328	13,673					
	115	19	O' Koki (O' Da)	103	540	14,213	[19] 14,035, [20E]14,731	379 & 380	[39 & 40E]	399 & 400	
	116	20	Veal Lomphath	130	619	14,832	10	370	30	390	**A**
	117	21	Tang You	129	585	15,417					

Unable to go to O'Koki (Trang), Samples changed to Veal Lomphath

Final KPC
July 18, 2006
Pich Chenda (SA11)

RI: **666**
RN: **540**

Health	Geography			Demography			First Sample Selection		Second Sample Section		Category
Center	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #	A Village
Pich	118	1	Sam Roung	77	392	392					
Chenda	119	2	Romdul	36	180	572					
	120	3	Kan Dal	81	389	961					
SA 0 11	121	4	O' Prayuth	77	397	1,358	[1] 1,206	401	[21]	421	
	122	5	Thnol Borth	135	741	2,099	[2] 1,746	402	[22]	422	
	123	6	O' Lohong	91	412	2,511	[3] 2,286	403	[23]	423	**A**
	124	7	Pich Chenda	140	717	3,228	[4] 2,826	404	[24]	424	
	125	8	Phnom Touch	664	3,012	6,240	[5] 3,366, [6] 3,906, [7] 4,446, [8] 4,986, [9] 5,526, [10] 6,066	405, 406, 407, 408, 409 & 410	[25, 26, 27, 28, 29 & 30]	425, 426, 427, 428, 429 & 430	
	126	9	O' Village	634	2,994	9,234	[11] 6,606, [12] 7,146, [13] 7,686, [14] 8,226, [15] 8,766	411, 412, 413, 414 & 415	[31, 32, 33, 34 & 35]	431, 432, 433, 434 & 435	
	127	10	O' Tapun (Sangke)	150	925	10,159	[16] 9,306, [17] 9,846	416 & 417	[36 & 37]	436 & 437	**A**
	128	11	Snoul	129	620	10,779	[18] 10,386	418	[38]	438	**A**
	129	12	Samaki (Pring)	284	1,373	12,152	[19] 10,926, [20E]11,466	419 & 420	[39 & 40E]	439 & 440	**A**
	130	13	O' Tasok	115	510	12,662					

Final KPC

July 18, 2006

Barang Thlak (SA12)

RI: 575

RN: 487

Health Center	Geography			Demography			First Sample Selection		econd Sample Sectio		Category
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #	A Village
Barang	131	1	Phnom Prik	199	996	996					
Thlak	132	2	Beng Sa Art	166	706	1,702	[1] 1,062, [2] 1,549	441 & 442	[21 & 22]	461 & 462	A
	133	3	Toul Kposh	157	771	2,473	[3] 2,036	443	[23]	463	A
SA 012	134	4	Koki	138	576	3,049	[4] 2,523, [5] 3,010	444 & 445	[24 & 25]	464 & 465	A
	135	5	Sralov	97	676	3,725	[6] 3,497	446	[26]	466	A
	136	6	Toul Chrey	243	1,214	4,939	[7] 3,984, [8] 4,471	447 & 448	[27 & 28]	467 & 468	A
	137	7	O' Chouth	63	312	5,251	[9] 4,958	449	[29]	469	A
	138	8	Barang Thlak	143	716	5,967	[10]5,445, [11]5,932	450 & 451	[20 & 31]	470 & 471	
	139	9	Chamka Srov	235	901	6,868	[12] 6,419	452	[32]	472	
	140	10	Damnak Ampil	55	261	7,129	[13] 6,906	453	[33]	473	
	141	11	Hong Toeuk	73	307	7,436	[14] 7,393	454	[34]	474	A
	142	12	Chamka Trop	99	675	8,111	[15] 7,880	455	[35]	475	A
	143	13	Chakrey	199	1,193	9,304	[16]8,367, [17] 8,854	456 & 457	[36 & 37]	476 & 477	A
	144	14	Toul	135	601	9,905	[18]9,341, [19]9,828, [20E]10,315	458, 459 & 460	[38, 39 & 40E]	478. 479 & 480	A
	145	15	Toul Khav	173	1,038	10,943					

Extra sample 20 E and 40 E conducted in Toul Village rather than go to Toul Khav

Final KPC
July 18, 2006
Angkor Ban (SA13)

RI: 413
RN: 389

Health Center	Geography			Demography			First Sample Selection		Second Sample Section		Category A Village
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #	
AngKor Ban Sa 013	146	1	Tasda	568	1,231	1,231	[1] 802, [2] 1,191	481 & 482	[21 & 22]	501 & 502	
	147	2	Chamka Lohong	89	465	1,696	[3] 1,580	483	[23]	503	
	148	3	Kon Phnom Choeung	101	662	2,358	[4] 1,969, [5] 2,358	484 & 485	[24 & 25]	504 & 505	
	149	4	Kon Phnom Tbong	37	253	2,611					
	150	5	Veal Vong	595	1,215	3,826	[6] 2,747, [7] 3,136, [8] 3,525	486, 487 & 488	[26, 27 & 28]	506, 507 & 508	
	151	6	Toul Chrey	96	274	4,100	[9] 3,914	489	[29]	509	
	152	7	Thnol Bombek	180	400	4,500	[10] 4,303	490	[30]	510	
	153	8	Kosh Touch	68	223	4,723	[11] 4,692	491	[31]	511	
	154	9	Kbal Hong	75	357	5,080					
	155	10	Thnol Bort	103	357	5,437	[12] 5,081	492	[32]	512	
	156	11	Pralay Prak	278	475	5,912	[13] 5,470, [14] 5,859	493 & 494	[33& 34]	513 & 514	A
	157	12	Andong Py	71	268	6,180					
	158	13	Toeuk Posh	158	392	6,572	[15] 6,248	495	[35]	515	A
	159	14	Tes Sam	359	952	7,524	[16] 6,637, [17]7,026, [18] 7,415	496, 497 & 498	[36, 37 & 38]	516, 517 & 518	
	160	15	Toeuk Thla	56	328	7,852	[19] 7,804, [20E]8,193	499 & 500	[39 & 40E]	519 & 520	A

Final KPC
July 18, 2006
Serey Meanchey (SA14)

RI: **678**
RN: **537**

Health Center	Geography			Demography			First Sample Selection		Second Sample Section		Category
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #	A Village
Serey Meanchey SA 014	161	1	Boeung Pralith	693	2,165	2,165	[1] 1,215, [2] 1,752	521 & 522	[21 & 22]	541 & 542	
	162	2	Killo 13	221	995	3,160	[3] 2,289, [4] 2,826	523 & 524	[23 & 24]	543 & 544	A
	163	3	O' Village	190	891	4,051	[5] 3,363, [6] 3,900	525 & 526	[25 & 26]	545 & 546	A
	164	4	Po Chrey	232	1,116	5,167	[7] 4,437	527	[27]	547	A
	165	5	Chhoeutial	240	2,251	7,418	[8] 4,974, [9] 5,511, [10]6,048, [11]6,585,	528, 529, 530 & 531	[28, 29, 30 & 31]	548, 549, 550 & 551	A
	166	6	Sralov Chrum	163	850	8,268	[12]7,122, [13]7,659, [14] 8,196	532, 533 & 534	[32, 33 & 34]	552, 553 & 554	A
	167	7	Cham Bork	137	769	9,037	[15] 8,733	535	[35]	555	A
	168	8	Killo 9	84	411	9,448	[16] 9,270	536	[36]	556	A
	169	9	Rasmey	97	451	9,899	[17] 9,807	537	[37]	557	A
	170	10	Spean Yol	437	2,084	11,983	[18]10,344, [19]10,881, [20E]11,418	538, 539 & 540	[38, 39 & 40 E]	558, 559 & 560	A
	171	11	O' Lovea	171	904	12,887					

Final KPC
July 18, 2006
Chakrey (SA15)

RI: 665
RN: 528

Health Center	Geography			Demography			First Sample Selection		Second Sample Section		Category A Village
	Sequent #	No.	Village	# of Family	# of Pop	Cumul Pop	Sample #	Ident #	Sample #	Ident #	
Chakrey	172	1	Damnak Khsan	419	1,992	1,992	[1] 1,193, [2]1,721	561 & 562	[21 & 22]	581 & 582	
	173	2	Anglong Kroch	181	904	2,896	[3] 2,249, [4]2,777	563 & 564	[23 & 24]	583 & 584	A
SA 015	174	3	Anglong Sdey	292	1,487	4,383	[5] 3,305, [6]3,833, [7]4,361	565, 566 & 567	[25, 26 & 27]	585, 586 & 587	A
	175	4	Bour	381	1,962	6,345	[8] 4,889, [9]5,417, [10]5,945	568, 569 & 570	[28, 29 & 30]	588, 589 & 590	
	176	5	Damnak Beng	264	1,283	7,628	[11]6,473, [12]7,001, [13]7,529	571, 572 & 573	[31, 32 & 33]	591, 592 & 593	A
	177	6	Spean Tomneap	284	1,523	9,151	[14] 8,057, [15]8,585, [16]9,113	574, 575 & 576	[34, 35 & 36]	594, 595 & 596	A
	178	7	Phnom Ampil	365	1,500	10,651	[17] 9,641, [18]10,169	577 & 578	[37 & 38]	597 & 598	A
	179	8	O' Da	376	2001	12,652	[19]10,697, [20E]11,225	579 & 580	[39 & 40E]	599 & 600	A

SUPERVISIOR AREAS CODES

HEALTH CENTER NAME

August 2006

01. Khnach Romeas	**KhR**
02. Bavel II	**BII**
03. Bavel I	**BI**
04. Ampil Pramdoeum	**APD**
05. Prey Kapos	**PK**
06. Lovea	**L**
07. Kdol Tahen / Kleang Meas	**KTH/KM**
08. Takrey	**Tak**
09. Kam Reang	**KReang**
10. Trang	**Trang**
11. Pich Chenda	**PCD**
12. Barang Thlak	**BT**
13. Ankor Ban	**AB**
14. Serey Mean Chey	**SMC**
15. Chakrey	**CR**

Attachment D: List of persons interviewed and contacted

1. Bun Sreng, Chief of Communicable Disease Control and Prevention Bureau, Cambodia Ministry of Health.
2. Chak Rya, USAID Mission in Cambodia, Project Officer in charge of Child Survival.
3. Cheng Lysunkheang, MCH Chief, Battambang Provincial Health Department
4. Pan Samkol, Sampovloun Operational District vice Director
5. Saint Chin Han, Thmor kol Operational District vice Director.
6. Heng Bunsieth, CRS Health Program Manager
7. Moul Vanna, CRS MCH/HIV/AIDS Manager
8. Chhoun Sovann, CRS Clinical Institution Manager
9. Mok Samoeun, CRS Community Activities Manager
10. Chhor Seakliv, Health Center Chief
11. So Sakhorn, the Secondary Nurse
12. Kong Kim Ho, the Primary Midwife
13. Leng Barang, the Primary Nurse
14. Earm Maly, the Primary Nurse
15. Ros Viroth, Primary Midwife
16. Thoeung Bunthoeun, VHV from Prey Sangha Village
17. Sok Sythoeun, VHV from Khnach Romeas Village
18. Srey Kov, VHC from Prey Sangha Village

List of People Interviewed in the Field

During the Child Survival Final Evaluation, we conducted the focus group discussion with the health center staff, VHV, VHC, HCMC, TBA and Mothers

- 29 health center staff in 4 different health centers
- 73 Community structures (VHV, VHC, HCMC, TBA) in different 4 different health centers'catchment areas
- 107 mothers in 9 different villages

Health Center Personnel:
Khanch Romeas Health Center: 8 health center staff

1. Chhor Seakliv, Health Center Chief, Primary Midwife
2. So Sakhorn, Secondary Nurse
3. Leng Barang, Primary Nurse
4. Kong KimHo, Primary Midwife
5. Chea Chandy, Temporary Staff
6. Phann Sareth, Temporary Staff
7. Ros Viroth, Primary Midwife
8. Eam Maly, Primary Nurse

Bovel II Health Center: 6 health center staff

1. E La, Health Center Chief, Primary Nurse
2. Sous Chhounn, Primary Nurse
3. Seng Sothsatmony, Primay Midwife

4. Mann Savy, Primary Midwife
5. Ream Rom, Temporary Staff
6. Poa Saborn, Temporary Staff

Angkor Ban Health Center: 9 health center staff

1. Oeu Lim, Health Center Chief, Secondary Nurse
2. Chhe Chamnan, Secondary Midwife
3. Tep Sya, Primary Nurse
4. San Savoeun, Secondary Midwife
5. Keo Hoeun, Secondary Nurse
6. Tim Vanna, Temporary Staff
7. Noun Sok Chea, Temporary Staff
8. Soa Roeun, Temporary Staff
9. Tyda, Temporary Staff

Pich Chenda Health Center: 6 health center staff

1. Meas Thear, Health Center Chief, Secondary Nurse
2. Vann Chanthy, Deputy Health Center, Secondary Nurse
3. You Sokhorn, Secondary Nurse
4. Ross Seng Ban, Temporary Staff
5. Keo Sunnary, Temporary Staff
6. Pok Ra, Temporary Staff

Community Structures:

<u>Khnach Romeas Community Structures:</u> 17 Community Structures

1. Sok Sythoeun, Village Health Volunteer, Khanch Romeas Village
2. Sim Chhay, Village Health Committee, Svay Sor Village
3. Am Narong, Village Health Committee, Roung Ampil Village
4. Kong Phloeun, Village Health Committee, Roung Ampil Village
5. Im Lang, Health Center Management Committee, Roung Ampil Village
6. Sea Chamnan, Health Center Management Committee, Roung Ampil Village
7. Khean Sarou, Health Center Management, Svay Sor Village
8. Hing Sophorn, Health Center Management Committee, Balang Loeu Village
9. Ley Soeun, Village Health Committee, Khanch Romeas Village
10. Thoeuy Bunthoeung, Health Center Management Committee, Prey Sangha Village
11. Srey Koa, Health Center Management Committee, Prey Sangha Village
12. Meach Sakhorn, Village Health Volunteer, Balang Loeu Village
13. Noun Kep, Traditional Birth Attendant, Prey Sangha Village
14. Eng Thy, Traditional birth Attendant, Svay Sor Village
15. Srey Roeung, Traditional Birth Atendant, Prey Sangha Village
16. Reach Sophorn, Village Health Volunteer, Khanch Romeas Village
17. Sim Chanda, Village Health Volunteer, Prey Sangha Village

<u>Prey Kposh Community Structures:</u> 16 Community Structures

1. Moung Sophron, Health Center Management Committee, Prey Kposh Village

2. In Samouth, Health Center Management Committee, Dangkor Pen Village
3. Sea Sary, Health Center Management Committee, Lovea Village
4. Sam Nak, Health Center Management Committee, Po Village
5. Soeung Phaloeun, Village Health Committee, Prey Kposh Village
6. Mouy Then, Village Health Committee, Sanal Village
7. Sann Soeun, Village Health Committee, Makhloeu Village
8. Soa Koeun, Health Center Management Committee, Makhloeu Village
9. Teang Oeung, Village Health Volunteer, Prey Kposh Village
10. Lanch Seang, Village Health Volunteer, Kbal Thnorl Village
11. Phumm Sarom, Village Health Volunteer, Makhloeu Village
12. Vang Kong, Village Health Volunteer, Po Village
13. Muth Yeang, Village Health Volunteer, Tamat Village
14. Am Sophy, Village Health Volunteer, Tahi Village
15. Runn Thear, Village Health Volunteer, Dangkor Pen Village
16. Sgneam Savy, Village Health Volunteer, Sranal Village

Pich Chenda Community Structures: 20 community structures

1. Mey Dy, Health Center Management Committee, O'Village
2. Yem Sophal, Health Center Management Committee, Romdul Village
3. Dy Sokhey, Health Center Management Committee, Sangke Village
4. Heng Soy, Health Center Management Committee, Thnorl Borth Village
5. Choa Tha, Health Center Management Committee, Thnorl Borth Village
6. Mom Ren, Health Center Management Committee, Kandal Village
7. Meas Kincheng, Village Health Committee, Thnor Borth Village
8. Oun Thoeun, Village Health Committee, Thnorl Borth Village
9. Ourn Soum, Village Health Committee, Thnorl Borth Village
10. Young Rann, Village Health Volunteer, O'Lohong Village
11. Soum Soeun, Village Health Volunteer, O' Lohong Village
12. Hoeun Samphors, Village Health Volunteer, O' Prayouth Village
13. Em Yard, Village Health Volunteer, Romdul Village
14. Lach Sim, Village Health Volunteer, Sam Roung Village
15. Eng Sim, Village Health Volunteer, O' Village
16. Theng Run, Village Health Volunteer, Phnom Touch Village
17. Hoeuy Chhoeung, Village Health Volunteer, O' Tasok Village
18. Vann Yorn, Traditional Birth Attendant, Phnom Touch Village
19. Lam Ran, Traditional Birth Attendant, O' Village
20. Tha Ly, Traditional Birth Attendant, O' Lohong Village

Barang Thlak Community Structure: 20 Community Structures

1. Say Poa, Village Health Volunteer, Beng Sa Art Village
2. Meas Sarin, Village Health Volunteer, Toul Chrey Village
3. Chek young, Village Health Volunteer, Toul Chrey Village
4. Min Sarin, Village Health Volunteer, Phnom Prick Village
5. Phlek Yen, Village Health Volunteer, Barang Thlak Village
6. Kim Vannak, Village Health Volunteer, toul Kposh Village
7. Pen by, Village Health Volunteer, O'Chorth Village

8. Ros Thorn, Traditional Birth Attendant, Chakrey Village
9. Thy Saron, Traditional Birth Attendant, Toul Village
10. So Sam On, Traditional Birth Attendant, Toul Chrey Village
11. Sous Chhil, Health Center Management Committee, Toul Village
12. Hem Born, Health Center Management Committee, Toul Chrey Village
13. Ngeth Touch, Health Center Management Committee, Chakrey Village
14. Sok E, Village Health Committee, Toul Pkosh Village
15. Heng Him, Village Health Committee, Toul Kposh Village
16. Kim Yeng, Village Health Committee, Beng Sa Art Village
17. Kheav Phy, Village Health Committee, Beng Sa Art Village
18. La Mom, Village Health Committee, Toul Village
19. Yem Sakun, Village Health Committee, Chamka Srov Village
20. Yin Phal, Village Health Committee, Phnom Prik Village

Mothers

1. Prey Sangha Village: 11 mothers
2. Khnach Romeas Village: 12 mothers
3. Prey Totoeung I Village: 12 mothers
4. Peam Village: 12 mothers
5. Bour Village: 12 mothers
6. Thmor Borth Village: 12 mothers
7. Toul Village: 12 Mothers
8. Beng Sa Art Village: 12 Mothers
9. O' Village: 12 mothers

Results: <u>Training provided to Community Structures</u>

The table below depicts all training activities provided to community structures during the life of the project and the results of the training:

Training Topic	Total # Participants	# Of times	Duration in days	Results
NIP	313 VHVs	2 times for @ group of VHVs in @ of 16 HC	1 day @ time	VHVs increased knowledge of 6 diseases and were able to educate the mothers about the importance of immunizations and to mobilize the mothers and pregnant women to receive immunization during routine and integrated out reach activity resulting in reaching the objective for full immunization for children and an increase in TT for pregnant women.
VHV Basic course	302 VHVs	10 training courses in 9 HCs	6 days @ course	VHVs were able to perform their role and responsibilities, develop the Village Health Register, provide Health education, mobilize mothers and pregnant women for NIP regular and special outreach, and refer sick children to the health center.
Linkage workshops	535 CS for 16 HC for @ times. (VHVs, VHCs, TBAs, HCMC, HC, Village chiefs, commune chief, OD rep. and CBHCT, and KY)	3 time in 16 HCs in the 5 years of the project.	2 days each time	Community structures, HC staff, OD managers and local authorities understand the role and responsibility of each other in the HC and communities and support each other to improve the health situation in their communities.
Malaria Case Mgt	190 VHVs in 8 HC in SL	1 time in 8 HCs	1 day each time	VHVs increased knowledge and skills for education to the community about malaria prevention and identification of danger signs of malaria and refer children and pregnant women with fever and chill to HC.
ARI case mgt	297 VHVs in 16 HC in 2 ODs	1 time in 16 HCs in 2 ODs	2 days for each course in @ HC	VHVs increased knowledge and skills of ARI to provide HE to the mothers for danger signs, home care and seeking care for children with rapid and difficult breathing for referral to the HC.
Vitamin A	345 VHVs each times in 16 HC in 2 ODs	2 time in @ 16 HCs in 2 ODs	1 day for each course at @ HC	VHVs got more understanding of the importance of Vitamin A, provided education to the mothers, gathered the numbers of children from 6-59 months and post partum women to record in VHR and mobilized children from 6 – 59 months and postpartum women for Vitamin A distribution resulting in an increase in Vitamin A coverage.
Bed Net impregnation for community structure	183 VHVs for each time	5 time in 9 HCs in SL and one HC in Bovel	1 day @ time	VHVs were able to explain to the mothers how to prepare the net, clean the net before impregnation, when impregnation would happen, how they should use the impregnated bed net, mobilized mothers for bed net impregnation and explained how to maintain the net after impregnated.

TOT to VHV to be trainers for Mother Group Leaders	271 VHVs in 16 HC	1 time in 16 HCs in 2 ODs	1 day each time	VHVs increased knowledge and skills to be trainers and were able to train MGLs on role and responsibility, e.g. mobilization of mothers for BCC sessions, outreach and campaigns, communication, recording attendance, and problem solving in the community.
VHV trained to MGL	1996 MGLs in 194 villages in Bovel and SL OD HC coverage areas	1 time in each of the 194 villages	1 day @ course	1996 MGL able to mobilize mothers in their group for BCC, outreach, campaigns and to record their attendance.
Village Health Register (VHR)	93 VHVs in 5 HC where VHVs were not already trained on VHR development in the basic course	1 time in 5 HCs	2 days for each group of VHVs	VHVs were able to develop the VHR, collect, record, update the information, and analyze and use the VHR information for mobilization of pregnant women and children, reporting to HC, follow up of drop out rate, and monitor health education coverage, and planning.
Malaria BCC	201 VHVs in 9 HCs	1 time in 9 HCs in SL and one HC in Bovel	2 day	VHVs increase knowledge and skills of malaria and used BCC strategy and participatory discussion with the mothers to increase their knowledge on danger signs, seeking care, prevention, home care for malaria.
Technical of bed net impregnation	12 HC staff and 28 VHVs	5 times in 9 HCs	1 day	HC and VHVs understand how to mix the chemical, how to record, how to provide education about maintaining and use of bed nets during bed net impregnation activity.
CDD BCC (Part I)	371 VHVs in 16 HC in 2 ODs	1 time in 16 HCs in 2 ODs	2 days each course	VHVs increased knowledge of diarrhea prevention, management and skill to use the BCC strategy and the use of participatory discussion with the mothers to increase their knowledge on danger signs, seeking care, prevention, home care for diarrhea.
ARI BCC	312 VHVs in 16 HC in 2 ODs	1 time in 16 HCs in 2 ODs	2 days each course	VHVs increase knowledge of ARI management and skill to use the BCC strategy and participatory discussion with the mothers to increase their knowledge on danger signs, seeking care, prevention, home care for ARI.
ORT (CDD Part II)	201VHVs in 16 HC in 2 ODs	1 time in 16 HCs in 2 ODs	1 day for each course	VHVs increase knowledge and skills to demonstrate to mothers how to mix and give ORT (amount and times)
ORS Mgt system	240 VHVs in 16 HC in 2 ODs	1 time in 16 HCs in 2 ODs	1 day for each course	All mothers/children in far distance villages are able to access of ORS in the community for children with diarrhea.
Basic course	196 HCMC members	1 time in 13 HCs (the other 3 HCs already had training)	7 days for each HCMC in each HC	HCMCs understood and were able to perform the role and responsibility to manage HC activities and improve transparency.

Capacity building to TBA'S from the child survival project. Sept 2001-Sept 2006

Training Topic	Total # Trained	# Of time	# Of Days	Training location	Results
NIP	199 TBAs in 16 HC in 2 ODs	10 times for @ group of TBAs in @ of 16 HC	1 day @ time	Each of 16 HCs	TBA increased knowledge of 6 diseases and were able to educate and counsel the mothers and pregnant women about the importance of immunizations and TT and to mobilize the mothers and pregnant women to receive immunization during routine and integrated out reach activity.
Hepatitis B	100 TBAs in 16 HC in 2 ODs	1 time for @ group of TBAs in @ of 16 HC	1 day @ time	Each of 16 HCs	TBA increased knowledge of Hepatitis B and were able to educate and counseling the mothers and about the importance of Hepatitis B, to mobilize the mothers in the community for routine and integrated out reach activity and refer newborns to receive the Hepatitis B Birth dose at the Health Center
Complimentary Feeding	139 TBAs in 16 HC in 2 ODs	1 training course in 16 HCs	1 day @ course	16 HCs	TBA increased knowledge to provide Health education and counseling to mothers and pregnant women for complementary Feeding during regular and out reach activities and campaigns.
Vitamin A and Iron rich food	51 TBAs in 16 HC in 2 ODs	1 time in 16 HCs in the	1 days each time	At each of the 16 HCs	TBA increased knowledge to provide Health education and counseling mothers and pregnant women on Vitamin A and Iron rich food for themselves and their children during regular and out reach activities and campaigns.
Malaria	72 TBAs in 8 HC in SL	1 time in 8 HCs	1 day each time	at each of the 8 HCs	TBA increased knowledge and skills for education to the pregnant women about malaria prevention and identification of danger signs of malaria and referral of pregnant women with fever and chill to HC.
Vitamin A	299 TBAs in 16 HC in 2 ODs	2 times in 16 HCs in 2 ODs	1 day for each course in @ HC	at each of the16 HCs	TBAs increased knowledge and skills of the importance of Vitamin A to provide education to the mothers of children from 6-59 months and post partum women to mobilize children from 6 – 59 months and postpartum women for Vitamin A distribution.
Brest feeding	299 TBAs each times in 16 HC in 2 ODs	2 time in @ 16 HCs in 2 ODs	1 day for each course at @ HC	at each of the16 HCs	TBA increased knowledge to provide Health education and counseling to mothers and pregnant women for immediate, exclusive and long term feeding during regular and out reach activities and campaigns.
Breast Feeding BCC	166 TBAs in 16 HC in 2 ODs	1 time in 16 HCs in 2 ODs	2 days each course	at @ of the 16 HC	TBAs increased knowledge of Breast feeding and skill to use the BCC strategy and participatory discussion with the mothers and pregnant women to increase their knowledge on immediate and exclusive and long term breast feeding.
Effective Health Education	71 TBAs in 10 HC in 2 ODs	1 time in 10 HCs in 2 ODs	1 days each course	at @ of the 10 HCs	TBAs increased knowledge of effective health education and skills to use during health education to pregnant women and mother.

Danger Sign during pregnancy	37 TBAs in 8 HC in SPL ODs (for others this was covered during the basic course	1 time in 8 HCs in SPL ODs	1 day for each course	at @ of the 8 HC	TBAs increased knowledge and skills to provide counseling and education to pregnant women on danger sign as fever, bleeding, edema, and refer to HC.
ANC	70 TBAs in 10 HC in 2 ODs	1 time in 10 HCs in 2 ODs	1 day for each course	at each of the 10 HCs	TBAs increased knowledge and skills to provide counseling and education to pregnant women on prenatal care and refer to HC

Capacity building to VHC's from the child survival project. Sept 2001-Sept 2006

Training Topic	Total # Trained	# Of times	# Of Days	Results
ANC	9 VHCs with 70 VHVs	1 time for each VHC in 9 VHCs.	1 day @ time	VHCs increased knowledge of ANC and were able to educate the mothers about the importance of ANC and to mobilize the mothers and pregnant women to receive immunization (TT) during routine and integrated out reach activity.
CDD	3 VHCs with 22 VHCs members	1 time for each VHC in 3 VHCs.	1 day @ time	VHCs increased knowledge of diarrhea management and skill to provide HE to the mothers to increase their knowledge on danger signs, seeking care, prevention, and home care for diarrhea.
ARI case mgt	17 VHCs with 123 VHVs	1 time for each VHC in 17 VHCs	1 day for each course in @ VHC	VHCs increased knowledge and skills of ARI to provide HE to the mothers for danger signs, home care, and seeking care for children with rapid and difficult breathing for referral to the HC.
Malaria Case Mgt	12 VHCs with 97 VHVs	1 time for each VHC in 12 VHCs	1 day each course in @ VHC	VHCs increased knowledge and skills for education to the community about malaria prevention and identification of danger signs of malaria and refer children and pregnant women with fever and chill to HC.
VHC bylaws	64 VHCs with 694 VHVs	1 time for each VHC in 64 VHCs developed and use bylaws	1 day for each course in @ VHC	64 VHCs developed VHC bylaw and used it as the guide to improve VHC management related to decision making, agreed to VHC role in bylaws, e.g. VHC vice chief possible as VHC chief if VHC not present.
Community Diagnosis	42 VHCs with 383 VHC	1 time for each VHC	3 days for each course at @ VHC	VHCs conducted community diagnosis, analysis, prioritized problems identified, came up with appropriate solutions e.g. related diarrhea and thus to water and sanitation project and other health issues, (Developed family latrine, pump well and hand dug well, also educated to communities on how to used and maintain the project and had washing with soap. Other health problems identified TB, HIV/AIDS, Dengue, Malaria and ARI,

Community health planning	64 VHCs with 694 VHVs	5 times in 64 VHCs developed community health planning each year	2 days @ time for each VHC.	VHCs developed health planning and used it as the guide to improve community health. In the community health planning they addressed immunization coverage, Village project maintaining, organizing for cleaning, VHC capacity building related to the weak point of VHC, BCC health education coverage related to ARI, CDD, Malaria and health education related to village project and link with other existing structure
Effective Health education	10 VHCs with 72 VHVs	1 time in 10 VHCs	1 day each time	VHCs increased knowledge and skills on how to do effective health education by using appropriate methods and mobilizing people for health education.
Advocacy	17 VHC with 176 members	1 time in each of VHC.	1 day @ course	VHCs increased knowledge and skills on how to do advocacy for issues, e.g. For water source protection and for all family to use latrine in the community to prevent diarrhea, dysentery and typhoid fever in the community.
Role and function	50 VHCs with 542 VHVs	1 time in 50 VHCs identified their role and function	1 day @ time for each VHC.	50 VHCs identified their role and function and used it as the guide to improve VHC management related to decision making. Roles were accepted by the community
Village Health Register (VHR)	64 VHCs with 694 VHVs	1 time in 64 VHCs	1 day for each VHCs	VHCs developed the VHR according to the new format in order to collect, record, update the information, and analyze and use the VHR information for mobilization of pregnant women and children, reporting to HC, follow up of drop out rate, and monitor health education coverage, and planning.
Proposal development	50 VHCs with 542 VHVs	2 times in 50 VHCs developed village project proposal.	2 days at time for each VHCs	VHCs developed village project proposal for family latrine project and hand dug well and pump well projects related to the problem identified in the communities to reduce the root cause of diarrhea, dysentery and typhoid fever.
Technical of latrine construction, latrine use, hand washing and safe water use	50 VHCs with 542 VHVs	2 times in each VHCs for 50 VHCs	1 days at time for each VHCs	VHCs mobilized people for construction of the projects, how to do latrine construction and maintain and use latrines. Health education on washing hands with soap, protect the water source to be safe for communities using, use latrines.
Facilitation and communication skills	38 VHCs with 324 VHVs	1 time in each VHCs	1 day at time for each VHCs	VHCs increased knowledge and skills on how to Facilitate VHC and communities meetings, for problem identification and sharing to the community and with village chief and MLG for community mobilizing.
Managing resource and assessing resources	9 VHCs with 74 VHVs	1 time in each VHC	1 day at time	VHCs increase knowledge and skills on how to managing resource and assessing resources to implemented village project and planning for problem solving during the project implementation.

Results:

1. Training Provided to HC and OD

The table below depicts all the training activities CRS provided to PHD, OD and HC staff during the life of the project (LOP).

Health Topics	# staff trained	# of time During LOP	Duration of training	Results
New annual health planning/analysis	10 OD Managers (5 from SL and 5 from TK)	6 times	5 days each time	OD Managers able to implement the New Health Planning Strategy from MoH and PHD to use with HC and OD annual planning.
New annual health planning/analysis	83 HC, RH and OD (in 16 HC in 2 ODs SL and TK each time) ***Sampov Loun OD:*** 16 HC staff/8 HC; 5 RH staff and 10 OD staff ***Thmor Kol OD:*** 34 HC_ Bovel & TK; 5 RH staff and 13 OD staff	6 X for @ OD & all their HCs	3 days each time	HC and OD staff increased their knowledge and skills for developing the annual health planning and analysis of the results and used them in their planning and analysis.
Quarterly, semi-annual and 9 month planning and analysis	83 HC, RH and OD(in 16 HC in 2 ODs SL and TK each time) ***Sampov Loun OD:*** 16 HC staff/8 HC; 5 RH staff and 10 OD staff ***Thmor Kol OD:*** 34 HC_ Bovel & TK; 5 RH staff and 13 OD staff	15 X for @ OD with all their HCs	3 days each time	HC and OD staff increased their knowledge and skills for analyzing quarterly health planning and revising plans based on the results and used this in their analysis and planning.
Facility IMCI TOT	15 OD and PHD (6 in @ OD and 3 PHD)	1 time	5 days one course	PHD & OD managers developed capacity to train F/IMCI basic course to HC staff.
Facility IMCI basic course	142 in 2 OD: 43 Bovel HC; 38 SL HC; 38 TK HC; 7 OD TK and 10 OD SL & 6 SL RH	4 courses	11 days each course	OD, RH and HC staffs increased the knowledge and skills for clinical IMCI and were able to implement health center F/IMCI.
IMCI supervision	15 OD and PHD	1 course	5 days one	PHD and OD managers were able to provide quality IMCI

	(6 in @ OD and 3 PHD)		course	supervision to the health center staff through using the quality checklist and providing feedback to the HC staff.
NIP TOT training	6 OD Managers (3 in @ OD)	1 time	3 days	OD managers trained by MoH and PHD increased their knowledge and skills and were able to provide echo training to health center staff.
Vitamin A analysis	60 OD & HC staff in two ODs	2 times for each OD	1 day each time	OD & health center staff analyzed the results and identify the strengths, weakness and developed the action plan responding to the weak and strong points for providing Vitamin A.
ARI /CDD case management TOT	10 OD Trainers in 2 ODs	1 times for each OD	1 day each time	OD staff was able to provide the ARI/CDD case management training to the HC staff.
ARI/CDD clinical case management	23 OD, RH and HC staff in 8 HCs in OD SL	1 time	4 days	OD, RH and HC staff increased their knowledge and skills on ARI/CDD clinical and be were able to provide the child's assessment, classification and RX.
Infection Control	96 HC staff in 16 HC in 2 ODs	3 courses	1 day for each course	Health center staff understood the WHO sterilization technique and were able to applied this at the health center.
KPC survey 2000+	4 PHD & OD managers	1 time	12 days	PHD & OD managers understood the concepts of KPC survey 2000+ and were able to participate in conducting the KPC survey.
Data analysis (KPC baseline survey result)	19 OD managers and HC staff	1 times	3 days	OD Managers and HC staff participated in analysis of the results of baseline KPC survey and was able to use this to implement the project.
Basic Infection Control	60 HC staff in 16 HC and 2 ODs	1 times /HC	3 days	HC staff was able to use infection control measures to ensure sterilize equipment and techniques at the health centers.
Basic Accounting	12 HC staff in 2 HCs	1 times @ HC	2 days each time	The health center staff improved their capacity and transparency for HC income and expenditures.
NIP protocol update	48 HC staff in 16 HC in 2 ODS	2 courses. One in @ OD	3 days each time	HC staff increased knowledge and skills for improving the NIP management at the health center.
IMCI dissemination workshop	46 (PHD, OD, HC, & NGOs)	1 times	2 day	F/IMCI strategy shared by MoH, PHD, CRS & SL & TK OD and HC to the other OD and NGOs in BTB.
BCC Breastfeeding	35 Midwives in 16 HC in 2 ODS	1 times	2 days each time	HC midwives increased knowledge and skills on the new methodologies and improved counseling related to breastfeeding.
IMCI mother's counseling refresher course	64 HC staff in 16 HC in 2 ODS	2 courses for each HC and OD	3 days each times	Increased HC staff knowledge and skills improved mother's counseling on IMCI.
Drug management	20 HC & RH staff in 8 HC	1 time	5 days	Drug management at the health center improved, in term of

	in SL			requesting, recording, reporting and drug shortages decreased.
Malaria out patients management	28 HC staff in 9 HC (8 HC in SL and 1 HC in B)	1 times	3 days	HC staff increased knowledge and skills and improved the Malaria clinical case management for out patients.
Malaria for inpatient management	18 RH & 2 HC with beds(One in each OD)	1 time	3 days	RH & HC with bed staff increased knowledge and skills and improved the Malaria clinical case management for inpatients.
Health Information System	81 staff (HC and RH staff in 16 HC, 1 RH in 2 ODs)	3 courses	5 days each course	HC & RH able to manage their Health Information System more accurately for data collection and reported on time to OD and PHD levels.
Vitamin A TOT	8 OD Managers in 2 ODS	1 course	3 days	MoH & PHD trainers increased knowledge and skills of the OD manager/trainers for providing echo training to health center staff.
Vitamin A training	83 HC staff in 16 HCs in 2 ODs	3 courses	3 days each course	HC staff provided Vitamin A echo training and assisted VHV to increase coverage through mother's mobilization, organization, health education and registration of # of mothers attended the Vitamin A sessions.
Integrated community outreach training	34 OD managers & HC staff in 8 HC in SL	2 courses	3 days each course	HC and OD staff increased the knowledge and skills on integrated community outreach and applied the MOH curriculum for improving the outreach activities.
General Laboratory training	9 Laboratory staff (8 from RH and 1 from HC with bed in SL)	1 course	12 days	RH and HC with beds staff increased the knowledge and skills on the general Laboratory and were able to use the knowledge and skills for improving the clinical services at Hospital through training by PHD.
Hepatitis B	36 HC staff in 16 HC in 2 ODs	2 courses	2 days each course	HC staff understood and promoted the new vaccine for integration into NIP.
IMCI feedback meeting	50 HC staff in 16 HC in 2 ODs	16 times	1 day each time	HC IMCI trained staff increased the knowledge and skills and improved the weak points found by the OD supervisors during the supervision visits at the health center.
ORS System	16 HC and 2 OD in 2 ODS	1 time	1 day	HC staff increased knowledge and skills to train VHVs on ORS system and to set up the system at the HC.

The table below depicts all training activities CRS staff attended and the Results. Training came from a wide variety of organizations.

Training Topics	# Staff Trained	Duration in days	Frequency	Results
Facility Clinical IMCI Management	14	11	1 time	CRS managers and staff were able to assist the PHD, OD and HC in developing IMCI
Facility Clinical IMCI Management Training of Trainers	6	5	1 time	CRS managers and staff were able to assists the MoH, PHD and OD to train the health center staff.
IMCI Supervision	11	5	1 times	CRS was able to provide TA to the OD supervisors for IMCI supervision
KPC 2000 + Baseline Training	6	12	2 times	CRS used learning to conduct the baseline, and final KPC surveys and LQAS monitoring
KPC data entry	6	4	1 time	CRS managers had some knowledge of KPC data entry into EPI Info but this was not sufficient to allow them to do this themselves.
KPC analysis	13	1	2 times	Analysis used for DIP and annual planning
KPC Survey	10	2	2 times	Staff was able to conduct the KPC baseline and final.
LQAS training	13	1	3 times	Manager and staff were able to conduct the LQAS monitoring survey
LQAS Result analysis	18	1	3 times	Managers and staff were able to analyze the LQAS data and use it in monitoring the project and in yearly planning
USG Compliance and Management	5	5	3 different times	Advisor and Manager were able comply with USG regulations
Drug Management	17	2	1	Managers and staff were able to provide TA to HC staff related to drug management
National Immunization Program (NIP)	13	3	1 time	Managers and staff were able to provide TA to HC on NIP technical and management.
National Immunization program (NIP)	13	3	1 time	Managers and staff could utilize the new national NIP protocol with HC and improve NIP.
New Health Update	5	5	2 times	Managers had information on new health issues which were shared with staff and partners
Propack training	2	5	1	Advisor and managers were able to design and develop improved proposals and to improve project monitoring and evaluation.
IHD (Integral Human Development)	3	2	1	Managers were able to use the IHD in developing projects
Advocacy	4	3	1	Managers were able to use advocacy within the program and to

				develop improved curriculums for staff and their partners.
Tuberculosis	3	1	1	Managers gained knowledge and skills for managing TB programs
BCC	5	3	1	Managers developed skill for BCC training and implementation and shared with staff.
BCC	16	6	1	All managers and staff developed knowledge and skills in adult learning and BCC participatory methods.
Vitamin A	13	2	1	All staff increased knowledge on Vitamin A to become trainers and to provide TA for Vitamin A distribution
Behave (BCC)	2	5	1	Advisor and staff increased knowledge on the Behave BCC method and shared it with other managers and staff to improve BCC in the program.
Hepatitis B Vaccine	16	2	1	Managers and staff understood this new vaccine and were able to help the HC provide it and the Community Structures to promote it.
ARI Curriculum (BCC)	8	1	1	Staff were able to train the curriculum to HC and VHVs
Malaria Curriculum (BCC)	8	1	1	Staff were able to train the curriculum to HC and VHVs
Bed net impregnation	8	1	5	Staff was able to provide TA to OD, HC and Community structures for bed net impregnation.
CDD Curriculum (BCC)	8	1	1	Staff were able to train the curriculum to HC and VHVs
ORS management and system	8	1	1	Staff was able to provide TA to HC and VHVs to set up the ORS system in the community.
VHC development procedure	8	1	5	CRS Village Activity Manager and Project Officer used this as a guide for VHC development and VHC activities.
World Breastfeeding Week	16	1	1	CRS Midwife staff were able to provide TA to the OD and HC midwives and TBAs to implement WBFW
IMCI Campaign	16	1	1	CRS staff were able to assist the HC and Community Structures to conduct the IMCI campaign
Child Survival Campaign (ARI, CDD, Malaria, ORT, Breastfeeding, Washing hand with soap and complementary feeding)	16	1	1	CRS staff was able to assist the HC and Community Structures to conduct the Child Survival campaign.
Contemporary Management	1	5	1	The program manager improve management of the program
Malaria out and in patients care	7	3	1	CRS Clinical manager and staff were able to provide TA to the HC, RH and OD staff on malaria in and out pt care.
Water and Sanitation	2	3	1	CRS staff gained knowledge and skills to improve the VHC water and sanitation projects

Water and Sanitation International Workshop	1	10	1	CRS manager gained knowledge and skills to improve the VHC water and sanitation projects.
Annual planning, quarterly analysis and planning	18	3	4/per year	CRS managers and staff gained knowledge on analysis and used the analysis in planning and improving the program
Child Survival NGOs sharing the experience and lesson learned	16	2	1	Participants from ADRA, WVC, WR, CARE, PFD share about CRS Child Survival Program and field visits learned from each others projects
Child Survival NGOs sharing the experience and lesson learned at WR and WVC	2	2	2	Participants from ADRA, WVC, WR, CARE, PFD and CRS share about their Child Survival Programs and field visits learned from each others projects
MIS revision	18	5	1	Reviewed and revised MIS by the external consultant

Working Group: This table shows the work that CRS managers and staff did with the National Working Groups

Training Topics	# staff Trained	Duration in days	# of Time	Comments
PHC Policy and Implantation Guide	1	1	1	Assisted the working group to develop the PHC and Implementation guide for the country. This working group took for 2 years.
C-IMCI Working Group at MoH	2	1/2	1 every month	Assisted the MoH to develop the strategies to implement the Key Family Practices
Finalize and dissemination of the Malaria Protocol	1	1/2	1	Assisted the national to finalize the protocol and disseminated to all PHD, OD and NGOs.
Child Survival Technical Working group at Medicam	1	1/2	1 every 2 months	develop the strategies and influent into the MoH strategies for Child Survival
Infant and Young Child Feeding Practices	1	1	1 every 3 months	To develop the best practice strategies to improve the Infant and Young Child feeding
Child Survival Conference	2	1	1	Share Child Survival Strategies with Government and NGOs

Technical and Administrative Support from CRS

Type of TA	Source	Timing	Usefulness
Child Survival Proposal Development	Senior Technical Advisor	Appropriate	Very useful, but could have used more help with budget development
Child Survival DIP Development	Senior Technical Advisor and PQSD Manager ,	Together – appropriate	Useful
Child Survival DIP Development	Country Program Representative and Health Program Advisor	Appropriate	Very useful
Child Survival Technical Inputs	STA	Came every year	Useful
Technical Inputs	RTA and Health Technical Commission	Met every year	Useful
Technical, administrative and financial management and program management	Health Program Advisor	As needed	Very useful
Management at HQ	CRS HQ	Good	Useful for managing the program according to USAID guidelines
Advocacy	CRS Region	Appropriate	Useful
IHD	CRS Region	Appropriate	Useful
Program	CRS Region	Appropriate	Useful
Water and Sanitation Workshop- CRS world wide	CRS HQ	One time	Useful
BCC methods	Regional consultant	Appropriate	Useful

External Technical and Administrative Support

Type of TA	Source	Timing	Usefulness
Child Survival Proposal Development	External Consultant	First one –did not do what needed to be done so timing for 2nd was a problem as was late	1st – not useful 2nd : very useful
KPC 2000+ Survey	CSTS	Good to have for Baseline Survey, but difficult to do at the same time as doing the survey	Not enough on developing of data entry forms and data analysis and reporting.
USG Financial Compliance and Management Training	CRS with consultant for USG	Several different times during the project	Good for regulations but not so useful for real budget management
MIS	Consultant	one time during the project	Useful, it helped us to revise the MIS data collection forms and computerize
Midterm Evaluation	Consultant	Was done 2004	It was useful for the program
BCC	Consultant	one time	Useful for the program to change the strategy and

			used different methods and strategies for BCC
F/IMCI Basic, TOT and supervision	Cambodian MoH & WHO	Training for 6 courses	Useful strategy for CRS to be able to provide the technical assistance for IMCI to the OD and HC.
National Immunization Program Management and Technical	Cambodia National Immunization Program	Appropriate when the MoH changed the strategy to use the refrigerators and medical waste disposal	Useful
Malaria diagnosis, care and treatment in and out patient	Provincial Malaria Manager	Appropriate	Useful for staff to have knowledge and skills to provide assessment, classification and treatment at the malaria zone
Vitamin A	PHD	Appropriate	Useful
Young Infant and Child Feeding Practices	YICF working group	Appropriate for CRS to share experience to develop the strategies	Useful
BEHAVE BCC methods	CORE Group	Good time	Useful
Water and Sanitation	Cambodia Rural Development	Appropriate	Useful

ATTACHMENT F1: FOCUS GROUP DISCUSSION REPORTS

Health Center Staff

I. INTRODUCTION

As part of the project titled "Community Based Primary Health Care (Child Survival Project)," CRS and ODs implemented activities to improve the delivery of CS interventions at the Health Centers in the project's ODs. These activities were implemented in the four ODs included in the Battambang Province and included technical assistance, training and monitoring the quality of service delivery. Focus group discussions were used to help evaluate these interventions designed to improve health services in the project's ODs

A. Objectives

1. To understand health center staff work, experience and the obstacles that they faced during this project.
2. To assess how effective was the capacity building approach used by the project.

B. Sample

The focus group discussion was done in 4 HC is the two project's ODs (see detailed list of interviewed staff in Attachment D)

Bolvel OD

Bovel II HC: 4 primary nurses, 1 Primary MW, 1 Secondary MW
Khnach Romeas HC: 1 Pharmacist, 1 vice chief of OPD, 1 NIP and 1 HIV/AIDS& ANC and two other nurses.

Sampov Loun OD

Angkor Ban HC: Total of 9 staff participated
Pich Chenda HC: Total of 6 staff participated

C. Methodology

The list of questions for the discussions was developed in collaboration with CRS Project Officers, Managers, Evaluation Team and operational District, PHD and MoH.

II. FINDINGS

1. Participation

HC interviews were long tiresome and participation was not optimal the end. Interviewer sometimes did not understand the objective of the question; more time was needed for with the team to be sure the interview process. Pre-test of questions was missing, an important process to understand the questions.

The questionnaires should be developed based on what we want to assess, why, how will be do this, what will we ask. There was not good communication between interviewers and recorders, and could not be corrected during the sessions. It was recommended to have two recorders.

2. Discussion

1. How did CRS assist you to improve your health center services?

a. For clinical services IMCI?

How did the materials and equipment that you received help you implement the intervention? Explain (How did you use them?) How did the training you received help you to implement the intervention? Explain (Frequency, how effective was the methodology, visual aids, trainers how could this be improved, are training materials useful, understandable, How often do you use training materials, How replace them?) How did the technical assistance you received help you to implement the intervention? Explain. What changes did you make in your clinical health services? What were the difficulties that you faced? What are the additional support that you need from OD, PHD, MoH and NGO?

<u>Sampov Loun OD</u>

All of the IMCI trained staff reported they received the technical assistance through routine CRS monitoring and OD supervision and IMCI feedback meetings at the OD provided by the OD supervisors after completed each round of IMCI supervision every 2 months. The health centers recieved essential equipment and supplies from CRS and OD and MoH for implementing the facility IMCI. ORT corners are evailable for those health centers for providing rehydration for children with diarrhea. One of the health center said they recieved the drugs for IMCI as well as when the drugs shortage.

After IMCI strategy was trained and used the health center utilization of children less than 5 years are continue to increase for both health centers.

All of the IMCI trained staff reported that they used IMCI chart booklets, recording card for providing the assessment, classification and treatment for the sick child and used the mother's counseling card to provide counseling to mothers.

Many IMCI trained staff said the IMCI strategy spent more time if compare to past practices of the case management of the sick child, especially spent more time for counseling to mothers.

Those health center staff requested to CRS for more support materials such as recording forms and mothers' counseling cards, and financial support for IMCI feedback meeting every month to share the experience with OD and health center staff and refresher course on management of sick infant.

Bovel OD

The majority of the staff recognized the importance of the IMCI chart/protocol and used it to assess, classify and treat the patients. In both HC, the majority of staff felt that the IMCI mother's card was useful for counseling to mothers. The equipment (scale, thermometer, etc.) to assess child was seen by staff as essential to be able to assess the child.

The majority of the staff said that the method for training was useful, especially the practice. Most of the staff agree that some of the staff did understand everything because it was too short of time and due to their previous knowledge and skills. (Some are primary nurse and others secondary nurse). They would like to have longer training up to 15 days.

Staff felt that technical assistance and supervision OD, PHD and technical assistance from CRS was useful to help them improve IMCI. Refresher courses on counseling and meetings on IMCI helped them to improve IMCI.

The Bovel staff recommended: to increase the number of children coming to the clinic. Mothers should get better counseling for child care. Hc should also check mother's health. Before they only identified one disease now by using the method can identify more disease in one child and also address feeding practices; and HC have increased the patient flow

IMCI takes more time and have more children but not more staff, but the tradeoff is that mothers have to wait a long time, which is difficult with more children especially when some staff have to go to the field for other activities and few staff are there to see patients.

Only Bovel II HC reported that Drug supply and recording card sometimes were not on time.

Recommendations were also to have IMCI refresher courses and more regular supervision from OD._Bovel staff reported that would like to have 100% of staff trained on IMCI, and the temporary staff so that they can work when the permanent staff are not in the HC.

b. For ANC?

Sampov Loun OD

All of midwives said the equipments and supplies (posters, leaflets, flipcharts, stethoscope, sphygmomanometers, measuring rope and foetoscope) provided by the CRS was helped the health center midwives to use to provide counseling on breastfeeding and malaria screening and distributed the materials to mothers and pregnant women and CRS

refilled when the shortage of the materials. The equipments were useful to use for the ANC and PNC for pregnant women.

All of midwives trained in the ANC three to four times a year. They are satisfied with the methodologies and facilitators techniques for training such as group discussion, demonstration, good facilitator's techniques and also ice breakers to make the participant to enjoy with the training.

All midwives in all health centers said they received technical assistance from OD and PHD and the Reproductive Health Program of the MoH supported by UNFPA, the technical assistance through supervision every 3 months to health center. They received the technical assistance from CRS for ANC and PNC and safe delivery through the using the checklists, providing feedback to the health center's midwives and also clean delivery kits provided by CRS. The knowledge and skills recieved from OD, PHD and CRS helped the midwives to improve ANC, increased the clients and better recording in mother's health cards and ANC register.

One of the health center staff said they faced with difficulty for the delivery at the health center due to the health center does not have room for post partum women to stay a few days after delivery and the delivery room do not have the drainage system.

One of health center requested to CRS to continue technical assiatnce to TBAs to improve the knowledge and skills and financial support to have TBA meeting and training every other months.

Bovel OD

Physical exam equipment, education material and mother health book and register were received and were seen as essential to be able to do assessment of and provide care to the pregnant woman.

Midwives have better knowledge and skills for counseling pregnant women on BF, immediate and exclusive BF. Utilization of ANC services have increased.

OD and CRS demonstrated how to fill out register and Mother’s card. Use of checklist helped them to learn.

Increase in **# of ANCs (Bovel II – from 50 to 100 ANC per month).** Mother behavior change from no immediate and ExBF to now doing Immediate and Ex BF

One MW in Bovel II has difficult to fill out mother’s health card and register
Khanach Romeas MW showed no difficulties**.**

OD supervision more often and refresher course on filling mother card and register and material and equipment if broken.

c. For Immunizations?

Sampov Loun OD

The equipments and supplies (Posters, banner, loud speakers, audio-visual aid, motorbikes, per diem & transport) help them to implement the outreach activities in the communities.

All NIP staff on those the two health centers were trained including on Vitamin A twice a year, with an effective methodology. Training was clear and easy, as well as the demonstration exercises. The materials which they received from training was used for implementing their jobs as monthly NIP routine activities in the villages including the immunization at the health center and campaign 2 times per year for Vitamin A.

They received technical assistance from the OD, PHD, MoH and CRS through trainings and supervisions and CRS used the checklist to monitor the activities of NIP at the health center and community.

Both health centers said the vaccination coverage of the children is increasing for both health center, the generator and vaccines are available at health center and the children received immunization as daily basis and the drop out rate of the immunization decreased.

Both health centers reported that the vaccines supplied was delay sometimes due to the road condition and OD did not supplies on time as the plan so the schedule of the immunization was changed from the original schedule. One of the health center reported the mothers changed the address (migration) caused the children did not get complete the immunization and also delay get the vaccination and mothers did not keep the card well. Both health centers reported that some of the villages did not access for staff to go to provide immunization to children and women in rainy season.

One of the health centers suggested and requested to CRS to continue to support the financial for outreach activities and refresher training on NIP.

Bovel OD

Training was easy and introduced the use of disposal syringes and needles. Cold chain strengthened; all CH have refrigerators in good condtions and are able give immunizations every day. Thay also reported that have all material they needed.

NIP staff have improved their knowledge and skills to provide the immunizations and education to the mothers.

Technical assistance was hrough meeting and training helped staff to use what they learned. CRS assistance in the village and HC helped them to make the changes needed.

Mothers feel safe because of the use of disposable needles and syringes. Medical waist management has been introduced as well.

Among the difficulties mentioned were, transportation and the cost of gasoline. Some communities do not have access during the rainy season. Migration of people makes it difficult to mobilize people and track the people especially for measles.

When asked about further support, HC staff mentioned the need of motor bikes, and budget for transportation.

d. For management?

How did CRS assist you to improve your health center management? In Health Planning and analysis? What changes did you make? What difficulties did you face? Infection Control? Accounting?

Sampov Loun OD

Technical assistance and financial support provided by CRS to develop the quarterly, semi, and annual plans (data collection, analysis of strength & weaknesses, developed planning) at the health center level, the plan was reviewed at the OD.

All staff for both health centers mentioned that, they have skills to analyze the data and developed the planning by using the OD/MoH health planning formats.

One health center mentioned that the trained staff was rotated to another place then it was affected the planning and another one mention that they need to technical assistance from CRS on budget calculation for each activity.

All staff in those health centers mentioned that CRS provided and supported the training, technical assistance, provided IEC materials, equipment of sterilization, supplies for the sterilization and other supplies. CRS constructed the incinerators and pits for the sharp objects. The staff sterilized the equipment 2 times per month and the health centers were clean. Both health centers mentioned that the rubbish bins had been broken and need to have replacement.

One of the health center mentioned that they did not get train on account system and another one said the staff got train but he was moved to work for other services. Both of the health centers mentioned that if they did get formal training, but they are able to record the incomes, expenditure and record all of those into the ledger book and report to the OD every 3 month.

Bovel OD

Training and technical support to do health planning. Now they have knowledge and skills to develop HP and use it to know where they reach with their activities.

Bovel II had difficulties to do budget plan and write objectives; also reported that their budget was changed by the top levels.

In infection control also received training, IC materials, sterilization materials, kit, construction of incinerator. Staff know how to use clean and sterile technique and to prevent infection for themselves and patients**.**

TA on accounting. Khnach Romeas in the past needed budget, TA and support but now can do on their own. Bovel II reported that now can keep track of expenditures and income.

Among the difficulties mentioned that both HC have assigned staff to do accounts but they work is still too demanding and will need more financial management staff

e. For the use of quality checklist?

How useful were the checklists used by CRS with you? What decisions did you make using the results of the checklists? What would be your recommendation about the use of checklists to CRS? Accounts, IMCI, Infection Control, ANC, Breastfeeding, and NIP.

Sampov Loun OD

Both health centers mentioned that, the checklists were very useful to find the mistakes and weaknesses and provide feedback to health center's staff to correct the mistakes and improve activities as daily basis.

Both health centers recommended that, they would CRS continue to use the checklist to monitor the activities and provide feedback to improve the quality services.

Of the activities that CRS worked with you what will you maintain and why? If HC staff say that they will do things, then how will they do it? Which will you not maintain and why?

Both health centers mentioned that, they can maintain the IMCI, ANC, infection control, planning & immunization. They mentioned that, they could not maintain trainings and community structure meetings at the health centers because HCs do not have the budget to support the community structures. The IMCI implementation would not be applied to all the children because the health centers has limited resource to make copy of the IMCI record forms and mother counseling cards.

How useful is the linkage between the HC and community? How did CRS help your strengthen linkages between the HC and community? How will they continue to improve linkages with in the community?

Both health center staff mentioned that the linkages between health center and community structures are useful due to the VHVs and VHCs and TBAs mobilized the people and refer to the health center and provide awareness and behavior change to community resulting the increased the utilization of the children for health centers.

The health center chiefs mentioned that in order to improve the linkages, they would like to CRS to provide the refresher course and provide the motorbike to health centers and bicycles to community structures.
Both of the health centers suggested to CRS to continue to IEC materials and technical assistance to health centers including the meeting and training to community structures.

Bovel OD

The checklists were useful to identify weak points so that they can improve. HC staff recommended that checklists be continued to be used and that they would like them to be used more often.

HC reported that can maintain the HC activity, but not obtain more materials and equipment. They still need support to maintain training for community structures and HIV/AIDS.
Need to have materials – recording card, mother's card; transport for immunizations.

Khnach Romeas use the old form as model when they run out of forms in order to be able to continue to use the IMCI strategy.

HC staff reported that the linkage was useful to provide community feedback; community support during outreach helps HC to function. It was also useful to get information to communities and to local authorities quickly. It increased knowledge and skills of mothers; identify disease outbreaks. Need further support for out reach activities.

CRS assisted in development of HCMC and VHV & VHC. Provided training to Community structures, support for transport for community structures, IEC materials, support for meeting.

HC continue linkage; continue meetings, updates of information.

VHVs, VHC and TBAs

I. INTRODUCTION

A. Objectives

1. Assess how the community has been organized and empowered to provide services and ensure quality of health care
2. To learn what is the sustainability plan the community structure has developed to continue carrying out activities beyond the life of the project

B. Sample (see detailed list of interviewed staff in Attachment D)

Bolvel OD

Target groups: TBA & VHV - Need to get numbers

Sampov Loun OD

Barang Thalak village: 10 community structures: 7 VHVs and 3 TBAs
Pich Chenda: 11 community structures: 8 VHVs and 3 TBAs

C. Methodology

The list of questions for the discussions was developed in collaboration with CRS Project Officers, Managers, Evaluation Team and operational District, PHD and MoH.

II. FINDINGS

a. Participation

How long have you lived in your communities? And How long have you worked as a volunteer?

Sampov Loun OD

Most of the community structures (VHVs and TBAs) have lived in the community for 26 years, since 1980. All of the VHVs are working for 4 years and TBAs are working as the TBAs after CRS mobilized and provided the capacity for 4-5 years. TBAs in one health center are working for 5 years and another one are working for 4 years.

b. Discussion:

Effectiveness of CRS' approach for community mobilization:

Can you tell us how was the support you received from CRS to do your job? Assess training: frequency, how effective was the, methodology used, visual aids, how was the trainer? How could it be improved? Materials: how useful are for your job, are they understandable, does the

mothers like them? How often do you use them in your job? How are you going to renew/update them?

Most of the VHVs and TBAs mentioned that they received training and meeting at the health center in alternative month (1 month for training and another for meeting). All of them mentioned that the trainings had effective methods, demonstration, role play, explanation by using the IEC such as leaflets and posters and the facilitators are funny and skillful. VHVs from one health center mentioned that they received the basic course training for 2 times.

TBAs from both health centers mentioned that they got training many topics such as Breastfeeding, ANC, PNC, Immunization, safe delivery, nutrition for pregnant women, and high risk and danger signs. All VHVs in both health centers mentioned that they got training as Immunization, malaria, ARI, CDD, Vitamin A, complementary feeding, HIV/AIDS and TB.

Bovel OD

The topics for TBA training were on disease prevention, e.g. TB, DF, NIP, Hepatitis B, referral, danger signs. STDs, bleeding, HIV/AIDS, TT, CDD, ARI, how to use gloves, Breast feeding

TBAs considered that the training was useful because of the training methodology was based on participatory techniques, and the result is an increased knowledge and skills for diseases prevention, e.g. HIV/AIDS, e.g. wear gloves.

The IEC materials were useful for TBAs to provide education, and were easy to use with mothers. All TBAs received clean delivery kit, TBA gets regular refill at the HC and some materials razor, cord tie – some buy at the market. The facilitators were all good.

Please tell us how do you use in your job what you learned from CRS and how do you use the materials? (TBA, VHV and VHC)

Sampov Loun OD

Most of the VHVs and TBAs mentined that the IECs are very useful for them to provide the health education, it make the community easy to understand and mothers like to see the pictures (incorrect and correct picture) rather than the lecture. They mentioned that they used the IEC by posted in the public places and distributed to the mothers at each health education and TBAs mentioned that, they used the IEC after delivery and at the new born celebration party. All of them mentioned that, they refilled the IEC materials from CRS through the health centers during the meeting at the health center.

Bovel OD

TBAs received poster, leaflets, bags, safe delivery kits, and recommended that would like to continue with training activities.

VHVs reported also receiving IEC materials, such as posters, leaflets, pens, books, meeting and training, and village registration records.

List the activities, frequency, methodology used, how the training and materials have affected their jobs (improved and limitations),(the facilitators need to explore the main activities and explore in dept how effect their jobs performance); TBAs: BCC, breastfeeding and complementary counseling, referral, number delivery per year, Breastfeeding week and campaign etc; What did you do with obstetric emergency? VHVs: BCC, community campaigns, assess sick child, referrals, collaboration with HC, Mobilize mothers for community outreach and Village Health Record .etc.

Sampov Loun OD

Most of the VHVs and TBAs mentioned that they provided health education to mothers by using the discussion, VCD show, demonstrate to mothers and they also mentioned that CRS staff assisted and provided technical assistance to to improve their facilitation of health education using the correct and incorrect pictures. They do health education 1-2 times per months with mobilizing mothers in group by mothers group leaders. Mobilized mothers and their children for immunization, Vitamin A for 2 times per year, community campaign and bed net impregnation.

Most of the VHVs, TBAs said the numbers of cases referred to health center is increasing and they recorded all information into village health record such patients referred, numbers of health education, number children under 5 years, pregnant women for ante natal care , immunization, vitamin A, chronic diseases and dead in village for all age.

All TBAs mentioned that the mother changed the practices such as immediate breastfeeding, complementary feeding when the child is 6 months. All TBAs said they provided birth about 20-35 per years. They referred the women to health center and referral hospital and or trained midwife in emergency situation.

All VHVs mentioned that mothers increased seeking health care and brought to get the immunization if compare in the past, before the mothers brought to the traditional healer, but now the mother brought to health centers. The mothers understood the importance of immunization.

Bovel OD

TBAs reported that provide health education to mothers, refer women for ANC, TT, HepB at HC, refer for emergency delivery, mobilize mothers and children for immunizations in the village and record births. Help to make mothers change behavior on Ex BF and CF.

VHVs reported that refer patients to HCs, mobilize children to get vaccine, Record in VHR for pregnant women, chronic disease, TB, refer for blood test, counseling, record

for Vitamin A, provide HE on DHF, ARI, CDD, refer for disease, conduct campaigns for Vitamin A, ORS system, monthly report to HC.

Note. The Bovel Team says that question 3 and 4 are the same in Khmer and so the answers were same. TBAs and VHVs gave the same answer to both question 3 and 4. It is not clear whether the difference in Khmer was clear enough or if the TBA and VHV understood the same and this was not clarified by the interviewers.

What kind of challenges/limitations you have encountered in performing your activities in the communities?

Sampov Loun OD

Most of the VHVs mentioned that, some of the community people could go to health centers due to they have no money for transportation and also the far distant between health centers and villages. All TBAs mentioned that in the clean delivery kits do not have alcohol and cotton. They mentioned that they faced with difficulty to explain to some of the women and the pregnant women did not follow when the women have danger signs. Most TBAs mentioned that, the women are poor and could effort to by the clean the delivery kits.

All TBAs mentioned that they giving birth without charging from the women due they are poor especially the new migration. All VHVs collaborated with the village chiefs to mobilize the mothers for health education and sometimes they come across village to provide education.

Bovel OD

TBAs reported that they had difficulties to refer delivery with emergency due to distance and condition of mother; lack of materials for delivery, would like to have local Koyun for transport for deliveries; and difficult to go to do delivery at night, hard to see.

They solved the problems by finding light and battery, and get supplies from HCs.

VHVs reported that the main problem encountered were difficult to mobilize mother and children, no loud speaker, mother not stay home, community has low knowledge, not enough material support during HE. Mother does not always adapt what VHV tell her, e.g. change from surface defecation to latrine. Some families do not become involved in cleaning bushes to prevent DF. HC should support ambulance or use local Koyun for transport.

Some of the VHVs (especially the young VHV) do not have enough knowledge to explain and people do not believe the young VHV.

They reported that to solve the problem will need food, soap, loud speaker, bicycle, rain coat, and just try to continue with the project activities.

What activities do you think are feasible for you to continue doing with the community after the project ends? (what kind of support you would need to continue and improve your work after the project end?)

Sampov Loun OD

Many of TBAs and VHvs mentioned that they can maintain the health education for the mothers are staying around TBAs and VHVs houses even if there are no supplied of the IECs materials from CRS, but they feel the knowledge and skill is not enough and the community will loss the believes on VHVs and TBAs in the short future. The meeting between the health centre & the community structures would not take place if there is no support (budget and refreshment) from the CRS.

All of VHVs and TBAs suggested having continuation of the support from CRS on IEC materials, budget for trainings and meetings and outreaching ANC and Iron for far distant villages.

Bovel OD

TBAs reported that need to continue with mothers' mobilization and do attend deliveries. Need bicycle, rain coat and long boots (PKP), delivery material, e.g. cord ties, razor (PKP only, Khnach Romeas – can buy their own. Khnach Romeas – need IEC materials

Health education and mobilization of mother, problem identification and link with HC, support NIP. To continue, they reported to need PKP: bicycle, rain coat and long boots, and training KR – needs IEC materials.

MOTHERS PARTICIPATING IN HEALTH ACTIVITIES IN BATAMBANG

I. Objective

The main objective of the focus group discussions will be to learn more about the ways in which specific interventions (community mobilization and organization, BCC and the mothers' perception of the quality of care) was implemented in the target provinces.

II. Focus Group with the mothers

Total mothers attended the focus group discussion was 48 mothers who have children less than 2 years from different 4 villages. Each group has 12 mothers.

III. Findings

Working with TBAs, VHV, VHC and MGL
1. Please tell me about (TBAs, VHV, VHC and MGL) that work in your community. Were you ever attended by a (TBAs, VHV, VHC and MGL)? How was your experience when you were attended by (TBAs, VHV, VHC and MGL)?

Sampov Loun OD

All of the mothers mentioned that the TBAs in their villages provided delivery, referred the complicated pregnant women to health center and or the referral hospital, health education to pregnant women on danger signs such as bleeding, pale, edema. They all mentioned that the TBAs provided health education on exclusive breastfeeding, immediate breastfeeding, antenatal care, complementary feeding, not drinking alcohol, cigarette, not working hard, not using medicines, tetanus toxoid, PNC and also refer mothers for ANC and hepatitis B vaccine for their new born babies.

Most of the mothers mentioned that the MGL mobilized the mothers and children for immunization, for health education from VHV, VHC and TBAs on hygiene, breastfeeding, complementary feeding, ANC, dander signs for pregnant women and children, mobilize the mothers for community meeting and referred the sick child to the health center.

All of the mothers mentioned that the VHVs mobilized the people for vaccination, health education on malaria, bed net impregnation, hygiene, breastfeeding, complementary feeding, danger signs of pregnant women and children, ARI. Also the VHVs mobilized for the immunization, Vitamin A and Mebendazole outreach activities and referred the sick people to the health center especially the chronic diseases and record the children less than 5 years and pregnant women. Many mothers mentioned the VHVs attended the meeting at the health centers.

Most of the mothers mentioned that the VHCs developed and monitored the village latrines and well projects, distributed the project materials such as rings and slabs, mobilized the people for community meetings, education on hygiene, sanitation, breastfeeding, complementary feeding, ANC, danger signs, birth spacing, vaccination, bed net impregnation and also the VHCs record the children less than 5 years and pregnant women.

The majority of the mothers mentioned that they have experiences on exclusive breastfeeding, care sick child at home with diarrhea, ARI, use ORS for diarrhea and danger signs of diarrhea, knowledge of 7 immedicable diseases, all children should get all vaccination before 1 year of age, complementary feeding from more than 6 months, sanitation and washing hand with soap and bird flu information through the leaflets.

Bovel OD

1. Is the (TBAs, VHV, VHC and MGL) very active in your community? Please explain (TBAs, VHV, VHC and MGL) job.

Sampov Loun OD

Most of the mothers in 3 villages mentioned that the VHVs are very active in their jobs and many mothers in one village said the VHVs are active also and sometimes they are working for their field for planting and harvesting the beans and corns.

Acceptance of the (TBAs, VHV, VHC and MGL)

2. What are some of (TBAs, VHV, VHC and MGL) activities that you enjoy? What are some of the advantages of having a (TBAs, VHV, VHC and MGL) in the community? What are some of the disadvantages? Is there anything that you would change? What suggestions do you have to improve the work of (TBAs, VHV, VHC and MGL) in the way it is organized or how it functions?

Sampov Loun OD

Most of the mothers mentioned that they enjoyed with all of the activities that VHVs, VHCs, MGL and TBAs on health education, meetings and outreach activities such as immunization, Vitamin A and projects.

Mothers in one village mentioned that mothers are able to know the problem of the mothers and children and seek for health care. Most of the mothers in 4 villages suggested, it should maintain the community structures, because community structures will be useful for them and their children. The Mothers in 2 villages suggested the community structures should conduct the meeting and provide health education on health topics for 2 times per month and mothers in one village mentioned that their should have a health facility.

Bovel OD

Application to one's own life

3. What is the most important thing (attendance, education, services, etc.) you learned about yourself and the care of your children since (TBAs, VHV, VHC and MGL) were formed? Please explain (the facilitator should go in depth in the project interventions). Would you maintain the (TBAs, VHV, VHC and MGL) in your community? How would you support his/her work?

Sampov Loun OD

Most of the mothers mentioned that it was very importance for mothers and children and reduced the expenses for health problem to have since had the community structures. Mothers in one village mentioned that it was importance to have the community structures for ANC, exclusive breastfeeding and nutrition for pregnant women.

Bovel OD

Services available for yourselves and the children in the community

4. Now I would like to ask you about the health services that are available in your community (include the work at the health centers). What kinds of services are available specifically (facilitator: separate for mothers and children)? How did you hear about them? Are there other services that you would like to see provided?

Sampov Loun OD

Most of the mothers in all villages mentioned that the VHVs informed the mothers a few days before the immunization schedule and one day before the meeting and health education.

All of the mothers in 2 villages mentioned that the immunization for prevent their children from diphtheria, TB, tetanus, whooping cough, polio, measles, & hepatitis B & Tetanus Toxoid for themselves. Vitamin A is good for their children' eye and themselve. Iron tablets prevent them from pale. The initial and breastfeeding are good for their babies' health. Birth spacing allows them to have more time for business and is good for their health.

Most of the mothers mentioned that the health services available for the mothers and children at the health center and community:

For the mothers has antennal care, tetanus, Vitamin A, Mebendazole, Iron, Malaria, Tuberculosis, Respiratory infection and Counseling for blood testing, Birth spacing, Sexual Transmitted infection and HIV/AIDS.

Most of the mothers mentioned that the services available for children are: Immunization, Vitamin A, Mebendazole and assessment, treatment and counseling for sick child.

Bovel OD

Quality of the services

6. Have you used the services that are available for (facilitator: separate for mothers and children)? What did you think about the services offered and the quality of the services? Do you think that the available services meet your needs and of your children in your community? What, if anything, would you change about how the services are provided?

Sampov Loun OD

Most of the mothers in one village mentioned that the health center assessment, classification and counseling are still limited and the health center open the services late and sometimes has shortage of the medicines and vaccines.

Most of the mothers in one village mentioned that the health center provided the quality and accepted assessment, classification, treatment and counseling completely and one of the mother mentioned that the health center did have enough Iron for pregnant women. Most of the mothers suggested to the health center to open the services before 8:00 am and needs to have enough medicines.

Bovel OD

Seeking help for health problems

7. When you or your children (facilitator: separate for mothers and children) have a health problem, where do you/they go for help?

Sampov Loun OD

Most of the mothers mentioned they will seeking care at the health center if they and their children have health problem.

Bovel OD

Health education topics

8. Now I would like to ask you a few questions about the health education component of our program. What have you enjoyed about the health education sessions? What has been helpful about them (facilitator: separate for mothers and children)? Are there topics about maternal and child health you would like to learn more about or have covered more thoroughly? Would you say that you are provided with sufficient information to make decisions about yours and your child's health?

Sampov Loun OD

Most of the mothers mentioned that they enjoyed with health education such as exclusive breastfeeding, care sick child at home with diarrhea, ARI, use ORS for diarrhea and

danger signs of diarrhea, knowledge of 7 immunizable diseases, all children should get all vaccination.

Most of the mothers mentioned that they would like to learn more on dengue, bird flu, typhoid fever, high blood pressure, diabetes, HIV/AIDS and birth spacing and danger signs of the common diseases.

Attachment F2: CRS Cambodia Health Facility Assessment

Health Provider Competencies

I. Baseline:

When the CRS Cambodia, Child Survival Project began in 2001, the Ministry of Health was in the process of working with WHO to adapt IMCI as the integrated approach for health facilities in Cambodia. When this child survival project began, IMCI had still not been approved; therefore standard case management for ARI, CDD and Malaria was the standard for clinical management at the health center level in all the Operational Districts. CRS worked with the health facilities on implementing the National Immunization Program (NIP) utilizing the national protocols available at that time. CRS consulted with WHO and the Cambodian Communicable Disease Committee (CDC) to determine if it would be possible to collaborate with them to do a Pre- Facility IMCI assessment of the health centers in the project area. Although, both were interested, the timing of the adaptation of the Facility IMCI process and the lack of an available assessment tool that could be used by WHO and the CDC did not allow this. CRS also explored using the Basics Health Facility Assessment. However, given the time constraints, CRS decided to adapt the Quality Performance Checklists that they were using for standard case management for ARI, CDD and Malaria to assess the clinical competence of the staff and to utilize the Infection Control Quality Performance checklist as a measure for health center management. It was suggested by CRS HQ STA that the program adapt the checklist for immunizations that was used in CRS Philippines for assessing immunizations and this was done. To eliminate bias, the two CRS teams that conducted the interviews exchanged districts.

Although, CRS realized that it would be preferable to do observation rather than only interview due to difficulty in obtaining sufficient patients and time constraints, one health provider per health center in Bavel District Health Centers (7) and in Sampov Loun Operational District (8) was interviewed on their competence as a proxy for observation. The major topics covered under the health competencies included, immunizations, ARI, CDD, Malaria and Infection Control. At the same time an assessment was done on breast feeding and nutrition counseling. (The full results of this assessment are documented in the Baseline KPC report.)

Key Findings Health Provider Competencies Survey 2001

- All of the respondents had full knowledge of types of vaccination and their schedule.
- 50% of health providers had a competency score of 50% for history taking from mothers having a child with cough.
- A median score of 67% for examination competence for cough symptoms showed that 50% of health providers checked about 2/3 of the required signs during examination.
- A median competency score of 50% for counseling for respiratory infection indicated that 50% of the providers gave half or less of the messages to the mothers.
- 52% of the health providers stated that they had enough supply of antibiotics during last month.
- An average competency score to take history from mothers having child with diarrhea was 75%.

- 65% was the mean score for competency in assessing signs of dehydration.
- On average, health providers gave 2 out of 4 (50%) messages during counseling for diarrhea management.
- 50% or more of the workers asked 70% of the required questions during malaria history taking and conducted tasks during examination.
- 50% or more of the health providers gave 6 out of ten messages during malaria counseling.
- 50% or more of the health providers stated that they received malaria supplies 60% of the times.
- 73% of the providers said that vitamin A is part of their nutritional counseling message.
- 95% of the health providers described availability of place, water, soap and clean towel for hand washing.
- 50% of the health providers described availability of chloramine and other disinfecting material.
- 50% of the health providers described half the number of tasks for sterilization by autoclave.
- 50% of the health providers described 60% of the tasks for waste disposal at health centers

Immunizations:

The knowledge of the respondents about types of vaccination and reasons for giving Tetanus Toxiod vaccine was 100%, while 50% of them had 80% or more knowledge of vaccination schedule (median=80%). The counseling about side-effects was weak, as only 50% of the providers could described 66.6% of the side-effects, while percentile score range was 33-100. Fifty percent of the respondents knew the correct range of temperature for maintaining cold chain.

Diarrhea

The overall average competency score for taking history from mothers having child with diarrhea was 75%. Least asked questions during history taking were vomiting (40%) and blood in stools (60%).

Competence score in assessing signs of dehydration was quite high as depicted by mean score of 65.0%. the majority of the respondents were able to describe sunken eyes (100%), skin retracting slowly (100%). On the average health providers gave 2 out of 4 (50%) messages during counseling for diarrhea management. The most common message given were: how to treat diarrhea at home (80%), proper mixing and administration of ORS (73%). The counseling about how to give ORS was low (26.75). A median score of 60% was given for essential supplies for diarrhea treatment. ORS (100%) and other supplies to treat severe dehydration were available (73%), while spoon/cup to give ORS (47%), scale (53%) and protocol for treatment (60%) needed improved in supplies.

ARI

History taking from mothers having a child with cough, 50% or less of health providers had a competency score of 56%, the weaknesses were observed in the areas asking about age of the child (27%), convulsion (20%), ear infection (27%) and drinking or suckling (53%).

Examination of child having cough showed that a median score of 67% indicated that 50% of the health providers checked for two-third of the required signs during examination. However, health providers described checking less for weighing the child (27%) and weakness/lethargy (40%).

Counseling regarding respiratory infection showed lower competency score than history taking and examination. The average competency score was 50%. The messages not described or described by a few health providers were, encouraging client to ask questions (7%), check mother understanding of messages (7%), ask mother to come back in 5 days if child has ear infection (13%) and how take care of throat/ear infection at home (27%).

Only 52% of the health providers stated that they had enough supply of antibiotics during last month, indicating that insufficient supply of antibiotics could hinder their ability to treat pneumonia.

The case for supplies for ARI treatment was no different from diarrhea treatment (median=55%). Supply of Vitamin A was non-existent as stated by all respondents. Health education materials (40%) and scale (60%) were also less available, while all other materials were available more than 70% of the times.

Malaria

Fifty percent or more of the health providers had a score of 70% for malaria history taking. The weaknesses observed were in the areas of asking about treatment before coming to clinic (40%), exploring other possibility of fever (20%) and vomiting (50%).

Physical examination competence scores for malaria (66.7%) were similar to history taking. Examination for anemia, liver/spleen and temperature were conducted more than 85% of the time, while weighing, examination of ear/throat were least done (33%) followed by assessing respiratory rate (53%), indicating that these areas need to be stressed to improve examination scores.

Fifty percent had a median score of 60% for counseling. The least described messages were; when symptoms persists or return come back to health center (46%), ask client to repeat the messages (6.7%).

Malaria supplies showed a median score of 60%. Only 13% indicated that they received dip stick, while another 46% received scales.

Infection Control

Almost all the respondents (95%) described availability of place, water, soap and clean towel for hand washing. Fifty percent described availability of chloramine and other material and equipment for decontaminating surfaces. For sterilization by autoclave, the competence score range was from 24% to 81%, indicating that sterilization by autoclave needs improvement.

Cleaning and maintenance of autoclave competence scores were (50%), indicating a gap in cleaning and maintenance of the autoclave. Fifty percent of the respondents described 60% of the tasks for waste disposal. The competence score range was from 21% to 93%, indicating that some centers were much below average while others were closer to highest competence level.

DISCUSSION

The results of competence assessment revealed variations in competences among respondents. History taking and examination tasks were performed at a higher level than counseling. The three tasks workers were performing at 90th percentile included: counseling about types of vaccines, hand washing and decontamination for infection control. Increasing client understanding by asking them to repeat questions and encouraging them to ask questions were almost non-existent. Since only sixty percent of the supplies were available there was a need for some improvement in this area. Infection control measures needed improvement.

II. Strategy for improving Health Facility Clinical and Management:

After IMCI was endorsed by the MOH in 2002, CRS began to work with the MoH, WHO, Battambang PHD and the Operational Districts to develop a plan for implementing Facet IMCI in the project area. The MOH plan was to train 60% of its health worker force nationally within the next five years. This entailed a process of first training the Provincial Health Department, Operational District and CRS for the Basic Facility IMCI course and for Facility IMCI Training of Trainers and Supervisory courses. The PHD and OD managers were then able to be the trainers for the health center staff training on Facility IMCI and provide supervision after training. Due to limited training facilities within Cambodia, it was not possible to train all health center staff at one time. Therefore, in discussion with the PHD and ODs it was decided to start training and implementation of Facility IMCI in the Bavel health centers first as the health centers had been in existence longer than Sampov Loun and the staff had more clinical experience. Also in Sampov Loun the MOH planned to provide an MOH basic training for nurses and midwife certification due to the low level of formal training that staff had previously making it impossible during that time to take staff for additional training as sufficient staff was not available. In Sampov Loun Standard Case Management for ARI, CDD and Malaria was continued until it was possible to train the staff in IMCI. Facility IMCI training and implementation started in Bovel District in May 2003. In Sampov Loun IMCI training and implementation started in September 2004.

After training CRS staff supported the OD and health center staff to begin implementation of IMCI, provided technical assistance to the health center staff using a CRS checklist and conducting exit interviews with mothers for understanding and satisfaction, supported OD supervision and regular meetings of OD and health center staff to discuss implementation and improvement for IMCI. As counseling continued to be weak an additional course in counseling was provided to the staff by CRS and the OD. Dissemination of the new IMCI strategy was provided to the community through a campaign. In July 2005, CRS and the PHD facilitated a dissemination workshop for the province featuring the implementation of F/IMCI in the CRS project area.

To improve immunizations, CRS provided technical assistance with the health center staff on management, technical aspects, working with community structures, mobilization and health education in the clinic and in the field. Post Assessment Activities were conducted with the Provincial Health Department, Operational District, Health Center and CRS to assess the

performance of the staff and coverage for immunization for children and pregnant women. Health center staff and CRS received training on NIP protocols and procedures. Community structures (VHVs, TBAs, and VHCs received training on NIP importance and mobilization strategies. Village Health Records were developed with VHVs and VHCs as a tool to document exact numbers of children and women who should be and who did obtain immunizations and to assist in mobilization.

To assist the health center in improving health center management, CRS staff provided technical assistance for problems solving, infection control, accounts and drug management, health planning through working with the staff and through use of checklists.

II. Midterm Evaluation:

At the time of the midterm, Bavel was implementing F/IMCI. The Samphov Loun OD and its health centers had just completed their first group of staff training on IMCI, and implementation had not yet begun. Therefore, different methods had to be used to assess the situation in each. In Sampov Loun the checklists that were used for the baseline assessment were used but by observation not interview and in Bavel, MoH supervisory checklists were used. The infection control check list was used in both areas. Also a new NIP checklist, the government approved checklist was used for the midterm. This made it difficult to compare results with the baseline and the external evaluator only stated that it was not possible to compare. See below.

Health Facility Assessment
Baseline and 2004

Health Center Level (NIP – All HC)

Intermediate Results	**Indicators**	**Health Facility Assessment Base- line areas**	**Average Scores for District HCs by interview – 2002 per area**		**Health Facility Assessment 5/2004 (observation)**	**Average Scores for District HCs – 2004 per area**	
			Bovel	SL OD		Bovel	SL OD
IR HC1. Improved management and technical quality of NIP (National Immunization Program) at the Health Center. IR HC1.2 Improved coverage of immunizations for children and pregnant women.	85% of health centers will have an acceptable level (75%) of quality of EPI service as measured by quality assurance checklists.	1. Explain Vaccine 2. Vaccine Schedule 3. Side Effects 4. Cold Chain 5. Counseling Average Score 85% of HC reach 75%	100% 80% 38% 71% 56% 71% 2 /7 28% HC	100% 100% 83% 37% 51% 76% 4/8 50% HC	1. Vaccine Care/supply 2. Analysis/Plan 3. Organization/ Mobilization 4. Techniques 5. Mother's Interview 6. Pregnant woman Interview **Average Score** 85 % of the HC had a score of over 75%	84% 74% 85% 88 % 78% 81% 81% 5/7 71% HC	84% 72% 72% 68% 49% 37% 65% 2/8 25% HC

Health Center Level (Infection Control)

Intermediate Results	**Indicators**	**Health Facility Assessment Base- line areas**	**Average Scores for District HCs by interview – 2002 per area**		**Average Scores for District HCs – 2004 per area (Observation)**	
			Bovel	SL OD	Bovel	SL OD
Management IR HC 5 Improved Health Center MPA Management and Standard Case Management	. 50% of health centers will have an acceptable level (75%) of management quality as measured by management checklists.	1. Universal Precautions: 2. Hand Washing 3. Decontaminate of work surface 4. Decontaminate of equipment 5. Sterilization 6. Care and maintain of sterilizer 7. Waste Disposal Average Score 50% of HC with 75% score	57% 89% 85% 100% 48% 38% 44% 73% 0/7 HC with 75%	52% 100% 87% 81% 52% 63% 63% 62% 0/8 HC With 75%	67% 61% 80% 80% 75% 63% 53% 66% 3/7 HC 42% with 75%	78% 41% 77% 77% 80% 70% 78% 71% 4/8 HC 50% with 75%

Health Center Level - ARI Case Management

Intermediate Results	**Indicators**	**Health Facility Assessment Base- line areas**	**Average Scores for District HCs by interview – 2002 per area**		**Average Scores for District HCs – 2004 per area (Observation)**	
			Bovel	SL OD	SL OD	Bovel (IMCI)
IR HC2 Improved quality of Health Center ARI Case Management	70% of health centers in the project site have an acceptable level (75%) of performance in case management of ARI, CDD, Malaria/ IMCI as measured by quality assurance checklists	1. History 2. Physical Exam 3. Classify/RX 4. Education Average Score 70% of HC have score of 75%	74% 59% 74% 58% 64% 2/7 28% HC have score of 75%	70% 75% 70% 61% 61% 0/8 HC have score of 75%	68% 55% 24% 20% 40% 0/8 HC have score of 75%	Supervisory checklist score was 75.6%

Health Facility Assessment
CDD, and Malaria

Health Center Level - CDD Case Management

Intermediate Results	**Indicators**	**Health Facility Assessment Base- line areas**	**Average Scores for District HCs by interview – 2002 per area**		**Average Scores for District HCs – 2004 per area (Observation)**	
			Bovel	SL OD	SL OD	Bovel (IMCI)
IR HC2 Improved quality of Health Center CDD Case Management	70% of health centers in the project site have an acceptable level (75%) of performance in case management of ARI, CDD, Malaria/ IMCI as measured by quality assurance checklists	5. History	70%	78%	62%	Supervisory checklist score was 75.6%
		6. Physical Exam	59%	68%	52%	
		7. Classify/RX	54%	75%	37%	
		8. Education	56%	65%	28%	
		5. Interview Mother			62%	
		Average Score	56%	72%	47%	
		70% of HC have score of 75%	0/7 HC have score of 75%	2/7 28% have score of 75%	0/7 HC have score of 75%	

Health Center Level - Malaria Case Management

Intermediate Results	**Indicators**	**Health Facility Assessment Base- line areas**	**Average Scores for District HCs by interview – 2002 per area**		**Average Scores for District HCs – 2004 per area (Observation)**	
			Bovel	SL OD	SL OD	Bovel (IMCI)
IR HC2 Improved quality of Health Center Malaria Case Management	70% of health centers in the project site have an acceptable level (75%) of performance in case management of ARI, CDD, Malaria/ IMCI as measured by quality assurance checklists	1. History 2. Physical Exam 3. Classify/RX 4. Education 5. Interview Mother Average Score 70% of HC have score of 75%	94% 68% 80% 65% 71%	60% 62% 77% 53% 63%	68% 43% 35% 53% 57% 53% 0/7 HC have a score of 75%	Supervisory checklist score was 75.6%

Immunizations:

The results from the assessment done for the midterm evaluation for:

IR HC1: Improved management and technical quality of NIP (National Immunization Program) at the Health Center.
IR HC12: Improved coverage of immunizations for children and pregnant women

85 % of the HC had a score of over 75% on the assessment. The weak areas were knowledge of side effects, correct and regular control of the cold chain, and providing counseling. Ability to provide information about the vaccines, vaccine care and supply, techniques, scheduling were good. Analysis and planning and organization and mobilization were improved but still needed to improve.

ARI, CDD and Malaria

Sampov Loun OD Health Centers

Results of the midterm assessment showed that history taking, physical exam and classification and treatment for ARI, CDD and malaria had improved somewhat, but classification, treatment and counseling still were weak in Sampov Loun. (See above chart.) The Bavel Health Center F/IMCI Supervisory score average was 75.6%.

Infection Control:

50% of HC had a score of 75% with good hand washing, decontamination of work surfaces and equipment and sterilization. However, only 50% of the health centers had good knowledge of and were practicing universal precautions, and care and maintenance of the sterilizer and waste disposal were low.

III. Final Evaluation Assessment:

Health Center Clinical

A. Immunizations:

Prior to 2003, CRS was using a checklist for to improve and monitor immunizations which they developed. In 2003, CRS changed to use the checklist that had been recently developed by the MoH. (See Appendix) This checklist was used by CRS staff every three months to monitor NIP activities and to provide feedback to the health center staff. The results of the first checklist done in 2003 compared to the last checklist done in June 2006 were used to provide the following information for the health facility assessment for immunization at the health centers. (See attached checklist and complete data from all health centers in Bavel District Health Centers and Sampov Loun Operational District)

Part I of NIP checklist:

Staffing:

In both Bavel and Sampov Loun Health Centers most health centers allocated only two staff to conduct regular NIP activities in the villages in their catachment area. They spent one day in each village in their area for a total 10 days in Bavel and 12 days per month in Sampov Loun OD health centers.

Population, location and targets

Population: (2003 through 2006)

- Bavel: 89,385 in 2003 and 89,833 in 2006 for an increase of 448.
- Sampov Loun: 64,324 in 2003 and 96,470 in 2006 for an increase of 32,146.

Number of villages:

- Bavel: 85
- Sampov Loun: 114 villages

Target children (Estimated children by formula 2.8% of population):

- Bavel: 2503 in 2,003 and 2,514 in 2006.
- Sampov Loun: 1801 in 2003 and 2,701 in 2006

Management:

- Number of sessions equal to the plan reached 100% in both Bovel and Sampov Loun health centers in 2006 which was an increase of 13% from 2003 in Bovel and 25% in Sampov Loun.
- Documentation of activities through use of the immunization graphic and use of the graphic for analysis and planning increased to 87.5% in Bovel and increase of 12.5% from 2003 and from 38% to 62% in Sampov Loun. Sampov Loun staff continued to need not only assistance but also encouragement from CRS staff to maintain and use the immunization graphic as they had less experience in use of such methods.
- Results of activity equal to quarterly plan increased by 37.5% in Bovel and 75% increase in Sampov Loun. Problems for reaching the quarterly plan in Bovel health centers related to staffing problems in Bovel I and distance and road conditions in Bovel 2 and Kleang Meas and new temporary staff in Kleang Meas. In Sampov Loun all health center staff have less education and experience than staff in Bovel.
- Reconciliation of record book and registers in general showed that there continued to be differences because staff did not always bring the books to the field during immunization activity and did not always record immunizations given at the health center into the village immunization register. There was only limited improvement in Bovel by 13% for BCG and TT2 for pregnant women and also in Sampov Loun.

Drop Out Rates: The standard is that a drop out rate over 10% is of concern.

- In Bovel and Sampov Loun health centers drop out rates for health centers with drop out rates under 10% for BCG/Measles in 2003 were only 13% but the number of health centers that had drop out rates under 10% increased to 75% for both areas in 2006. For DPTHepB, the drop out rate under 10% increased in Bovel to 87.5% and in Sampov Loun to 63%. For TT1 to TT2 the increase in the number of health centers with drop out rates below 10% in both areas was 75%.

Refrigerator Maintenance: (Refrigerator is clean, vaccines are in order, there is no freezing of vaccines, gas is changed on time when needed and refilled). The temperature is monitored twice daily and when the refrigerator is opened.

- In Bovel refrigerator maintenance is at 100% an increase of 12% and in Sampov Loun at 86%. In both area health centers monitoring of the temperature of the refrigerator has reached 100%. For Sampov Loun this is an increase from 13% to 100%.

Vaccine Maintenance:

No expired vaccines, all vaccines have labels, no vaccines which have changed color and no shortages of vaccines. No vaccines with clots.

- This has been maintained at 100% for all health centers since 2003.

Part II of NIP check list:

Organizing and Reporting:

- NIP sessions held regularly in an appropriate place: In Bovel sessions being held regularly have increased 25% from 75% to 100% from 2003 and in Sampov Loun from 38% to 88 %. Chakrey health center continues to have difficulty in 2006 due to distant villages and road conditions. Heavy raining has compounded the problem.
- Accurate reporting is still a problem for Kleang Meas health center in Bovel due to having new, temporary staff who continue to need assistance, but now 100% of the Sampov Loun heath centers can now report accurately which is an increase of 50%.
- Having adequate ice packs for the vaccine box has increased from 88% to 100% in Bovel and Sampov Loun thus providing a good cold chain for the vaccines when the staff are in the villages.

Technique:

- Selection of the appropriate women and children for immunizations increased from 38% to 100% in Bovel and 13% to 100% in Sampov Loun.
- Providing the correct injection in the correct site has been maintained in both areas.
- A check of cards to see if the immunizations given were correct has increased from 30% to 100% in Bovel and from 38% to 92% correct in Sampov Loun.

Counseling and Education:

- Informing the mothers of the next appointment has increased from 13% to 63% in Bovel and from 38% to 88% in Sampov Loun.
- Informing mothers of the time of the next NIP session has increased from 50% to 88% in Bovel and 50% to 88% in Sampov Loun.
- Staff providing mothers information about the immunizable diseases during the NIP sessions has increased form 25% to 63% in Bovel and 0 % to 63% in Sampov Loun.
- Staff asking mothers checking mother's knowledge about NIP increased from 38% to 63% in Bovel and 0% to 60% in Sampov Loun.
- Interviews of mothers to see if they had been told about when to bring their child back for NIP increased from 35% to 58% in Bovel and from 46% to 63% in Sampov Loun.

Discussion:

As expected, Bovel has made more progress in management and organizing and reporting than Sampov Loun. However, due to the limited knowledge of staff in Sampov Loun at the beginning of the program, multiple staff changes and difficult geographic locations they have made significant progress. Both have done very well in maintaining care of vaccines and the cold chain and for good technique for providing vaccines. Both continue to need to work on ensuring that the NIP activity reaches their quarterly plans and also to reconcile the register and record books. The weakest area for both is in counseling and providing education to the mothers during the time of NIP activity. While this may be somewhat due to limited time and human resources, it also probably relates to the attitude of the staff as to what is important and who is important. This is an area that will continue to need work by the health center and operational district staff.

B. Facility IMCI

For the assessment of the health center clinical for the final evaluation, we used the MoH Facilty IMCI Supervision Checklist looking at Case Management, Caretaker Interviews, Drug and Supplies and Facility Support. Due to the small number of cases seen during each supervision in each health center we decided to

compare the 1st supervision round in Bovel in November 2003 and in Sampov Loun November 2004, the last supervision round in both areas in August, 2006 and all of the supervision rounds in all the health center in both areas.

Health Facility Support: (See attached data sheets for complete information for all health centers and summary for both areas.

1. **Space, Equipment and Supplies:**
   - Bovel District Health Centers
     1. **Equipment:** November 2003: 2 health centers did not have functioning scales. In 2006 all health centers had functioning scales.
     2. There were not other problems for equipment and supplies in November 2003 or in August 2006.
     3. **Diarrhea Treatment Corner:** In November 2003, 7/8 health centers did not have DTC, DTC register and 2/8 did not have a water source for mixing ORS. In August 2006 every health center had a DTC, register and water source.
     4. **Immunizations:** In November 2003, 7/8 health centers did not have a refrigerator and did not keep vaccine at the health center for IMCI children. In August 2006, all health centers have refrigerators to keep vaccines for IMCI children and have a sufficient supply and keep the vaccines appropriately. Cambodia changed from using re-usable needles and syringes to using disposable.
     5. **Clinical and Referral Services:** In November 2003, 1/8 health center was not open on time. 7/8 did not provide all services for children (full clinic hours, pharmacy, DTC). 6/8 health centers did not have a referral facility available in a reasonable time. In August 2006 1/8 health centers continues to not be open on time due health center staff problems. 1/8 health center continued to have a problem in providing all services. 3/8 health centers did not have a referral facility available in a reasonable time.
     6. **Quality Records:** 7/8 health centers did not have complete records in 2003, but in August all health centers had complete records.
     7. **Management of drugs: Health facilities that have all the essential IMCI drugs in stock** (cotrimoxazole, amoxacillin, (procaine) benzylpenicillin, artesunate, mefloquine, chloroquine, gentamycin IM, ampicillin IM, Vitamin A, Mebendazole, ORS) : 6/8 health centers did not have all the essential medication available in 2003, but did have all in 2006.
     8. **Training:** 60% of the health center staff which is the MoH plan were trained in 2003.
   - **Sampov Loun Operational District Health Centers:**
     1) **Equipment:** In November 2004: 1/8 HC had no scale, 2/8 had no timing device, 1/8 had no IMCI record, 8/8 no water container for ORS. In August all health centers had the equipment that they needed.
     2) **Diarrhea Treatment Corner:** In November 2004,: 3/8 HC had no DTC, 2/8 did not have supplies for ORS, 8/8 did not have ORT register. In August all health centers had a functioning DTC with all supplies and register.
     3) **Immunizations:** In November 2004 did not have a refrigerator to keep vaccines. All other health centers did not have any problem. In August 2006, there were no problems in any health centers.
     4) **Clinical and Referral Services:** In November 2004: 2/8 HC were not open on time, 6/8 did not provide all services for children (full clinic hours, pharmacy, DTC). 1/8 did not have a referral facility available in a reasonable time. In August 2006, all health centers had all services available for children.
     5) **Quality Records:** In November 2004, 1/8 HC did not have complete records. In August, 2006, there were no problems for records.
     6) **Management of Drugs: Health facilities that have all the essential IMCI drugs in stock** (cotrimoxazole, amoxacillin, (procaine) benzylpenicillin, artesunate, mefloquine,

chloroquine, gentamycin IM, ampicillin IM, Vitamin A, Mebendazole, ORS): In November 2004 all of the health centers did not some of the essential drugs for IMCI. In August all HC have the essential drugs for IMCI.

7) **Training:** In November 2004, 30% of the MoH 60% criteria for HC staff to be trained for IMCI were trained. In August 2006, 60% of the staff had been trained.

2. Drugs and Supplies

- **Bovel**
  1. Antibiotics for IMCI : In November 2003, were not available in most of the HCs Cotrimoxazole, Amoxicillin and, erythromycin in only 38% of the HC, Naldaxic Acid in 50% .August 2006 they are 100% available.
  2. Bovel is not a malaria zone, but does have some patients with malaria that come from outlying areas. Not all the HC has the rapid test (63%) in 2003. The type of drugs available are according to the MoH supply. August 2006 100% HC have the rapid test and A +M and chloroquine. IM gentamycin and Ampicillin were only available in 75% of the HC in 2003, but are available in 100% of the HC in 2006.
  3. In 2003, iron folate, iron syrup, Vitamin A, ORS and Mebendazole, paracetamol, IV fluid were only available in 38% of thel HCs but in August 2006 were available in all HCs.
- **Sampov Loun**
  1) In Sampov Loun HC in November 2004 IMCI medications was not available in all health centers, but in August 2006, all essential IMCI medicines are available.

3. Caretaker Interviews:

- **Bovel**
  1) Caretaker knows medicine (antibiotics, anti-malaria , and ORS) provided and how to give medication to the child: There was an improvement from 2003 88% to 92% range.
  2) Caretaker know all the 3 rules of home care increased from 78% to 95% in August 2006.
  3) Caretaker knows two signs to return to the HC increased form 86% to 100%
  4) All Caretakers stated that they were satisfied with the HC services in both 2003 and 2006.
- **Sampov Loun**
  1) Caretaker knows medicine (antibiotics, anti-malaria , and ORS) provided and how to give medication to the child increased from 60% in 2003 to 100% in 2006.
  2) Caretaker know all the 3 rules of home care increased from 54% in 2003 to 86% in August 2006.
  3) Caretaker knows two signs to return to the HC increased form 44% to 78%
  4) All Caretakers stated that they were satisfied with the HC services in both 2003 and 2006.

3. Case Management::

- **Bovel**
  1. Assessment of danger signs and presence of main symptoms for ARI, CDD, Malaria, ear problems, anemia and malnutrition: improved by 17.6% from an average of 71% in 2003 to 88% in 2006.
  2. Providing 1st dose medication at the HC prior to referral and referrals were found to be a problem in 2003 and remain a problem in 2006.
  3. Checking weights increased by 15%
  4. Correct prescription of medication and provision of full courses of medications were done 100% correctly in 2003 and 2006.
  5. Counseling on breastfeeding , complementary feed and feeding during illness increased from 89% to 95.6%.
  6. Cases that should have received an immunization, Vitamin A /or Mebendazole according to the schedule and received it the day of the visit increased from 85% to 89%.
- **Sampov Loun**
  1. Assessment of danger signs and presence of main symptoms for ARI, CDD, Malaria, ear problems, anemia and malnutrition: improved by from an average of 85% in 2003 to 98% in 2006.

2. Providing 1st dose medication at the HC prior to referral and referrals were found to be a problem in 2003 and remain a problem in 2006.
3. Checking weights increased by 1% from 2003 to 2006.
4. Correct prescription of medication and provision of full courses of medications were done 100% correctly in 2003 and 2006.
5. Counseling on breastfeeding , complementary feed and feeding during illness increased from 82% to 92%.
6. Cases that should have received an immunization, Vitamin A /or Mebendazole according to the schedule and received it the day of the visit increased from 74% to100%.

Discussion:
Health facility supply and medicine, case management and treatment has improved. The areas that need improvement are counseling for feeding and follow up and providing medicine prior to referrals and referrals.

Health Center Management

- Health Planning and Analysis: HC and OD do quarterly and annually analysis and planning.
- Used the planning to monitor the progress toward objectives and indicators.
- 12/16 (75%) health centers improved account system with checklist >75%.
- 14/16 (87%) of health centers improved Infection Control with checklist >75%.
- Improved HIS at the HC: HIS, Monitoring table and graphics
- Improved drug management: Ordering medicines with decrease in shortage and RH decreased use of medicines.

DISTRICT RESULTS TABLE 1
QUALITY OF CASE MANAGEMENT IN CASES OBSERVED

This summary contains the results of the first supervison after training conducted by the OD supervisors, the last supervison in August 2006 and the results of the total rounds of supervision conducted by the OD supevisors in the Bovel District Health Centers (8)

Total IMCI results of the supervision at Bovel District Health Centers

Visiting supervisor or team: 0= not need to be done

Date of Supervision	1st round (Nov.2003)			Last Round Pecentage, August, 06			Total All Rounds(11 round)		
Total + = done correct, Total = cases	Total +	Total	Percentage	Total +	Total	Percentage	Total +	Total	Percentage
1 Cases assessed for all five general danger signs	31	41	76%	20	21	95%	235	246	96%
2 Cases assessed for the presence of all main symptoms (cough, diarrhoea, fever, ear problems, malnutrition, and anaemia)	29	41	71%	18	21	86%	229	246	93%
3 Cases assessed for the presence of cough, diarrhoea and fever	31	41	76%	20	21	95%	233	246	95%
4 Cases whose weight was correctly checked	33	41	80%	20	21	95%	233	243	96%
5 Cases assessed for presence of anaemia	16	21	76%	20	21	95%	217	225	96%
6 Cases whose immunization, vitamin A and mebendazole status was correctly checked	28	29	97%	0	0	No caess	113	115	98%
7 Severe cases needing referral referred	2	2	100%	0	0	No caess	7	9	78%
8 Severe cases who received first dose of antibiotic before referral	2	2	100%	0	0	No caess	3	6	50%
9 Severe cases of malaria who received the appropriate antimalarial before referral	1	1	100%	0	0	No caess	2	2	100%
10 Severe cases that were started on appropriate rehydration plan	0	0	No Cases	0	0	No caess	0	0	#DIV/0!
11 Cases needing an oral antibiotic or antimalarial are prescribed correctly	0	0	No Cases	0	0	No caess	13	15	87%
12 Cases of pneumonia who received a full course of antibiotics at the health facility	3	3	100%	10	10	100%	58	64	91%
13 Cases of acute ear infection who received a full course of antibiotics at the health facility	3	3	100%	6	6	100%	22	22	100%
14 Cases of dysentery who received a full course of antibiotics at the health facility	3	3	100%	0	0	No caess	13	13	100%
15 Cases of malaria who received a full course of antimalarial at the health facility	1	1	100%	0	0	No caess	9	9	100%
16 Cases of diarrhoea with some dehydration who received ORS solution in facility	0	0	No Cases	0	0	No caess	29	39	74%
17 Caretakers of children, not referred, advised on giving extra fluid and continue feeding	24	30	80%	0	0	No caess	132	143	92%
18 Caretakers of children, not referred, advised on giving extra fluid, continue feeding and at least 2 signs for when to seek care	27	33	82%	18	21	86%	194	212	92%
19 Cases who should have received an immunization, Vitamin A &/or mebendazole according to the schedule, and received it the day of the visit	22	26	85%	18	21	86%	178	199	89%

20	Caretakers of children <2 years asked about brestfeeding and complementary food (assess feeding)	**25**	**26**	**96%**	**11**	**13**	**85%**	**190**	**194**	**98%**
21	Caretakers of children <2 years asked about breastfeeding and complementary foods who were assessed and whose caretakers were counselled on feeding problems	**28**	**30**	**93%**	**17**	**17**	**100%**	**199**	**206**	**97%**
22	Caretakers of children given an antibiotic or antimalarial drug who know: how much to give, times per day and number of days	**11**	**12**	**92%**	**12**	**12**	**100%**	**160**	**182**	**88%**
23	Caretakers of children with diarrhea given ORS who know: to give ORS, mix ORS and amount of ORS to give	**12**	**21**	**57%**	**19**	**21**	**90%**	**151**	**194**	**78%**
24	Caretakers of children who are given an antibiotic and or antimalarial and or ORS know how to give treatment	**13**	**18**	**72%**	**20**	**21**	**95%**	**179**	**206**	**87%**
25	Caretakers who know all 3 rules of home care (fluid, food, when to return immediately)	**16**	**31**	**52%**	**19**	**21**	**90%**	**196**	**232**	**84%**

DISTRICT RESULTS TABLE 1

QUALITY OF CASE MANAGEMENT IN CASES OBSERVED

This summary contains the results of the first supervison after training conducted by the OD supervisors, the last supervison in August 2006 and the results of the total rounds of supervision conducted by the OD supevisors in the Sampov Lounl District Health Centers (8)

Total IMCI results of the supervision at Sampov Loun District Health Centers

Visiting supervisor or team:	0= not need to be done								
Date of Supervision	1st round (Nov.2003)			Last Round Pecentage, August, 06			Total All Rounds(11 round)		
Total + = done correct, Total = cases	Total +	Total	Percentage	Total +	Total	Percentage	Total +	Total	Percentage
1 Cases assessed for all five general danger signs	25	25	100%	14	14	100%	129	131	98%
2 Cases assessed for the presence of all main symptoms (cough, diarrhoea, fever, ear problems, malnutrition, and anaemia)	24	25	96%	13	14	93%	119	128	93%
3 Cases assessed for the presence of cough, diarrhoea and fever	14	25	56%	14	14	100%	94	114	82%
4 Cases whose weight was correctly checked	23	25	92%	13	14	93%	100	114	88%
5 Cases assessed for presence of anaemia	22	25	88%	14	14	100%	94	104	90%
6 Cases whose immunization, vitamin A and mebendazole status was correctly checked	25	25	100%	0	0	Nocases	74	76	97%
7 Severe cases needing referral referred	1	4	25%	0	0	Nocases	3	6	50%
8 Severe cases who received first dose of antibiotic before referral	0	1	0%	0	0	Nocases	4	5	80%
9 Severe cases of malaria who received the appropriate antimalarial before referral	0	1	0%	0	0	Nocases	0	1	0%
10 Severe cases that were started on appropriate rehydration plan	0	0	No Cases	1	1	100%	3	3	100%
11 Cases needing an oral antibiotic or antimalarial are prescribed correctly	5	5	100%	1	1	100%	11	11	100%
12 Cases of pneumonia who received a full course of antibiotics at the health facility	6	6	100%	0	0	No cases	10	13	77%
13 Cases of acute ear infection who received a full course of antibiotics at the health facility	1	1	100%	2	2	100%	3	3	100%
14 Cases of dysentery who received a full course of antibiotics at the health facility	1	1	100%	0	0	#DIV/0!	2	2	100%
15 Cases of malaria who received a full course of antimalarial at the health facility	0	0	No Cases	1	1	100%	1	1	100%
16 Cases of diarrhoea with some dehydration who received ORS solution in facility	0	0	No Cases	9	11	82%	12	14	86%
17 Caretakers of children, not referred, advised on giving extra fluid and continue feeding	16	24	67%	10	11	91%	88	102	86%
18 Caretakers of children, not referred, advised on giving extra fluid, continue feeding and at least 2 signs for when to seek care	16	24	67%	13	13	100%	83	101	82%
19 Cases who should have received an immunization, Vitamin A &/or mebendazole according to the schedule, and received it the day of the visit	17	23	74%	11	11	100%	79	90	88%

20	Caretakers of children <2 years asked about brestfeeding and complementary food (assess feeding)	**19**	**19**	**100%**	**9**	**9**	**100%**	**84**	**86**	**98%**
21	Caretakers of children <2 years asked about breastfeeding and complementary foods who were assessed and whose caretakers were counselled on feeding problems	**18**	**19**	**95%**	**11**	**14**	**79%**	**88**	**94**	**94%**
22	Caretakers of children given an antibiotic or antimalarial drug who know: how much to give, times per day and number of days	**13**	**23**	**57%**	**3**	**3**	**100%**	**72**	**103**	**70%**
23	Caretakers of children with diarrhea given ORS who know: to give ORS, mix ORS and amount of ORS to give	**7**	**9**	**78%**	**2**	**4**	**50%**	**32**	**41**	**78%**
24	Caretakers of children who are given an antibiotic and or antimalarial and or ORS know how to give treatment	**4**	**10**	**40%**	**4**	**5**	**80%**	**27**	**41**	**66%**
25	Caretakers who know all 3 rules of home care (fluid, food, when to return immediately)	**8**	**15**	**53%**	**11**	**14**	**79%**	**41**	**58**	**71%**

DISTRICT RESULTS TABLE 2
PROBLEMS WITH FACILITY SUPPORTS (FOUND DURING FIRST FOLLOW-UP VISIT AFTER TRAINING)

	District	Bovel Heatlh Centers (Thmor Kol OD)			
	Health Center	8	8	Percentage	Percentage
	Visiting supervisor or team:				
	Problems with facility supports				
	Space and equipment: (1 = Problem, 0 = No problem				
	Date of supervision	Nov. 03	Aug. 06	Nov. 03	Aug. 06
1	No functioning scale for infants/children	2	0	25.0%	0.0%
2	No timing device	0	0	0.0%	0.0%
3	No IMCI chart booklets	0	0	0.0%	0.0%
4	No Health Center Manual	0	0	0.0%	0.0%
5	No IMCI patient recording forms	0	0	0.0%	0.0%
6	No Home Care Cards	0	0	0.0%	0.0%
7	No patient record cards	0	0	0.0%	0.0%
8	No registration book	0	0	0.0%	0.0%
	Diarrhea Treatment Corner (DTC):				
9	No functioning DTC	7	0	87.5%	0.0%
10	No source of drinking water	4	0	50.0%	0.0%
11	Not enough supplies (cups, ORS)	0	0	0.0%	0.0%
12	No DTC register available	7	0	87.5%	0.0%
	Immunization:				
13	No functioning refrigerator or ice pack freezer	7	0	87.5%	0.0%
14	No functioning sterilizer	2	0	25.0%	0.0%
15	No 'yellow cards'	0	0	0.0%	0.0%
16	Poor vaccine conditions	7	0	87.5%	0.0%
17	Not all vaccine available	7	0	87.5%	0.0%
	Clinic and referral services:				
18	Clinic not opened as scheduled	1	1	12.5%	12.5%
19	All services not available for children (full clinic hours, pharmacy, immunization, DTC)	7	2	87.5%	25.0%
20	No referral facility in reasonable time	6	3	75.0%	37.5%
	Quality of records:				
21	No individual patient records or registers kept	1	1	12.5%	12.5%
22	Records not complete	7	0	87.5%	0.0%
	Management of drugs:				
23	**Health facilities that have all the essential IMCI drugs in stock** (cotrimoxazole, amoxacillin, (procaine) benzylpenicillin, artesunate, mefloquine, chloroquine, gentamycin IM, ampicillin IM, Vitamin A, Mebendazole, ORS)	6	0	75.0%	0.0%
	Training:				
24	**Health facilities with at least 60% of workers managing children trained**	8	0	100.0%	0.0%

	DISTRICT RESULTS TABLE 2				
	PROBLEMS WITH FACILITY SUPPORTS	**Assessment compares 1st round of supervision with last round of supervsion by OD supervisors**			
	1= Prblem and Blank= No problem	**Samov Loun OD HCs**			
	District	**Total**	**Total**	**%**	**%**
	Health Center	**8**	**8**		
	Visiting supervisor or team:	Nov. 04	Aug 06	Nov. 04	Aug 06
	Problems with facility supports				
A	**Space and equipment:**	**If problem them number and %. If no problem 0**			
1	No functioning scale for infants/children	**1**	**0**	**13%**	**0%**
2	No timing device	**2**	**0**	**25%**	**0%**
3	No IMCI chart booklets	**0**	**0**	**0%**	**0%**
4	No Health Center Manual	**0**	**0**	**0%**	**0%**
5	No IMCI patient recording forms	**1**	**0**	**13%**	**0%**
6	No Home Care Cards	**0**	**0**	**0%**	**0%**
7	No patient record cards	**0**	**0**	**0%**	**0%**
8	No registration book	**0**	**0**	**0%**	**0%**
9	No Water Comtainer for mother giving drug at HC	**8**	**0**	**100%**	**0%**
B	**Diarrhea Treatment Corner (DTC):**				
1	No functioning DTC	**3**	**0**	**38%**	**0%**
2	No source of drinking water	**0**	**0**	**0%**	**0%**
3	Not enough supplies (cups, ORS)	**2**	**0**	**25%**	**0%**
4	Water Containner	**0**	**0**	**0%**	**0%**
5	No DTC register available	**8**	**0**	**100%**	**0%**
C	**Immunization:**				
1	No functioning refrigerator or ice pack freezer	**0**	**0**	**0%**	**0%**
2	No functioning sterilizer	**0**	**0**	**0%**	**0%**
3	No 'yellow cards'	**0**	**0**	**0%**	**0%**
4	Poor vaccine conditions	**1**	**0**	**13%**	**0%**
5	Not all vaccine available	**1**	**0**	**13%**	**0%**
D	**Clinic and referral services:**				
1	Clinic not opened as scheduled	**2**	**0**	**25%**	**0%**
2	All services not available for children (full clinic hours, pharmacy, immunization, DTC)	**6**	**0**	**75%**	**0%**
3	No referral facility in reasonable time	**1**	**0**	**13%**	**0%**

E	**Quality of records:**				
1	No individual patient records or registers kept	**0**	**0**	**0%**	**0%**
2	Records not complete	**1**	**0**	**13%**	**0%**
F	**Management of drugs:**				
	Health facilities that have all the essential IMCI drugs in stock (cotrimoxazole, amoxacillin, (procaine) benzylpenicillin, artesunate, mefloquine, chloroquine, gentamycin IM, ampicillin IM, Vitamin A, Mebendazole, ORS)	**8**	**0**	**100%**	**0%**
G	**Training:**				
	Health facilities with at least 60% of workers managing children trained	**0**	**0**	**0%**	**0%**

DISTRICT RESULTS TABLE 1

QUALITY OF CASE INTERVIEWS

District	
Health Center	

Thmor Kol Operational District: Bovel Health Centres: (8) Bovel I, Bovel II, Lovea, Kdol Tehan, Khanch Romeas, Ampil Pram Doeum, Kleang Meas, Prey Ka Pos)		1st round (Nov.2003)			Last Round Pecentage			Total All Rounds		
	Care Taker Interviews:	Total +	Total	Percentage	Total +	Total	Percentage	Total +	Total	Percentage
1	Caretaker of a child given an antibiotic or antimalarial drug knows all: how much to give, times per day, number of days	15	15	100%	11	12	92%	156	169	92%
2	Caretaker of a child with diarrhoea given ORS knows all: to give ORS at home, to mix ORS, amount of ORS to give, number of days	17	19	89%	7	8	88%	155	173	90%
3	Caretaker of a child given an antibiotic and/or antimalarial and/or ORS knows how to give the treatment: how much to give, times per day, number of days.	19	25	76%	14	14	100%	183	199	92%
4	Caretaker knows all 3 rules of home care (i.e. fluid, food, when to return immediately)	29	37	78%	20	21	95%	211	230	92%
5	Caretaker knows at least 2 signs to return immediately	31	36	86%	21	21	100%	225	238	95%
6	Caretaker satisfied?									
7										
a	Time health worker spent with child	12	12	100%	7	7	100%	169	173	98%
b	Way health worker examined child	28	28	100%	13	13	100%	196	207	95%
c	Treatment given	22	22	100%	22	22	100%	191	211	91%
d	Way health worker talked with me	20	20	100%	15	15	100%	162	195	83%
e	What I learned from health worker	16	16	100%	19	19	100%	138	187	74%
f	Other	2	2	100%	0	0	0%	13	15	87%

DISTRICT RESULTS TABLE 1

QUALITY OF CASE INTERVIEWS

District Sampov Loun Operational District

Health Center 8 HC (Trang, Takrey, PicChenda, Blang Thlak, Sery Mean Chey, Ankor Ban, Kam Reang, Chakrey)

	Health Centres:	1st round (Nov.2003)			Last Round Pecentage			Total All Rounds		
	Care Taker Interviews:	Total +	Total	Percentage	Total +	Total	Percentage	Total +	Total	Percentage
1	Caretaker of a child given an antibiotic or antimalarial drug knows all: how much to give, times per day, number of days	6	10	60%	10	10	100%	54	62	87%
2	Caretaker of a child with diarrhoea given ORS knows all: to give ORS at home, to mix ORS, amount of ORS to give, number of days	6	13	46%	2	4	50%	42	64	66%
3	Caretaker of a child given an antibiotic and/or antimalarial and/or ORS knows how to give the treatment: how much to give, times per day, number of days.	9	18	50%	12	13	92%	60	85	71%
4	Caretaker knows all 3 rules of home care (i.e. fluid, food, when to return immediately)	18	27	67%	19	19	100%	92	118	78%
5	Caretaker knows at least 2 signs to return immediately	12	27	44%	18	23	78%	82	122	67%
6	Caretaker satisfied?									
7										
a	Time health worker spent with child	26	26	100%	28	28	100%	105	108	97%
b	Way health worker examined child	26	26	100%	28	28	100%	106	110	96%
c	Treatment given	26	26	100%	28	28	100%	106	109	97%
d	Way health worker talked with me	22	22	100%	24	24	100%	97	102	95%
e	What I learned from health worker	22	22	100%	24	24	100%	96	102	94%
f	Other									

Child Survival and Health Grants Program Project Summary

Dec-06-2006

Catholic Relief Services
(Cambodia)

General Project Information:

Cooperative Agreement Number:	**HFP-A-00-01-00042-00**
Project Grant Cycle:	**17**
Project Dates:	**(9/30/2001 - 9/29/2006)**
Project Type:	**Standard**
CRS Headquarters Technical Backstop:	**Elena McEwan**
Field Program Manager:	**Bunsieth Heng**
Midterm Evaluator:	**Della Dash**
Final Evaluator:	**Marcello Castrillo**
USAID Mission Contact:	**Charya Hen**

Field Program Manager Information:

Name: **Bunsieth Heng**
Address:

Phone:
Fax:
E-mail: Bunsieth@bigpond.com.kh

Alternate Field Contact:

Name: **Lori Dostal**
Address:
Battambang
Phone: 850-023-211165
E-mail: lori@bigpond.com.kh

Funding Information:

USAID Funding:(US $): $1,300,000 **PVO match:(US $)** $723,057

Project Information:

Description:

The Community-Based Primary Health Care Project's goal was to reduce morbidity and mortality in mothers and children. It was implemented from September 30, 2001 to September 29, 2006 and funded with $1,300,000 from USAID, and a $723,057 cost share from Catholic Relief Services.
The project approach was two-pronged, combining work at the community and health center level to address the health status and health care needs of rural communities. This approach emphasizes the importance of community involvement in prevention of disease and promotion of health through the establishment of community based structures and village health activities, while simultaneously strengthening Department of Health services at the Operational District and health center level to improve the quality of services and meet community needs. The approached focused on:

- improved prevention of immunizable diseases
- improved ARI Case Management
- improved control of CDD and Malaria
- improved capacity of communities and the health systems to manage and sustain Primary Health Care

The interventions mix was Immunizations (25%); Acute Respiratory Infections (20%); Control of Diarrhea Diseases (30%); and Malaria (25%). Building on Catholic Relief Services' worldwide experience with the implementation of USAID-funded Child Survival projects, the project utilized the Integrated Management of Childhood Illnesses (IMCI) approach throughout the project implementation.

Through successful partnerships with the Ministry of Health, the Battambang Provincial Health Department, and community health centers, the project focused on four rural districts of Battambang Province in northwest Cambodia long affected by conflict. Of the present (2006) population of 177,834, 24,896 are children under five years of age and 42,236 are women of reproductive age (15 – 49 years).

Successful objectives include increased exclusive breastfeeding, improved full vaccination, and behavioral changes related to disease prevention and seeking care. Use of Facility-based IMCI has improved health care for children under five for common illness and has increased health center utilization in 7 Bovel District Health Centers and one health post serving 12,830 children under 5 and 8 Health Centers in Sampov Loun OD serving 12, 653 children < 5.One of the most successful strategies was the nurturance of relationships built between CRS and the MoH (PHD, ODs & HCs). This was combined with the development of community structures to improve health and linkage of community and health facility activities to improve health services to the community. The development of community structures is a national program but the MoH does not have enough resources to implement it across the country and relies on the assistance of external organizations such as CRS to carry out its strategy.

CRS had a firm commitment to endorse and expand the MoH's programs and strategies in the province, and CRS efforts were supported in kind by the MoH. The joint, concentrated efforts on the National Immunization Program over the past several years has had a great impact in improving the management and technical quality of the National Immunization service provided and improving coverage for full immunization for children.

The CBPHCP model combining capacity building and support of community structures, while strengthening health center management is a good model for improving child health services. Through the model of an integrated approach, MPA health center management (accounts, infection control, drug management, HIS, and health planning) as well as care for children through IMCI and for PLHA through prophylaxis and treatment of OIs, counseling, referral and support for home care can be improved. At the same time target groups in communities through community structures receive C-IMCI key messages, awareness for the general public and specific target groups such as mothers, and those at most at risk for HIV (youth and migrants) but also develop the capacity to solve their own primary health problems, provide community based home care and support for PLHA.

Communication and education were important aspects of the overall approach. Behavioral Change Communication is an important aspect of this project and in the context of this project consists of IEC, mass media campaigns and counseling. Each aspect of BCC has its own approach, purpose and timing and efforts were made to complement other activities with BCC efforts. CRS maximized resources by tapping previously-tested messages developed by the MoH, UNICEF and others. CRS also supported the expansion of messages of other organizations on the radio, in the health facility and in the community.

Additional funding and expertise were applied to several ancillary activities to enhance the impact of the primary objectives. CRS expanded the work at the community level applying organizational expertise towards the facilitation of water and sanitation projects in communities. The water and sanitation component complemented the project by providing the means for communities to practice the health behaviors.

It is true that a major limitation for VHVs, VHCs and MGLs to perform volunteer work in the community was the interference with their actual jobs and income generation activities; more evident in Sampov Loun OD and during crop and harvest seasons. Also the original willingness of Community structures to work as volunteers and to participate in activities decreased, it was due more to different strategies being utilized by different organizations,

such as providing incentives to “volunteers“ to do the jobs, providing incentives to the community to participate. This also affected the communities’ willingness to contribute to sustainability strategies.

One complimentary activity was increased bed net impregnation and use fostered through effective collaborations between public health sectors and local authorities, community structures and the community. Funding from AADC and CORDAID, two European NGOs, allowed CRS to provide the insecticide for bed net impregnation. Overall, a fully-supported integrated approach such as this greatly benefits the community health structures and leads to long-term health improvements. Is that what you mean by this? It is unclear.

Trainings were critical to the successes of this project and also provided some lessons to be learned for future programming. Training to health facility staff was provided with the specific objective of improving their management and technical knowledge and skills and developing clear and specific objectives and expected outputs for improving the quality and coverage of health facility services and developing relationships with and capacity of the community to improve their health. The Final Evaluation team found that IEC items could have been better designed, particularly in Sampov Loun OD, to reflect the high illiteracy rates of the population. While these IEC materials were developed, used, and tested nationally by the MoH, WHO, UNICEF and other NGOs, it would be advisable for CRS to evaluate how IEC is being used and define whether they need further refinement, narrow down number of activities, develop more specific objectives and outputs in order to maximize efficiency and impact.

Location:

The project was located in the province of Battambang, in the northwest of Cambodia. Its activities are concentrated in four rural districts: Kam Rieng, Phnom Prick, Sampov Loun, and Bavel.

Project Partners	Partner Type	Subgrant Amount
Ministry of Health	Collaborating Partner	

General Strategies Planned:

Strengthen Decentralized Health System

M&E Assessment Strategies:

Health Facility Assessment
Organizational Capacity Assessment for your own PVO
Participatory Rapid Appraisal
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

Groups targeted for Capacity Building:

PVO	Non-Govt Partners	Other Private Sector	Govt	Community
CS Project Team	Networked Group	(None Selected)	Dist. Health System Health Facility Staff	Health CBOs CHWs

Interventions/Program Components:

Immunizations (20 %)

(IMCI Integration)
(CHW Training)
(HF Training)

- Classic 6 Vaccines
- Vitamin A
- Surveillance
- Cold Chain Strengthening
- Injection Safety

Pneumonia Case Management (25 %)

(IMCI Integration)
(CHW Training)
(HF Training)

- Pneum. Case Mngmnt.
- Case Mngmnt. Counseling
- Recognition of Pneumonia Danger Signs

Control of Diarrheal Diseases (25 %)

(IMCI Integration)
(CHW Training)
(HF Training)

- Water/Sanitation
- Hand Washing
- ORS/Home Fluids

Malaria (30 %)

(IMCI Integration)
(CHW Training)
(HF Training)

- ITN (Bednets)
- Care Seeking, Recog., Compliance

Target Beneficiaries:

Infants < 12 months:	4,979
Children 12-23 months:	6,162
Children 0-23 months:	11,141
Children 24-59 months:	22,585
Children 0-59 Months	33,726
Women 15-49 years:	40,078
Population of Target Area:	154,147

Rapid Catch Indicators:

Indicator	Numerator	Denominator	Percentage	Confidence Interval
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)	117	600	19.5%	3.2
Percentage of children age 0-23 months who were born at least 24 months after the previous surviving child	73	600	12.2%	2.6
Percentage of children age 0-23 months whose births were attended by skilled health personnel	187	300	62.3%	5.5
Percentage of mothers of children age 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child	110	300	36.7%	5.5
Percentage of infants age 0-5 months who were exclusively breastfed in the last 24 hours	139	142	97.9%	2.4
Percentage of infants age 6-9 months receiving breastmilk and complementary foods	0	0	0.0%	0.0
Percentage of children age 12-23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	224	255	87.8%	4.0
Percentage of children age 12-23 months who received a measles vaccine	226	300	75.3%	4.9
Percentage of children age 0-23 months who slept under an insecticide-treated bednet the previous night (in malaria-risk areas only)	138	157	87.9%	5.1
Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment	443	600	73.8%	3.5
Percentage of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	214	252	84.9%	4.4
Percentage of mothers of children age 0-23 months who cite at least two known ways of reducing the risk of HIV infection	409	600	68.2%	3.7

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	**138**	**600**	**23.0%**	**3.4**

Comments for Rapid Catch Indicators

Maternal TT and Delivery assistance only asked to mothers with children 0-11 months
Complementary feeding not asked