Baseline Survey Report (KPC)
Siem Reap Integrated Child Health Project

Angkor Chum Operational District
Siem Reap Province, Cambodia

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A note on spelling conventions: Khmer words are approximately spelled using the English alphabet. However, many Khmer sounds do not transliterate exactly and multiple spellings can be found. For the purpose of this report, names of places were spelled by the Administrative District governors.

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Abbreviations and Acronyms

AD	Administrative District
AIDS	Acquired Immune Deficiency Syndrome
ARC	American Red Cross
ARI	Acute Respiratory Infection
BCG	Bacillu Calmelle-Guérin tuberculosis vaccine
BF	Breastfeeding
CATCH	Core Assessment Tool on Child Health
C-IMCI	Community-Integrated Management of Childhood Illnesses
CR	Cambodian Riel
CRC	Cambodian Red Cross
CS	Child Survival
CSHGP	Child Survival and Health Grants Program
DfID	Department for International Development
DHS	Demographic and Health Survey
DPT	Diphtheria, Pertussis and Tetanus
FY	Fiscal Year
GH	Global Health
HIV	Human Immune-deficiency Virus
JICA	Japanese International Cooperation Agency
IMCI	Integrated Management of Childhood Illnesses
IMR	Infant Mortality Rate
KPC	Knowledge, Practices and Coverage
LOE	Level of Effort
MoH	Ministry of Health
MR	Mortality Rate
PHD	Provincial Health Directorate
PPM	Parts Per Million
OD	Operational District
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
PVO	Private Voluntary Organization
SD	Standard Deviation
TRM	Technical Reference Materials
USAID	United States Agency of International Development
UNICEF	United Nations Children's Fund
WHO	World Health Organization

I. Executive Summary

Background

Cambodia has one of the highest under five mortality rates in the world at 122 per 1,000 live births.[1] Additionally, the rate actually rose 17 percent from 1990 to 2000. These facts prompted the declaration of Cambodia as a Child Survival Partnership country in order to focus international attention and resources on this severe and worsening problem.

American National Red Cross (ARC), along with its partner the Cambodian Red Cross (CRC), was awarded a Child Survival and Health grant in the CS-20 cycle, named the Siem Reap Integrated Child Health Project in one of the areas of Cambodia with the worst health statistics, the Angkor Chum Operational District. As part of its baseline assessments, the project carried out a Knowledge, Coverage, and Practices (KPC) baseline survey. The survey was undertaken by ARC in partnership with the CRC and with strong support from the Operational District Administration and Siem Reap Provincial Health Directorate.

Overall, the results of this survey show the child health situation in Angkor Chum Operational District in March 2005 to be better than comparable data for the region, extracted from the Cambodia Demographic and Health Survey (DHS) in 2000 for the provincial level.[2] Specifically, the survey documents remarkable progress with coverage for iodized salt consumption, Vitamin A, and measles immunization. Despite these accomplishments, much work remains to be done to achieve several of the 2007 targets detailed in the Cambodia Health Sector Strategic Plan.

Results and Discussion

The mean age of primary caregivers interviewed in this survey is 29 years. They are overwhelmingly uneducated with fifty-two percent having had no formal education; twenty-eight percent having attended school for 1 to 3 years; and, sixteen percent attended school for 3 to 6 years. Only five percent have over 7 years of schooling.

There was a strikingly high level of morbidity, even though the survey was carried out in the dry season. Nearly fifty-eight percent of children had one of the following illnesses in the two weeks preceding the survey: acute respiratory infection (cough with rapid breathing), diarrhea or fever. Two week period prevalence for acute respiratory infection (ARI) was 19 percent, diarrhea 35 percent, and fever 38 percent. Thirty-five percent had two of these illnesses and 7.2 percent had all three within the past two weeks.

Thirty-one percent of mothers recognized fast or rapid breathing as a sign of illness needing treatment. Fifty-six percent recognized diarrhea. High fever (presumptive malaria) was cited by nearly 70 percent of all surveyed mothers as a danger sign needing treatment. Twenty-seven percent of surveyed caregivers were not able to identify any

[1] Cambodia DHS 2000

[2] The DHS reported pooled data for both Siem Reap and Otdar Mean Chey Provinces. Also, note that DHS data is for children under five years of age; this survey collected information for children 0-23 months.

danger sign indicating the need for care and treatment (rapid breathing, diarrhea, high fever and convulsions).

Overall, 75.5 percent of household had a mosquito net in the home. However, only 1.7 percent of households had a net that was insecticide treated within the past 12 months.

Over one third of children were severely or moderately underweight (weight-for-age). Thirty-six percent of children were severely or moderately stunted (height-for-age).

Twenty-one percent of mothers stated that they exclusively breastfed for at least six months. Thirty-eight percent of children 0-5 months were exclusively breastfed during the last 24 hours. Eighty-two percent of children age 6-9 months received breast milk and complementary foods during the last 24 hours.

When caregivers of children with diarrhea were asked what they used to treat the diarrhea less than one-third reported giving packaged Oral Rehydration Salts (ORS). The most common treatment (58.7 percent) was a pill or syrup.

Forty-eight percent of mothers reported that their child received a Vitamin A capsule within the past six months. Nearly two-thirds of interviewed households had salt that tested positive for iodine.

Sixty percent of mothers received a tetanus toxoid injection two or more times during their last pregnancy. Eighty-four percent said they gave birth at home; 4.5 percent delivered at a public hospital and 7.9 percent delivered at a private hospital.

Sixty-one percent of respondents were able to show their child's vaccination card. Total immunization coverage (vaccination card and verbal reporting) reached 87.1 percent for BCG, 68.8 percent for DPT3, 52.4 percent for Polio 3 and 88.8 percent for measles.

Over half of interviewed households reported an open public well as their primary water source. Nearly 32 percent cited having an open well in their yard or plot. Ninety-two percent of households reported having no sanitation facility.

Reported handwashing before food preparation was nearly universal (94.1 percent). Handwashing before child feeding was only cited by 30 percent of mothers, after defecation was cited by 41.8 percent. Fifty-eight percent of mothers reported using soap when they wash their hands and had soap in the household at the time of the interview.

Ninety percent of mothers stated that they heard of an illness called AIDS. Seventy-one percent responded positively when asked if there is anything a person can do to avoid getting AIDS or the virus that causes AIDS. Over 59 percent of mothers identified condom use as an HIV/AIDS infection prevention measure. Less than five percent cited abstinence and less than 14 percent identified faithfulness to one partner as prevention strategies.

Nearly 42 percent reported not getting health information at present via inter-personal communication. However, the most common source of information is from a village health volunteer (21 percent). Mothers were asked if they received health messages from any other sources over the past month. Over 47 percent cited the television as a source of information; nearly 31 percent noted the radio. Other sources were village health volunteers (21.6 percent), traditional birth attendants (13.3 percent) and village health committees (8.6 percent). Print media (newspapers) was only identified by 1.4 percent of mothers.

II. Background

The American Red Cross, in partnership with the Cambodia Red Cross, was awarded a grant from the United States Agency for International Development (USAID) Child Survival and Health Grants Program (FY-2004). The grant supports the implementation of the Siem Reap Integrated Child Health Project. This report details the methodology and results from a two stage cluster sample KPC baseline survey undertaken in Angkor Chum Operation District, Siem Reap Province from March 12-20, 2005.

The primary objectives of the KPC survey detailed in this report are to:

(1) adjust and validate the project's planned objectives and strategies, focusing on the most pressing public health problems within the targeted Operational District
(2) better understand the current knowledge, practices and coverage of the planned intervention areas, establishing baseline statistics
(3) strengthen the partnership among the Provincial Ministry of Health, Cambodian Red Cross and the American Red Cross

The background information provided below is presented with the purpose of informing the reader of the overall operational environment and the initially proposed project goal, objectives and strategies. This report follows the *Writing the KPC Survey Report* guidance detailed in the *KPC 2000+ Field Guide* (October 2000).

Problem Statement: Cambodia has among the highest rates of child morbidity and mortality in Southeast Asia with an infant mortality rate (IMR) of 93 per 1,000 live births and an under-five mortality rate (U5MR) of 122 per 1,000 live births. Following decades of civil war, the public health system is still nascent, and community-based health service delivery is woefully inadequate to meet public needs. Consequently, most Cambodians lack education about the most appropriate treatments and thus self-medicate or use unqualified and expensive private practitioners. In addition, many essential child health products are not available in communities.

The national Cambodian U5MR increased by 17% between 1990 and 2000 in contrast to an 11% decline in the least-developed countries of the world. Only five other countries – Iraq and four sub-Saharan African countries – experienced a greater increase during this time. Acute respiratory infections (ARI), diarrheal disease, malaria, and vaccine-preventable diseases are the major causes of pediatric deaths, with malnutrition a primary co-factor.

National Policies & Strategies: In Cambodia a high level consultation on child survival was held in June 2004 bringing together for the first time all national partners in health around the common goal of child mortality reduction. As a result, the Royal Government of Cambodia has established a Child Survival Steering Committee under direct supervision of the Director-General for Health, as well as a Child Survival Secretariat for day-to-day operations and coordination among partners. In collaboration with the Commission on Macroeconomics in Health, a child survival investment plan is under development while a costing exercise supported by the World Health Organization

(WHO) will provide information on the most cost-effective interventions to reduce child mortality in Cambodia. Various partners have made new commitments including the Cambodia Ministry of Health, the Asian Development Bank, the World Bank, UNICEF, WHO, USAID, DfID, the European Commission, JICA, and an alliance of national NGOs.[3] In December 2004 a National Child Survival Partnership Workshop was held in Phnom Penh. This workshop moved the CS agenda forward by building consensus and support around:

(1) a programmatic focus on the major causes of child mortality and on the core interventions outlined in the "score card" (see Annex 3);
(2) the definition of roles and responsibilities of the CS partners in Cambodia; and
(3) the commitment of the MoH to draft a National CS strategy.

Program Location and Beneficiaries: The project site is in Angkor Chum Operational District (OD) in Siem Reap Province. The site contains three Administrative Districts (ADs): Pourk, Angkor Chum, and Varin. The estimated 2004 project site population was 199,952. The project will serve estimated average populations of 33,537 U5 children and 52,744 women of reproductive age, including 31,147 married women of reproductive age. Angkor Chum and Varin in particular are characterized by extreme poverty and illiteracy and are hyper-endemic for malaria. Until 1998, Varin was under Khmer Rouge control and its population was deprived of fundamental human rights. More recently, the main road running through Angkor Chum OD has been under reconstruction and can be expected to improve the economic situation of the area. Additionally, the recent expansion of Siem Reap town from a booming tourism industry may be expected to directly benefit Pourk AD by generating employment in the tourism sector.

Goals, Objectives, and Strategies: The project's goal is to reduce child morbidity and mortality in a sustainable fashion. The goal will be reached by achieving measurable improvement in the following three component areas and eleven objectives:

Component 1: *Nutrition and Breastfeeding*. Objectives related to:
- (1) Vitamin A supplementation;
- (2) Iodized salt use;
- (3) Initiation of breastfeeding;
- (4) Exclusive breastfeeding; and
- (5) Complementary feeding.

Component 2: *Immunization*. Objectives related to:
- (6) Fully-immunized children; and
- (7) Tetanus toxoid immunization.

Component 3: *Community management of the sick child*. Objectives related to:
- (8) Pneumonia management;

[3] http://www.childsurvivalpartnership.org/Ethiopia-Cambodia.asp *retrieved April 9, 2005*

(9) Control of diarrheal disease; and
(10) Control of malaria.

Objective 11 concerns building CRC's organizational, programmatic and human resources capacity at all levels so that it can manage and sustain a successful community-based child health program.

The project strategies include the following:

(1) Increase community access to health information, services and products that address leading causes of child illness and death through a network of community volunteers;

(2) Positively modify home health practices and care-seeking behavior through health education and behavior change communication;

(3) Establish community-based social marketing through sales of essential child health products;

(4) Transfer successful health education, social marketing, and community-based surveillance knowledge and experience to CRC;

(5) Develop durable linkages between HC outreach teams and the community through social mobilization activities and campaigns;

(6) Strengthen partnerships between the CRC and MoH at national and sub-national levels by linking with health systems strengthening projects and mainstreaming CRC experiences;

(7) Establish a community-based disease surveillance system (CBSS) to collect real-time data for local decision-making; and

(8) Enhance CRC management, monitoring, communications, and sustainability through partnership with ARC.

(9) At the community level, the program will strategically focus on establishing and improving health education, social mobilization, social marketing, community-based surveillance, and referrals to Health Centers.

Interventions and LOE: The technical interventions are (1) nutrition and breastfeeding (LOE: 40%) with specific focus on vitamin A and iodized salt supplementation, immediate and exclusive breastfeeding, and complementary feeding, (2) immunization with a focus on raising immunization coverage rates for the leading vaccine-preventable child diseases (LOE: 30%), and (3) community management of the sick child with specific focus on pneumonia management and control of diarrheal disease and malaria (LOE: 30%).

III. Process and Partnership Building

Project stakeholders were engaged throughout the survey process including revision of the questionnaires, training, field level data collection, data interpretation, as well as reviewing, editing and disseminating this report. Table 1 lists the stakeholders consulted during the survey development process. Following the review of the tools, recommendations were integrated into the final instruments.

Table 1 - Stakeholder consultation and review

Consultation	Review of Tools
Adventist Development & Relief Agency Cambodian Communicable Disease Control Department Cambodian Ministry of Planning Catholic Relief Services Helen Keller International National Maternal Child Health Center National Nutrition Program Population Services International USAID/Phnom Penh World Health Organization (IMCI and Nutrition Officials)	Angkor Chum Operational District Catholic Relief Services Linkages Project Siem Reap Provincial Health Directorate USAID/GH/HIDN

The KPC training and supervisory team was comprised of both ARC and CRC staff. The Pourk Provincial Health Director engaged 12 midwives from project area health centers to be trained as enumerators for survey data collection. Additionally, two Operational District staff and one CRC volunteer from the project area participated in the training and data collection. Although primary supervisory and technical oversight was the responsibility of the survey team leader with support from the supervisory team, CRC leadership from the branch and headquarters also completed supervisory field visits.

A preliminary data dissemination meeting was held eight days following the completion of data collection. This meeting was coordinated by ARC and CRC and involved officials from the CRC branch office, Pourk Operational District (including Administrative District governors) and the Provincial Health Directorate as well as the midwives who had taken part in the survey. The provincial level meeting was followed-up with feedback sessions in each of the three ADs using a discussion guide to motivate conversation on community action to promote improved health. Administrative District (AD) governors coordinated these sessions and involved commune leaders, health center staff, school directors, Buddhist monk leadership and community leaders. Feedback on the preliminary survey results was solicited, recorded, compiled and analyzed to further inform the detailed implementation planning process.

IV. Methods

A. Survey Instruments: Questionnaires, Anthropometry, and Iodized Salt Assay

Two instruments were used for the survey. One tool collected information on children 0-11 months. The second tool focused on children 12-23 months. Both instruments were adapted from the final KPC questionnaires developed by Catholic Relief Services (CRS) for its FY-2001 Child Survival project in Battambang Province, Cambodia. The revised instruments were pre-tested in the project area and modified for face validity. This was necessary as the Khmer spoken in different areas of the country is not exactly the same. English versions of both instruments are included as Annexes 8 and 9 to this report. The final Khmer questionnaires have not been included as annexes to this report, but are available electronically from both ARC and CRC.[4]

Both instruments collected information on basic demographics, nutrition, immunization status, childhood illness, diarrhea case management, acute respiratory infections, fever/malaria, mosquito net use and maintenance, health contacts and sources of information. The instrument for 0-11 month children also included separate modules on maternal and newborn health (MNH) and breastfeeding. The instrument for 12-23 month children included separate modules on household water and sanitation and HIV/AIDS knowledge, as well as additional childhood immunization questions. The split in questionnaires was done to reduce the time needed to complete each interview. This was accomplished by having age-appropriate modules that in a single instrument would otherwise have simply been skipped (MNH, breastfeeding, immunizations) or modules that needed only to be applied to a valid subset of mothers where sample size considerations did not dictate that a full 300 person sample was necessary (HIV knowledge and water/sanitation).

Additionally, all children were weighed and measured. Electronic weigh-reweigh *AND UC-300* scales and standard metric child measuring boards were rented from Helen Keller International. A salt sample of approximately 30 grams was also collected from each household in a plastic bag and tested for iodine content. Samples were either tested immediately at the household or later the same day. Samples were tested using the semi-quantitative assay manufactured by MBI International (Mumbai, India) and supplied by the UNICEF Cambodia field office. This test gives results in 25 parts per million (ppm) increments.

The interview time varied from 30 to 80 minutes depending on whether the child was reported to have diarrhea, acute respiratory infection, or fever within the two weeks prior to the interview. Caregivers with children reported sick during this period were asked additional questions about care seeking and illness management in reference to that illness. Supervisors ensured that skip patterns in the survey were appropriately followed by all enumerators.

[4]Khmer script documents require special language software for electronic transmission.

B. KPC Indicators

The survey was primary concerned with collecting data for construction of Rapid CATCH indicators (Section IV.A), indicators in the draft program matrix (Annex 2), and indicators included in the Cambodia "Scorecard" (Annex 3). Following technical review of the instruments by various stakeholders, additional questions were added to support the development of project activities and strategies. All indicators are expressed following standard definitions according to the *KPC2000+ Toolkit* unless otherwise indicated. Provisional baseline proportions and targets were taken from the original project matrix (Annex 2).

C. Sampling Design

The *KPC 2000+ Field Guide* was used to establish the sampling design. Standard sample size for a 30 cluster sample survey of 10 (total 300) was checked against the most restrictive indicator (stunting) to ensure adequate data collection to achieve a level of precision equal (alpha error) of 0.05 and power of 80% (beta error of 0.2). The value of 137 was computed. This was then rounded up to 150 per cohort (0-11 month olds and 12-23 month olds) to ensure sufficient robustness in the event of refusals (estimated at 10 percent). All indicators, including those only in one of the questionnaires, therefore, had sufficient sample size by these standard criteria.

The master list of villages was used as the sampling frame for selection of clusters. This master list was constructed from three different population lists provided by the OD administrator during a planning and coordination visit prior to the survey. These lists were cross-checked and found to be mostly consistent. Four villages previously identified in other ADs were recategorized to Pourk AD. This resulted in the following distribution by AD: 15 in Pourk, eight in Angkor Chum and seven in Varin. A master list with cumulative population totals was constructed to include all villages on all three lists. Discrepancies in population numbers were resolved by using the numbers from one list that had more detailed information which generally had slightly higher populations and was assumed to be more recent and more accurate (as the initial estimate was from early 2004). The number of households within each cluster was increased to 11 in order to obtain a total sample of 333. This was done to arrive at an estimated 300 final usable questionnaires, taking account of possible refusals and/or incorrectly completed surveys. The total estimated population of the AD in the sampling frame (199,828) was then divided by 30, giving a sampling interval of 6,661. A start number was randomly selected and 30 clusters were identified using the sampling interval.

Following the selection of the 30 clusters, two additional clusters were selected in Varin Administrative District (AD) in order to permit more precise and therefore meaningful inter-AD comparisons of some indicators (see data analysis section below). Two clusters were in villages too small to have enough households with children targeted by the survey. The total number of surveys completed was 347 (out of a possible 352). A list of selected villages is included as Annex 4, together with their estimated populations in the master sampling frame.

Prior to beginning the field level data collection, a second round of meetings were held with all AD governors to review the selected villages, and to identify their location on a detailed map. Each AD governor recommended a routing and visit schedule for each survey team. Each AD governor assumed responsibility to notify each selected village of the survey and schedule.

At the village level, the supervisors met with the village chief to sketch a village map or used one provided by the commune administrator. Each team divided into two or three sub-teams (depending on supervisor coverage) and were assigned to begin work according to the most visually logical beginning, end and center points of the village. Each enumerator team of two people went to their starting point, skipped two houses and interviewed the next house with a child less than 24 completed months of age (either the 0-11 or the 12-23 month cohort). This procedure was followed until each enumerator team completed their assigned number of interviews for that village. Each two-person sub-team was tasked to complete five interviews per cluster. The supervisor was responsible for completing the remaining interview. Teams with three sub-teams divided the work by having two teams complete four interviews and the third team complete three interviews.

D. Training

The ARC senior technical advisor for monitoring and evaluation was the survey team leader and oversaw all aspects of the survey planning, training and fieldwork. Survey supervisors all had previous experience with community level data collection and survey interviewing. All enumerators were literate and minimally had a high school education; only one enumerator was not a woman.

The enumerator training was conducted for three full days from March 9-11 at the Pourk AD offices. The training agenda (Annex 5) included project background, survey objectives, review of questionnaires, practice sessions, demonstration and logistics/scheduling. Two midwives withdrew after the first day of training, due to family obligations. Two staff from the OD replaced them, and were paired with CRC supervisors during the remainder of the training to ensure comprehension.

Following the completion of the survey, all teams participated in a joint debriefing session which included a discussion of lessons learned and best practices. Feedback from this session has been transcribed and is included in the Detailed Implementation Plan.

E. Data Collection

A field data collection schedule was developed with the AD governors to organize teams and assign villages according to geographic proximity. Note that geographic proximity refers to the relative distance between the selected villages and a logical sequence for traveling without retracing routes, rather than simply those villages that were most convenient to the road. Three supervised teams were deployed in separate vehicles to each of the targeted administrative districts to complete household interviews following the schedule; data collection was undertaken from March 12 through March 20, 2005. Each team had two supervisors, one national and one international.

Field teams participated in coordination and debriefing meetings, which were held each afternoon following that day's data collection. This gave each team the opportunity to correct forms and review any questions or concerns. After the first day, survey teams had progressively fewer questions about how to ask questions or code responses. The overall survey team leader had regular communication with all team supervisors to ensure progress and respond to questions generated during data collection, either via phone, radio or in-person, depending on communication technology limitations.

F. Data Entry and Analysis

Data was entered, processed and analyzed using EPI-INFO 3.2.2. Electronic questionnaires were prepared by ARC headquarters offices. Data was entered by an independent consultant from March 23-26, 2005. Data was cleaned, recoded and analyzed by the ARC Field Project Manager. This process took approximately seven days after completion of data entry.

Operational District (OD) level statistics were calculated by separating the additional clusters from Varin to check for statistical differences. When no statistical difference were detected (using 95 percent confidence interval), the data was pooled to further improve the level of precision of the point estimates. The analysis is presented in the Results section below.

V. Results

This section details the statistical findings of the KPC survey. Following the Rapid CATCH indicators, results have been grouped by topic. Confidence intervals (CIs) have been provided when it was considered that this information would enhance interpretation of the frequency point estimates.

A. Rapid CATCH Indicators

The Rapid Core Assessment Tool on Child Health (CATCH) detailed in the *KPC 2000+ Toolkit* was integrated into the survey questionnaires. Analysis of Rapid CATCH indicators was done following the tabulation plan specified in the guidance and is presented in Table 2 below. These results are described in more detail on the following pages, where we highlight the major queries and compare these results with national values.

Table 2 - Rapid Catch Indicators and Results

Intervention	Indicator	Statistic	CI
Nutrition	1. 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)	35.7%	28.6 – 42.9%
Child Spacing	2. Percentage of children 0-23 months who were born at least 24 months after the previous surviving child*	44.1%	36.7 – 51.5%
MNC	3. Percentage of children age 0-11 months whose births were attended by skilled health personnel	15.3%	7.8 – 22.7%
MNC	4. Percentage of mothers with children age 0-11 months who received at least 2 tetanus toxoid injections before the birth of their youngest child	59.9%	49.7 – 70.1%
All	5. Percentage of children age 0-5 months who were exclusively breastfed during the last 24 hours	38.4%	25.7 – 51.1%
Breastfeeding CDD/Nutrition Immunization	6. Percentage of children age 6-9 months who received breast milk and complementary foods during the last 24 hours	81.7%	67.8 – 95.5%
Intervention	**Indicator**	**Statistic**	**CI**
Immunization	7. Percentage of children age 12-23 months who are fully vaccinated before first birthday	34.1%	24.0 – 44.2%
Immunization	8. Percentage of children age 12-23 months who received a measles vaccine	88.8%	82.1 – 95.5%
Malaria	9. Percentage of children age 0-23 months who slept under an insecticide treated net the previous night	1.7%	0.0 – 3.7%
HIV/AIDS	10. Percentage of mothers with children age 12-23 months cite at least 2 known ways of reducing risk of HIV infection	12.9%	5.8 – 20.1%
CDD	11. Percentage of mothers with children age 12-23 months who report that they wash their hands with soap/ash	57.1%	46.5 – 67.6%
All	12. Percentage of mothers of children age 0-23 months who know at least 2 signs of childhood illness that indicate the need for treatment	57.9%	50.6 – 65.3%
All	13. Percentage of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	53.7%	41.2 – 66.3%

*calculated using the assumption that any household with more than two children under five are not properly birth-spaced.

B. Background Information

The mean age of primary caregivers (almost entirely mothers) interviewed in this survey is 29 years with a range from 15 to 62 years. Approximately two-thirds (65.1 percent) of mothers are over 25 years of age; all primary caregivers are female.

Fifty-six percent of households had only one child under five years of age; 39 percent had two children under five and five percent had three children under that age. The survey population is overwhelmingly uneducated: fifty-two percent have no formal education. Twenty-eight percent reported having attended school for 1 to 3 years; and, sixteen percent attended school for 3 to 6 years. Only five percent have over 7 years of schooling.

Over 55 percent of mothers work outside of the home to earn money. The primary economic activities reported were harvesting (15.3%) and handicrafts (11.8%). All of the mothers worked (non-salaried) within the home or farm compound.

Table 3 - Work outside of the home

Type of Work	Baseline		
	n	N	%
None	189	347	54.5
Handicrafts	41	347	11.8
Harvesting	53	347	15.3
Sell food	24	347	6.9
Shopkeeper/Street vendor	8	347	2.3
Salaried worker	3	347	0.9
Other	29	347	8.4

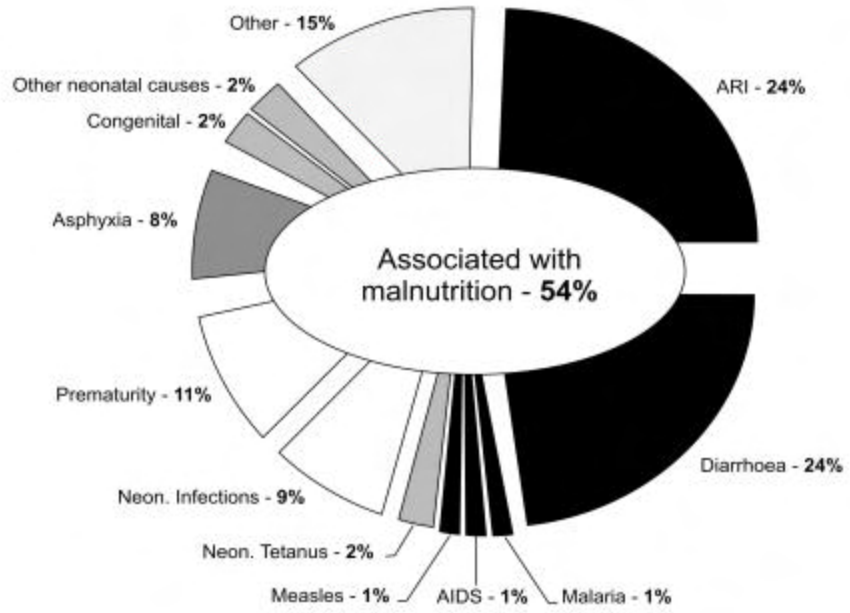
When asked who takes care of the child if they leave the home, five percent reported that they do (presumably that they take the child with them when they leave the home), five percent cited their husband, 11 percent other children 20 percent other relatives, and four percent neighbors and friends. All respondents (100 percent) reported that they also leave their child with a non-paid housekeeper.

Consumption of porridge and/or wild foods is a proxy indicator for hunger and food insecurity as they are foods of last resort. Fifty-seven percent of households reported that they ate porridge and/or wild foods for their meals at least one month in the past year. Nine percent stated that they ate porridge and/or wild foods six months or more. Average number of months of eating porridge and/or wild foods was 2.15.

C. Infant & Childhood Illness

Nationally, acute respiratory infection (24 percent) and diarrhea (24 percent) account for nearly half of death among children under five years of age in Cambodia. Measles, malaria, and acquired immune deficiency syndrome (AIDS) each contribute one additional percent to U5MR. Malnutrition is associated with 54 percent of all childhood mortality.

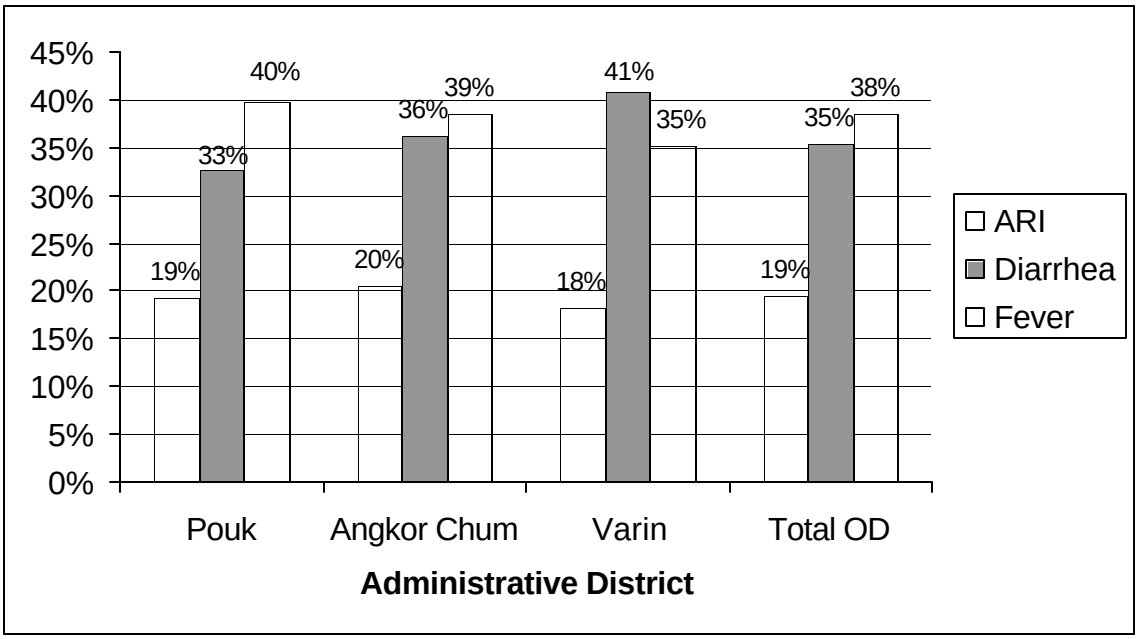
Graph 1 - Causes of under five deaths: Estimated distribution in Cambodia 2000



Source: Millennium Development Goal 4: Reducing Child Mortality in Cambodia, Child Survival Partnership High Level Consultation, Phnom Penh May 31-June 2, 2004

Predictably, corresponding morbidity among Cambodia's children is high. According to the Cambodia Demographic and Health Survey 2000, two week period prevalence for children under five years of age for acute respiratory infection (ARI) was 20 percent, diarrhea 18.9 percent, and fever 35 percent. The prevalence statistics in Angkor Chum OD for children under two years of age are equivalent or worse for all these illnesses. Acute respiratory infection (ARI) prevalence was 19 percent. Overall, diarrhea was 35 percent, with small, non-statistically significant increases from each AD south to north (and progressively further from the national highway): Pourk (33 percent), Angkor Chum (36 percent) and Varin (41 percent). Conversely, fever prevalence decreased from each AD south to north: Pourk (40 percent), Angkor Chum (39 percent) and Varin (35 percent). Likewise, these differences were not statistically significant. The overall fever prevalence was 38 percent. During the rainy season, it is expected that these prevalences would increase significantly.

Graph 2 - Acute Respiratory Infection, Diarrhea and Fever by Administrative District



Nearly fifty-eight percent (57.6) of children had at least one of these conditions (acute respiratory infection (cough with rapid breathing), diarrhea or fever). Thirty-five percent had two of these illnesses and 7.2 percent had all three within the past two weeks.

Early recognition of the signs of serious illness is a key community IMCI household practice. Recognition of danger signs is a precursor to seeking prompt care and treatment which can greatly improve chances for child survival. For example, the major impact on pneumonia mortality is achieved through prompt and effective treatment of pneumonia episodes, rather than through prevention.[5] Recommended home case management for diarrhea includes early use of food-based fluids and/or Oral Rehydration Solution (ORS), continued breastfeeding and recognition of danger signs requiring immediate care from a provider.[6] Universal treatment of diarrhea with ORS is expected to reduce mortality of children under five years of age by 15 percent.[7] Likewise, children with uncomplicated malaria must be given prompt treatment with an effective anti-malarial drug to avoid subsequent progression to severe malaria.[8] At the same time, most of these could be prevented, and complementary health education using a behavior change approach can contribute to reducing the incidence of diarrhea, as well as early treatment seeking behavior, thus reducing illness duration and severity.

[5] Technical Reference Materials Pneumonia, PVO Child Survival and Health Grants Program, revised 2004
[6] Technical Reference Materials Control of Diarrheal Disease, PVO Child Survival and Health Grants Program, revised 2004
[7] Jones G. et al. How many child deaths can we prevent this year?, *The Lancet* 2003; 262: 65-71
[8] Crawley, J. Reducing deaths from malaria among children: the pivotal role of prompt, effective treatment in Technical Reference Materials Malaria, PVO Child Survival and Health Grants Program, revised 2004

Enumerators asked mothers "What are the signs of illness that would indicate your child needs treatments?" Interviewers read all possible answers and recorded all responses. Thirty-one percent of mothers recognized fast or rapid breathing as a sign of illness needing treatment. Fifty-six percent recognized diarrhea. High fever (presumptive malaria) was cited by nearly 70 percent of all surveyed mothers. However, only 26 percent recognized convulsions as a symptom indicating the need for care or treatment. Given the educational level of the mothers, it is possible that some of the more clinical terms elicited a 'don't know' response.

Stratification by mothers' age revealed that younger mothers (<25 years of age) report diarrhea as an illness needing care or treatment less frequently (46.3 percent; CI 37.2 – 55.6) when compared to 61.1 percent of older mothers (CI 54.4 – 67.5). No differences were found in reporting when stratifying by child's gender.

Table 4. Mothers' recognition of signs of illness

Sign of Illness	Baseline		
	n	N	%
Fast or rapid breathing	108	347	31.1
Diarrhea	194	347	55.9
High fever	241	347	69.5
Convulsions	90	347	25.9
Looks unwell/not normal play	64	347	18.4
Not eating or drinking	73	347	21.0
Lethargic or difficult to wake	77	347	22.2
Vomits everything	148	347	42.7
No signs	95	347	27.4
One sign	51	347	14.7
Two signs	79	347	22.8
Three or more	122	347	35.2

Twenty-seven percent (27.4) of surveyed caregivers were not able to identify any the danger signs indicating the need for care and treatment (rapid breathing, diarrhea, high fever and convulsions). Nearly 15 percent were able to recognize one of these signs, 22.8 percent knew of two signs and 35.2 percent were able to identify three or all four.

Recognition of rapid breathing, diarrhea, high fever and convulsions were each stratified by AD. Knowledge among mothers in Varin, the most remote AD of the three surveyed, proved to be consistently and significantly higher. Only 14.3 percent of mothers in Angkor Chum were able to identify rapid breathing as a sign of illness needing treatment as compared to 33.3 percent in Pourk and 44.2 percent in Varin. Likewise, knowledge of diarrhea as a sign needing treatment was identified by 39.3 percent of mothers in Angkor Chum as compared to 57.5 in Pourk and 70 percent in Varin. High fever and convulsions were cited by 46.4 percent and 9.5 percent in Angkor Chum, respectively. In Pourk,

69.6 percent and 21 percent were able to identify these symptoms. Recognition of these symptoms in Varin was 93.5 percent and 55.8 percent respectively.

Table 5. Mothers' recognition of selected signs of illness by Administrative District

AD	Rapid Breathing		Diarrhea		High Fever		Convulsions	
	%	CI	%	CI	%	CI	%	CI
Pouk	33.3	26.6 - 40.6	57.5	50.1-64.7	69.9	62.8 - 76.4	21.0	15.4 - 27.5
Angkor Chum	14.3	7.6 - 23.6	39.3	28.8 - 50.5	46.4	35.5 - 57.6	9.5	4.2 - 17.9
Varin	44.2	32.8 - 55.9	70	58.6 - 80	93.5	85.5 - 97.9	55.8	44.1 - 67.2
Total	31.1	26.3 - 36.3	55.9	50.5 - 61.2	69.5	64.3 - 74.3	25.9	21.5 - 30.9

Table 6 below summarizes care seeking practices and influences for children who were reported sick over the last two weeks. Sixty-seven percent of mothers sought advice or treatment outside of the home for ARI (cough with rapid breathing) as compared to 70 percent for diarrhea and 57.1 percent for fever. Of those sick children brought for care, over half were brought to the health center for advice and treatment irrespective of illnesses (ARI, diarrhea and fever). Reported care seeking at hospitals and private practitioners was more common than at the pharmacy or market (see Table 6).

Providers were selected based on cost, familiarity/trust and distance. Distance seems to be less of a consideration for diarrhea care seeking (30 percent response) as compared to fever care seeking (48.7 percent response). Of further interest in relation to diarrhea care seeking is that cost seems to more of a factor (50 percent response) than distance (30 percent response). This may be a result of the seeming omni-presence of diarrhea medication available from small shopkeepers.

Table 6. Care seeking for ARI, Diarrhea and Fever

Care seeking	ARI	Diarrhea	Fever
Sought advice or treatment	67.0	70.0	57.1
Service provider			
Health Center	56.9	53.4	53.0
Hospital	15.7	20.5	15.2
Private practicioner	13.7	16.4	19.7
Pharmacy/market	9.8	8.2	9.1
Unidenfied provider	3.9	0.0	1.5
Provider preference			
Cost less	45.5	50.0	43.0
Known or trusted	41.0	40.0	42.0
Distance	39.0	30.0	48.7
Follow-up visits			
Requested to return by provider	47.7	10.7	38.4
Actual return to provider	18.1	5.5	15.1

D. Acute Respiratory Infections (ARI)

Nineteen percent of mothers reported that their child had cough with rapid breathing in the last two weeks. These mothers were asked more detailed questions concerning treatment and care seeking for this illness.

Although the sample proved to be too small to make statistically significant conclusions, stratification by gender showed that girls are slightly less sick with ARI: 17.2 percent compared to 21.1 for boys. Similarly, mothers under age 25 reported more ARI (24.8 percent) compared to mothers 25 or older (16.4).

Table 7. Two week acute respiratory infection prevalence by child gender, mother's age and administrative district

Background Charateristic	n	N	%	CI
ARI	67	347	19.3	13.4 - 25.2%
Child's gender				
Female	30	174	17.2	9.3 - 25.2%
Male	36	171	21.1	12.4 - 29.7%
Mother's Age				
<25 years	30	121	24.8	13.9 - 35.7%
25 years and over	37	226	16.4	9.5 - 23.2%
Administrative District				
Pouk	36	186	19.4	11.3 - 27.4%
Angkor Chum	17	84	20.2	8.1 - 32.4%
Varin	14	77	18.2	6.0 - 30.4%

Sixty-seven percent of mothers (45 cases) reporting a cough and fast breathing over the past two weeks sought advice or treatment (Table 6). Nine percent of those seeking care did so the same day they noticed symptoms; 40.9 percent sought care the next day, 18.2 percent after two days and 31.8 percent did so only after three or more days (not shown).

In deciding to go for care, nearly all (93.2 percent) stated that they make the decision, although 39 percent mentioned their husband. Only 12 percent identified the grandmother or mother-in-law. Seven percent noted that friends and neighbors also participate in the decision-making process.

Walking was most common (40.9 percent) means of getting to a health provider. Thirty-two percent cited taking a moto-taxi, 15.9 percent stated that they took their own transportation and 2.3 percent (1 case) reported hiring a car taxi. Sixty-one percent stated that they paid no transportation cost. Thirty percent of mothers paid less than 300 Cambodia Riels (CR) (~US$.08). One case reported paying 3000CR (~US$.75) and one case reported paying 12000CR (~US$3.00) (the car taxi cost).

The standard consultation fee at the health centers as reported by local authorities is 500 CR (~US$0.13). Seventy-nine percent of care seekers paid for the consultation and treatment. Thirty-nine percent of these mothers paid 500 CR (~US$0.13) or less. Fourteen percent paid more than 500 and less than 1000 CR. Twenty-five percent paid more than 1000 CR for the consultation and treatment.

During the consultation the provider asked 47.7 percent of mothers to return for a follow-up visit. Only 38 percent of those mothers returned to the same provider as instructed. Treatments were paracetamol (52.3 percent), unknown tablets (31.8 percent), amoxicillin/ampicillin (22.7 percent) and unknown injection (6.8 percent). These are potentially inappropriate treatments for ARI.

E. Diarrhea Case Management

Thirty-five percent of mothers reported that their child had diarrhea in the last two weeks. These mothers were asked more detailed questions concerning treatment and care seeking for this illness.

Stratification by gender showed diarrhea prevalence for girls (32.6 percent) to be less than for boys (38.5 percent). This finding, however, is not statistically significant. Likewise, a non-significant increase trend was found among the ADs. Diarrhea prevalence was 32.6 in Pourk was 32.6 percent as compared to 36.1 percent in Angkor Chum as compared to 40.8 percent in Varin.

Table 8. Two week diarrhea prevalence by child gender, mother's age and administrative district

Background Charateristic	Baseline			
	n	N	%	CI
Diarrhea	121	343	35.3	28.1 - 42.4%
Child's gender				
Female	56	172	32.6	22.7 - 42.5%
Male	65	169	38.5	28.1 - 48.8%
Mother's Age				
<25 years	41	118	34.7	22.6 - 46.9%
25 years and over	80	225	35.6	26.7 - 44.4%
Administrative District				
Pouk	60	184	32.6	23.0 - 42.2%
Angkor Chum	30	83	36.1	21.5 - 50.8%
Varin	31	76	40.8	25.2 - 56.4%

Caregivers reporting child diarrhea were asked what they used to treat the diarrhea. The most common treatment (58.7 percent) was a pill or syrup. Packaged Oral Rehydration Salts (ORS) was cited by nearly one-third (32.2); only 1.7 percent (two cases) reported

making a sugar-salt solution in the home. "Other" responses included tree bark (2), coconut milk (2), proaxium (2) and antibiotics (7). The Health Sector Strategic Plan 2007 target for Oral Rehydration Therapy (ORT) is 80 percent of children with diarrhea in the last two weeks received ORT.

Table 9. Diarrhea treatment

Treatment	Baseline		
	n	N	%
Nothing	10	121	8.3
ORS	39	121	32.2
Home-made fluid	2	121	1.7
Pill or syrup	71	121	58.7
Injection	10	121	8.3
IV	4	121	3.3
Home remedies/herbal	21	121	17.4
Other	27	121	22.3

Caregivers were asked about breast milk, fluid and food intake during the reported diarrhea episode. Fifteen percent (14.9) reported decreasing breastfeeding; 33.9 percent continued the same level and 42.1 percent increased breastfeeding. In relation to other fluids, 14 percent of caregivers stated that they decreased other fluids, 21.5 percent reported that provision other fluids remained the same. Nearly 55 percent cited increasing other fluids.

Table 10. Breast milk, fluid and food intake during diarrhea episode

Frequency	Baseline		
	n	N	%
Breast milk			
Less	18	121	14.9
Same	41	121	33.9
More	51	121	42.1
Child not breastfed	10	121	8.3
Don't know	1	121	0.8
Other fluids			
Child not yet drinking	11	121	9.1
Less	17	121	14.0
Same	26	121	21.5
More	66	121	54.5
Nothing to drink	1	121	0.8
Food			
Child not yet eating	20	121	16.5
Less	46	121	38.0
Same	31	121	25.6
More	18	121	14.9
Nothing to eat	6	121	5.0

Food intake during last diarrhea episode was reduced for 38 percent of children, remained the same for 25.6 percent and was increased for 14.9 percent.

Caregivers were also asked about fluid (including breast milk) and food intake during the child's recovery from the last diarrhea episode. Seven percent (6.6) reported giving less fluids, 52.9 percent cited providing the same amount and 38.8 percent stated that they increased fluids. Food intake during recovery for diarrhea was less for 5.8 percent of children, the same for 42.9 percent and more for 29.8 percent.

Table 11. Fluid (including breast milk) and food intake during recovery from diarrhea

Frequency	Baseline		
	n	N	%
All fluids (including breast milk)			
Less	8	121	6.6
Same	64	121	52.9
More	47	121	38.8
Nothing to drink	1	121	0.8
Don't know	1	121	0.8
Food			
Child not yet eating	20	121	16.5
Less	7	121	5.8
Same	58	121	47.9
More	36	121	29.8

For reported diarrhea over the past two weeks 70 percent of respondents (50 cases) stated that they sought advice or treatment from someone outside of the home (Table 6).

In relation to decision-making about where to go for care, nearly all (94 percent) stated that they make the decision. However, forty-four percent also mentioned the husband, and 24 percent cited their mother or mother-in-law.

The primary mode to travel to the health care provider was walking (42 percent). Twenty-six percent of mothers cited taking a moto-taxi. The remainder either used their own transportation (16 percent) or hired a car taxi (6 percent). Fifty-six percent of interviewees stated that their travel to the provider was free. Twenty-three percent reported paying more than 2000 CR (~US$0.50).

Most respondents (70 percent) reporting having to pay for the consultation and treatment. Over three-quarters (77.8 percent) paid less than 500 CR (~US$0.12). The remainder stated they paid between 500 and 7000 CR (~US$0.12 - US$1.75).

Only 10.7 percent of mothers were asked to return for a check up. Slightly more than half (55 percent) complied with that request.

F. Fever

Thirty-eight percent of mothers reported that their child had fever in the last two weeks. These mothers were asked more detailed questions concerning treatment and care seeking for this illness.

Stratification by gender showed fever prevalence for girls (35.6 percent) to be less than for boys (40.6 percent). This finding, however, is not statistically significant. Likewise, a non-significant decrease trend was found among the ADs. Fever prevalence was 39.8 in Pourk as compared to 38.6 percent in Angkor Chum as compared to 35.1 percent in Varin.

Table 12. Fever by child's gender, mother's age and administrative district

Background Charateristic	n	N	%	CI
Fever	133	347	38.3	31.3 - 45.6%
Child's gender				
Female	62	174	35.6	25.6 - 45.7%
Male	69	170	40.6	30.1 - 51.0%
Mother's Age				
<25 years	43	121	35.5	23.5 - 47.8%
25 years and over	90	225	40.0	30.9 - 49.1%
Administrative District				
Pouk	74	186	39.8	29.8 - 49.7%
Angkor Chum	32	83	38.6	23.7 - 53.4%
Varin	27	77	35.1	20.0 - 50.1%

When asked about seeking advice or treatment for reported fever within the past two weeks, 57.1 percent (76 cases) of respondents stated that they did so (Table 6). One-third of these children were brought for care the same day symptoms of fever were recognized. Thirty-six percent went for care the next day, 20 percent after two days and 10.7 percent did so only after three or more days.

G. Mosquito Net Use

Insecticide-treated mosquito nets (ITNs) have been shown to reduce the incidence of malaria episodes by half and in malaria endemic areas the widespread use of ITNs can be expected to reduce all cause child mortality by about one fifth.[9] All caregivers were asked about malaria knowledge as well as mosquito net ownership, use and maintenance.

[9] Technical Reference Materials Malaria, PVO Child Survival and Health Grants Program, revised 2004

Over three-quarters of respondents identified mosquito bites as a cause or transmission risk for malaria. As the survey was conducted during the end of dry season, it is expected that mosquito net use would increase during the more malarious rainy season.

Table 13. Reported cause of malaria

Cause	Baseline		
	n	N	%
Mosquito bites	263	347	75.8
Witchcraft	4	347	1.2
Intravenous drug use	2	347	0.6
Blood tranfusion	8	347	2.3
Injection	1	347	0.3
Sharing razor blades	7	347	2.0
Home remedies/herbal	21	347	6.1
Not adapted to one's environment (environmental immunity)	7	347	2.0
Unboiled or dirty water	7	347	2.0
Don't know	84	347	24.2

Overall, 75.5 percent of household had a mosquito net in the home that was seen by the interviewer. Mothers under 25 years of age are slightly more likely to have a net in the home (79.3 percent) when compared to mothers 25 years and older (73.5).

Stratification by AD showed that surveyed households in Pourk are more likely (86 percent) than those in Angkor Chum (67.9) or Varin (58.4) to have a mosquito net.

Table 14. Mosquito net in home by child gender, mother's age and administrative district

Background Charateristic	n	N	%	CI
Mosquito net in home	262	347	75.5	69.1 - 81.9%
Child's gender				
Female	127	174	73.0	63.7 - 82.3%
Male	133	171	77.8	69.0 - 86.6%
Mother's Age				
<25 years	96	121	79.3	69.1 - 89.5%
25 years and over	166	226	73.5	65.3 - 81.6%
Administrative District				
Pouk	160	186	86.0	79.0 - 93.1%
Angkor Chum	57	84	67.9	53.7 - 82.0%
Varin	45	77	58.4	42.9 - 74.0%

Of those households with a mosquito net, 71.8 percent had the mosquito net hanging over the bed at the time of the interview. Four percent (11 cases) stated that they never use their mosquito net.

The vast majority of mosquito nets are not insecticide treated. Only 3.9 percent of mosquito nets (CI 1.9 – 7.0%) were reported to have been soaked or dipped in a liquid to repel mosquitoes or insects. Of these 10 mosquito nets, four were treated more than 12 months before the interview. Thus, reducing the rapid CATCH indicator for "percentage of children 0-23 months who slept under an insecticide treated net to 1.7 percent. The Health Sector Strategic Plan 2007 target is 100 percent for people living less than 200 meters from forested areas.

Frequency of mosquito net washing was reported at 30.2 percent once a week, 51.2 percent once a month and 18.5 percent less than once a year.

H. Nutrition (Anthropometry, Breastfeeding and Micronutrients)

i. Anthropometry

Height, age and weight data were collected for all children (under 24 months) to calculate underweight, stunting and wasting. Less than three (3) standard deviations (SD) below the mean is considered to be severe, under 2SD is considered moderate and under 1SD is considered mild malnutrition. Treatment for severe malnutrition is therapeutic feeding and rehabilitation, generally at a feeding center; however, mild to moderate malnutrition is reversible through improved feeding and care practices in the home. Stratification by child's gender yielded no significant differences between girls and boys.

Over one third of children (35.7 percent) were severely or moderately underweight (weight-for-age). Data from the DHS in 2000 recorded this same statistic for Siem Reap and Otdar Mean Chey at 49.9 percent.

Stunting (height-for-age) is a reflection of chronic malnutrition and thus one of the strongest indicators of overall child health. Thirty-six percent of children were severely or moderately stunted in Angkor Chum OD as compared to 50.7 percent for Siem Reap and Otday Mean Chey (DHS 2000).

Table 15. Nutrition Z Scores: Weight-for-age, Height-for-age and Weight-for-height

Nutrition Indicator	Standard Deviation					
	<3SD	<2SD	<1SD	80%	>1SD	>2SD
Weight-for-age						
National DHS	12.6	32.6	na	na	na	na
Siem Reap/Otdar Mean Chey (DHS)	10.9	39.0	na	na	na	na
Angkor Chum OD (KPC)	15.0	20.7	26.4	33.8	2.2	1.9
Female	14.7	21.8	30.8	29.5	1.3	1.9
Male	15.2	19.6	22.2	38.0	3.2	1.9
Height-for-age						
National DHS	20.5	24.1	na	na	na	na
Siem Reap/Otdar Mean Chey (DHS)	21.0	29.7	na	na	na	na
Angkor Chum OD (KPC)	10.8	15.4	27.7	40.0	4.9	1.2
Female	14.4	16.3	27.5	36.3	3.8	1.9
Male	7.3	14.5	27.9	43.6	6.1	0.6
Weight-for-height						
National DHS	3.9	11.1	na	na	na	na
Siem Reap/Otdar Mean Chey (DHS)	0.8	9.8	na	na	na	na
Angkor Chum OD (KPC)	5.5	11.1	24.8	52.1	4.9	1.6
Female	5.3	11.3	26.0	52.7	2.0	2.7
Male	5.7	10.8	23.6	51.6	7.6	0.6

Severe and moderate wasting (weight-for-height) was found to be 16.6 percent in Angkor Chum OD, as compared to 10.6 percent in Siem Reap/Otdar Mean Chey (DHS 2000).

Although vaccination cards have a growth monitoring chart on one side, this chart was blank (not used) for all observed vaccination cards.

ii. Breastfeeding

Breastfeeding is the most effective way to protect infants and children from common childhood illnesses. Universal coverage of the optimal breastfeeding practices can be expected to reduce mortality of children under five years of age by 13 percent.[10]

Caregivers were asked about breastfeeding practices following child birth. Forty-three percent (42.8) stated that they put the child to the breast within the first hour. Sixteen percent (15.7) did so after the first hour, 19.5 percent breastfed before the end of the first day and 22 percent breastfed after the end of the first day.

Although not statistically significant, stratification by gender showed that girl babies are more often breastfed within the first hour (50 percent) as compared to boy babies (35.1 percent).

[10] Jones G. et al. How many child deaths can we prevent this year?, *The Lancet* 2003; 262: 65-71

Table 16. Time lapse before putting infant to the breast following birth by child's gender

Stratification	Baseline			CI
	n	N	%	
Operational District				
Immediately/within first hour	68	159	42.8	31.9 - 53.6%
After first hour	25	159	15.7	7.7 - 23.7%
Before the end of the first day	31	159	19.5	10.8 - 28.2%
After the end of the first day	35	159	22.0	12.9 - 31.1%
Child's gender				
Female				
Immediately/within first hour	41	82	50.0	34.7 - 65.3%
After first hour	13	82	15.9	4.7 - 27.0%
Before the end of the first day	14	82	17.1	5.6 - 28.6%
After the end of the first day	14	82	17.1	5.6 - 28.6%
Male				
Immediately/within first hour	27	77	35.1	20.0 - 50.1%
After first hour	12	77	15.6	20.0 - 50.1%
Before the end of the first day	17	77	22.1	9.0 - 35.2%
After the end of the first day	21	77	27.3	3.2 - 41.3%

Eighty-nine percent of mothers reported giving the liquid that came from their breasts within three days after delivery (not shown). Of these mothers, 74.6 percent stated that they did not give any other liquids or food before feeding breast milk; conversely, 25.4 percent did provide other liquids or food before feeding breast milk. These mothers (44) were asked what other liquids they provided in addition to breast milk.

All mothers introducing liquids before breastfeeding within three days following birth cited giving sugar-salt water solution; over seventy percent reported giving plain water. Twenty-seven percent stated they had given powdered milk, fruit juice, rice soup or coconut milk.

Table 17. Other liquids given to infants within first three days of life before breastfeeding

Other liquids	Baseline		
	n	N	%
Sugar-salt water solution	44	44	100.0
Plain water	31	44	70.5
Powder milk	4	44	9.1
Fruit juice	4	44	9.1
Rice soup/coconut milk	4	44	9.1
Sugar water	3	44	6.8
Infant formula	0	44	0.0
Tea	0	44	0.0
Traditional herb	2	44	4.5
Sweetened condensed milk	1	44	2.3

In relation to exclusive breastfeeding, 39.3 percent of caregivers reported no months of exclusive breastfeeding. Twenty-one percent (21.4) stated that they exclusively breastfed for at least six months. The Health Sector Strategic Plan 2007 target for exclusive breastfeeding (percentage of infants under 6 months exclusively breastfed) is 25 percent.

Table 18. Exclusive breastfeeding[11]

Number of Months	Baseline		
	n	N	%
0	57	145	39.3
1	17	145	11.7
2	10	145	6.9
3	10	145	6.9
4	10	145	6.9
5	10	145	6.9
6 or more	31	145	21.4

Thirty-eight percent of children 0-5 months were exclusively breastfed during the last 24 hours. Eighty-two percent of children age 6-9 months received breast milk and complementary foods during the last 24 hours.

iii. Micronutrients

Micronutrients are highly cost-effective and have a substantial impact on health and well being. Vitamin A supplementation can reduce mortality in children between 6 and 59

[11] During data collection it was discovered that one team understood that this question was asking about knowledge and not actual practice, a clarification was made with enumerators after this error was detected. Effected clusters (9-13) were not used in the findings presented above.

months of age by 23 to 34 percent. Providing vitamin A supplements to this age group every 4 to 6 months is recommended by the World Health Organization and may be feasible through many child survival and health programs. Iodine deficiency during pregnancy increases the risk of spontaneous abortions and stillbirths and causes impaired fetal brain development and infant death. It is the cause of goiter and of cretinism, a birth defect involving severe mental and physical impairment. Promoting and monitoring the consumption of iodine-fortified products, such as salt, may be practical for some child survival and health programs and could have a measurable impact on mortality and morbidity. Fortification of salt with iodine has proven highly effective in preventing iodine deficiency disorders.[12]

a. Vitamin A

The Cambodia "Scorecard" cites existing vitamin A coverage at the national level to be 47-70 percent; the Health Sector Strategic Plan target is 80 percent coverage by 2007. Survey respondents were shown a vitamin A capsule and asked if their child received a supplement during the last six months; forty-eight percent (48.3) responded positively. Stratification by Administrative District (AD) reveals a non-significant downward trend in vitamin A supplementation coverage from Pourk (56.5%) to Angkor Chum (41%) to Varin (36.4%).

Table 19. Vitamin A supplementation coverage of children under two years of age by child's gender, mother's age and Administrative District.

Stratification	Baseline			CI
	n	N	%	
Operational District	167	346	48.3	40.8 - 55.7%
Child's gender				
Female	77	173	44.5	34.0 - 55.0%
Male	89	171	52.0	41.5 - 62.6%
Mother's Age				
<25 years	54	120	45.0	32.4 - 57.6%
25 years and over	113	226	50.0	40.8 - 59.20%
Administrative District				
Pouk	105	186	56.5	46.4 - 66.5%
Angkor Chum	34	83	41.0	26.0 - 55.9%
Varin	28	77	36.4	21.2 - 51.6%

Although not statistically significant, stratification by mother's age and child's gender shows that children of mothers over 25 years of age and male children are more likely to have received a vitamin A supplement. Table 19 above details these findings.

[12] Technical Reference Materials Nutrition and Micronutrients, PVO Child Survival and Health Grants Program, revised 2004

b. Iodine

The recommended minimum iodine content of fortified salt is 15 parts per million (PPM) to adequately prevent iodine deficiency disorders. According to the 2000 Cambodia DHS, under five children living in households with adequately iodized salt in Siem Reap/Oddar Meanchey provinces was 4.1 percent. All households were asked to provide a salt sample for iodine testing; all but two households provided salt. Approximately two thirds (64%) of households had salt that tested 25 PPM or higher. Over 43 percent of households had salt registering 100 PPM.

Table 20. Iodized salt test results by increments of 25 PPM.

0		25		50		75		100	
n	%	n	%	n	%	n	%	n	%
124	35.9%	43	12.5%	8	2.3%	20	5.8%	150	43.5%

With one exception, all clusters had some households with salt testing positive for iodine (not shown). Only one cluster had no positive tests for iodine (Varin OD). This strongly suggests that, with limited pockets of unavailability, iodized salt is available throughout Angkor Chum AD.

A second iodine test was performed on all salt samples in attempt to determine if either "course grain" salt commonly used for general cooking or "fine grain" commonly used for preparing fish was more likely to contain iodine (at any detectable level). Iodine fortification rates for both types of salt was statistically the same: 76 percent of course salt had detectable iodine as compared to 70 percent of fine grain salt.

I. Maternal and newborn care (0-11 months)

Mothers with children less than one year of age were asked about maternal and newborn care. Questions related to pre-natal care including tetanus toxoid vaccination, place of delivery and assistance with delivery.

In relation to pre-natal care, 26 percent of mothers saw no one for care during their last pregnancy. According to the 2000 DHS, 27.7 percent of mothers received at least one tetanus toxoid (TT) injection during pregnancy. In Ankgor Chum OD, 74 percent of mothers reported having received at least one TT injection during their last pregnancy; 59.5 percent received a tetanus toxoid injection two or more times. TT vaccination is indicative that pregnant women are coming into contact with the formal health sector. The OD has outreach activities that include immunizations and other health services. It is possible that these mothers do not consider this type of outreach as a prenatal visit.

Table 21. Prenatal tetanus toxoid injection

Frequency	Baseline		
	n	N	%
Once	25	177	14.1
Twice	51	177	28.8
More than twice	55	177	31.1
Once or more	131	177	74.0
Twice or more	106	177	59.9

Caregivers were asked about symptoms during pregnancy that made them recognize the need to seek health care or treatment. Twenty-eight percent reported fever, 7.3 percent cited shortness of breath, 16.4 percent identified bleeding and 19.8 percent reported swelling. However, the greatest percentage did not know (30.5 percent).

Table 22. Symptoms during pregnancy indicating need to seek health care

Symptom	Baseline		
	n	N	%
Fever	50	177	28.2
Shortness of breath	13	177	7.3
Bleeding	29	177	16.4
Swelling	35	177	19.8
Don't know	54	177	30.5

Mothers were asked where is the first place they would go for care if they had these symptoms. Seventy-eight percent said they would go to a formal health service provider: 55.4 percent responded they would go to the health center, 13.6 said they would go to a private practitioner, and 9 percent mentioned they would go to a public hospital.

Table 23. First choice for health care during pregnancy

Provider	Baseline		
	n	N	%
Public hospital	16	177	9.0
Health Center	98	177	55.4
Traditional Birth Attendant	13	177	7.3
Private practitioner	24	177	13.6
Traditional healer	3	177	1.7
Community distributer	1	177	0.6
Friend/relative	2	177	1.1
Other	6	177	3.4
No response	14	177	7.9

"Other" responses included a mission doctor who came to the village (4) and market (2).

Mothers were asked to identify the birth location of their baby. Eighty-four percent (83.6) said they gave birth at home; 4.5 percent delivered at a public hospital and 7.9 percent delivered at a private hospital.

Table 24. Location of last birth

Provider	Baseline		
	n	N	%
Home	148	177	83.6
Other home	3	177	1.7
Public hospital	8	177	4.5
Private hospital	14	177	7.9
No reponse	4	177	2.3

All mothers who reported home birth also reported to be assisted by a Traditional Birth Attendant during that birth.

Table 25. Assistance with last birth

Provider	Baseline		
	n	N	%
Traditional Birth Attendant	148	177	83.6
Mid-wife	18	177	10.2
Doctor	1	177	0.6
Medical Assistant	1	177	0.6
Nurse	1	177	0.6
Other	7	177	4.0

Reviewing the previous three tables shows the difference between knowledge and practice. Mothers know they should seek care, but the vast majority deliver at home.

J. Immunization

Child immunization is one of the most cost-effective public health interventions for reducing child morbidity and mortality. The goal of immunization programs is to reduce the incidence of vaccine-preventable diseases in children by means of high coverage with potent vaccines administered at the appropriate age. The "original" six target diseases are poliomyelitis, diphtheria, pertussis, and tetanus (DPT), tuberculosis (BCG), and measles.[13]

All caregivers were asked to show their child's vaccination card. Information on specific vaccinations was only collected for children 12-23 months. Caregivers were also asked if their child received any other vaccinations that were not recorded on the card in attempt to determine total coverage rates for each immunization, regardless of documentation.

Table 26 below details immunization coverage proportions by vaccination type and source of information (card, verbal reporting and cumulative). This information has been stratified by child's gender, mother's age and administrative district. Note that the rapid CATCH numerator for fully vaccinated children is defined as number of children age 12-23 months who received Polio3 (OPV3), DPT3, and measles vaccines before the first birthday, according to the child's vaccination card. Only 34.1 percent of children were able to meet this more restrictive indicator for fully vaccinated.

Sixty-one percent of respondents were able to show their child's vaccination card, leaving no written record of any immunization surpassing herd immunity levels. Stratification by AD revealed Angkor Chum to have a lower (51.8 percent) immunization card availability than Varin (61 percent) and Pourk (66.1 percent). The later difference was statistically significant (between Pourk and Angkor Chum only). Recorded vaccination was significantly lower in Angkor Chum compared to Pourk for BCG, DPT1-3, Polio 1-3 and measles.

This finding occasioned much discussion during the initial debriefing and feedback sessions. The midwives felt that this difference may be due to several possible causes:

1. higher ratio of health care providers to population in Pourk and Varin;
2. proximity to urban environment for Pourk and thus an increase in healthcare seeking behaviors;
3. the population in Varin more accustomed to outreach activities, and thus greater turn-out for National Immunization Days, due to the dearth of health facilities in Varin;
4. the population of Angkor Chum has lost both the 'outreach habit' and this has not been compensated by health center coverage.

[13] Technical Reference Materials Immunization, PVO Child Survival and Health Grants Program, revised 2004

Table 26. Ever vaccinated as recorded on vaccination card and verbal report

Background Charateristic	Vaccination card seen	BCG	DPT			Polio				Measles	Mebendazole
			DPT1	DPT2	DPT3	Polio 0	Polio 1	Polio 2	Polio 3		
Vaccination card	61.4	58.2	57.6	54.7	51.2	16.3	57.6	54.7	51.2	48.8	22.4
Child's gender											
Female	61.3	60.2	59.0	53.0	50.6	2.4	59.0	53.0	50.6	49.4	18.1
Male	62.7	56.5	56.5	56.5	51.8	9.4	56.5	56.5	53.0	48.2	25.9
Mother's Age											
<25 years	64.2	58.3	56.3	54.2	54.2	10.4	54.2	54.2	54.2	47.9	25.0
25 years and over	60.2	58.2	58.2	54.9	50.0	4.1	59.0	54.9	50.0	49.2	21.3
Administrative District											
Pouk	66.1	64.5	63.4	63.4	61.3	6.5	63.4	63.4	61.3	57.0	34.4
Angkor Chum	51.8	43.6	41.0	38.5	33.3	10.3	41.0	38.5	33.3	30.8	10.3
Varin	61.0	57.9	60.5	50.0	44.7	0.0	60.5	50.0	44.7	47.4	5.3

	BCG	DPT			Polio				Measles	Mebendazole
		DPT1	DPT2	DPT3	Polio 0	Polio 1	Polio 2	Polio 3		
Verbal reporting	28.8	27.1	24.7	17.6	28.2	24.7	17.6	1.2	40.0	52.4
Child's gender										
Female	32.5	28.9	24.1	16.9	28.9	24.1	12.0	0.0	22.9	45.8
Male	25.9	25.9	24.7	53.3	27.1	25.9	18.8	2.4	23.5	58.8
Mother's Age										
<25 years	31.3	27.1	20.8	14.6	27.1	20.8	14.6	0.0	22.9	56.3
25 years and over	27.9	27.0	26.2	18.0	27.9	26.2	18.9	1.6	23.0	50.8
Administrative District										
Pouk	26.9	25.8	21.5	16.1	26.9	22.6	16.1	2.2	24.7	66.7
Angkor Chum	28.2	23.1	23.1	10.3	23.1	23.1	10.3	0.0	10.3	27.4
Varin	34.2	34.2	31.6	28.9	34.2	31.6	28.9	0.0	31.6	26.3
Totals										
Total vaccine recorded on card and verbal report	87.1	84.7	79.4	68.8	44.5	82.4	72.4	52.4	88.8	74.7
Siem Reap/Otdar Mean Chey DHS 2000	60.8	63.1	55.9	49.8	23.1	68.7	57.7	50.4	51.0	na
National DHS 2000	71.4	68.0	58.2	48.5	29.8	74.7	64.1	51.5	55.4	na

Verbal reporting revealed that documented and undocumented to coverage to reach 87.1 percent for BCG, 68.8 percent for DPT3, 52.4 percent for Polio 3 and 88.8 percent for measles.

K. Water, sanitation and hygiene (12-23 months)

Water quantity and quality as well as access to sanitation have been shown to significantly reduce the diarrheal disease burden by 20 percent, 15 percent and 36 percent, respectively.[14] Handwashing has also been repeatedly demonstrated to significantly reduce diarrhea

[14] Esrey SA et al. Effects of improved water supply and sanitation on ascariasis, diarrhea, dracunculiasis, hookworm infection, schistosomiasis, and trachoma. Bulletin of the World Health Organization, 69(5): 609-621 (1991) Reprint No. 5216

prevalence. More recently, handwashing was found to reduce diarrhea prevalence by an average of 40 percent.[15]

Households were asked to identify their primary water source and all responses were recorded. Primary water source is sometimes seasonal. Some hand-dug wells were reported to be dry at the time of the survey and may be considered the primary source when they have water, but a dry season primary source is also identified. For this reason, multiple answers were recorded.

In Angkor Chum OD, over 50 percent of households reported an open public well as their primary water source. Nearly 32 percent of households cited having an open well in their yard or plot. Twenty-eight percent of households cited rain harvesting as their primary source. Nearly 15 percent use sources that are highly prone to human and animal fecal contamination (especially considering high reporting of unsafe fecal disposal detailed below) including springs, rivers, streams, ponds, lakes or dams.

Table 27. Primary water source

Water Source	Baseline		
	n	N	%
Open well in dwelling/yard/plot	54	170	31.8
Open public well	87	170	51.2
Protected well in dwelling/yard/plot	9	170	5.3
Protected public well	13	170	7.6
Pumping well in dwelling/yard/plot	10	170	5.9
Pumping public well	5	170	2.9
Spring/river/stream	15	170	8.8
Pond/lake/dam	8	170	4.7
Rain water	48	170	28.2

Over 92 percent of households reported having no sanitation facility.

Table 28. Sanitation facilities and feces disposal

Facility	Baseline		
	n	N	%
Water seal latrine	8	170	4.7
Traditional pit	3	170	1.8
Ventilated Improved pit	2	170	1.2
No facility/bush/field	157	170	92.4

[15] Curtis V, Cairncross S. Effect of washing hands with soap on diarrhea risk in the community: a systematic review. The Lancet Infectious Diseases 2003; 3: 275-81

When asked about waste disposal, most households (89.4 percent) reported burning their garbage. Over one-third of mothers stated that they dispose of it anywhere, implying that there is no formal disposal and it becomes litter.

Table 29. Disposal of garbage

Waste Disposal	Baseline		
	n	N	%
Open pit	5	170	2.9
Closed pit	2	170	1.2
Anywhere	60	170	35.3
Burning	152	170	89.4

Mothers were asked when they wash their hands, they were not prompted with potential answers, but asked "anything else?" until responses were exhausted. Reported handwashing before food preparation was nearly universal (94.1 percent). Before child feeding was only cited by 30 percent of mothers, after defecation was cited by 41.8 percent.

Table 30. Handwashing

Moment	Baseline		
	n	N	%
Never	4	170	2.4
Before food preparation	160	170	94.1
Before feeding child	51	170	30.0
After defecation	71	170	41.8
After cleaning child defecation	1	170	0.6

Respondents were asked if they use soap when washing their hands. The presence of soap was verified by the enumerator. Fifty-eight percent of mothers reported using soap when they wash their hands and had soap in the household; conversely, forty-two percent did not report to use soap or did not have soap at the time of the interview.

L. HIV/AIDS knowledge (12-23 months)

Ninety percent of mothers stated that they heard of an illness called AIDS. Seventy-one percent responded positively when asked if there is anything a person can do to avoid getting AIDS or the virus that causes AIDS.

Over 59 percent of mothers identified condom use as an HIV/AIDS infection prevention measure. Less than five percent cited abstinence and less than 14 percent identified faithfulness to one partner as prevention strategies.

Table 31. HIV/AIDS infection prevention

HIV Prevention Measure	Baseline		
	n	N	%
Abstain from sex	8	170	4.7
Be faithful to one partner	23	170	13.5
Use condoms	101	170	59.4
Limit number of partners	6	170	3.5
Avoid sex with sex workers	13	170	7.6
Avoid sex with persons who have many partners	11	170	6.5
Avoid same-sex sex	2	170	1.2
Avoid sex with persons who inject drugs	3	170	1.8
Avoid blood transfusions	12	170	7.1
Avoid kissing	1	170	0.6
Avoid mosquito bites	3	170	1.8
Seek protection from Traditional healer	1	170	0.6
Avoid sharing razors	22	170	12.9

M. Health Contacts and Sources of Information

Contact with formal and informal health service providers is important to understanding care and treatment seeking behavior. Similarly, understanding sources of health information is critical to identify opportunities and strategies for enhancing health communication with caregivers.

Mothers were asked about contact with various health care providers over the past month. All answers were read and multiple responses were recorded. The most common contact was with a nurse (15.9 percent). In relation to community level services, interviewees reported contact with midwives (13 percent), community health workers (14.4 percent), traditional birth attendants (12.4 percent) and, less frequently with traditional healers (7.5 percent).

Table 32. Contact with health care providers in the past month

Health Contact	Baseline		
	n	N	%
Doctor	29	347	8.4
Medical Assistant	36	347	10.4
Nurse	55	347	15.9
Mid-wife	45	347	13.0
Community Health Worker	50	347	14.4
Traditional Birth Attendant	43	347	12.4
Private practicioner	48	347	13.8
Traditional Healer	26	347	7.5

Respondents were asked where they usually get general information or advice on health and nutrition. Nearly 42 percent reported not getting health information at present via inter-personal communication. The most common source of information is from a village health volunteer (21 percent). Nurses (19.9 percent), midwives (17.6 percent) and traditional birth attendants (13.3 percent) are not uncommon health and nutrition resource people. Family members (husband, mother, mother-in-law, sister, grandparent and aunt) collectively are recognized by only 5.9 percent of mothers as sources of health and nutrition information.

Table 33. Source of health information

Source of Health Information	Baseline		
	n	N	%
No one	145	347	41.8
Doctor/Medical Assistant	15	347	4.3
Nurse	69	347	19.9
Mid-wife	61	347	17.6
Traditional Birth Attendant	46	347	13.3
Village Health Volunteer	73	347	21.0
Village Health Committee	22	347	6.3
Private practicioner	5	347	1.4
Husband	2	347	0.6
Mother/Mother-in-law	8	347	2.3
Sister	4	347	1.2
Grandparent	2	347	0.6
Aunt	4	347	1.2

Mothers were asked if they received health messages from any sources over the past month. All answers were read and all responses were recorded. Over 47 percent cited the television as a source of information; nearly 31 percent noted the radio. Other sources were village health volunteers (21.6 percent), traditional birth attendants (13.3

percent) and village health committees (8.6 percent). Print media (newspapers) was only identified by 1.4 percent of mothers.

Table 34. Source of health messages

Source of Health Messages	Baseline		
	n	N	%
Radio	107	347	30.8
Newspaper	5	347	1.4
Television	164	347	47.3
Village Health Volunteer	75	347	21.6
Village Health Committee	30	347	8.6
Traditional Birth Attendant	46	347	13.3
Key mother	3	347	0.9

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Annexes

1. Survey Team
2. Project Matrix
3. Core Child Survival interventions in Cambodia, scorecard indicators and corresponding project components
4. Selected Villages
5. Survey Training Agenda
6. Enumerator Training Plan
7. Supervisor Responsibilities
8. 0-11 Month Old Questionnaire
9. 12-23 Month Old Questionnaire

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Annex 2. Unmodified Project Matrix

Goal: **Reduce child morbidity and mortality in a sustainable fashion**			
Results-based Objective	**Indicator**	**Verification**	Major Planned Activities
Component 1: Nutrition and Breastfeeding			
Increase % of children who receive a high-dose vitamin A capsule from 11% to 80 %	% of children 6 to 59 months of age who receive high-dose vitamin A supplementation in the last 6 months	KPC; CBSS forms reviewed	**Mobilize for HC outreach sessions and micronutrient campaigns; VHSG health education; monitor high-dose vitamin A capsule supplies in HC**
Increase % of households using iodized salt from 4% to 35%	% of households using iodized salt	KPC; CBSS forms reviewed; iodized salt sales records reviewed	**VHSG health education; establish iodized salt social marketing**
Increase % of children who are breastfed within the first hour of delivery from 7% to 35%	% of children up to 6 months of age who are breastfed within the first hour of delivery	KPC; CBSS forms reviewed	**VHSG heath education**
Increase % of children who are exclusively breastfed from 10% to 35%	% of children up to 6 months of age who are exclusively breastfed within the last 24 hours	KPC; CBSS forms reviewed	**VHSG health education**
Increase % of children who receive breastmilk and appropriate complementary foods from 49% to 75%	% of children 6 to 9 months of age who receive breastmilk and appropriate complementary foods in the last 24 hours	KPC; CBSS forms reviewed	**VHSG heath education**
Increase % of children breastfed on first day of birth from 29 % to 55 %	% of children born in the past year who start breastfeeding within the first day of birth	KPC; CBSS forms reviewed	**VHSG heath education**
Component 2: Immunization			
Increase % of U1 children who receive all immunizations from 38 % to 80 %	% of children 12 to 23 months of age who are fully immunized before 12 months of age (BCG, DPT3, OPV3, measles)	KPC; CBSS forms reviewed	**Mobilize for HC outreach sessions and immunization campaigns; VHSG health education; monitor supply of vaccines in HCs**
Increase % of mothers who receive at least 2 doses of tetanus toxoid vaccine during pregnancy from 19% to 75%	% of mothers of children less than 5 years of age who receive at least 2 doses of tetanus toxoid before the birth of their last child	KPC; CBSS forms reviewed	**Mobilize for HC outreach sessions and immunization campaigns; VHSG health education; monitor supply of vaccine in HCs**
Component 3: Community Management of the Sick Child			
Increase % of caregivers who seek care for their children with cough and/or rapid or difficult breathing from 25% to 50%	% of caregivers of children less than 5 years of age who seek care for their children with cough and/or rapid or difficult breathing in the past 2 weeks	KPC; CBSS forms reviewed	**VHSG heath education; referrals to HC**
Increase % of caregivers of children with diarrhea who use ORS or other home available fluids (coconut water or rice water) from 35% to 80%	% of caregivers of children less than 5 years of age who use ORS or other home available fluids (coconut water or rice water) during their child's last diarrhea	KPC; CBSS forms reviewed; ORS sales records reviewed	**VHSG heath education; establish ORS social marketing**
Increase % of children in malaria risk areas who sleep under an insecticide treated bednet (target to be determined)	**% of children less than 5 years of age in malaria risk areas who sleep under an insecticide treated bednet**	**KPC; CBSS forms reviewed; ITN sales records reviewed**	**VHSG health education; establish ITN social marketing**

Program Matrix continued

Local Capacity Building			
Build CRC's organizational, programmatic, and human resources capacity at all levels	(1) Number of VHSG members trained in each intervention area; (2) Number of VHSG members who attend monthly HC management meetings; (3) Number of VHSG members who attend monthly HC outreach sessions; (4) Number of VHSG members who successfully fill out CB surveillance forms; (5) Number of VHSG members retained 2+ years; (6) % of mothers of U5s who receive health education from VHSG members in past 2 months; (7) No. of RCFO monitoring visits; (8) Type and number of health products socially marketed by VHSG members	(1) Training reports and post-test scores (2) to (6) RCFO activity reports; supervisory spot checks (7) RCDO activity reports; supervisory spot checks (8) Sales records	**(1) Training sessions held; (2) HC monthly management sessions held; (3) Village outreach sessions held; (4) CB surveillance carried out; (5) Regular RCFO monitoring visits; incentive mechanisms established & maintained; (6) RCFO monitoring visits conducted; (7) Social marketing system established & maintained**
ACRONYMS: CBSS = Community-based surveillance system; CRC = Cambodian Red Cross; HC = Health Center; ITN = Insecticide treated nets; KPC = Knowledge, Practice, and Coverage; ORS = oral rehydration solution; U1 = Under 1; U5 = Under 5; VHSG = Village Health Support Group			

Annex 3. Core Child Survival interventions in Cambodia, scorecard indicators and corresponding project components

Core Intervention	Scorecard Indicator	Siem Reap CS Project Component	Project Strategy Focus	C-IMCI Element
1. ORT for diarrhea	% of children with diarrhea in the last 2 weeks who received ORT	Community Management of the Sick Child	Promote ORT use in communities for improved diarrhea management	3
2. Six month exclusive BF; timely introduction of complementary foods	% of infants <6 months exclusively breastfed; % of breastfed infants 6-9 months receiving semi-solid foods	Nutrition and Breastfeeding	Improve six month exclusive BF and timely introduction of complementary foods	3
3. Antibiotics to treat pneumonia	% of children with fast or difficult breathing in the last 2 weeks who received medical care	Community Management of the Sick Child	Early identification and referral of children with fast or difficult breathing	1/3
4. Improve neonatal health	% of women who received at least two tetanus toxoid doses during pregnancy	Immunization	Improve neonatal attendance for improved tetanus toxoid vaccination	1/3
5. Vitamin A supplementation	% of children 6 to 59 months receiving one dose of Vit A in the past 6 months	Nutrition and Breastfeeding	Improve attendance for routine outreach for improved Vit. A supplementation	1/3
6. Increase routine immunizations	% of infants receiving dose of measles vaccine; % of children <1 receiving all immunizations*	Immunization	Improved attendance during routine outreach for improved routine vaccinations	1/3
7. Promote access to ITN	% of children who slept under an ITN last night	Immunization	Improve insecticide treated mosquito net ownership and use; improve access, availability and use of retreatment kits	2/3
8. Promote access to anti-malarials	% of children living in malarious areas with fever in the past 2 weeks who received antimalarials	Community Management of the Sick Child	Early identification and referral for fever	1/3
OTHER PROPOSED PROJECT INTERVENTIONS				
9. Iodized salt	% of HH using iodized salt	Nutrition & Breastfeeding		1/2
10. Build CRC capacity		Local Capacity Building		

Annex 4. Selected Villages

CLUSTER Nº	Administrative District	Health Center	Village	Population
1	Angkor Chum	Cha Chhouk	Prey Lvey	387
2	Angkor Chum	Angkor Chhum	Bay Math	234
3	Angkor Chum	Bath	Ro Kar	1369
4	Angkor Chum	Bath	Kok Chas	589
5	Angkor Chum	Nor Kor Pheas	Pong Ro	689
6	Angkor Chum	Nor Kor Pheas	Kauk They	1028
7	Angkor Chum	Kok Dong	Tum Leab	614
8	Angkor Chum	Kok Dong	Don Em	829
9	Pourk	Pourk	Prar Yuth	1174
10	Pourk	Don Keo	Peam	1288
11	Pourk	Don Keo	Prasat Chat	1313
12	Pourk	SamRong Year	Ampil	1127
13	Pourk	Keo Por (Kao Port)	Kok Russey	908
14	Pourk	Keo Por (Kao Port)	Svay Chek	645
15	Pourk	Pourk	Kom Rou	801
16	Pourk	Pourk (C. Lvea)	Steung Pra Srok	1160
17	Pourk	Pourk (C. Lvea)	Rokar	915
18	Pourk	Teuk Vill	Chey Mon	847
19	Pourk	Knart Commune	Svay Mon	608
20	Pourk	Knart Commune	Bueng Mon	827
21	Pourk	Reul	Pro Leuth	861
22	Pourk	Reul	Tro paing Tum	1101
23	Pourk	Sasar Sdam	Kauk Cheay	1565
24	Pourk	Sasar Sdam	Muk Pen	1147
25	Pourk	Sasar Sdam	Chong Thnat	1010
26	Varin	Svay Sar	Svay Sar	732
27	Varin	Varin	Rom Doul	556
28	Varin	Varin	Kok Srok	986
29	Varin	Varin	Lveau	1001
30	Varin	Varin	Prey Knol	977
31	Varin	Svay Sar	Ro Lorn	724
32	Varin	Varin	Kok Kandal	790

Annex 5. Survey Training Agenda

9 March 2005

Session	Topic	Time	Facilitator
1	Welcoming/self introduction	8:30-9:00am	Alice/Sana/Sarith
2	Project background	9:00-9:15am	Rob
3	Review learning objectives and review questionnaires	9:15-12:00pm	Alice/Sana/Sarith/Dr. Sopea
	Lunch	12:00-2:00pm	
4	Group practice and discussion using questionnaires	2:00-5:00pm	Alice/Sana/Sarith/Dr. Sopea

10 March 2005

Session	Topic	Time	Facilitator
1	Review of previous day/questions and answers	8.00-9:00am	Sarith
2	Group practice using questionnaires	9:00-11:00am	Alice/Sana/Sarith
3	Logistics/scheduling/team assignments	11:00-12:00pm	Alice/Sana/Sarith
	Lunch	12:00pm-2:00pm	
4	Group practice and discussion	2:00-5:00pm	Alice/Sana/Sarith

11 March 2005

Session	Topic	Time	Facilitator
1	Review of previous day/questions and answers	8.00-8:30pm	Sana/Sarith
2	Clarifications on data recording	8:30-10:00am	Alice/Sana
3	Weighing and measuring height of babies	10:00am-10:30am	Dr. Sopea
4	Iodine testing of salt	10:30am-11:00am	Dr. Sopea
5	Questions and Answers	11:00am-12:00pm	All
6	Practice using questionnaires	2:00pm-4:00pm	All
7	Supervisor Coordination Meeting, review of sampling methodology and random selection of households in the village	4:00pm-5:30pm	Alice

21 March 2005 Closing ceremony

Session	Topic	Time	Facilitator
1	Welcoming and congratulations	3:00-3:30pm	Alice
2	Sharing of experiences/lessons learned	3.30-4:00pm	Sana
3	Certificates of Participation	4:00pm-4:30pm	Branch Director, OD Director, AmCross Head of Delegation

Annex 6. Enumerator Training Plan

Learning Objectives:

- understand the survey
- learn how to ask the survey questions
- learn why & how to ask the survey questions consistently

1. Explain the purpose of the project and describe some of the work you are planning to do.

2. Distribute the survey form in the language in which you are going to do the survey, as well as the language of enumerator instruction. Make sure you have enough copies for everyone. You may also want to have additional copies for the practice sessions.

3. Read through (out loud or some other way) the survey form and make sure that everyone understands the questions and answers. Give yourself enough time for this, but not so much time that you are only reading through the form and not practicing how you ask and answer.

4. Note that there are different ways to answer the questions. Some questions have only one response. Others have many responses, or require a simple written response. Make sure everyone understands the instructions for each question.

5. Have the enumerators break out into pairs. Each pair asks the survey questions (or some selection of the survey questions) of each other. What were the problems, what questions seemed to need more explanations?

6. Bring the enumerators back into the group. Conduct a short analysis of the survey problems and questions. What gave everyone problems? Is there another way to phrase the questions? What should we tell the Red Cross Volunteers to help them ask these questions?

If there is time, continue onwards with steps 7, 8 and 9. Close with number ten and note the importance of this team time to review the process and make any consistent changes ONLY IF ABSOLUTELY NECESSARY.

7. Have the instructor ask questions from the survey from one person in the group (someone else notes the answer), then the instructor asks the same questions from the survey from another person in the group (someone else notes the answer on the same page as the first response). The responses should be the same (not the same answer, but the appropriate answer to each question).

8. Divide the enumerators into small groups, assign one person to ask questions (usually a selection of the survey questions) of each of two other people (out of earshot). Have two other enumerators note the questions that were different or the same, and provide feedback to the enumerator.

9. Bring back into a large group, and the observer pairs note the chief differences, and discuss how to correct the variation (less explanation, better introduction, etc.).

10. Each night of the survey, the enumerators should meet to discuss any unexpected problems or positive experiences.

10. The enumerator supervisor should monitor each enumerator at least once in a survey, preferably within the first few days and then during the last few days of the survey. The enumerator supervisor should note changes in the time it takes to administer the survey and also look at the survey responses to make sure that they are correctly written down based on what answers the respondent provided (if possible, to mark down the answers at the same time and then compare on the spot with the respondent immediately after the interview.).

Annex 7. Supervisor Responsibilities

1. label forms: a) cluster number (per the master list)
   b) interview number (A for 0-11 months, B for 12-23 months)
   c) total 11 for each cluster

2. label bags for salt collection:
   a) date
   b) cluster number
   c) interview number
   d) distribute with matching forms
   e) collect and store at the end of the day

3. day supervision:
   a) each team of two has five forms (mixed A and B; alternate quantities each day with team)
   b) one supervisor goes with each team; supervisors switch teams every other day
   c) supervisor team does one interview
   d) teams with more supervisors can change daily goals for teams, up to five forms per supervisor team (and three each for interview team) to spell interview teams
   e) supervisor may replace an interview member on a team in case of illness

4. house selection (for two teams):
   a) start at opposite ends of the village
   b) start on opposite sides of the street (their right side, facing the center of the village)
   c) village population <1000, go to every third house
   d) village population >1000, go to every fifth house
   e) if houses are more than one deep on the side of the road, use a zigzag pattern to count, starting from the road side
   f) if house in pattern does not have a child in either age group, go to the next house (do not skip 3-5 houses)
   g) supervisors check answers, respond to questions & monitor questions

5. house selection (for three teams):
   a) two teams start as per #4 above
   b) third team starts from the approximate center of the village and crosses street to maintain pattern if doing three or fewer interviews
   c) if third team is doing 4 or 5 interviews, this replaces one of the interview teams at the end of the village & the smaller group takes the center pattern.
   d) supervisors check answers, respond to questions & monitor questions

6. night supervision:
   a) collect forms
   b) collect salt samples
   c) review forms
   d) meet with teams to go other any consistent errors or questions
   e) record any questions/answers for lead supervisor resolution

f) note any new issues with completion of forms (twins, etc.)
g) set up next day's cluster schedule (and location, if teams are meeting there), ID forms and salt bags
h) check morale, workload and money business (per diems, cost of accommodation, etc.)
i) supervisors may authorize & disburse any additional gas allowance if required during the survey (otherwise, supervisors keep track of the odometer for reimbursement on closing
j) supervisors either radio in or phone to check in when possible; Varin team at 6:30, Pourk team at 7:00PM. If not possible, lead supervisor will physically check in with teams on alternating days.
k) lead supervisor checks in with delegation at 7:30PM as possible; drivers check in via Federation radio at 8AM and 5PM whenever possible.

Annex 8. 0-11 Month Old Survey Questionnaire

Cambodia Child Survival Project

Knowledge, Practices and Coverage (KPC) Survey

0 – 11 Month Olds

March 2005

INFORMED CONSENT

Hello. My name is _____, and I am working with Cambodian Red Cross. 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. This information will help the Red Cross to plan health services and assess whether it is meeting its goals to improve children's health. The survey usually takes about 1 to 1 1/2 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.

Are there children under 12 months old in the house? IF YES, THEN PROCEED

I would like to speak with the mother or the person who takes care of them. Is that you? IF YES, PROCEED.
IF NO, ASK TO SPEAK TO MOTHER OR CARETAKER
Do you want to ask me anything about the survey?

RESPONDENT AGREES TO BE INTERVIEWED 1

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED 2
Note on form and go to the next designated house

CLUSTER # _____	**Health Center Name** _____
HOUSEHOLD # _____	**Village Name** _____
INTERVIEWER _____	
SUPERVISOR _____	***Interview date*** ___/___/05 ***dd/mm/yy***

I. IDENTIFYING INFORMATION			
NO.	**QUESTION**	**ANSWER…….....CODE**	**INSTRUCTIONS**
ID1	Name of Mother		
ID2	Age of Mother	years	
ID3	How many children living in this household are under age five?		
ID4	How many of those children are your biological children?		
ID5	Can you please tell me the name(s), sex(es), date(s) of birth of youngest two children.	**CHILD #1** Name of youngest child less than **12 months** _____ Male……...1 Female……2 ____ / _____ / _____ Day Month Year **CHILD #2** Name of next oldest child **less than 24 months** _____ Male……...1 Female……2 ____ / _____ / _____ Day Month Year	**We want to talk about the child under 12 months in this survey, only**
ID5	What is the age of your next oldest child?	**years**	

II. BACKGROUND INFORMATION			
B1	What was the highest level of school you attended? **Ask how many years they attended school, and fill in the number; if more than seven years of schooling, write seven**		
B2	Who is the head of this household?	Self ……..……1 Husband …….2 Female relative …..…3 Other _____99	
B3	Do you work outside of the home to earn money? Anything else? **Circle all answers**	No……..…A Handicrafts…… … B Harvesting ……...… C Sell food …….……..D Shopkeeper/ Street Vendor…… …..E Household worker…. F Salaried worker …….G Other_____ __X	**If no, go to B4**
B4	If you leave **(NAME)** at home, who takes care of the child? Anything else? **Circle all answers**	Mother …….. ….A Husband…… ….B Older children……C Other relatives …..…D Neighbors/ Friends……E Maid …….. F	

		Nursery school..……G Other _____ X	
B5	How many months in this year did your family eat only porridge and/or wild foods for their meals? **If none, record 0**	_____ months	

III.A. MATERNAL AND NEWBORN CARE			
MN1	How many times did you see someone for care during your pregnancy with (NAME)?	_____ times	
MN2	Before you gave birth to (NAME) did you receive an injection for tetanus in your arm?	Yes ……..……...…1 No……..…….….2 Don't know….....…..8	**If no or don't know, go to MN4**
MN3	How many times did you receive this injection?	Once…….……...…....1 Twice…….……...2 More than twice……...3 Don't know…….……..…8	
MN4	What are the symptoms during pregnancy indicating the need to seek health care? Anything else? **Circle all that apply. Write out any conditions for 'other'.**	Fever…….……...A Shortness of breath.……..…B Bleeding…….……..……C Swelling of the body/ hands/face …….……D Other _____X Don't know……...…...Z	
MN5	Where is the first place you would go for care if you had these symptoms? **Circle one answer only**	Public Hospital……..…1 Health Center…….……...2 Traditional birth attendant……...6 Community health worker… ……..…….....……..7 Private practitioner (any kind)…….... 8 Traditional healer.....9 Pharmacy …….…..... 10 Community distributor……..….11 Friend/ Relative……..….12 Other _____ 99	
MN6	Where did you give birth?	Home …….....1 Other home…….….....2 Public Hospital (NAME) _____3 Health Center (NAME) _____4 Private practitioner (NAME) _____5 Other _____99	

MN7	When you gave birth to (NAME) who assisted you with the delivery? **One answer only; if more than one person assisted in delivery, choose the most schooled**	Doctor ……..…1 Medical assistant……..…2 Nurse…….....……..……3 Midwife……...…4 Traditional birth attendant……...…….. 5 Community health worker…….…...……..6 Family member……..…. 7 No one ……..…...8 Other _____99	

IV.A. BREASTFEEDING AND INFANT/CHILD NUTRITION			
NU1	Are you currently breastfeeding (NAME)?	Yes …….....……1 No …….....…..……2	**If yes, go to NU3**
NU2	Did you ever breastfeed (NAME)?	Yes……...…….….1 No …….....……..…2	**If no, go to NU8**
NU3	How long after birth did you first put (NAME) to the breast?	Immediately/ Within first hour after delivery……...1 After the first hour…. 2 Before the end of the first day …….3 Other _____99	
NU4	During the first three days after delivery did you give (NAME) the liquid that came from your breasts?	Yes……...…….1 No……..…2Don't know……..…….....8	
NU5	During the first three days after delivery, did you give (NAME) anything else to eat or drink before feeding him/her breastmilk?	Yes …….....…1 No …….....……2 Don't know…...…….….8	**If no or don't know, go to NU7**
NU6	What did you give (NAME)? Anything else? **Circle all answers**	Powder Milk ……....A Plain water……...…….…B Sugar water…….…….….C Sugar-salt-water solution…….....D Fruit juice ……...……...E Infant formula.……..…F Tea……..……..…G Traditional Herb……...H Honey…….....…....I Sweetened condensed milk	

		like Alaska…….J Other _____X	
NU7	For how long did you exclusively breastfeed (NAME)?	_____months	
NU8	Did (NAME) drink any of the following liquids yesterday during the day or at night? **Circle all answers**	Breastmilk? ...……A Plain water? ...……B Commercially prepared infant formula? ……..…C Any other milk – tinned, powered, or fresh animal milk?.…… D Fruit juice?…….……..…E Any other liquid such as sugar water, tea, coffee, carbonated drinks, or soup broth? ……...……...F	
NU9	Now I would like to ask you about the types of foods (NAME) ate yesterday during the day and at night. Anything else? **Read the answers to the mother.** **Circle all answers.**	Any foods made from grains such as rice, porridge, corn, wheat or other local grain? …….G Pumpkin, carrots, yellow or red sweet potatoes?..... .H Any other food made from roots or tubers, e.g. white potatoes, white yams, or other? ….....I Any green leafy vegetables? …….. J Mango, papaya, orange, pumpkin, palm fruit ? .…K Any other fruits and vegetables, e.g. bananas, apples/sauce, tomatoes? …….L Meat, poultry, fish, shellfish or eggs?…….M Any foods made from legumes [e.g. lentils, beans, soybeans, pulses, or peanuts]? …….…..……..N Any food made with oil, fat, or butter?……..... P Other __ _ O No solid foods …….X	**If no solid foods, go to NU11**
NU10	How many times did <NAME> eat semi-solid (mashed or pureed) food		

	yesterday during the day or at night? **IF 7 OR MORE TIMES, RECORD '7'. DON'T KNOW = 8**		
NU11	May I take a sample of the salt that is used for cooking? Ask the Mother to put about a half teaspoon of salt in the plastic bag. Label clearly and completely with Interview number, Cluster Number, and Name of Village or Town. Store in a safe place and give to the survey supervisor at the end of the day.	Yes …..…….1 No (refused)…….…….....2	

V. IMMUNIZATIONS / CHILDHOOD ILLNESS			
IM1	Did <NAME> take a vitamin A dose like this during the last 6 months? **Show Capsule**	Yes…….1 No……..…2 Don't Know ……..8	
IM2	Do you have a card where <NAME's> vaccinations are written down? May I see it please?	Yes, seen by interviewer...1 Not available/ lost/ misplaced ……...…..2 Never had a card …….....3 Don't know ……...…...8	
IM3	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? **Read the answers to the mother. Circle all answers.** **Write out any 'other' responses on this form.**	Don't Know …….A Looks unwell or not playing normally……...B Not eating or drinking…….... ….C Lethargic or difficult to wake ……...…….....D High fever ……E Fast or rapid breathing ….F Vomits everything ……...G Convulsions …….H Diarrhea ……I Other _____ _ J Other _____ K	
VI. DIARRHEA CASE MANAGEMENT			
DC1	Has (NAME) had diarrhea in the last 2 weeks?	Yes……...…… ….1 No…….	**If no or don't know, go to the next section AR1**

		.…2Don't Know ……..8	
DC2	What was given to treat the diarrhea? Anything else? **Circle all answers.** **Write out the 'other' response.**	Nothing ……A Fluid from ORS packet ……B Home-made Fluid …....C Pill or Syrup ..…..….... D Injection ….……..E IV ……..…….…….. F Home remedies/herbal medicines ……G Other _____ _ _X	
DC3	When <NAME> had diarrhea, did you breastfeed him/her less than usual, about the same amount, or more than usual?	Less ……...……1 Same……..... .2 More……..…... .3 Child not Breastfed …...4 Don't Know ……..…8	
DC4	When <NAME> had diarrhea was he/she offered less than usual to drink, about the same amount, or more than usual to drink?	Child Not Yet Drinking …….. .1 Less……...…… 2 Same…….…… .3 More……..... …4 Nothing to Drink ……..5 Don't Know ……8	
DC5	When <NAME> had diarrhea was he/she offered less than usual to eat, about the same amount, or more than usual to eat?	Child Not Yet Eating …….. .1 Less……...…… 2	

		Same…….…… .3 More……..... …4 Nothing to Drink ……..5 Don't Know …….8	
DC6	During the period when <NAME> was recovering from diarrhea, did you give him/her less than usual to drink, about the same amount, or more than usual to drink (includes breast milk)?	Less…… …1 Same…….. …2 More ..…….…..….3 Nothing to Drink ....…..4 Don't Know ….……8	
DC7	During the period when <NAME> was recovering from diarrhea, did you give him/her less than usual to eat, about the same amount, or more than usual to eat ?	Not Eating Yet …….1 Less…… …2 Same…..…….….. .3 More…….. …4 Nothing to Eat ……..5 Don't know ….……..8	
DC8	Did you seek advice or treatment from someone outside of the home for (NAME's) diarrhea?	Yes ..……..1 No...…….…..2 Don't know……8	**If no or don't know, go to next section AR1**
DC9	Where did you <u>first</u> go for advice or treatment? **Circle only one answer.** **If 1,2,3, or 4 (Hospital, Health Center or Private Hospital, Clinic, or Practitioner)……** **Write that name here:** **_____**	Hospital ……1 Health Center …..……..2 Private Hospital/Clinic ……...…….…..... …3 Private Practitioner .....4 Village Health Worker/TBA/VHC…... .5 Traditional Healer	

		...….6 Market …….7 Pharmacy...……..... .8 Community Distributors …….. .9 Friend/Relative ……...10 Other _____ 88	
DC10	Why was (NAME) taken to this (PROVIDER)? Anything else? **Circle all answers.**	Cost less money ……..A Can pay on time …….…..B Practitioner known …….C Practitioner trusted …..…D Closest distance……...… E Other _____X	
DC11	Who decided that you should go there for (NAME's) illness? Anything else? **Circle all answers.**	Mother (child) …….…A Husband ……..…B Mother of mother …….C Mother-in-law ……..…D Friend/Neighbors ……E Others _____Z	
DC12	How was the child taken there?	Walk……. …1 Own transportation… …..2 Motor taxi…… …3 Friend…… …4 Car taxi	

		…….5 Other _____ ____96	
DC13	How much did it cost for transportation?		
DC14	Did you/they have to pay for the consultation and treatment?	Yes……..…… ….1 No…….. …2	**If no, go to DC16**
DC15	How much did you have to pay (what was the amount they asked for)?		
DC16	After the health provider saw the child did s/he ask you to bring the child back for a check in a few days?	Yes……..…… ….1 No…….. …2	**If no, got to DC20**
DC17	Did you take <NAME> back to the same heath care provider?	Yes……..…… ….1 No…….. …2	**If yes, go to DC19**
DC18	If not, why? **Write down the answers**	_____ _____ __	
DC19	When did you take the child back to the health care provider?	Same day……..1 One days …….2 Two days ……3 Three day …… 4 Other_____ __5	
DC20	Where else did you go for advice or treatment? Anything else? **Circle all answers.** **If A, B, C, or D (Hospital, Health Center or Private Hospital, Clinic, or**	Hospital….……...… A Health Center ……...B Private Hospital/Clinic ..…… C Private Practitioner	

	Practitioner)…… **Write name** _____ _____	…..D Village Health Worker/TBA/VHC/VHV…… …..E Traditional Healer ……F Market …….……...G Pharmacy ….……H Community Distributors …….……. .I Friend/Relative …… J No where else ……..K Other_____ ___Z	
DC21	Did you consult with the VHV, VHC, TBA or Key Mother?	Yes…… ....1 No …….2	**If no, go to AR1**
DC22	What did they do? Anything else? **Circle all answers .**	Nothing ……...….A Refer…….B Health Education …....C Gave Treatment …..….D Follow up …….E Other _____X	
VII. ACUTE RESPIRATORY INFECTIONS (ARI)			
AR1	Has <NAME> had an illness with a cough at any time in the last two weeks?	Yes……...…… ….1 No……. .…2 Don't Know ..…….8	**If no or don't know, go to MA1**
AR2	When <NAME> had an illness with a cough, did he/she have trouble breathing or breathe faster than usual with short, fast breaths?	Yes……...… ….1 No……. .…2	**If no or don't know, go to MA1**

		Don't Know …….8	
AR3	Did you seek advice or treatment for the cough/fast breathing?	Yes……...…… ….1 No……. .…2	**If no, go to MA1**
AR4	How long after you noticed <NAME's> cough and fast breathing did you seek advice/treatment? **Circle only one answer**	Same Day ……...……..0 Next Day ….……1 Two Days .……2 Three or more days …..3	
AR5	Where did you first go for advice or treatment? **Circle only one answer** **If 1,2,3, or 4 (Hospital, Health Center or Private Hospital, Clinic, or Practitioner)……** **Write the Name** _____	Hospital …...……..1 Health Center…...……...2 Private Hospital/Clinic ……..…… .3 Private Practitioner …...4 Village Health Worker/TBA/VHC ..….5 Traditional Healer ...…6 Market ...……...……7 Pharmacy…….. .8 Community Distributors …….…. 9 Friend/Relative ...……10 Other _____ 88	
AR6	Why was <NAME> taken to this <PROVIDER>? Anything else? **Circle all answers.**	Cost less money ……..A Can pay on time ……..B Practitioner known ……..C Practitioner trusted	

		……..D Closest distance ……E Other _____X	
AR7	Who decided that you should go there for <NAME's> illness? Anything else? **Circle all answers.**	Mother (self)……A Husband ……..B Mother of mother ……C Mother-in-law ……..…D Friend/Neighbors …….E Others _____Z	
AR8	How was the child taken there?	Walk ……1 Own transportation ……..2 Motor taxi ….……...3 Friend ……..4 Car taxi …….5 Other _____ 96	
AR9	How much did it cost for transportation?		
AR10	Did you/they have to pay for the consultation and treatment?	Yes……...…….1 No……..…2	**If no, go to AR12**
AR11	How much did you have to pay?		
AR12	After the health provider saw the child did s/he ask you to bring the child back for a check in a few days?	Yes……...…….1 No……..…2	**If no, go to AR16**
AR13	Did you take <NAME> back to the same health care provider?	Yes……...…….1 No……..…2	**If yes, go to AR15**

AR14	If not, why?	_____	
AR15	When did you take the child back?	Same day ……..1 One days ……..….2 Two days ….…….3 Three day ……4 Other _____5	
AR16	Where else did you go for advice or treatment? Anything else? **If A, B, C, or D (Hospital, Health Center or Private Hospital, Clinic, or Practitioner)……** **Write the Name** _____	Hospital …...……A Health Center ……..…B Private Hospital/Clinic ……..……C Private Practitioner ……..D Village Health Worker/TBA/VHC/VHV…… ……..…E Traditional Healer **…**……F Market …….G Pharmacy …….……H Community Distributors …… …I Friend/Relative …..…… .J No where else ……..……K Other _____ Z	
AR17	Did you consult with the VHV, VHC, TBA or Key Mother?	Yes……...…… ….1 No…….. …2	

AR18	What did they do? Anything else? **Circle all answers.**	Nothing …..…….A Refer…….……B Health Education …….C Gave Treatment ……...D Follow up ……E Other _____X	
AR19	Which medicines were given to <NAME>? Anything else? **Circle all answers.**	Nothing……...……. A Tablets – Do not know the name of medicine. …….……..…….. B Aspirin …..…..……C Paracetamol …..…..…D Cotrimoxazole ……E Amoxycillin/Ampicilli n……. ……F Liquid – do not know the name of the medicine…….. G Injection – Do not know name of medicine ……H Other _____ X Don't Know……Z	
VIII. MALARIA			
MA1	Has <NAME> been ill with fever in the last two weeks?	Yes……...…… ….1 No……. ..…2Don't Know……..8	**If no or don't know, go to MA22**
MA2	Did you seek advice or treatment for <NAME'S> fever?	Yes……...…… ….1 No……..	**If no, go to MA22**

		…2	
MA3	*Where did you <u>first</u> go for advice or treatment?* **Circle only one answer.** **If 1, 2, 3, or 4 (Hospital, Health Center or Private Hospital, Clinic, or Practitioner)……** **Write the Name** **_____**	Hospital …….……..1 Health Center …….....…2 Private Hospital/Clinic …..……..…..…… …..3 Private Practitioner ….....4 Village Health Worker/TBA/VHC **…...**…5 Traditional Healer ……6 Market …….……7 Pharmacy ..……8 Community Distributors …….…… ….9 Friend/Relative …….…..10 Other _____ 88	
MA4	How long after you noticed <NAME's> fever did you seek treatment from that person or place?	Same day……..0 One day ...…….1 Two days ……..……2 Three days ……...… 3	
MA5	Why was <NAME> taken to this <PROVIDER>? Anything else? **Circle all answers.**	Cost less money ……..A Can pay on time ……..B Practitioner known ……..C Practitioner trusted ……..D Closest distance ……E Other _____X	

MA6	Who decided that you should go there for <NAME's> illness? Anything else? **Circle all answers.**	Mother ……A Husband ……..B Mother of mother ……C Mother-in-law ……..…D Friend/Neighbors …….E Others _____Z	
MA7	How was the child taken there?	Walk ……1 Own transportation ……..2 Motor taxi ….……...3 Friend ……..4 Car taxi ……5 Other _____ 96	
MA8	How much did it cost for transportation?		
MA9	Did you/they have to pay for the consultation and treatment?	Yes……...…….1 No……..…2	**If no, go to MA11**
MA10	How much did you have to pay?		
MA11	After the health provider saw the child did s/he ask you to bring the child back for a check in a few days?	Yes……...…….1 No……..…2	**If no, go to MA15**
MA12	Did you take <CHILD> back to the same health care provider?	Yes……...…….1 No……..…2	**If yes, go to MA14**
MA13	If not, why?	_____	**Go to MA15**

		__	
MA14	When did you take the child back?	Same day ……..1 One days ……..….2 Two days ….…….3 Three day ……4 Other _____ __ _____5	
MA15	Where <u>else</u> did you go for advice or treatment? Anything else? **Circle all answers.** **If A, B, C, or D (Hospital, Health Center or Private Hospital, Clinic, or Practitioner)……** **Write the Name** **_____**	Hospital …...……A Health Center …….....…B Private Hospital/Clinic ……..… …C Private Practitioner ……..D Village Health Worker/TBA/VHC/VHV…….. ……E Traditional Healer ……F Market …….G Pharmacy ……..…H Community Distributors ……... ……I Friend/Relative …....…. .J Nowhere else ……...…K Other _____ Z	
MA16	Did you consult with the VHV, VHC, TBA or Key Mother?	Yes……... ….1 No…….. …2	**If no, skip MA17**
MA17	What did they do?	Nothing …...…….A	

	Anything else? **Circle all answers.**	Refer…….…… B Health Education …….C Gave Treatment ……...D Follow up ……..…E Other _____X	
Attention! Read and follow below: ***If <NAME> was ever taken to a Hospital or Health Center ® MA18*** **If <NAME> was *not* ever taken to a Hospital or Health Center ® MA19**			
MA18	Was <NAME> treated with any medicine(s) before going to the Hospital or Health Center?	Yes……... ….1 No…….. …2 Don't Know ……..……8	**If no or don't know, go to MA22**
MA19	Was <NAME> treated with any medicines by you?	Yes……... ….1 No…….. …2 Don't Know ……..……8	**If yes, go to MA20. If no or don't know, go to MA22.**
MA20	Which medicines were given to <NAME> for his/her fever? **If mother cannot remember the names of the medicine, ask to see the medicine. If she does not have the medicine , show her the pictures of the medicine and ask her to identify them.** **Circle the letter next to the name of the medicine below once you have identified it.** **For each medicine checked ask:**		

	How long after the fever did <NAME> begin to take the medicine? **Circle the answer.**		
A	CHLOROQUINE	Same Day (Day 0)……..…0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
B	FANSIDAR	Same Day (Day 0)……..…0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
C	MEFLOQUINE	Same Day (Day 0)……..…0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
D	RECTOCAP SUPPOSITORY	Same Day (Day 0)……..…0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	

E	A+M2 (ENFANT)	Same Day (Day 0)……..…0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
F	A+M3 (ADOLESCENT)	Same Day (Day 0)……..…0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
G	A+M4 (ADULT)	Same Day (Day 0)……..…0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
H	QUININE	Same Day (Day 0)……..…0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
I	TETRACYCLINE	Same Day (Day 0)……..…0 Day 1…….1	

		Day 2 ……2 Day 3 + …….3 Don't know ……..8	
J	ARTESUNATE	Same Day (Day 0)……..…0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
MA21	**OTHER MEDICINES GIVEN.** **Circle all answers.**	Aspirin……...….. .A Paracetamol…….. B Co-Trimoxazole…..……..C Ampicillin/ Amoxillicin...D Other _____ E Unknown Medicine……...F	
MA22	Were any of these injections?	Yes……...…… ….1 No…….. …2 Don't Know ……..……8	
MA23	What causes malaria? Anything else? **Circle all answers, and write down any 'other' responses.**	Mosquito Bites ……A Witchcraft…… ….B Intravenous drug use ...…C Blood transfusions …...…D	

		Injections……..……E Sharing Razor Blades…...F Kissing ……...….G Other _____ W Other _____X Don't Know ……..……Z	
IX. MOSQUITO BEDNET USE AND MAINTENANCE			
BE1	Do you have any bednets in your house?	Yes……... ….1 No…….. …2 Don’t Know ……..……8	**If no or don’t know, go to HC1**
BE2	May I see the bednet? **Observe if bednet is hung over the bed and circle the answer.**	Hung over bed……...1 Not hung……2	
BE3	Was the bednet ever soaked or dipped in a liquid to repel mosquitoes or insects?	Yes……...…. ….1 No…….. …2 Don’t Know ……..……8	**If no or don’t know, go to BE5**
BE4	**Inspect bednet for holes or tears.**	No obvious holes/tears = Good Condition ……...…1 Any visible holes/tears = Damaged ……..…2	
BE5	How long ago was the bednet last soaked or dipped? **Record answer in months** **Less than 1 month = 00** **Don’t know = 99**	_____ months	

BE6	Have you or someone else in your house ever washed the bed net? **Record the number of times.** **None = 00** **Don't know = 99**	_____ times	**If none, go to BE8**
BE7	How often do you wash your bednet?	Once a week…….1 Once a month……2 Less than once a month.…3	
BE8	How long have you had your bednet? **Write down the number of months**	_____	
BE9	Who slept under the treated bednet last night? **Circle all answers.**	Child <NAME> (the one chosen for the interview)…….....…A Mother ….……...…B Husband ...……C Other_____ X	
X. Health Contacts and Sources of Information			
HC1	During the last month, how often have you come in contact with each of the following? **Read each response separately. Circle the letter of the response, and then circle the answer**		
A	Doctor (Public)	Never:0 times…...……1 Sometimes:1-3 times…...2 Frequent: 4+ times……...3	
B	Medical Assistant (Public)	Never:0 times…...……1 Sometimes:1-3 times…...2	

		Frequent: 4+ times……...3	
C	Nurse (Public)	Never:0 times…...……1 Sometimes:1-3 times…...2 Frequent: 4+ times……...3	
D	Midwife (Public)	Never:0 times…...……1 Sometimes:1-3 times…...2 Frequent: 4+ times……...3	
E	Community Health Worker	Never:0 times…...……1 Sometimes:1-3 times…...2 Frequent: 4+ times……...3	
F	Traditional Birth Attendant	Never:0 times…...……1 Sometimes:1-3 times…...2 Frequent: 4+ times……...3	
G	Private Practitioner	Never:0 times…...……1 Sometimes:1-3 times…...2 Frequent: 4+ times……...3	
H	Traditional Healer	Never:0 times…...……1 Sometimes:1-3 times…...2 Frequent: 4+ times……...3	
HC2	Who do you usually get general information or advice from on health and nutrition? **Circle all answers.**	No one …….....A Doctor(Public) ..……..…B Medical Assistant (Public) ……..…… …C Nurse (Public) ……..……D	

		Midwife (Public) ……..…E Traditional Birth Attendant ……..……. ….F Village Health Volunteer ……..……..… …G Village Health Committee Member…… …H Key Mother ……...I Private practitioner …...…J Husband…… …K Mother/Mother- in-law …L Sister ……...……M Grandparent……..…… …N Aunt ……O Friend/ Neighbor ……..P Traditional Healer …...…Q Village Elder…….R Other_____ __X	
HC3	In the past month, have you received any health messages from the following? **Read each answer** **Circle all answers**	Radio…… A Newspaper…… …B Tele vision……. C Village Health Volunteer.D Village Health	

		Committee Member……..E Traditional Birth Attendant……..F Key Mother……..G	
XI. Anthropometry			
AN1	May I weigh and measure <NAME>?	Yes……...….1 No……..…2	**If no, go to the end of the survey.**
AN2	**Weigh the Child and Record Weight Below. Record to the nearest Tenth.**	_____ . _____ Kilograms	
AN3	**Measure the child and record height here**	_____ . _____ centimeters	
AN4	**Check edema with pitting.**	Yes……...….1 No……..…2	

END OF SURVEY

Thank you for taking part in this survey. This will help us begin our work of improving child health in this area.

Annex 9. 12-23 Month Old Survey Questionnaire

Cambodia Child Survival Project

Knowledge, Practices and Coverage (KPC) Survey

12 – 23 Month Olds

March 2005

INFORMED CONSENT

Hello. My name is _____, and I am working with Cambodian Red Cross. 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. This information will help the Red Cross to plan health services and assess whether it is meeting its goals to improve children's health. The survey usually takes about 1 to 1 1/2 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	RESPONDENT DOES NOT AGREE TO BE INTERVIEWED
1	2 Note on form and go to the next designated house.

CLUSTER # _____

HOUSEHOLD # _____

INTERVIEWER # _____

SUPERVISOR _____

Health Center Name _____

Village Name _____

Interview date ___/___/05

dd/mm/yy

ID# _____

I. IDENTIFYING INFORMATION			
What are the ages of your children? **(All questions are to be addressed to mothers with a child less than 24 months of age.)**			
NO.	**QUESTION**	**ANSWER…….CODE**	**SKIP**
ID1	Name of Mother	_____	
ID2	Age of Mother	years	
ID3	How many children living in this household are under age five?		
ID4	How many of those children are your biological children?		
ID5	Can you please tell me the name(s), sex(es), date(s) of birth of youngest two children.	#1 Name of youngest child less than 24 months _____ – Male…….. .1 Female…… …2 ____ / _____ / _____ Day Month Year #2 Name of next oldest child less than 24 months _____ – Male…….. .1 Female…… …2 ____ / _____ / _____ Day Month Year	**Remember that you want to talk about the child between 12-23 months old in this survey only.**
ID6	What is the age of your next oldest child?	years	

II. BACKGROUND INFORMATION AND CHILD NUTRITION			
B1	What was the highest level of school you attended? **Ask how many years they attended school and fill in the number: if more than seven years of schooling, write seven**		
B2	Who is the head of this household?	Mother (self) …..……1 Husband …….2 Female relative …..…3 Other _____99	
B3	Do you work outside of the home to earn money? Anything else? **Circle all answers.**	No……..…A Handicrafts…… B Harvesting ……..… C Sell food …….……..D Shopkeeper/ Street Vendor…….…..E Household worker…. F Salaried worker…….G Other_____X	**If no, go to B4**
B4	Who takes care of **(NAME)** when you are away from home? Anything else? **Circle all answers.**	Mother ……...…A Husband…….B Older children……C Other relatives …..…D Neighbors/ Friends....E Maid ……..F Nursery school..……G	
B5	How many months in this year did your family eat only porridge and/or wild foods for their meals? **If none, record 0**	_____ months	
NU9	Now I would like to ask you about the types of foods (NAME) ate yesterday during the day and at night. Anything else? **Read the answers to the mother.** **Circle all answers.**	Any foods made from grains such as rice, porridge, corn, wheat or other local grain? …….. G Pumpkin, carrots, yellow or red sweet potatoes?..... .H Any other food made	

		from roots or tubers, e.g. white potatoes, white yams, or other? …….....I Any green leafy vegetables? …….. J Mango, papaya, orange, pumpkin, palm fruit ? ……..……K Any other fruits and vegetables, e.g. bananas, apples/sauce, tomatoes? ……L Meat, poultry, fish, shellfish or eggs?…….M Any foods made from legumes [e.g. lentils, beans, soybeans, pulses, or peanuts]? ……..……..N Any food made with oil, fat, or butter?……..... P Other _____________ O	
NU10	How many times did <NAME> eat semi-solid (mashed or pureed) food yesterday during the day or at night? **IF 7 OR MORE TIMES, RECORD '7'. DON'T KNOW = 8**		
NU11	May I take a sample of the salt that is used for cooking? Ask the Mother to put about a half teaspoon of salt in the plastic bag. Label clearly and completely with Interview number, Cluster Number, and Name of Village or Town. Store in a safe place and give to the survey supervisor at the end of the day.	Yes …...……1 No (refused)…….……..... 2	

III.B. HOUSEHOLD WATER AND SANITATION			
WS1	What is the **main source** of drinking water for members of your household? Anything else? **Circle all answers.**	Open well in dwelling/Yard/Plot …..A Open public well …….B Protected well in dwelling /Yard/Plot ….C Protected public well …D Pumping well in dwelling/Yard/Plot …...E Pumping public well …F Spring/ River/ Stream…G Pond/ Lake/ Dam ……H Rain water ……..I Other _____X	
WS2	Do you get your drinking water from this source throughout the year?	Yes…….1 No……..…2 Don't Know ……..8	
WS3	What kind of toilet facility do <u>most</u> members of your household use? **Circle only one answer.**	Water seal latrine ……..1 Traditional pit toilet …..2 Ventilated improved pit (VIP) latrine ……..3 No facility/ Bush/ Field ……..……4 Other _____ 96	**If 4 or 96, go to WS5**
WS4	Do you share this facility with other households?	Yes…….1 No……..…2	
WS5	What happens with the stools of babies and young children in your household who do not use the toilet facility? Anything else? **Circle all answers.**	Thrown in toilet/ Latrine……..……A Buried in yard ……..B Not disposed of/ Left on the ground …….…….C Other _____ _____X	
WS6	What do you do with your garbage? Anything else? **Circle all answers.**	Open pit ……..…A Closed pit ……...B Anywhere ……..C	

		Burning …….….D Other _____X	
WS7	When do you wash your hands? Anything else? **Circle all answers.**	Never …….……A Before prepare food …..B After defecation ……C After attending to a child who has defecated ……D Others _____ X	
WS8	Do you use soap? **Ask to see the soap, if you don't see it, this answer should be no (even if they say yes).**	Yes…….1 No……..…2	
IV.B. HIV/AIDS QUESTIONS			
HV1	Have you ever heard of an illness called AIDS?	Yes…….1 No……..…2	**If no, go to IM1**
HV2	Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?	Yes…….1 No……..…2 Don't Know ……..8	**If no or don't know, go to IM1**
HV3	What can a person do to avoid getting AIDS or the virus that causes AIDS? Anything else? **Circle all answers.**	Nothing ……...A Abstain from sex …...B Use condoms ……..C Limit sex to one partner/stay faithful to one partner …….D Limit number of sexual partners.……..…E Avoid sex with prostitutes ….....……F Avoid sex with persons who have many partner ……..G Avoid intercourse with persons of the same sex…….……H Avoid sex with persons who inject drugs intravenously ……I Avoid blood transfusions……J	

		Avoid kissing ……...K Avoid mosquito bites ...L See protection from a Traditional Healer …...M Avoid sharing razors, razor blades ……N Other _____ W Other _____ X Don't know ……..……Z	
V. CHILDHOOD IMMUNIZATION/CHILDHOOD SICKNESS			
IM1	Did **(NAME)** take a vitamin A dose like this during the last 6 months? **(Show Capsule)**	Yes…….1 No……..…2 Don't Know ……..8	
IM2	Do you have a card where **(NAME's)** vaccinations are written down? **<u>May I see it please</u>?**	Yes, seen by interviewer……..……. 1 Not available/ lost/ misplaced ……..2 Never had a card ……...3 Don't know ……...8	**If not available, lost, never had it or don't know, go to IM5**
IM3	**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.**		
A	BCG	_ _ /_____/_____ Day/Month/Year	
B	Polio 0 (Given at birth) (P0)	_ _ /_____/_____ Day/Month/Year	
C	Polio 1 (P1)	_ _ /_____/_____ Day/Month/Year	
D	Polio 2 (P2)	_ _ /_____/_____ Day/Month/Year	
E	Polio 3 (P3)	_ _ /_____/_____ Day/Month/Year	
F	DPT 1 (DTC1)	_ _ /_____/_____ Day/Month/Year	
G	DPT 2 (DTC2)	_ _ /_____/_____ Day/Month/Year	
H	DPT 3 (DTC3)	_ _ /_____/_____ Day/Month/Year	
I	Measles	_ _ /_____/_____ Day/Month/Year	

J	Vitamin A (Most recent)	_ _ /_____/_____ Day/Month/Year	
K	Mebendazole	_ _ /_____/_____ Day/Month/Year	
IM4	Has (NAME) received any vaccinations that are not recorded on this card, including vaccines received in a National Immunization Day campaign?	Yes…….1 No……...…2 Don't Know ……8	**If no or don't know, go to IM6**
IM5	**Please tell me if (NAME) received any of the following vaccinations?**		
A	BCG vaccination against tuberculosis, that is, an injection in the arm or shoulder that usually causes a scar.	Yes…….1 No……...…2 Don't Know ……..8	
B	Polio vaccine, that is, drops in the mouth?	Yes…….1 No……...…2 Don't Know ……..8	**If no or don't know, go to IM5E**
C	When was the first polio vaccine received, just after birth or later?	Just after birth ...…….1 Later ..……..…2 Don't Know ……8	
D	How many times was the polio vaccine received? **Write down the number.**		
E	**DPT** vaccination, that is, an injection given in the right upper arm sometimes at the same time as polio drops?	Yes…….1 No……...…2 Don't Know ……..8	
F	An injection to prevent measles?	Yes…….1 No……...…2 Don't Know ……..8	
IM6	Did the **(NAME)** ever receive Mebendazole tablet to treat worms?	Yes…….1 No……...…2 Don't Know ……..8	
IM7	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? **Read the answers to the mother.** **Circle all answers.** **Write out any 'other' answers on this form.**	Don't Know …….A Looks unwell or not playing normally……...B Not eating or drinking…….C Lethargic or difficult to wake ……...…….....D High fever ……E Fast or rapid breathing	

		……..……F Vomits everything …...G Convulsions …….H Diarrhea___ _____I Other _____ _____ J Other _____ ___K	
VI. DIARRHEA CASE MANAGEMENT			
DC1	Has (NAME) had diarrhea in the last 2 weeks?	Yes…….1 No…….....…2 Don't Know ……..8	**If no or don't know, go to AR1**
DC2	What was given to treat the diarrhea? **Circle all answers.**	Nothing ……A Fluid from ORS packet …….…B Home-made Fluid ….....C Pill or Syrup ...…...….. D Injection ….……..E IV ……..…….……..F Home remedies/herbal medicines …….G Other _____ ____ _ _X	
DC3	When (NAME) had diarrhea, did you breastfeed him/her less than usual, about the same amount, or more than usual?	Less ……...……1 Same…….....2 More……..…....3 Child not Breastfed …...4 Don't Know ……..…8	
DC4	When (NAME) had diarrhea was he/she offered less than usual to drink, about the same amount, or more than usual to drink?	Child Not Yet Drinking ……...1 Less……...……2 Same…….……3 More…….....…4 Nothing to Drink ……..5 Don't Know …….8	
DC5	When (NAME) had diarrhea was he/she offered less than usual to eat, about the same amount, or more than usual to eat?	Child Not Yet Eating ……...1 Less……...……2 Same…….……3 More…….....…4 Nothing to Drink ……..5	

		Don't Know …….8	
DC6	During the period when (NAME) was recovering from diarrhea, did you give him/her less than usual to drink, about the same amount, or more than usual to drink (includes breast milk)?	Less……1 Same……..…2 More ..…….…..….3 Nothing to Drink ....…..4 Don't Know ….……8	
DC7	During the period when (NAME) was recovering from diarrhea, did you give him/her less than usual to eat, about the same amount, or more than usual to eat ?	Not Eating Yet …….1 Less……2 Same…..…….…...3 More……..…4 Nothing to Eat ……..5 Don't know ….……..8	
DC8	Did you seek advice or treatment from someone outside of the home for (NAME's) diarrhea?	Yes ..……..1 No...……..…..2	**If no, go to AR1**
DC9	Where did you **first** go for advice or treatment? **Circle only one answer.** **If Hospital, Health Center or Private Hospital, Clinic, or Practitioner** **Write that name here:_____**	Hospital ……1 Health Center …..……..2 Private Hospital/Clinic ……..……..….....…3 Private Practitioner .....4 Village Health Worker/TBA/VHC…....5 Traditional Healer ...….6 Market …….7 Pharmacy...…….....8 Community Distributors ……...9 Friend/Relative ……...10 Other _____88	
DC10	Why was (NAME) taken to this (PROVIDER)? Anything else? **Circle all answers.**	Cost less money ……..A Can pay on time …….…..B Practitioner known …….C Practitioner trusted …..…D Closest distance……...… E Other _____X	

DC11	Who decided that you should go there for (NAME's) illness? **Circle all answers.**	Mother ……..…A Husband ……..…B Mother of mother …….C Mother-in-law ……..…D Friend/Neighbors ……E Others _____Z	
DC12	How was the child taken there?	Walk……. …1 Own transportation……..2 Motor taxi……3 Friend……4 Car taxi …….5 Other _____96	
DC13	How much did it cost for transportation?_____		
DC14	Did you/they have to pay for the consultation and treatment?	Yes……... .1 No ……2	**If no, go to DC16**
DC15	How much did you have to pay?		
DC16	After the health provider saw the child did s/he ask you to bring the child back for a check in a few days?	Yes……... .1 No ……2	**If no, go to DC20**
DC17	Did you take <NAME> back to the same heath care provider?	Yes……... .1 No ……2	**If yes, go to DC19**
DC18	If Not -Why_____ **Write down the answers.**		**Go to DC20**
DC19	When did you take the child back?	Same day……..1 One days ……2 Two days ……3 Three day ……4 Other_____	

		5	
DC20	Where else did you go for advice or treatment? Anything else? **If Hospital, Health Center or Private Hospital, Clinic, or Practitioner** **Write the Name_____**	Hospital…..……...…A Health Center ……...B Private Hospital/Clinic ..……C Private Practitioner …..D Village Health Worker/TBA/VHC/VHV ……..E Traditional Healer ……F Market …….……...G Pharmacy ….……H Community Distributors …….……..I Friend/Relative …… J No where else ……..K Other_____Z	
DC21	Did you consult with the VHV, VHC, TBA or Key Mother?	Yes……... .1 No ……2	**If no, go to AR1**
DC22	What did they do? Anything else? **Circle all answers.**	Nothing ……...….A Refer…….B Health Education ….....C Gave Treatment …...….D Follow up …….E Other _____X	
VII. ACUTE RESPIRATORY INFECTIONS (ARI)			
AR1	Has <NAME> had an illness with a cough at any time in the last two weeks?	Yes…….1 No……..…2 Don't Know …….8	**If no or don't know, go to MA1**
AR2	When <NAME> had an illness with a cough, did he/she have trouble breathing or breathe faster than usual with short, fast breaths?	Yes…….1 No……..…2 Don't Know …….8	**If no or don't know, go to MA1**
AR3	Did you seek advice or treatment for the cough/fast breathing?	Yes…….1 No……..…2	**If no, go to MA1**
AR4	How long after you noticed (NAME's) cough and fast breathing did you seek advice/treatment? **Circle only one answer.**	Same Day ……...……..0 Next Day ….……1 Two Days ……2 Three or more days …..3	

AR5	Where did you **first** go for advice or treatment? **Circle only one answer.** **If Hospital, Health Center or Private Hospital, Clinic, or Practitioner** **Write the Name _____**	Hospital …..……..1 Health Center…..……...2 Private Hospital/Clinic ……..…….3 Private Practitioner ……..4 Village Health Worker/TBA/VHC ..….5 Traditional Healer ...…6 Market ...……...……7 Pharmacy……...8 Community Distributors ……..….9 Friend/Relative ...……10 Other _____ 88	
AR6	Why was <NAME> taken to this <PROVIDER>? Anything else? **Circle all answers.**	Cost less money ……..A Can pay on time ……..B Practitioner known ……..C Practitioner trusted ……..D Closest distance ……E Other _____X	
AR7	Who decided that you should go there for <NAME's> illness? Anything else? **Circle all answers.**	Mother ……A Husband ……..B Mother of mother ……C Mother-in-law ……..…D Friend/Neighbors …….E Others _____Z	
AR8	How was the child taken there?	Walk ……1 Own transportation ……..2 Motor taxi ….……...3 Friend ……..4 Car taxi ……5 Other _____ 96	
AR9	How much did it cost for transportation?		

AR10	Did you/they have to pay for the consultation and treatment?	Yes…….1 No……..…2	**If no, go to AR12**
AR11	How much did you have to pay?		
AR12	After the health provider saw the child did s/he ask you to bring the child back for a check in a few days?	Yes…….1 No……..…2	**If no, go to AR16**
AR13	Did you take <NAME> back to the same health care provider?	Yes…….1 No……..…2	**If yes, go to AR15**
AR14	If Not - Why_____		**Go to AR16**
AR15	When did you take the child back?	Same day ……..1 One days ……..….2 Two days ….…….3 Three day ……4 **Other** _____5	
AR16	Where else did you go for advice or treatment? Anything else? **Circle all answers.** **If Hospital, Health Center or Private Hospital, Clinic, or Practitioner** **Write the Name _____**	Hospital …...……A Health Center ……...…B Private Hospital/Clinic ……..……C Private Practitioner …..D Village Health Worker/TBA/VHC/VHV ……..…E Traditional Healer ……F Market …….G Pharmacy ……H Community Distributors ……I Friend/Relative …...…. .J No where else …….……K Other _____ Z	
AR17	Did you consult with the VHV, VHC, TBA or Key Mother?	Yes…….1 No……..…2	**If no, go to AR19**
AR18	What did they do? Anything else?	Nothing …...…….A Refer…….……B Health Education …….C	

	Circle all answers.	Gave Treatment ……...D Follow up ……E Other _____X	
AR19	Which medicines were given to <NAME>? Anything else? **Circle all answers.**	Nothing…….....…….A Tablets – Do not know the name of medicine. ……..……..B Aspirin …..…….C Paracetamol …..…..…D Cotrimoxazole ……E Amoxycillin/Ampicillin ……F Injection – Do not know name of medicine ……G Other _____ X Don't Know……Z	
VIII. MALARIA			
MA1	Has <NAME> been ill with fever in the last two weeks?	Yes…….1 No……..…2 Don't Know……..8	**If no or don't know, go to MA22**
MA2	**Di**d you seek advice or treatment for <NAME'S> fever?	Yes…….1 No……..…2	**If no, go to MA22**
MA3	*Where did you **first** go for advice or treatment?* **Circle only one answer** **If Hospital, Health Center or Private Hospital, Clinic, or Practitioner** **Write the Name _____**	Hospital ……..…..1 Health Center ……...…2 Private Hospital/Clinic …...……..…...……..3 Private Practitioner .....4 Village Health Worker/TBA/VHC …5 Traditional Healer ……6 Market …….7 Pharmacy ..……8 Community Distributors ……..……9 Friend/Relative ……..10 Other _____ 88	
MA4	How long after you noticed <NAME's> fever did you seek	Same day……..0	

	treatment from that person or place?	One days ……1 Two days ……2 Three day …… 3	
MA5	Why was <NAME> taken to this <PROVIDER>? Anything else? **Circle all answers.**	Cost less money ……..A Can pay on time ……..B Practitioner known ……..C Practitioner trusted ……..D Closest distance ……E Other _____X	
MA6	Who decided that you should go there for <NAME's> illness? Anything else? **Circle all answers.**	Mother ……A Husband ……..B Mother of mother ……C Mother-in-law ……..…D Friend/Neighbors …….E Others _____Z	
MA7	How was the child taken there?	Walk ……1 Own transportation ……..2 Motor taxi ….……...3 Friend ……..4 Car taxi ……5 Other _____ 96	
MA8	How much did it cost for transportation? **Write down the amount.**		
MA9	Did you/they have to pay for the consultation and treatment?	Yes…….1 No……..…2	**If no, go to MA11**
MA10	How much did you have to pay?		
MA11	After the health provider saw the child did s/he ask you to bring the child back for a check in a few days?	Yes…….1	**If yes, go to**

		No……..…2	**MA14**
MA12	Did you take <CHILD> back to the same health care provider?	Yes…….1 No……..…2	**If yes, go to MA14**
MA13	If Not- Why_____		**go to MA15**
MA14	When did you take the child back?	Same day ……..1 One days ……..….2 Two days ….…….3 Three day ……4 Other _____ _____5	
MA15	Where else did you go for advice or treatment? Anything else? **Circle all answers.** **If Hospital, Health Center or Private Hospital, Clinic, or Practitioner** **Write the Name _____**	Hospital …...……A Health Center ……...…B Private Hospital/Clinic ……..……C Private Practitioner …..D Village Health Worker/TBA/VHC/VHV ……..…E Traditional Healer ……F Market …….G Pharmacy ……H Community Distributors ……I Friend/Relative …...…. .J No where else ……..……K Other _____ Z	
MA16	Did you consult with the VHV, VHC, TBA or Key Mother?	Yes…….1 No……..…2	**If no, skip MA17**
MA17	What did they do? Anything else?	Nothing …...…….A Refer…….……B Health Education …….C Gave Treatment ……...D	

	Circle all answers.	Follow up ……E Other _____X	
Attention! Read and follow below: ***If <NAME> was ever taken to a Hospital or Health Center ® MA18*** **If <NAME> was *not* ever taken to a Hospital or Health Center ® MA19**			
MA18	Was <NAME> treated with any medicine(s) before going to the Hospital or Health Center?	Yes…….1 No……...…2 Don't Know ……8	**If no or don't know, go to MA22**
MA19	Was <NAME> treated with any medicines by you?	Yes…….1 No……...…2 Don't Know ……8	**If yes, go to MA20. If no or don't know, go to MA22**
MA20	Which medicines were given to <NAME> for his/her fever? **Circle the letter in front of the medicine for each one the mother names.** **If mother cannot remember the names of the medicine, ask to see the medicine. If she does not have the medicine show her the pictures of the medicine and ask her to identify them. Then circle the answer she gives for each medicine.**		
A	CHLOROQUINE	Same Day (Day 0)_……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
B	FANSIDAR	Same Day (Day 0)_……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
C	MEFLOQUINE	Same Day (Day 0)_……0 Day 1…….1 Day 2 ……2 Day 3 + …….3	

		Don't know ……..8	
ANTIMALARIAL MEDICINES:			
D	RECTOCAP SUPPOSITORY	Same Day (Day 0)_……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
E	A + M 2 (ENFANT)	Same Day (Day 0)_……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
F	A+M 3 (ADOLESCENT)	Same Day (Day 0)_……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
G	A + M 4 (ADULT)	Same Day (Day 0)_……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
H	QUININE	Same Day (Day 0)_……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
I	TETRACYCLINE	Same Day (Day 0)_……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
J	ARTESUNATE	Same Day (Day 0)_……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
OTHER MEDICINES			

K	Aspirin	Same Day (Day 0)……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
L	Paracetamol	Same Day (Day 0)……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
M	Co-Trimoxazole	Same Day (Day 0)……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
N	Ampicillin/ Amoxillicin	Same Day (Day 0)……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
O	Other _____	Same Day (Day 0)……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
P	Unknown Medicine	Same Day (Day 0)……0 Day 1…….1 Day 2 ……2 Day 3 + …….3 Don't know ……..8	
MA21	Were any of these injections?	Yes…….1 No……...…2 Don't Know ……8	
MA22	What causes malaria? Anything else? **Circle all answers.**	Mosquito Bites ……A Witchcraft…….B Intravenous drug use …C Blood transfusions …D Injections……E Sharing razor blades…F Kissing …….G	

		Other _____ W Other _____ X Don't Know ……Z	
IX. MOSQUITO BEDNET USE AND MAINTENANCE			
BE1	Do you have any bednets in your house?	Yes…….1 No……...…2 Don't Know ……8	**If no or don't know HC1**
BE2	May I see the bednet? **Observe if bednet is hung over the bed and circle the answer**	Hung over the bed …..1 Not hung …….2	
BE3	Was the bednet ever soaked or dipped in a liquid to repel mosquitoes or insects?	Yes…….1 No……...…2 Don't Know ……8	**If no or don't know, go to BE5**
BE4	**Inspect bednet for holes or tears.**	No obvious holes/tears = good condition…….1 Any visible holes/tears = damaged …….2	
BE5	How long ago was the bednet last soaked or dipped? **Write down the answer in months** **Less than 1 month = 00** **Don't know = 99**	_____ months	**If don't know, go to BE5**
BE6	Have you or someone else in your house ever washed the bednet?	Yes…….1 No……...…2 Don't Know ……8	**If no or don't know, go to BE8**
BE7	How often do you wash your bednet?	Once a week ……..1 Once a month ……2 Less than once a year….3	
BE8	How long have you had your bednet?	_____ months	

	Write down the number of months		
BE9	Who slept under the treated bednet last night? **Circle all answers.**	Child <NAME> (the one chosen for the interview)……..…A Mother ……..…B Husband ...……C Other_____X	
X. Health Contacts and Sources of Information			
HC1	**During the last month, how often have you come in contact with each of the following?** **Circle the letter of the health person contacted. Then circle the number of times.**		
A	Doctor (Public)	Never:0 times…...……1 Sometimes:1-3 times…2 Frequent: 4+ times…...3	
B	Medical Assistant (Public)	Never:0 times…...……1 Sometimes:1-3 times…2 Frequent: 4+ times…...3	
C	Nurse (Public)	Never:0 times…...……1 Sometimes:1-3 times…2 Frequent: 4+ times…...3	
D	Midwife (Public)	Never:0 times…...……1 Sometimes:1-3 times…2 Frequent: 4+ times…...3	
E	Community Health Worker	Never:0 times…...……1 Sometimes:1-3 times…2 Frequent: 4+ times…...3	
F	Traditional Birth Attendant	Never:0 times…...……1 Sometimes:1-3 times…2 Frequent: 4+ times…...3	
G	Private Practitioner	Never:0 times…...……1 Sometimes:1-3 times…2 Frequent: 4+ times…...3	

H	Traditional Healer	Never:0 times…...……1 Sometimes:1-3 times…2 Frequent: 4+ times…...3	
HC2	Who do you usually get general information or advice on health and nutrition? **Circle all answers.**	No one ……..A Doctor(Public) ..…...…B Medical Assistant (Public) ……C Nurse (Public) ……D Midwife (Public) ……E Traditional Birth Attendant …….F Village Health Volunteer …….……G Village Health Committee Member……H Key Mother ……...I Private practitioner ……J Husband……K Mother/Mother- in-law …….……L Sister ……...……M Grandparent ……N Aunt …….O Friend/ Neighbor …….P Traditional Healer ……Q Village Elder ……R Other_____X	
HC3	**In the past month, have you received any health messages from the following?** **Circle the letter for the source of information. Then circle the answer.**		
A	Radio	Yes…….1 No……...…2	
B	Newspaper	Yes…….1 No……...…2	
C	Television	Yes…….1 No……...…2	

D	Village Health Volunteer	Yes…….1 No……...…2	
E	Village Health Committee Member	Yes…….1 No……...…2	
F	Traditional Birth Attendant	Yes…….1 No……...…2	
G	Key Mother	Yes…….1 No……...…2	
XI. Anthropometry			
AN1	May I weigh <NAME>?	Yes…….1 No……...…2	**If no, go to end.**
AN2	**If Mother agrees, weigh the child and record weight and length. Record to the nearest Tenth.**	_____ _____ . _____ Kilograms _____ _____ Centimeters	
AN3	**Check edema with pitting**.	Yes…….1 No……...…2	

END OF SURVEY

Thank you for taking part in this survey. This will help us begin our work of improving child health in the area.