IMPROVING THE HEALTH OF MOTHERS AND CHILDREN OF RURAL JINOTEGA, NICARAGUA:

An Integrated Approach in Partnership with the Public and Private Sector Providers in Coffee-Growing Areas

Cooperative Agreement No. HFP-A-00-02-00026-00

Final Evaluation Report

Project Duration:
September 30, 2002 – September 29, 2007

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December 2007

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ACRONYMS

AMAS	MOH Health Facility Supervision System
AMATE	Animation, Motivation, Appropriation, Transference, Evaluation educational approach
ARI	Acute Respiratory Infection
BCC	Behavior Change and Communication
BF	Breastfeeding
CDD	Control of Diarrheal Diseases
CHW	Community Health Worker
CM	Community Mobilization
CORU	Community Oral Rehydration Unit
CRS	Catholic Relief Services
CSP	Child Survival Project
CSHGP	Child Survival Health Grant Program
CSTS+	Child Survival Technical Support Project
DIP	Detailed Implementation Plan
DPSV	Life Saving Skills (Destrezas Para Salvar Vidas)
ECMAC	Community Based Distribution of Family Planning Methods
EPI	Expanded Program of Immunizations
FP	Family Planning
GIK	Gift-In-Kind
GM	Growth Monitoring
HC	Health Center
HIS	Health Information System
HP	Health Post
HQ	Headquarters
IDRE	Introduction, Development, Reflection, Evaluation educational approach
IEC	Information, Education, and Communication
IMCI	Integrated Management of Childhood Illnesses
KPC	Knowledge, Practice, and Coverage Survey
LQAS	Lot Quality Assurance Sampling
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MOH	Ministry of Health (MINSA in Spanish)
MSH	Management Sciences for Health
MTE	Mid Term Evaluation
NID	National Immunization Day
NGO	Non-Governmental Organization
NICASALUD	Network of PVOs in Nicaragua
ORS	Oral Rehydration Solution
PCI	Project Concern International
PCM	Pneumonia Case Management
PDA	Personal Digital Assistant (Handheld PC)
PROCOSAN	MOH integrated community health program, similar to AIN
PVO	Private Voluntary Organization
SICO	Community Information System
SILAIS	Sistemas Locales de Atención Integral en Salud-Departmental level of MOH
TA	Technical Assistance
TBA	Traditional Birth Attendant
TQM	Total Quality Management
UNICEF	United Nations Children's Education Fund
USAID	United States Agency for International Development

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Executive Summary

Project HOPE has been implementing a five-year Jinotega Child Survival Project (JCSP) since 2002, aimed at improving the health status of children under five and women of reproductive age in the Department of Jinotega, Nicaragua. The focus has been on rural populations, including those working on coffee plantations. The main partners in implementation are the Ministry of Health (MOH) at the Departmental level (SILAIS), Health Centers/Posts, and private sector coffee growers.

Specific program health interventions and level of effort include the following: maternal and newborn care (30%), nutrition/micronutrient deficiencies (13%), breastfeeding promotion (10%), control of diarrheal disease (15%), pneumonia case management (10%), immunization (7%), child spacing (10%), and HIV/AIDS/STIs (5%). The proposed interventions focused on the MOH's PROCOSAN initiative, which is a program based on community growth monitoring. This initiative incorporates IMCI; community-based family planning, Life Saving Skills training, Birth Planning for health facility staff and community volunteers, and strengthening the Health systems and quality of care.

The project focus was to strengthen the SILAIS and all health units within the department. The target population was identified as the entire population of Jinotega, totaling 62,451 children under five and 67,461 women of reproductive age living in approximately 750 villages (129,912 total beneficiaries). All MOH health facility staff have been involved in institutional strengthening activities, but the CSP selected 80 priority communities where the project would provide more direct support to community based activities on a monthly basis.

<u>Main Achievements of the Project:</u>

1. Mobilization and capacity building in the form of training community based resource persons (282 CHWs, 88 TBAs and 759 Community committee members).
2. Development and support of Jinotega MOH strategies, training manuals, guides, supervision checklists in child health promotion, maternal and newborn care, and community based family planning strategies.
3. Creation of 43, 18, and 36 training facilitators in community based GM, CBD and Birth Planning respectively in the SILAIS and municipalities of Jinotega.
4. Institutional strengthening of the Department of Jinotega in its quality of services and in M&E through the training of 20 key management personnel at SILAIS and municipality levels.
5. Development of linkages between 36 MOH health facilities and 80 communities through community based services, community health data collection, monthly reporting, monthly/bimonthly meetings, references, and counter references.
6. Mobilization of $1,208,006 in direct funds, and $27,286,110 in medicines and supplies to compliment those provided by the child survival project received from PROSIC, FamiSalud, ProSalud, in addition to Gift in Kind (humanitarian assistance) from Project HOPE in support of infrastructure.
7. Involvement of 23 coffee plantation owners in the improvement of health service provision in the plantations and the development of linkages with the MOH for follow-up and monitoring.
8. The support of construction of a Maternity Home in WanBlan, managed by the community health committee.

9. Contribution of technical project staff at the national level to training methodologies and materials.

Conclusions

Quantitative results for the final KPC show the project as having reached only 6 of the 19 targets set. These dismal results do not reflect what was heard during qualitative interviews in the project communities during the final evaluation. It is important to note that this project involved direct and indirect communities as well as direct and indirect beneficiaries. The survey results were obtained from a large geographical area of communities not receiving direct support from the project. A lesson learned for all involved was that it is unrealistic for a project to expect to have a demonstrable impact on knowledge and behavior change in communities where only minimal training has been provided to CHWs and where there were limited health facility strengthening activities. The CSP had requested USAID to survey only the 80 direct intervention communities for the final evaluation and not the 750 total communities of the department, but this request was denied. Fortunately, the project was able to conduct a separate KPC for the 80 direct intervention communities, which can be found in Annex D. Nevertheless, the results for Maternal and Newborn Care were quite strong, with the project achieving all of the three indicators (prenatal visits, birth attended by trained attendant and postnatal visit), and remarkable progress showing from baseline to final. The project saw a dramatic decrease in the percentage of children with low weight for age in Nutrition, but since child weights obtained at the community level are not recorded on the child health card and this information is collected on the final KPC to determine if the indicator has been achieved, this lack of complete data makes it appear that the project has not achieved it's target. To include community weights on children's health card would be a more accurate indicator of progress in the nutrition intervention. Details are provided in the nutrition section of this report.

The prevalence of anemia increased rather than decreased during the life of the project. In the case of breastfeeding, the project witnessed improvement in immediate breastfeeding from the baseline, but no change in exclusive breastfeeding by the final evaluation. Neither objective seems to have been met. Immunization coverage saw a great deal of progress from the baseline. None of the five objectives were achieved in the CDD component, and only 2 out of 5 saw a slight improvement from the baseline. There was a slight improvement in recognition of danger signs of pneumonia, but care seeking results decreased from what they were at the time of the baseline. In the area of FP, the project saw an increase in use from the baseline, but the child spacing indicator decreased rather than increased. The indicator for knowledge of HIV was achieved and increased substantially from the time of the baseline to the final evaluation.

The Jinotega CSP dedicated a substantial amount of effort to strategy development, launching of training manuals, and supervision and IEC tools, in addition to the implementation of these strategies. Various strategies began at different points during the course of the program; therefore some have been implemented longer than others. As an example, the CBD program for FP and Life Skills Training for maternal health started early in the project whereas the Integrated Community-Based Growth Monitoring (PROCOSAN) and Birth Planning initiatives at the community level started later. Additional time needs to be dedicated to strengthening the more recent activities launched, including counseling and follow up done by CHWs in the area of anemia as prevalence levels are still high. In addition, information and key messages for child care during illness have not been shared with community

resource entities through training. Community committees interviewed did not appear to be very dynamic in the area of health, although they were organized, enthusiastic, and prepared for emergency obstetric evacuation. These entities could benefit from additional capacity building and empowerment efforts. On the other hand, the CHWs and TBAs are very empowered and dynamic and are leading the community committees in many cases. Linkages with the health facilities at this end point in the project are fairly strong and relationships are established well enough to continue beyond the life of the project. MOH resources in terms of support to community activities are limited and there will be challenges in maintaining the elevated level of support and supervision provided by the project. Health services have improved with the support of the project in terms of MOH staff technical skills in MCH case management, data collection and reporting, and planning and community based services. Unfortunately, quality of care is challenged by high staff turnover, staff shortages, and logistical and financial constraints at the SILAIS and municipality levels.

B. Assessment of Results and Impact of the Program

1. Results: Summary Chart

Please Note: The methodology used for each of the below surveys was LQAS where results were adjusted for the population as recommended. The results are from a sample of 750 communities Jinotega-wide and thus do not accurately measure the changes in the 80 communities benefiting from direct project support and interventions. A mini KPC was conducted in the 80 intervention communities and the results appear throughout this report and in Annex D.

Indicator (for the entire project area)	Baseline March 2003	Midterm March 2005	Final Evaluation March 2007	Final Evaluation June 2007 80 Communities	*TARGET*
	Adjusted Coverage Rates	Adjusted Coverage Rates	Adjusted Coverage Rates	Adjusted Coverage Rates	
Maternal and Newborn Care Maternal and Newborn Care					
1. % of mothers of children aged 0-23 months who report having had at least one prenatal visit with a doctor or nurse.	89%	94%	95%	95%	**94%**
2. % of children aged 0-23 months whose birth was attended by a doctor or nurse.	51%	54%	71%	61%	**65%**
3. % of mothers of children aged 0-11 months who report having had at least one postpartum visit.	32%	33%	51%	52%	**45%**
Nutrition and Micronutrients					
4. % of children aged 0-23 months weighed in the last four months according to growth monitoring card.	68%	86%	75%	96%	**90%**
5. % of children aged 0-23 months with low weight (Weight-For-Age) (<2Z).	8%	8%	1%	n/a	**8%**
6. % of children aged 0-23 months with anemia (hemoglobin level < 11mg/dl).	42%	47%	47%	n/a	**30%**
Breastfeeding Promotion					
7. % of mothers of children aged 0-23 months who report having breastfed within the first hour after birth.	69%	82%	77%	82%	**80%**
8. % of infants aged 0-5 months who received only breast milk in the past 24 hours.	56%	52%	56%	74%	**70%**
Immunization					
9. % of children aged 12-23 months with all recommended vaccines at the moment of their first birthday according to the growth monitoring card.	69%	81%	78%	87%	**80%**

Indicator (for the entire project area)	Baseline March 2003	Midterm March 2005	Final Evaluation March 2007	Final Evaluation June 2007 80 Communities	*TARGET*
	Adjusted Coverage Rates	Adjusted Coverage Rates	Adjusted Coverage Rates	Adjusted Coverage Rates	
Control of Diarrheal Diseases					
10. % of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more food to their child.	46%	45%	31%	59%	**60%**
11. % of mothers with children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more liquids or breast milk to their child	69%	71%	65%	85%	**80%**
12. % of mothers of children aged 0-23 months who report having sought assistance or counseling from a health unit or CORU during the child's last diarrheal episode.	36%	53%	40%	54%	**50%**
13. % of mothers of children aged 0-23 months who report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation, and after tending to a child that has defecated	19%	11%	7%	24%	**35%**
14. % of mothers of children aged 0-23 months that know at least two signs of dehydration due to diarrhea.	27%	17%	31%	73%	**40%**
Pneumonia Case Management					
15. % of children aged 0-23 months with cough and fast breathing in the last two weeks taken to a health unit.	60%	55%	53%	30%	**75%**
16. % of mothers of children aged 0-23 months that can identify fast breathing as a danger sign for pneumonia.	76%	78%	83%	90%	**90%**
Child Spacing					
17. % of children aged 0-23 months that were born at least 24 months after the previous surviving child.	84%	86%	77%	90%	**86%**
18. % of mothers of children aged 12-23 months who desire no more children in the next two years, who are using some type of modern child spacing method.	65%	90%	100%	66%	**85%**
HIV/AIDS					
19. % of mothers of children aged 0-23 months who know at least one way to prevent STIs-HIV/AIDS.	6%	14%	20%	62%	**15%**

2. Results: Technical Approach

a. Project Overview

Project HOPE has been implementing a five-year Child Survival Project aimed at improving the health status of children under five and women of reproductive age in the Department of Jinotega, Nicaragua since 2002. The partners are the Ministry of Health (MOH) at the Departmental level (SILAIS), Health Centers/Posts, and private sector coffee growers.

Specific program health interventions and level of effort include: maternal and newborn care (30%), nutrition/micronutrient deficiencies (13%), breastfeeding promotion (10%), control of diarrheal disease (15%), pneumonia case management (10%), immunization (7%), child spacing (10%), and HIV/AIDS/STIs (5%). The proposed interventions focused on the MOH's PROCOSAN initiative; a child health promotion program that includes community growth monitoring and community IMCI; community-based family planning; Life Saving Skills training for health workers and TBAs; Household Birth Planning; Health systems strengthening and quality of care.

Key strategies include:

- Building the service-delivery capacity of health facility staff and improving the quality of care;
- Strengthening cooperation among public, private, and community stakeholders;
- Empowering consumers, particularly women, to take greater responsibility for personal and family health maintenance decisions;
- Improving timely care-seeking behaviors through recognition of danger signs, system of referral and counter-referral, and the formation of emergency evacuation committees;
- Improving the knowledge and skills at the target population by strengthening the capacity of community health workers (Brigadistas) and Traditional Birth Attendants (TBAs);
- Development/Strengthening of the Community Information System.

With the project focus on strengthening the SILAIS and all health units within the province, the target population was identified as the entire population of Jinotega, totaling 62,451 children under five and 67,461 women of reproductive age living in approximately 750 villages (129,912 total beneficiaries). All MOH health facility staff has been involved in institutional strengthening activities, but the CSP selected 80 priority communities where the project provides more direct support to community based activities on a monthly basis.

b. Progress report by intervention area

Maternal and Newborn Care (MNC)

Maternal and Newborn Care	B	MTE	FE	KPC 80 Communities	**Target**
1. % of mothers of children aged 0-23 months who report having had at least one prenatal visit with a doctor or nurse.	89%	94%	95%	95%	**94%**
2. % of children aged 0-23 months whose birth was attended by a doctor or nurse.	51%	54%	71%	61%	**65%**
3. % of mothers of children aged 0-11 months who report having had at least one postpartum visit.	32%	33%	51%	52%	**45%**

The Jinotega CSP MNC strategy focused on several things: life savings skills training of all eligible health facility staff in Jinotega and at least one traditional birth attendant in each project community (see training section); and birth planning. TBAs were trained to target pregnant women and their households to plan where they would give birth, plan for savings, and emergency transportation, among other things in collaboration with the HF. The birth planning booklet, developed with the assistance of the CS project, was key to the implementation of this strategy and served as a tool to guide TBAs and families under the supervision of the health facility.

The CSP did well in the MNC component, as demonstrated by the results achieved for the targeted indicators above. All targets were attained or surpassed, with a notable impact between the baseline and final results. With the first indicator concerning mothers having at least one prenatal visit, the target had been achieved by the time of the midterm. In regards to the additional two indicators, per the above table, a great deal of progress was made during the second half of the project.

In the 80 direct intervention communities, the results of the KPC were similar to results found in the survey of all communities, with the exception of the percentage of mothers interviewed whose birth was attended by a doctor or nurse. In the 80 intervention communities, 61% of births of children 0-23 months were attended by a medical professional. This was slightly less than the target of 65%.

Achievement of the maternal and newborn care objectives was facilitated by the fact that the Ministry of Health (MOH) identified maternal mortality as a priority problem for the Jinotega MOH and that a multi-partner approach involving all of the INGOs operating in the department was in effect. Given this priority, the level of effort afforded this component by Project HOPE (30%) was very appropriate. Two large strategies contributed to the achievement of these objectives: 1) Life Saving Skills training for health providers and traditional birth attendants; and 2) Birth Planning for pregnant women and the household. A third strategy also contributing to this effort was Community Based Programming for Family Planning (locally known as ECMAC, *Entrega Comunitaria de Metodos Anti-Conceptivos*). The development of emergency evacuation committees from within existing community health committees in all 80 project communities was an important component of this work. These committee members are on call, committed and ready to assist with the transportation of a woman needing to be taken to the

hospital in cases of obstetrical emergencies. Trained TBAs have been encouraged to promote facility-based deliveries and both they and the health facilities report that this is indeed being done. The effort to train TBAs and develop those linkages with the Health Facilities (HF) has resulted in an evolution of the TBA role into more of supporting the HF with follow-up and referral, attention to danger signs, and less of a primary service provider for deliveries. Nevertheless, many women report that they still prefer to deliver at home because of the privacy and quality of care they receive from the TBAs. Distance and costs involved are other barriers to facility-based deliveries.

The effort devoted to each of the above strategies by the project staff included the development of training manuals, technical guidance, and supervision checklists for every level. This facilitated the training of trainers/facilitators, the implementation, supervision, and monitoring of these interventions.

Another strategy to promote facility-based deliveries was the construction of a Maternity Home where pregnant women from distance villages come to wait for labor to commence so the delivery can be assisted by a trained health care provider. Project HOPE received funding from the Japanese Embassy to construct and equip a Maternity Home in the Municipality of Wiwili which is attached to the local Health Post. With the support of the Japanese, Project HOPE also provided the health post with solar panels, a water pump, surgical and other clinical equipment. The Maternity Home is being managed by members of the health committee who received training and technical support from the JCSP. With sustainability and cost-recovery in mind, the project supported the start-up of a pharmacy in which income goes towards helping with basic costs incurred in the running of the Maternity Home. Another source of income is the availability of a meeting/training area that can be rented by NGOs, along with food catering for these occasions. The Health Committee also conducts fundraising in the community to support minor costs. Between 2002 and 2006, 16% of all births in the catchment area took place in the Maternity House. Over the years, use of the Maternity House has increased from 11% to 20% of total deliveries. The Japanese also supported needs identified in the Municipality of El Cua, which included living quarters for staff, a new spacious clinic, as well as equipment and materials needed for the running of the clinic. MOH staff in Wiwili report a sizeable reduction in maternal mortality in the last few years as evidenced by the maternal mortality data below:

Year	**Number of maternal mortality cases**	**Maternal Mortality Ratio**
1999	29 cases	316/100,000
2000	10 cases	88.6/100/000
2001	16 cases	199/100,000
2002	9 cases	115/100,000
2003	23 cases	226/100,000
2004	23 cases	224/100,000
2005	15 cases	165/100,000
2006	16 cases	163/100,000

Source: MOH data.

Success

- The support and development for of the Maternity House in WanBlan, Wiwili.
- The partnership between the MOH and the NGO members of NicaSalud was notable in the development of the Birth Plan strategy. Each partner took on a different element of the strategy based on their skills and experience.
- The development and use of a Birth Planning booklet with the leadership of the CSP has facilitated getting families to agree and commit to birth planning. The planning booklet includes many illustrations and is also useful for illiterate mothers. It includes a section on prenatal care checkups, identification of who will accompany the expectant mother at the time of delivery, who will attend the delivery, where the delivery will take place, funds needed, emergency transport preparation, and family planning post delivery. The back of the card also contains illustrations of danger signs during pregnancy, delivery, postpartum and in the newborn. One illiterate couple in a community, who had reportedly seen the illustration of bleeding during pregnancy in a larger poster distributed by the project, said that this illustration is what prompted them to rush to the hospital when the pregnant wife started bleeding. It may have saved her life and that of her child.

Lessons Learned

- Project success can be enhanced when activities support an MOH priority and when a multi-partner approach is employed. This approach contributed to advancing the priorities outlined in the program DIP.

Special Outcome

- During the life of the program, the Department of Jinotega succeeded in reducing maternal mortality. This is no doubt due to multiple efforts and strategies, but it is very probable that the JCSP ’s effort to support birth planning and life saving skills training of health personnel and traditional birth attendants (with an emphasis on emergency evacuation and identification of danger signs) contributed to this reduction in MMR. The latter is something that according to a source at NicaSalud, has only happened in Jinotega.

Constraints

- Frequent MOH staff rotation and staff shortage are issues mentioned by both the MOH staff and project staff which negatively impacted each intervention of the project. Many of the doctors who provide services in the department are fulfilling their social service requirements and are only present for one year. This staff is trained and supported by the project and once they leave, the project is obligated to train the new personnel. In addition to this, health posts are also understaffed, many with only one staff person who is left with no recourse but to actually close down the facility if they need to attend meetings at the municipality level, training events, or community-level vaccination campaigns and MCH outreach activities.
- Staff shortages and large patient loads make it difficult for health workers to always follow the protocols and norms for quality of care. As a result, clients are not always satisfied with the services provided and the care given.

These lessons learned are being applied to smaller projects currently being implemented by Project HOPE in Nicaragua. This includes a one year project in the municipality of Yali to support the health information system (HIS) through the situation rooms *(Salas de Situacion*) funded by Proctor and Gamble and a FamiSalud maternal child health project covering 46 communities, funded by NicaSalud.

There is a tremendous amount of potential for scale-up of this intervention. The Life Savings Skills and Birth Planning strategies have been adopted as priority MOH strategies and are being implemented by several different NicaSalud partners in Jinotega as well as in the neighboring department of Matagalpa (CARE, Caritas, Wisconsin Partners for the Americas, and PCI). As a national strategy, this approach can continue being replicated in other communities when funds are available to support training of health providers who subsequently train TBAs, and to mobilize community health workers (CHWs) and health committees for emergency evacuation.

Nutrition and Micronutrients

Nutrition Indicators	B	MTE	FE	Target
1. % of children aged 0-23 months weighed in the last four months according to growth monitoring card.	68%	86%	75%	**90%**
2. % of children aged 0-23 months with low weight (Weight-For-Age) (<2Z).	8%	8%	1%	**8%**
3. % of children aged 0-23 months with anemia (hemoglobin level < 11mg/dl).	42%	47%	47%	**30%**

Under the nutrition component, the Jinotega CSP focused primarily on supporting the PROCOSAN (Community Health and Nutrition Program) including growth monitoring activities. The project activity included the training of CHWs to promote good child feeding practices, iron supplementation, and Vitamin A during monthly GM, counseling and education sessions. CHWs also provided referrals for sick children. Community based vaccination services delivered by health facility staff was combined with the above community based activity whenever possible. At the start of the project, the MOH was promoting the AIN (integrated child health strategy or IMCI), and later adopted PROCOSAN (previously mentioned), which resulted in some changes and delays in the child health intervention. Training CHWs on care during childhood illness is still pending. CSP staff provided technical support with the development of training manuals and IEC materials for HF and community levels as well as supervision tools.

As one can see from the above table, the Jinotega CSP succeeded in achieving only one out of three objectives that they set out to achieve (#2 above). The decrease in malnourished children – one of the more difficult changes to effect - was dramatic, with a drop from 8% at the baseline to only 1% at the end of the project. On the other hand, the first indicator above based on child GM cards, does not show the results expected, but rather a decrease from mid-project. Likewise, the prevalence of anemia seems to have increased rather than decreased. The target was not met: 1) because the project did not put specific effort into this area; and 2) distribution of iron folate and follow-up was not assured.

In the KPC conducted in the 80 direct intervention communities, the results were significantly better. Ninety six (96%) percent of children 0-23 months had been weighed in the last 4 months, according to the growth monitoring card. The anemia indicators were not included in the KPC conducted for the 80 communities.

The decrease in malnutrition could be attributed to several reasons: 1) the promotion of growth monitoring and nutrition counseling at the community level in the form of the *PROCOSAN* strategy; and 2) the distribution of food to a large portion of the population in the Department of Jinotega, by various organizations working in food security (PCI, Caritas, WFP). Mothers interviewed during the final evaluation stated they are happy to participate in the growth monitoring activities and that those not participating in this available service are rare. It was quite clear in discussions with the mothers that they understood the importance of participating in these activities and that they are attentive to their child's growth and progress. Some mothers mentioned that having these services in the community helped them because they no longer had to travel to the health facility to receive this service (combined with the fact that vaccination services are also provided every two months during the GM sessions)**.**

Strangely enough, the development of Growth Monitoring (GM) activities at the community level is a likely explanation for the fact that the project did not achieve its first objective under this component (per growth monitoring card), since according to the PROCOSAN strategies, CHWs do not record weights on the GM card. According to the PROCOSAN strategy, CHWs were trained to fill their child registry and to note progress in growth or lack thereof. A child's weight has always been plotted by health providers in Health Facilities. As children receiving these services in the community are no longer being brought to the HF unless sick, there is no record in the child's card that they have been weighed. So although the number of children weighed in the last 4 months appears to have gone down from 86% at the time of the MTE to 75% at the time of the final, this is unlikely to be a reflection of the real percentage of children being weighed. On the contrary, it is very likely that if a survey based on mothers reports or CHW registries was taken, it would show an increase in percentage of children weighed.

According to the different interviews, the moderate increase in prevalence of anemia in children is likely due to the fact that: 1) the availability of iron in the Jinotega department communities was not directly under the control of the project; 2) compliance is a challenge because of side effects of taking iron pills can include discoloration of teeth; 3) it is traditional practice for both adults and children to drink coffee with meals and thus contribute to iron absorption problems. A striking comment reportedly made by a woman in the project area was that in view of her economic difficulties and the fact that she did not have a lot of access to food, she had to stop taking iron because it stimulated her appetite. Although the problem of anemia is clearly not something new in the country, the program result highlights the fact that raising awareness for Iron Deficiency Anemia alone is inadequate and there is a problem in the area of service provision. The MOH has had large supplies of iron available in the country, but it would appear that due to a lack of coordination between health divisions at the central level and lack of commitment and initiative on the part of various parties to see this happen, that this micronutrient has not always reached the health post level (they stay at Municipal health center level). Many mothers are familiar with iron supplements given to children and can speak to the dosage and form of prescribing it. It is not clear that iron supplementation is given consistently to all children as some mothers report not having received it and those who do have received it for different durations.

Successes

- The launching of the *PROCOSAN* strategy strengthened community based services in Jinotega. This initiative has forged linkages between community health volunteers and facility health providers in a way that had not existed before, as health providers have become involved in the supervision and monitoring of these activities and now bring immunization services to the community level as well. The project supported monthly meetings with CHWs and TBAs by providing refreshments and a transportation stipend for those volunteers who live far from the health facility. The CS project also regularly provided health workers with transportation to communities for community mobilization, service provision, or supervision visits. Although the financial support provided for monthly meetings was phased out at the beginning of year 5, per the reports from CHWs and health providers alike, these meetings are still taking place and attendance is good.

Lessons Learned

- For an accurate reflection and evaluation of growth monitoring activities, it is important for the data collection method to take the existing protocol into consideration. (Measured by CHW registers if that is where the data is; and explore the issue of training of CHWs to plot child weights on child GM cards as well).
- Projects should be careful in establishing objectives that are related to commodities the project does not control, i.e. iron supplements.

Constraints

- Due to limited logistical resources of the MOH, MOH management and health facility staff have difficulty linking and supporting communities without the logistical support of the project.
- The MOH in the department of Jinotega is also faced with limited human resources. The development of the community based PROCOSAN strategy has increased the work of providers in terms of introducing regular community services and supervision responsibilities. In a health post staffed by only one health worker, this requires that the worker close the health facility while they are out. (The HF has to be closed if the provider is participating in training or has to go to a meeting at the municipality level). Thus this shortage of staff results in reduction of community access to services; something mentioned by mothers during the final evaluation.

The PROCOSAN child health strategy is an MOH strategy that has been supported by the project and is an initiative already being implemented country-wide with the support of various NGOs. Scaling-up is simply a matter of the MOH (or NGOs) obtaining funding to support complete roll out of the strategy.

Breastfeeding Promotion

Breastfeeding Indicators	B	MTE	FE	KPC 80 communities	**Target**
1. % of mothers of children aged 0-23 months who report having breastfed within the first hour after birth	69%	82%	77%	82%	**80%**
2. % of infants aged 0-5 months who received only breast milk in the past 24 hours.	56%	52%	56%	74%	**70%**

The project support of the BF component has mainly been through encouraging the breastfeeding support groups being implemented at the health posts by the provider. In addition, breastfeeding messages are disseminated by project trained CHWs and TBAs during monthly PROCOSAN activities, as breastfeeding is a component of the strategy as well as during occasional follow-up home visits. Per the KPC results shown in the above table, this component was not as successful as other components discussed previously. While neither of the two objectives was reached, the CSP made a lot of progress in the first indicator for immediate breastfeeding. At the time of the midterm, the project had already bypassed its objective by several points (82%), and then went down thereafter (Although this difference is not statistically significant). The indicator for exclusive breastfeeding (EB) shows absolutely no progress from the time of the baseline, and thus was quite far from reaching its target.

Although the immediate breastfeeding indicator did not quite reach its target, it was very close to reaching it at 77% verses 80%. According to mothers interviewed, all trained birth attendants now have the practice of giving the mother her newborn to breastfeed immediately after delivery. The fact that a large percentage of mothers are now delivering at the health facility (approximately 71% per program results) has contributed to the progress seen between the baseline in 2003 and the final in 2007. During focus group discussions with mothers, they reported that trained TBAs are also encouraging them to breastfeed soon after delivery. Mothers mentioned the following barriers to breastfeeding within an hour: sometimes the infant needs immediate medical attention; the mother has undergone a C-section and/or needs medical attention herself; the baby is not able to suck properly; or (in home deliveries) if the baby is sleeping the TBA won't wake them up to breastfeed. With the continued upward trend towards facility-based deliveries as well as the continued linkages and support of TBAs, it is expected that the practice of immediate breastfeeding will continue to increase.

Results from the KPC conducted in the 80 communities reveal stronger results which exceeded both targets. Eighty-two (82%) percent of mothers of children aged 0-23 months report breastfeeding within hour of the birth of their child. Additionally, the exclusive breastfeeding indicator shows that 74% of infants 0-5 months received only breast milk in the past 24 hours, surpassing the established target of 70%.

Unlike the above indicator, the project found that behavior change in exclusive breastfeeding is a significant challenge because of the influence of old habits and traditional feeding behaviors, in addition to advice from elders such as mother-in-laws. From a knowledge standpoint, it was clear during focus group discussions that mothers in project communities knew the advantages of exclusive breastfeeding and many said they practiced it (approximately 56% per the above KPC results). Probing during interviews revealed that many mothers who had heard the messages did in fact give their infants a small

amount of water within two to four months of birth, and many started "getting the child accustomed to food" at about three to four months of age. This was perceived as important for the child's growth and development, and is a perfect example of knowledge not leading to practice. With the common idea that it is okay to start feeding around four months of age, it is likely that this comes from the old health message which promoted EB until 4-6 months of age. A study was organized by the project to obtain more information on the barriers to exclusive breastfeeding, which is detailed in the Operations Research section.

Lessons Learned

- The Jinotega CSP experience has shown through strength and influence that traditional feeding practices inhibit the adoption of exclusive breastfeeding. As grandmothers seem have a negative influence on EBF, they, as well as young breastfeeding mothers, should be targeted for all EBF promotion activities.

Constraints

- With the limitations of the CSP budget, Project HOPE was not in a position to provide direct support to knowledge, practices and service delivery to more than 80 communities in the department of Jinotega, even though per the DIP, they planned on measuring impact on knowledge, practices and coverage across the population of 750 communities. Project HOPE Nicaragua had counted on match support from other institutions to deliver MCH/FP services in additional Jinotega communities and contribute to those results. Unfortunately, institutional policy changes at Project HOPE headquarters prevented the team from being able to benefit from this funding and consequently, the team was unable to increase program coverage. Due to the ambitious nature of this program and expectations with regard to the level of complementary funds, the CSP selected the entire department population for its quantitative KPC measurement of progress from the baseline, MTE and FE, rather than limiting this to just the 80 communities targeted to receive direct support from the CSP funds. As mentioned before, the project was supporting the entire department in the following: 1) human resource capacity building with a focus on quality of care for service providers in particular; and 2) facilitating the inclusion of all functional CHWs from non-project communities in meetings and technical updates with the health facility during the initial part of the project.

  Again, conducting the KPC survey in both the direct and indirect communities does not accurately reflect the true results of the project as they relate to knowledge and behavior change. When this request to USAID was declined, the project found additional funding to conduct the KPC in the 80 direct intervention communities so as to compare results from the 750 community sample. Across the department, there are communities where other NGOs were intervening (152 total), and communities where there was no NGO presence (518 communities, until the recent start-up of the Project HOPE FamilSalud project which covers 46 additional communities). The results of the KPC can be found in Annex D.

Because immediate and exclusive breast feeding are already MOH-accepted practices, this and other NGO-implemented projects are part of an existing scale-up process that was initiated in 1995 by UNICEF. When health providers, including TBAs, are trained, the breastfeeding messages need to be emphasized and facilities that have been certified as baby friendly will need to be recertified.

Control of Diarrheal Diseases (CDD)

CDD Indicators	B	MTE	FE	KPC 80 Communities	**Target**
1. % of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more food to their child.	46%	45%	31%	59%	**60%**
2. % of mothers with children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more liquids or breast milk to their child.	69%	71%	65%	85%	**80%**
3. % of mothers of children aged 0-23 months who report having sought assistance or counseling from a health unit or CORU during the child's last diarrheal episode.	36%	53%	40%	54%	**50%**
4. % of mothers of children aged 0-23 months who report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation and after tending a child that has defecated.	19%	11%	7%	24%	**35%**
5. % of mothers of children aged 0-23 months that know at least two signs of dehydration due to diarrhea.	27%	17%	31%	73%	**40%**

The project strategy for this intervention was supporting the MOH in developing and launching the integrated child health promotion (PROCOSAN), which included community based GM, counseling and referral for the sick child. This strategy was a change from the previous focus on AIN (IMCI) and time was lost in this MOH strategy change. Much of the project time went to the new PROCOSAN strategy development (including training manuals, guidelines, supervision tools), and subsequently the launching and start-up implementation. At this end point in the project, CHWs have not yet received specific training on the sick child component (which normally includes counseling on household management of childhood illness and feeding during illness to decrease duration and severity of diarrheal disease and ARI). In addition, the project did not envision specific support to the community ORS corners. As a result of the above, inadequate effort went into the achievement of the CDD behavior change indicators.

Per the above table, the results of the CDD component were far from what the project had originally anticipated. The project did better overall at the MTE but results deteriorated after that. It was suggested by program staff that this is in all likelihood due to the fact that the MTE survey was undertaken in the middle of a multi-month Rota virus epidemic campaign, during which time many people were attending the health facilities to get checked, and health messages for child care, feeding, rehydration, and hygiene were being disseminated through radio programs. Thus it was a time when people were being mobilized to consult health providers in the case of any kind of symptoms affecting them or their children, be it a cold or a mild case of diarrhea. It would appear that this may have had a positive influence on the MTE survey results, but these were not behaviors that were sustained much beyond the period of the crisis. Thus in the case of the third objective (% of mothers who sought assistance) the project appeared to have reached its target at the time of the midterm (showing a dramatic improvement from the baseline), but it went down subsequent to that. The most disappointing results were in the case of the first and fourth indicators which fell very short of reaching their targets. In both cases, figures were better at the time of the baseline. At the midterm there was either no improvement, as was the case with the first objective, or there was evidence of a reduction in the health behavior (in the case of the fourth and fifth indicators).

The results from the KPC in the 80 communities showed dramatically better results for indicators related to the Control Diarrheal Disease intervention. Fifty nine (59%) percent of mothers of children 0-23 months reported giving as much or more food to their children during a diarrheal episode and 85% of these same mothers report giving as much or more liquids to their child during diarrhea. Fifty four percent (54%) of these same mothers reported seeking care at CORUs. Twenty four (24%) of mothers report washing their hands as indicated and 73% of mothers knew at least two signs of dehydration. It would appear that gains achieved during the midterm that were attributed to the Rotavirus campaign were sustained in the 80 direct intervention communities.

During focus group discussions conducted for the final evaluation with mothers in the community, the evaluation team spent time discussing CDD and challenges that mothers encounter related to feeding and providing fluid during episodes of diarrhea and the issues around care-seeking for cases of diarrhea. Overall, mothers generally find that it is difficult to either feed children the same amount or more food when children are sick. The most common reasons given were that the child is vomiting, (or caretakers fear the child will vomit), the child is too sick and doesn't want to eat, or feeding him while she/he is sick will cause discomfort or harm (common cultural belief). On the positive side, several mothers said that they manage to continue feeding by giving the child small quantities from time to time and thus they were able to take in at least the same amount of food. Continued breastfeeding did not tend to be as much of a problem as infants sought comfort from this, but again, there were no efforts to increase the amount during episodes of illness. Giving liquids, including ORS, is an orientation that mothers have been given and tends to be somewhat easier for them to practice than feeding during illness. Again, there is much concern around the issue of vomiting and thus some mothers are very cautious. The project needed to spend more effort on teaching mothers how to feed a sick child.

After the MTE (prior to the reduction seen at the time of the FE), the Jinotega Child Survival Program conducted operations research to try and understand the barriers to use on the ORS corners established in previous community programming supported by the project. In interviews with CHWs managing these corners, it was mentioned that they did not always have a stock of ORS packets and Clorox tablets or pain medication as in times past, and this was de-motivating to them. Other challenges included the distance to health facilities (in the case of certain municipalities like Wiwili), and lack of support and supervision from health providers. Mothers interviewed said that they were aware of these ORS corners and knew the volunteers, but many of them stated they preferred going directly to the HF because they could be sure to get proper care in case of a serious case of diarrhea, or the child has fever as well as diarrhea – as the community volunteer would usually refer them to the health facility anyway in such cases. Some mothers are very comfortable with the home case management of diarrhea already and don't feel the need to go to the ORS corner for help. On the positive side, other mothers mentioned the fact that having the ORS corners right in the community was very convenient and was much quicker than going to the health facility where there is a long waiting time.

Although the project shared results of the special study with project partners, it was not able to put any specific resources into the above.

Lessons Learned

- In the case of a new project, program staff has learned that it would be better to prioritize two or three indicators for a CDD component (as opposed to 5), and put the necessary

level of effort in those areas with focused messages and strategies that address the challenges and barriers identified.

Constraint

- As mentioned above, some ORS corners in program communities are not functioning as well as they could, or are not functioning at all because of lack of motivation of the volunteer, distance to the health facility for re-supply, and lack of supervision from the health providers who often have logistical problems reaching communities (as previously discussed).
- Cultural beliefs and practices with regard to feeding and care during illness such as the belief that it's best not to feed a child when she/he is ill are hard to overcome especially when it is common for the child to have lost his/her appetite and refuse to eat.

The community ORS corner strategy is an intervention that is already being implemented country-wide with varying degrees of success and impact. In the program area, per the KPC results and some of the qualitative information provided by the operations research activity, it is an activity that needs to be revitalized and expanded on before contemplating scale-up in communities that do not have this service. The project was not involved in supply or specific support to these ORS corners, but rather revitalizing community based integrated child health promotion.

Immunization

Immunization Indicator	B	MTE	FE	KPC 80 communities	**Target**
1. % of children aged 12-23 months with all recommended vaccines at the moment of their first birthday according to the growth monitoring card.	69%	81%	78%	87%	**80%**

The main project strategy for immunization was to support the MOH with the integration of vaccination services into community based service strategies developed and implemented with the support of the project, and to give the MOH logistical support with both routine immunization and with bi-annual national immunization days. Although the CSP did not quite reach the immunization indicator, it was close to doing so. In fact, this target was reached at the time of the MTE and is showing a slight reduction, although not significant.

The KPC in the 80 communities revealed that 87% of children aged 12-23 months had all of their recommended vaccinations by their first birthday, surpassing the target of 80%.

Although the project did not meet the exact target outlined at the time of the project DIP, it did come close to achieving its goal. There was a substantial amount of effort that went into supporting the immunization component as part of the PROCOSAN community based initiative. Project Educators and CHWs coordinated their schedules with that of the health facility and the CSP provided support with logistics and transportation of health providers to communities that were located at a distance. CHWs would often go to the HF to escort mothers back to the community location where the GM and

vaccination session would be taking place. Community health committees would also help with mobilizing community members and disseminating dates for these services. With such efforts combined with the National Immunization Day (NID) normally implemented twice a year, the results with regard to complete vaccination coverage should have continued to get better after the MTE. According to program staff, the MOH was unable to implement the second NID in 2006 because the country was gearing up for the presidential elections. A closer analysis of the data shows that it was the absence of the MMR vaccine and child vaccination cards that affected the results of the project indicator.

Successes

- Mothers interviewed in the project communities were happy about receiving childhood immunizations at the community level. This addressed the barrier related to travel to health facilities for this service, particularly those related to distance and transportation costs. Thus it is fair to say that the increase in coverage from the baseline 69% to the final 78% can be attributed to this project-supported strategy of providing vaccinations in the community.

Lessons Learned

- The slight decline in immunization coverage at the final evaluation, identified as being mainly due to some child cards missing MMR vaccines, is an indication that the project relied too heavily on the NID that was not implemented in 2006, rather than ensuring complete coverage through the routine vaccination services both at the community and health facility levels.

Constraints

- Many health workers are in the habit of going out for NIDs with an exact number of vaccines based on census information. This often leads to them not having enough vaccines in communities as census data is not always up to date. These missed opportunities have also occurred during other integrated community health activities.
- This component is also affected by the human resource limitations issue raised earlier. If there is only one service provider at the health post, she or he may not be able to prioritize community based vaccination services on a given day depending on other events, such as trainings or important meetings at the municipality level.

Child Spacing

Child Spacing Indicators	B	MTE	FE	KPC 80 communities	**Target**
1. % of children aged 0-23 months born at least 24 months after the previous surviving child.	84%	86%	77%	90%	**86%**
2. % of mothers of children aged 12-23 months who desire no more children in the next two years, who are using some type of modern child spacing method.	65%	90%	100%	66%	**85%**

The project strategy for this intervention was to support the development and implementation of an MOH strategy for the community based distribution of FP (ECMAC). CBDs were trained and provided with oral pills, injectables and condoms. Please refer to training section for numbers trained. With respect to the first indicator, the project fell short of meeting its target. Inexplicably, the final evaluation results show quite a decline from the mid point of the CSP where the project target had already been achieved. In fact, the baseline for this indicator was already quite high, at 84%, not leaving much room for improvement. The CSP was not responsible for procuring and supplying FP contraceptives, thus the project decided not to increase the target. On the other hand, in the second indicator, the project did see a dramatic increase from the baseline to final evaluation.

In the KPC conducted in the 80 communities, 90% of children aged 0-23 months were born at least 24 months after the previous surviving child. Only 66% of mothers of children 12-23 interviewed were using a modern family planning method, which contrasts dramatically with the 100% result found in the 750 community sample.

The outstanding results in the areas of contraception use can be attributed to increased access to information on Family Planning through CHWs who participated in program capacity building and technical updates and encouragement through the monthly meetings held at the health facility. CHWs department-wide benefited from participation in these meetings and technical updates and the MOH and project efforts in the area of maternal health and family planning did start at the beginning of the project; making full use of the entire program period to make gains in this area. The success of the Community Based Distribution strategy (known as ECMAC in Nicaragua), was most likely due to the fact that it was a focused effort that prioritized communities based on certain criteria, rather than being implemented in all communities across the program area or department. CBD volunteers were trained only in communities, located far from health facilities, with issues of access and communities with cases of maternal mortality and low rates of family planning use. Thus the effort went where it needed to go, and appears to have been amongst the reasons for the high impact.

Although the CSP appears to have contributed to the health services meeting the demand for contraceptives as discussed above, spacing between childbirths seems to have gotten worse, rather than better since the baseline survey (84% at baseline and 77% at final). During Focus Group Discussions with mothers for this evaluation, several mentioned issues such as unplanned pregnancies due to their belief that they could not get pregnant during the months after delivery; that they are amenorrheic; that

mothers became pregnant when they thought they were following the LAM method of family planning; women frequently forget the date for their follow-up Depo-Provera shot and might get pregnant as a result. Essentially, as is the case in many parts of the world, the problems encountered related to child spacing were due to human error rather than a specific intention to get pregnant again less than 24 months after the birth of a previous child. It was also clear from talking to mothers that they had not heard specific advice with regard to the WHO recommended 3-5 year interval between births. When asked, the mothers cited anywhere between 3 and 8 years. It seemed to be the general consensus that because of the effort involved in child rearing, women should wait longer rather than a shorter number of years. What was interesting was that when asked if this was practiced, most said no.

Successes

- Project HOPE has been an integral partner in the CBD program in Nicaragua and has been recognized by the MOH for contributing to the large increase in use of family planning in the department of Jinotega.

Lessons Learned

- The CSP learned that it's crucial to ensure that the target population is informed about the importance of the birth spacing interval for effective and optimal use of FP.

The ECMAC (CBD) strategy is already being promoted by the MOH and supported by NGOs in various parts of the country. Its apparent success where it is being implemented and supported does encourage scale-up, although there is a concern of contraceptive availability (particularly Depo-Provera) in the future.

Pneumonia Case Management

Pneumonia Case Management Indicators	B	MTE	FE	KPC 80 Communities	**Target**
1. % of children aged 0-23 months with cough and fast breathing in the last two weeks taken to a health unit.	60%	55%	53%	30%	**75%**
2. % of mothers of children aged 0-23 months that can identify fast breathing as a danger sign for pneumonia.	76%	78%	83%	90%	**90%**

For the pneumonia case management component, the project strategy was the promotion of the PROCOSAN integrated child health promotion strategy at the community level which included a focus on referral of the sick child identified during monthly growth monitoring sessions by community health workers. As previously mentioned, because of the change from AIN to the above strategy, implementation of integrated child health activities was delayed. As indicated in the above table, the CSP did not achieve the targets of either of the two indicators. In fact, not unlike a few other indicators previously discussed, the first indicator (care-seeking behavior) shows a decline through the life of the program, rather than progress. The second indicator (identification of danger signs) does show slight progress between the baseline, MTE and FE. Nevertheless, the program objective was not reached.

It is evident that a large number of mothers recognize danger signs of pneumonia (approximately 83%) and, according to interviews; CHWs are also doing referrals as promoted by the CSP. During focus

group discussions with mothers in sample communities for the final evaluation, the team tried to investigate reasons behind the fact that so many mothers do not seek care at the health facility. Among the main reasons given were: the HF often doesn't have medication and mothers are just given prescriptions to go and fill elsewhere; mothers become familiar with the medications prescribed and so are in a position to procure them on their own the next time without consultation. When asked about the wisdom of self-medication, mothers mentioned that since they have become familiar with what is prescribed, they don't feel it is necessary to travel all the way to the HF and likely lose many hours waiting to be attended. Health facility staff interviewed stated that they do have shortages of drugs at times, and also do not carry certain medicines that help children with cough, such as expectorant, unless the facility receives it as a donation. Health facilities do not tend to have problems with stock-outs of antibiotics.

The KPC conducted in the 80 communities revealed that 90% of mothers interviewed identified fast breathing as a danger sign for pneumonia, but only 30% had taken their child with cough and fast breathing in the last two weeks to the health post.

Lessons Learned

- Issues of distance to health facilities, time spent there and availability of drugs, both addressing symptoms in addition to antibiotic treatment, play an important role in care-seeking and need to be addressed for one to see improvements in this indicator.

Refer to scaling up of the PROCOSAN strategy in the Nutrition and Micronutrient section.

HIV/AIDS

HIV/AIDS Indicators	B	MTE	FE	KPC 80 communities	**Target**
1. % of mothers of children aged 0-23 months who know at least one way to prevent STIs-HIV/AIDS.	6%	14%	20%	62%	**15%**

Key messages for HIV also reached community members through MOH radio programs that received support from the project. The program realized at the time of the MTE that they did not need to expend effort in this intervention and though it was not officially withdrawn, they did come to an agreement on this with USAID. As indicated in the above table, the target under this intervention was almost met at the time of the midterm, and surpassed by the time of the final.

The percentage of mothers that knew at least one way to prevent STIs/HIV-AIDS in the 80 intervention communities was 62%, which was significantly higher than the results of the survey conducted in the 750 community sample.

Conclusion on Program Intervention Results

As discussed prior, the Maternal and Neonatal Care component was very successful. All targets were reached and surpassed. This can be attributed to the fact that the MOH identified maternal mortality as a priority and was ready to dedicate a significant level of effort to it. The project matched this with strong support to the two main strategies, i.e. Life Saving Skills training and Birth Planning – both reported by all to have been successful undertakings. The important result under the Nutrition and Micronutrients component was the dramatic change in the area of child weight-for-age, which has been attributed to the PROCOSAN activities, and food distribution. Interviews with mothers show that they are happy to have these services at the community level and understand their importance. With regard to children weighed at the community level, it is important for CHWs to be trained on how to record this on the child health cards, which would allow for more accurate monitoring of Growth Monitoring coverage. Anemia still remains a problem and more effort needs to be expended to assuring stock distribution to health posts, follow up, and counseling of mothers compliance with regard to iron supplements provided to their children. The breastfeeding component was not as successful as other components as neither of the two objectives was reached. Nevertheless, the CSP made progress in the immediate breastfeeding indicator. Contraceptive use can be considered a success as the project saw a dramatic increase in use of FP, although spacing seems to have seen a reduction, so more work needs to be done to ensure the effective use of FP. Again, measuring across the entire department makes it difficult for the project to understand some of the KPC results. In the area of pneumonia, patient waiting time and drug supply seem to have a strong influence on care-seeking. Mothers want such things as cough syrup and cold medicine which are not part of the essential drugs regularly available at health posts. They will often look elsewhere for these as they have been prescribed before. There is also self-medication for pneumonia. Efforts in the area of immunization were generally successful although it is clear that there is still a dependence on the national immunization days (NIDs) to assure coverage. HIV/AIDS was not a significant intervention under this project.

New tools or Approaches; Operations Research/Special Studies

Please refer to previous comments on the project support for new tools and approaches (PROCOSAN, CBD, Birth Planning strategies, manuals, guidelines and respective supervision tools).

A special study was conducted on the barriers as to use of the ORS corners. The main issues raised are that of supply and lack of support and supervision from the health facilities. These activities were mainly initiated by projects that have since closed and the MOH never formally took them over. Although many mothers interviewed frequent the ORS corner (e.g. Wiwili which offers a variety of different services), some mothers do not attend because they expect the ORS corner to provide medicines or advise and thus choose to go directly to the Health Facility. The recommendation that came out of this study is that to be successful the ORS corners: 1) need to ensure the continuous supply of ORS packets; 2) need to provide others services such as FP and anti-malarias to attract clients; 3) CHWs need more training and capacity building to be in a position to provide other services and health information; 4) The ORS corners need to be developed so that they are comfortable and clients can be well received. These results were shared with the project partners.

The project conducted a special study to look at the acceptance of exclusive breastfeeding. Interviews in the community showed that mothers receive messages from different sources and on a relatively continuous basis. The importance and benefits of immediate breastfeeding has also been well understood and is widely practiced. Many mothers are able to talk about the benefits of immediate and exclusive

breastfeeding to the mother as well as the child. The main barriers to exclusive breastfeeding found in the study seem to be related to the lack of assistance given to mothers when the child has difficulty breastfeeding, and cultural and traditional ideas about what an infant needs in terms of food intake to grow and develop. Again, these results were shared with project partners (MOH and community) so that more effort could go into counseling and support.

A special study was also undertaken to understand barriers to care-seeking for pneumonia. The study concluded that although mothers do seek help, they often go directly to the municipal health centers or hospitals because they expect to get more there. Reasons for not seeking care were related to age of the mother and lack of knowledge, cultural and family habits, and service provision (particularly perception of lack of drugs) in health posts.

The above information was used to inform IEC/BCC activities at the community level.

3. Results: Cross-Cutting Approaches

a. Community Mobilization

The approach for community mobilization used by the Jinotega CSP was effective. This began with a step by step process including meetings with community leaders and the existing CHW *(Brigadista)* network whereby project staff and MOH partners proposed potential health activities and partnerships with communities, and allowed time for community members to reflect and consult with each other before continuing with the dialogue. As communities in Nicaragua have a long history of collaboration with projects, developing this partnership and community participation did not pose a problem. Existing CHWs, TBAs and community development committees were very happy to have the chance to improve maternal and child health through the development of community based services, revitalize and strengthen their relationship with the health facilities, and have the opportunity to build new skills and capacity.

Another community mobilization strategy was the revitalization of the Health Councils at the SILAIS and municipality levels. These bodies consisted of resource persons from NGOs, the Mayor's office, police, MOH, public services, and emergency services who took the responsibility to address requests and complaints. The Health Councils were able to support initiatives such as radio campaigns/programs and sanitation. CSP staff participated in these councils. Project efforts to participate in these councils and help make these councils more active did face some challenges, i.e. council members attendance to meetings not always regular (as these resource persons already had commitments), and responsibilities including travel. In addition, the regular change in SILAIS directors who lead these councils (4 directors for the SILAIS of Jinotega in the period of 4 years) interrupted continuity and level of interest and commitment. Change in some municipal directors also did the same, i.e. Bocay had a new director almost every year, and El Cua also experienced changes. At this time there are only 3 of the 8 municipalities that have the same directors as they did at the beginning of the project.

A third effort in mobilization for health was targeting coffee plantation owners in the municipality of Jinotega (where most of the plantations are located) as partners in the project. During the harvest season, the coffee growers employ hundreds of workers from across the region and need to be able to provide

adequate health services for these workers. Forging linkages and collaboration between the MOH and this private sector was something that the project facilitated through meetings and inclusion of their health workers in CSP-supported training activities and integration in the MOH data collection and referral system. A total of twenty-three coffee plantations (19 independent and 4 who are part of a cooperative entitled, SOPEXCCA) agreed to collaborate with the project. Efforts at linkages with the MOH Municipal headquarters have been relatively successful and collaboration is now established whereby clients are being referred and transferred when necessary (usually with the MOH ambulance as farm trucks are not the most adequate for the job). These health posts on the coffee plantations are also submitting monthly reports to the MOH. Whenever possible, these health posts are also included in the supervision visits by the MOH, although with the constraints that they are dealing with they have not made a commitment in this regard. Coffee growers are committed to paying the salary of a trained health worker, and to address the issue of access and availability to drugs have collaborated with the project on a complementary drug revolving fund project which is also working well. In addition, the coffee plantation owners are supportive of the dissemination of health information and education messages in their communities by the trained health workers who work in collaboration with the CHWs.

The aim of the CM component of the CSP was to have communities partner in the effort to bring health services closer to communities. By doing so, the project expected that MCH indicators would improve (not easy to assess due to aforementioned issue of measuring across both direct and indirect beneficiary populations). The CM objectives were indeed met. Interviews held in 9 sample communities during the final evaluation confirmed that CHWs and TBAs were very active in terms of implementing the MOH community based strategies of *PROCOSAN, Plan de Part, o* and *ECMAC* (Community Health and Nutrition Program, Birth Planning and Community Based Distribution of family planning contraceptives), and many have been community health volunteers for five, ten or more years. There has been a problem of dropouts and volunteer de-motivation. The overall dropout rate is approximately 29% (119 dropouts reported of 405 CHWs initially trained by the project), which is quite high. Some of this has been due to migration, but volunteer burnout and need to focus on a job which brings in income have been two other reasons given for drop outs. For the most part, it has not been difficult to replace these volunteers. The trend has been to recruit new and younger CHWs, and those interviewed seem to enjoy the work and the CHW status in the community.

With respect to the community health committees, the level of organization and participation varies. Some of the community committees are involved with the local government office and have received support to undertake small development activities; some have helped with census activities, NIDs or go from neighborhood to neighborhood to let people know dates for health activities such as vaccination and GM sessions. Many of these committees are more focused on emergency evacuation of cases than anything else. The establishment of an emergency evacuation system is something that the CSP put much of emphasis on, and virtually all communities that have been participating in the Birth Plan strategy have a committee in place and on call to evacuate mothers in obstetric emergencies or any other type of emergency. Many groups, per guidance from the project, had mobilized resources in the community to collect small funds to help cover transportation and other expenses in the case of an evacuation. In some cases, funds were no longer available because money collected had not been replenished. One community reported that the family who had benefited from evacuation did not reimburse the community fund and for this reason people are now reluctant to make a second contribution.

The community leadership in terms of health does seem to rest with the CHWs, who are also part of the community committee, and often head the committee. The strength of the CHW system in place is that a community does not have just one or two volunteers, but rather three or four. This is rather different from most countries, and is a tremendous benefit in terms of spreading the responsibility and weight of the work, sharing and support, and sustainability because when one person drops out, there are others who can also help identify new volunteers and orient them with the work that needs to be done.

At this end point in the CSP, both the CHWs and the TBAs have a new and improved relationship with MOH health providers. Every health facility in the department holds monthly or bi-monthly meetings with these community resource persons. Some facilities have even invited TBAs to come and deliver babies in the health facility (as a way to encourage deliveries at health facilities). TBAs are also very happy with their new skills and knowledge, and very much enjoy the recognition being given to them by the MOH personnel. Based on interviews with project staff, community members as well as health providers, it is clear that the communication, linkages, and referrals between the health facilities and communities have become strong as a result of the project.

Another challenge worth mentioning is the fact that with the staff rotation at the health center and health post levels, the community resource people need to get acquainted with the new doctors and nurses (serving their annual social service requirement) who are not familiar with the collaboration between the community and the health facility. A CHW or TBA dealing with someone who has not been oriented by the existing staff or the municipal educator or trainer may not be well received or the provider may have an attitude about referrals coming from the community. This may delay future community mobilization activities as well as program implementation.

Lessons learned

The project learned in order to cope with high CHW drop out rates it is important to invest the time necessary for communities to 'buy in' to the idea of community participation and mobilization, and participate in establishing the criteria and choice of community volunteers. In the case of Jinotega (and Nicaragua in general) the *Brigadistas* already existed but many had to be replaced over the project years. Thus it was important for the project to help the community understand the responsibilities and activities expected of brigadistas at the community level. There is certainly clear demand in program communities for activities to continue, as measured through discussions held during the final evaluation. In interviews at the community level, community mothers stated it is rare for a mother not to attend the GM and vaccination sessions. Mothers appreciate having the services close to home because it saves them having to go all the way to the health facility. Mothers demonstrated their knowledge of health components when asked questions, confirming the fact that they had also been attending health talks and getting advice from volunteers and health workers during the project period. Health care-seeking behavior overall in groups interviewed seemed quite good; notably better than is reflected in the KPC results whose sampling included the entire department of Jinotega and not just the 80 direct program communities.

The CSP strategy was geared towards sustainability from the very beginning as they did not work in isolation, but rather with the MOH in this community partnership. *Brigadistas* (CHWs) have existed in Nicaragua for a long time, although the degree to which they function and are active depends on the kind of support and supervision that they receive and their degree of personal motivation and availability.

Monthly or bi-monthly meetings initiated by the CSP continue to take place in each of the health facilities without the financial support of the project. Although some disappointment and concern has been registered regarding the termination of financial support by Project HOPE, these meetings have been ongoing and are reportedly well attended. The meetings do serve to motivate the CHWs and TBAs, as the Community Based Health Information reports (SICO) that they submit every month reflect the amount of work they have done during the month, i.e. number of referrals, home visits, health talks, children weighed etc. The CHWs are happy to discuss issues during meetings, have a close relationship with the health facility, and are recognized for their work. As the MOH strategies supported by the CSP are now priorities and very much community based *(PROCOSAN, Plan de Parto and ECMAC*), MOH health facility staff is in fact obliged to maintain contact with communities even if there are constraints to supervising all of their monthly activities. HF monthly reports include information from the community level, and thus service providers try to at least maintain the monthly meetings so that they can include this data in their reports. These meetings benefit all involved and are an indication of an activity that will be sustained after the project ends.

There is no doubt that the MOH will encounter challenges with regard to maintaining the level of supervision of community activities given staff shortages and logistical problems. As motivation of CHWs is an important issue, receiving less support, lack of small 'motivational gifts' such as t-shirts and caps, boots or bags, distance to health facilities, and not receiving transportation money or refreshments when attending meetings, is likely to contribute to continued CHW dropout or reduced attendance at the HF monthly/bi-monthly meetings. Fortunately, not all communities are dealing with great distances to health facilities and health providers and seem to be managing to visit many of the communities about once every two months. In interviews with staff across the eight municipalities of Jinotega, most mentioned that there are one or two communities that they would have trouble reaching without the help of the CSP staff. They also mentioned that even with the communities not as hard to reach, unless they were able to get rides from other NGO partners for example in the area, they are now going to be dealing with increased walking time (up to two hours in some cases).

Conclusions

Community mobilization was a success in terms of revitalizing the role of CHWs, TBAs and cementing their relationship with the health facilities. With the establishment of linkages between health facilities and communities at this point, it will be easier for community-based activities to continue at the end of the project. These community resource persons are empowered, but have complained about health providers not always keeping appointments and commitments. They have legitimate concerns about the degree of support they will continue to receive from the MOH after the project ends and how that will affect their activities. PROCOSAN activities are more fulfilling when the health provider can be present to do immunizations and when micronutrients and other supplies are brought to the community.

b. Communication for Behavior Change

There were a couple of approaches used by the project to promote behavior change in the target population - primarily mothers of children. The first was information, education, and counseling through CHWs, health facility workers, and CSP project Educators. This was done at the community level during monthly Growth Monitoring and vaccination sessions and health talks; at the household level when following up a problem case; and at the HF level during case-management. The second area of effort went into the development of a colorful and low literacy friendly maternal health poster, a birth plan booklet (illustrating options for couples to choose and commit to), a child health flip chart and mother reminder materials (known locally as *recordatorios* which are mini-posters with illustrations for bf, child feeding, etc). Mothers are given the latter to take home to help them remember and follow the advice given regarding their child's weight and health status at the time of the GM session.

The combined strategies appear to have been very effective, although they are more clearly demonstrated in the quantitative KPC results of the maternal health component than some of the other components such as breastfeeding, CDD and Pneumonia Case Management. The qualitative data obtained specifically in project communities (verses communities with no direct support from the project) did show good levels of knowledge and relatively good health behavior.

Although the project has not studied the effectiveness and impact of the mother reminder materials if affordable (please refer to recommendations section of report with regard to this), or if Ministries and programs are able to reduce the costs by using simple black and white versions of these types of illustration that guide mothers' health behaviors, it is clearly a brilliant way to help mothers of every educational level to understand, improve and manage their child's health.

For behavior change objectives, please refer to the discussion above, including the comments on the qualitative interviews with mothers, and the behavior change indicator results. A continued relationship with the health facility will help to encourage CHWs and TBAs to continue their health promotion efforts, along with the identification, referral, and follow-up of cases.

One measurement of BCC interventions was through the KPC indicators. In view of the fact that the KPC survey covered a sample of communities from the entire department and not just from intervention communities, it is difficult to use the KPC results alone to evaluate the impact of BCC interventions. The complementary qualitative interviews with mothers in a sample of program communities did help to provide a good idea of program impact.

Conclusions

It is clear from certain KPC indicators, as well as qualitative interviews conducted in communities, that the project has positively influenced health behavior. Working at both the health facility level and the community level appear to be the key as mothers mention both as sources of information and advice. Communication messages via the radio also appeared to have had an impact and the use of educational materials (reminders and birth plans) also reportedly helped reinforce behavior change. The multiple approaches to achieving behavior change seem to have improved the knowledge of mothers in the project intervention areas.

c. Capacity Building Approach

i. Strengthening the PVO Organization

The implementation of the Nicaragua Child Survival Project produced many "lessons learned" that strengthened the capacity of Project HOPE during the life of the project and will allow Project HOPE to continue to improve its ability to design, implement, and evaluate effective child survival projects or interventions in the future. These lessons include:

- Although there may be numerous health problems in the target area, to be effective a project should only focus on a few of these problems. A project that tries to work on multiple interventions reduces the likelihood of having a major impact.
- Process indicators need to be articulated in the logical framework as they are essential to project design and implementation. The monitoring system needs to track process indicators as well as outcome indicators from the beginning.
- Personnel changes in the technical backstopping role can have a detrimental impact on program implementation and management.
- At HQ, monthly meetings between Assistant Regional Director, the Technical Advisor, and the International Accounts Manager should be routine to facilitate monitoring of project expenditures.
- Institutional strengthening of the MOH is not best measured by the current CS indicators of caregiver behavior change. Other indicators need to be developed. The project should only have one group of targeted communities. Designating communities as direct and indirect communities is confusing for project staff, the MOH, and the communities, and does not increase program impact.
- Based on project experience with running short of funds, Project HOPE realizes that it is important to find an efficient way of consolidating expenditures from the field and HQ to monitor CS budgets.

These lessons have already been incorporated into the design and management of other Child Survival and MCH projects being implemented by Project HOPE.

In terms of field operations in Nicaragua, this grant very clearly built the capacity of the country team/staff. Although the Nicaragua Country Director, Project Manager, and technical advisors were all seasoned Project HOPE staff, the Jinotega CSP gave them the opportunity to take some of those lessons learned from Boaco and Chontal provinces (Central and Central South-East of Nicaragua) and

essentially scale up that experience; combining it with some of the strategies coming from the Guatemala CSP. The Nicaragua team (including the 9 Educators who worked with the project over the course of the last 5 years) had the opportunity to build on their skills as trainers and facilitators, notably in the area of participatory learning. This project gave the technical advisors the opportunity to get involved and support MOH and NGO trainings at the national level and work in the area of training manual/curriculum development. Thus Project HOPE Nicaragua has continued to develop their institutional strength in the area of training and is seen as leaders and resource persons by the MOH-SILAIS. The CSP has also had an effect on the field team's capacity in MCH program strategy development, and has provided them with skills on the development of behavior change educational materials and key messages, skills in partnering, collaboration, community mobilization, quantitative research and analysis and monitoring and evaluation among other things.

ii. Strengthening Local Partner Organizations

In year two of the CSP, Project HOPE was assisted by CSTS to develop a Sustainability Framework. As part of that process, assessments (via interview) were done with community health committees, community volunteers, representatives from coffee plantations, and government partners, including representatives from the department level and Municipal Health Center of Jinotega.

The assessment with the local government partner revealed several issues identified as areas of concern. These include: a need to sensitize staff implementing the community based strategies; not enough funding to cover all the needs in the area of training, materials, referral, and community mobilization; supervision of HFs is not supportive, but rather negative; poor treatment of clients by MOH staff is frequent and client does not receive explanation or information about the child's health condition; the MOH was not managing and coordinating the different NGOs working with the health strategies; communication between the HF and communities was inadequate, there is little to no supervision of community work; HFs break their appointments and commitments with the community and often don't come with everything needed to do the job; and the MOH staff is not motivated due to low salaries.

With the support of Leo Ryan from CSTS, the project and local partners engaged in a process of visioning and planning strategically (including the development of action steps) to improve the situation through building community and partner capacity to maintain healthy outcomes.

Assessments for health facility services have been done primarily through the AMAS evaluation system (the results of which are discussed in the Health Facility Strengthening section). As much of capacity building was focused on quality of services and the development, supervision, monitoring and evaluation of community based health services, this is where the focus of assessments (via supervision visits) and evaluations has been.

Although the local MOH is still dealing with challenges related to human resource shortages and financial limitations, all MOH staff and facility health workers report that their capacity has increased with the support of the project. MOH staff specified the following health strategies (including community based) as areas of change: HIS and computer skills; basic management and administration; and quality assurance. These project partners have attributed these changes to trainings that they have benefited from. They also recognized and acknowledged the technical support and assistance of the project staff through the monthly/bi-monthly meetings with community resource persons and in

planning meetings. Monitoring and evaluation activities have also been mentioned as capacity building for the MOH staff.

Lessons Learned

One of the challenges encountered with working with the government of Nicaragua was the frequent changes in policy, sometimes depending on change in MOH leadership at central or provincial level. The CSP learned that it was necessary to be prepared to deal with these kinds of changes and to be flexible as program partners.

Best Practice

NGO integration in government services such that they support the development, strengthening and implementation of MOH strategies, including community linkages, for sustainable health programming and results.

Conclusions

The project succeeded in helping the MOH in the areas of management and implementation of their strategies, and worked with them to find solutions to the aforementioned challenges, i.e. training a cadre of facilitators in the department used as resources to train new staff.

iii. Health Facilities Strengthening

The approach used to achieve improved management and services in health facilities was training, supervision, support and evaluation. This intervention began with assistance from the Child Survival Technical Support (CSTS) team, who used the Sustainability Framework to help the CSP Jinotega team and partners identify areas of need within the MOH. Key activities supported by the project included department and municipal staff participation in a Total Quality Assurance course over the period of a year; nurses, doctors, and health facility workers training in the local version of IMCI *(Atencion Integral al Nino*) and maternal health *(Atencion Integral a la Mujer*), PROCOSAN, Plan de Parto and ECMAC. Please refer to the training table below.

With regard to service provision, there are challenges related to staff shortages, staff turnover (new social services doctors every year), and financial and logistical resources. A relatively new health services evaluation tool, AMAS *(Abordaje del Mejoramiento de la Atencion en Salud),* initiated in 2006 showed scores for quality of service provision in the 8 municipalities of the department of Jinotega, ranging between 64 and 97 out of 100. Four of the municipalities scored between 80 and 86, and 3 scored between 64 and 68. The municipality of Concordia stands out with 97, and according to the supervisor the influencing factor is team work and organization. With regard to health worker efforts to reach communities with services and support to community volunteers, the scores ranged from 72 to 95. Again, the municipality of Concordia had the high score, while four municipalities scored between 72 and 77, one scored 85, and the municipality of Pantasma had a low 54. The latter may have been due to frequent staff changes and changes in municipal leadership. With regard to Quality Improvement, the municipality of Pantasma was given a score of zero, Jinotega actually scored a low 41, three municipalities scored between 70 and 73, and two scored 80 and 85. There were no specific indicators outlined for the above.

One activity that the CSP promoted was public acknowledgement of health facilities that made progress and did well. Each month, one health facility would win the 'facility of the month' label and receive a flag that was set up in front of the facility. The project sponsored a lunch for the staff of the winning facility and this was very good for staff morale and helped to stimulate the spirit of competition between health facilities in terms of improving quality of care.

It should be noted that the Project HOPE country office in Nicaragua made a concerted effort in the area of resource mobilization and were able to obtain support from the Japanese Embassy to renovate and expand the Municipal health center in El Cua. The Japanese embassy also supported the construction of a Maternity Home and funded equipment and supplies that were instrumental in improving health services in the project area.

The CSP supported the implementation of the AMAS participatory evaluation for quality of services. AMAS is a set of tools that are to be used bi-annually to review every aspect of services including infrastructure, equipment, service provision, quality improvement, community outreach, HIS, and planning, among other things. An operational plan is developed as a result of the AMAS to deal with the deficiencies which includes the participation of the supervisor from the department level. The use of this monitoring and evaluation tool is an opportunity to support changes in health worker attitude and level of commitment for improved services. In principal, this tool is very effective for measuring change. Unfortunately, because these tools were not used in a consistent manner, it was not possible to compare results from different years.

Lessons Learned

1. With regard to improvement in MOH health services, one lesson learned in the project experience is that relationship-building and true partnership is the key to making progress and achieving goals. During the life of the project, Project HOPE was held in very high esteem by the MOH and was in a position to influence and have an impact on MOH strategies, quality of care, and community outreach. This happened because: 1) the CSP staff devoted their efforts to supporting the MOH in their areas of priority needs; 2) the project leadership and staff were flexible, available and engaged when it came to initiating and supporting health strategies for the department of Jinotega; 3) project management was resourceful and made efforts to mobilize financial and technical resources and link to other donors and institutions to meet identified needs.
2. A second lesson learned noted by a Municipality Director is that when conducting evaluations and problem solving with health facilities, it is important to have some funds available to support solutions identified. When this is not the case, staff becomes discouraged and do not want to use the tools. In other words, the health facility staff identified a laundry list of problems but is not in a position to correct them.

As all activities were done in conjunction with the MOH and focused on MOH strategies to be implemented by their staff, the plans are for the MOH to continue their work even when the project support is no longer available.

In terms of whether or not these plans are realistic per the constraints already mentioned, there will be challenges to the MOH being able to maintain activities at the current level. With some effort and

resource mobilization, the MOH should be able to continue with the implementation of strategies and use of monitoring/evaluation tools and HIS systems strengthened by the project to ensure that health facilities are providing quality services.

As previously mentioned, linkages between health facilities and communities have been strengthened by the CSP. At the start-up of the project existing CHWs, mainly created and trained by NGO projects in the past, did not have a close relationship with the health facilities. At the end point in the project, they met regularly either when CHWs submit their monthly reports, when there are monthly/bimonthly meetings and trainings, when the providers come to the community to support community based services (growth monitoring and vaccination), and sometimes when cases are referred or follow-up.

Conclusions

Please refer to comments in previous two sections.

iv. Strengthening Health Worker Performance

The below is a table summarizing the number of training events organized and supported by the project for both health workers and community volunteers. The training and capacity building component covered the entire province of Jinotega, and thus included all the health workers. At the community level, the focus was mainly on the 80 targeted communities although the others did receive some technical updates through initial meetings that they were invited to participate in.

CSP Jinotega	Y1	Y2	Y3	Y4	Y5	Total
Health Personnel	**# Trained**					
Doctors	28	61	60	25	26	200
Nurses	26	80	114	77	19	316
Educators	6	10	9	18	20	63
Dentist	1	1	1	1		4
Others MINSA			7		12	19
Total (annual and LOE)	61	152	191	121	77	602
Community Resource Persons/Volunteers						
CHWs	44	83	95	74	62	358
TBAs	14	25	30		31	100
Community Committee	117	274	313	78	2	784
CBD Agents	28	52	60	47		187
Total (annual and Life of Project)	203	434	498	199	95	1429
Training in health technical areas						
Integrated Community-based Growth Monitoring	44	120	95	70	19	348
Integrated Community-based Growth Monitoring (morbidity and early childhood development)	0	0	0	93	9	102

Birth Planning	117	274	481	78	116	1066
Life Saving Skills (facility based)	11	0	0	32	4	47
Life Saving Skills (community)	14	26	30	0	23	93
Family Planning (CBD facility role)	23	20	10	0	0	53
Family Planning (CBD community)	28	52	60	47	0	187
IMCI	27	95	13	0	0	135
Total (annual and LOE)	264	587	689	320	171	2031

Note: Health personnel trained of Municipal Trainers/Facilitators were the following: Year 1: 24; Year 2: 20; Year 3: 24; and Year 4: 21.

Please refer to the previous section on effectiveness of strengthening health facility services which overlaps with health worker performance in this project.

Per the discussions and interviews during the Final Evaluation, it was noted that challenges such as patient load, staff shortages, and others previously mentioned sometimes limit staff abilities to perform at the optimum level. Waiting time for clients is still long and has an impact on the use of services when mothers consider their options. Staff in health posts have to prioritize (i.e. sick child services and prenatal care are first priorities; women who have come from far might also be prioritized over those living close by) and sometimes must turn clients away for that day. In one interview, men in the community committee stated that they felt that even in the case of a serious injury or illness, they, as men, are not considered at all because they aren't in the priority group and this puts them at risk.

The AMAS 2006 scores, which reflect health worker and health facility performance, are mentioned above. In terms of the CSP, the project did not have specific objectives for health worker performance but the project did extremely well in establishing training objectives. Please see training section.

In terms of strengthening skills of community providers (particularly TBAs), interviews at the community level, with health providers and with staff confirm that TBAs do work very closely with the health system now, encouraging women to attend prenatal consultations, paying attention to danger signs during pregnancy and delivery, and educating women on this, referring cases more readily and call upon the emergency evacuation committee if need be, and in some cases even attending to their clients at the health facilities with the blessing of the health worker. Although CHWs are referring cases to the health facilities every month, their skills still need to be strengthened. For example, CHWs have not yet received training in the management of childhood illness. They also need training on counseling and behavior change communication skills.

The plan for sustaining health behaviors is related to health systems strengthening, community mobilization, and capacity building of community volunteers and MOH personnel. At the departmental level, the project worked within the existing system and supported strengthening of MCH strategies, treatment protocols, training capacity, use of supervision, monitoring and evaluation tools for problem identification and problem solving. The project also helped to plan and implement workshops in areas of management and administration. At the municipal level, the project also worked in most of the prior mentioned areas, specifically with the Municipal Directors, Educators, Trainers and the person

responsible for MCH. Strengthening management capacity, technical capacity and supporting the use of supervision, monitoring and evaluation tools is expected to contribute to sustaining the performance of health facility workers and quality of care received by clients. The monitoring of community health information by the MOH will also continue to encourage community linkages and community based health services.

The challenges to sustaining the above are real, as previously mentioned. There are issues of staff shortages, logistical constraints, and disinterest on the part of some of the short term social services doctors and nurses. Community volunteer de-motivation and drop-out is also a real threat, mainly due to migration, lack of remuneration, support, and supervision. Certainly the project has revitalized health services and health workers at every level and with some of the current new efforts in the areas of monthly meetings between community volunteers and health providers, community referrals, data analysis, and use of information for decision-making, monitoring and evaluation for quality of care, it is expected that most of what the project promoted will continue to be implemented, as these are MOH-SILAIS priorities.

In addition to the use of monitoring and evaluation tools to maintain health worker performance, it is important to note that the municipalities in Jinotega do consider staff training as a routine activity. Some of the municipal health centers include hours of training in their weekly and monthly activities, as they are continuously dealing with new social services staff. Due to MOH budgetary constraints, some training activities that require staff to leave their post and go to the municipal or department headquarters may be difficult to implement without additional resources from NGOs or the central MOH.

In addition to the AMAS tool which measures overall performance of health facilities and their workers, each strategy (PROCOSAN, ECMAC and PPMS) has a supervisory checklist (or indicators) which allow managers and supervisors to monitor and evaluate performance with regard to those strategies. Use of these tools by project supervisors has shown progress and improvement, and that they are sensitive enough to measure change.

Gaps are identified during supervision and evaluation activities and discussed at that time and during staff meetings which take place weekly and monthly. The CSP helped the MOH address some of these gaps through trainings, continuous support of health facilities in the area of administration and logistics, as well as support and participation in the implementation of supervision, monitoring and evaluation tools.

Conclusions

Please refer to section on changes in organizational capacity as it relates to staff skills and performance.

v. Training

Training and capacity building was a large part of the Jinotega CSP. Training for health facility strengthening and performance improvement have been discussed above. All training was aimed at achieving the latter two objectives.

Initially the project had envisaged creating training facilitators in each municipality, along with some at the SILAIS level to take care of the training needs in each municipality. It subsequently became clear that all trained facilitators needed to be considered as resource persons for the whole department due to the extent of staff turnover, thus making use of this philosophy the program was better able to handle the ongoing training needs in multiple municipalities every year.

The program adopted a participatory learning methodology that proved to be extremely popular and successful (previously highlighted in the MTE report and also noted under Results highlights in this report). The methodology used in this approach is called AMATE in Spanish and consists of five components: Animation ('Liveliness')—getting the audience prepared and interested in learning; Motivation—stimulating the curiosity of the audience, introducing the topic and finding out what the audience already knows; Appropriation—testing what the audience knows and challenging assumptions through exchange of knowledge, ideas, experiences and the introduction of new information and constructing/incorporating the new ideas/ knowledge; Transference—applying the theory to practical situations, working with new knowledge and skills creatively; and Evaluation—demonstrating the integration and connection of new knowledge and skills as evidenced by the results (products) created. IDRE is a simplified version for shorter training sessions and includes the steps of Introduction; Development of the topic; Reflection on use of the new information; and Evaluation.

A Regional Education Advisor from Project HOPE (US) was hired specifically to support training and started by training 12 Project HOPE Nicaragua and 4 SILAIS staff. Subsequently an additional 12 MOH staff were trained in this methodology, 4 staff from CARE, 10 from ADRA and 10 more from the SILAIS in Jinotega.

Training Objective/ Indicator	**Number**	**Achieved**
Trainers/facilitators for PROCOSAN (child health strategy) achieving 80% at post-test	43/43	100%
Facilitators for ECMAC (CBD for FP strategy) achieving 80% at post-test	18/19	95%
Facilitators in the PPMS (Birth Planning Maternal Health strategy) achieving 80% at post-test	18/19	95%
Facilitators in Life Saving Skills training achieving 80% at post-test	36/37	97%
Health personnel trained in PROCOSAN who achieved 80% at post-Test	36/37	97%
Health personnel trained in CBD programming who achieved 80%	55/69	80%

at post-test		
Health personnel trained in Birth Planning who achieved 80% at post- test	117/212	55%
Health personnel trained in Life Saving Skills who achieved 80% at post-test	4/14	29%
CHWs trained in PROCOSAN who achieved 70% at post- test	282/296	95%
TBAs trained Life Saving Skills who achieved 65% at post- test	88/93	95%
Community resource persons/volunteers trained in Birth Planning achieved 70% at post test	759/782	97%
Community volunteers trained as CBD agents who achieved 70% at post test	155/187	83%

Per the above table, most of the training indicators saw extremely good results (between 95 and 100%). Two indicators were slightly less successful at 80%, 83%, and another at 55%, while a third indicator had limited success at only 29%. The latter is explained by the fact that the MOH decided to train only in 3 municipalities rather than all eight. The idea of the MOH was that the people trained would then train the individuals in the other 5 municipalities. The individuals were trained as trainers of TBAs.

Although MOH staff interviewed stated that the trainings have helped them do their jobs better, this has also been demonstrated through evaluation reports and supervision reports. Unfortunately, the AMAS evaluations done in previous years did not produce clear information, but certainly the relatively positive results in 2006 seem to indicate that health facilities overall are functioning reasonably well.

Best Practice

The participatory training methodology AMATE/IDRE used by the project is considered a best practice because it has been such a tremendous success and has contributed to trainee learning and skills building at all levels.

Lessons Learned

The project realized from the very beginning that they needed to develop a cadre of facilitators in each municipality to ensure the continuation of training activities within the municipality. With the high turnover of staff, they learned that they needed to take this a step further and promote all facilitators as resources for the whole department, i.e. training facilitators in one municipality conduct trainings in other municipalities to help cover those needs. This strategy helped to address the non-stop training needs across the department of Jinotega.

Please refer to the discussion above on sustaining health worker performance (through training).

Conclusions

The AMATE/IDRE training strategy was an activity that was valued by both the staff as well as all program partners. It has reportedly made training fun, very participatory, and facilitated easy absorption of information and adoption of new skills by participants at both the facility as well as the community levels.

d. Sustainability Strategy

Although the project strategy was clearly aimed at sustainability, there were no sustainability goals and objectives articulated in the DIP. This was rectified after the MTE per the following table:

Sustainability Objectives	
MOH	**Achieved**
1. Organize and/or strengthen the departmental council of health and municipal committees of health and development.	This was not found to be necessary after all as it was already in place at time of project.
2. Promote coordination through the signing of collaboration agreements between MINSA, Coffee Plantation owners and other NGOs.	No formal agreement was deemed necessary. Collaboration was established.
3. Develop participative processes of Annual Operative Planning in each of the municipalities in which the main members of the project are involved.	Project participated and contributed to these activities.
4. Promote coordination between MINSA's Information System and the information system of the coffee growers and other providers.	Done. Information is sent from coffee areas to municipal headquarters monthly.
Strengthen the management capacity of municipal health department.	Training on adult education (including issues around the management of health staff) conducted.
Coffee Plantations	
5. SILAIS and other project members plan and conduct health campaigns in the Coffee Plantations according to MINSA's norms and protocols.	Done.
6. Owners or Plantation Managers, municipal health directors and personnel meet, at the least on a quarterly basis, to discuss health issues on the plantations and to design forms of support for the actions that must be carried out.	Support given during harvest and planting periods.
7. Communities organized to maintain and promote both health prevention activities and an emergency obstetric transportation committee.	Training undertaken for health providers in the coffee plantations. Good support from MOH but MOH unable to maintain consistent supervision of plantations or provide equipment.

As part of the phase over plan the project reduced some of the support they were giving with such things as refreshments for monthly/bimonthly meetings between the MOH and community resource persons, transportation for those coming from long distances, office materials, and photocopies for the MOH

counterparts in the SILAIS and Municipalities. During this past year, two of the four project vehicles were returned to the office of Managua as part of the process of reducing project expenditures and commitments. These events have made the upcoming transition more real in the eyes of the MOH. Discussions and plans to finalize the phase-over started in February of 2007. In addition to those activities listed previously, the project has conducted the following: transfer of information and documentation on each community directly supported by the project to the health facility and municipality concerned, transfer of all the tools used by the project (some were adaptations of existing MOH tools), support of MOH to complete training for new MOH staff in the department, analysis of KPC final results with Municipal Directors, health facility In-charges, and communities, and the formal announcement of project close-out to local health authorities.

The FamiSalud Project will continue to provide some technical and management assistance to the MOH through September 2008. Several of the NicaSalud NGOs located in Jinotega have also received funding under the FamiSalud project including PCI, CRS, and Wisconsin Partners for the Americas. These organizations will continue to collaborate with each other and the MOH to cover as many communities as possible. They will continue supporting the MOH strategies discussed in this report and use the tools and educational material developed during the CSP.

Efforts to build financial sustainability include the development of the public-private partnership with the coffee growers. During the harvest season, the coffee growers employ hundreds of workers from across the region. Having understood the cost-benefit of improving health services for these workers, a group of plantation owners (19 independent and 4 who are part of a consortium by the name of SOPEXCCA) agreed to collaborate with the project. The coffee growers agreed to hire qualified health staff (nurses), and these individuals have participated in project training activities. Linkages with the MOH Municipal headquarters were also established and a collaborative relationship has now developed whereby clients are being referred and transferred when necessary (usually with the MOH ambulance). These health posts are also submitting monthly reports to the MOH. Whenever possible, these health posts are also included in the supervision visits by the MOH, although, with the constraints that the MOH is dealing with, they have not made a long term commitment in this regard. Coffee growers are committed to paying the salary of a trained health worker, and to address the issue of access and availability to drugs. They have collaborated with the project on a drug revolving fund project as well.

A second example of efforts at building financial sustainability is the community management of the WanBlan Maternity Home. Please refer to discussions under Maternal Newborn Care. The MOH at the central level has also received a World Bank loan to support training in health promotion, which will facilitate the ability of the MOH to support some of these activities. One challenge to financial sustainability of services and health activities is the policy of the new government not to charge patients for health care (i.e. cost-sharing and cost-recovery). Although decentralization has been encouraged and municipalities are often left to manage their problems with limited resources, it is not possible for them or any project to support these kinds of initiatives within the MOH system with the current restriction.

The program has built demand for services through the promotion of the MOH community based services PROCOSAN, ECMAC and Birth Planning, and the training and skills building of community health resource persons, mainly CHWs and TBAs. The health committees have become very engaged in such issues as emergency evacuation of maternity cases, and as this initiative was developed with the collaboration of health providers, health committees do expect a prompt response and support with this

initiative. Committees and CHWs have also been involved in census activities, support for NIDs in terms of community mobilization and awareness of the activities, and involved in scheduling, organizing and implementing the PROCOSAN growth monitoring activities. As the latter initiative was developed with the CSP, CHWs have had the opportunity to develop a closer relationship with the health facilities and now have expectations that they did not have before. These expectations include continued relationship with health personnel, feedback from their monthly reports, supervision and support during community based activities. TBAs received Life Saving Skills training under this project and likewise, have a much closer relationship and collaboration with health workers. They communicate regularly as cases are being referred and with counter referral as well. With the Birth Planning strategy, TBAs are key players and have become much more involved in the health, identification of risks, and preparations for pregnant mothers. This also brings a new element of collaboration and demand for services.

It should be noted that many community committees whose membership include CHWs and TBAs are still in need of a lot of capacity-building in the area of health and empowerment. Although these community committees are supporting health activities in their communities, and CHWs/TBAs communicate with the health facilities on a regular basis, these entities are still very dependent on the leadership of the project and the MOH when it comes to initiating health activities or solving problems. There is more of a tendency to wait for direction, and uncertainty in some areas about whether or not the MOH will continue to meet their commitments when the CSP is no longer around for support. The systems put in place for community engagement during the CSP (implementing and reporting on community activities, monthly meetings with health facilities and referrals) are all expected to continue influencing how services are delivered.

Please refer to previous discussions on project's support of MOH strategies and challenges that MOH is still dealing with, i.e. without the project's support, it is difficult for these health providers to reach communities that are very far. Individuals interviewed foresee that the project will indeed leave a void when it comes to a close, and that the MOH will find it challenging to reaching some of the more distant communities in their catchment areas.

Conclusions

All the steps towards sustainable programming were taken by the project. It is clear that this will bode well for the sustainability of some of the activities supported and facilitated by the CSP. The challenges that the MOH deal with on a daily basis are real, and these will very likely affect the timeliness and quality of support given by health facilities for community based services and the quality of services at the health facility as well.

C. Program Management

1. Planning

Program planning for this project was inclusive right from the time of the project design, with Project HOPE staff consulting at the SILAIS and Municipality levels on where program efforts should be placed and what the needs were. This continued in the development of the DIP where meetings were held with CSP project partners as well. The effect of this collaboration for the CSP was that the principal partner, the MOH, really felt that Project HOPE worked alongside them in their efforts to improve maternal and child health in the department. In interviews with the MOH at management levels and at the health post

levels, staff said that this had really been a model partnership because the project focused on supporting them in developing and implementing MOH strategies, and everything the project did in terms of developing and organizing training opportunities, supporting supervision and evaluation, supporting community partnership and linkages efforts was discussed and coordinated with them first (the SILAIS office is one block from the CSP office, and the project health educators assigned to each municipality always stop in at the Municipal Health Center headquarters while working in the municipality).

The CSP Jinotega DIP was quite ambitious, in that there were plans to do many different things and mobilize resources to complement the CSP from different sources. The plan to measure changes in knowledge, attitudes, practices, and coverage of the entire department consisting of approximately 750 communities was not a practical one. Even if the project had been able to leverage other funding to support additional communities, it would have been very difficult to have a strong impact across such a large area. The project limited direct support to 80 communities, and hoped to influence others through periodic support of community resource persons coming from those areas.

Based on program experience, it is clear that it would have been beneficial to have more support and review in the area of M&E. Although Project HOPE did have an M&E specialist at headquarters, it appears that his participation, and that of the technical backstop *at the time of the DIP development and review* was inadequate because: 1) the above commitment to measuring the KPC across the entire department was one issue that should have been weighed more carefully, and a commitment of this kind from the project should not have been made; 2) the development of capacity building and sustainability indicators seems to have been overlooked despite the fact that these were the fundamental strategies of the CSP.

The two largest gaps in the DIP were lack of capacity building and sustainability indicators. No other gaps were identified.

2. Staff Training

Knowledge, skills, and competencies of the program staff have grown tremendously over the course of the project. Project Advisors and Educators were able to participate in different types of training workshops and increased their capacity in maternal and child health technical areas, as well as in participatory training methodology. The following is a list of workshops that they were able to benefit from:

1. AMATE / IDRE
2. Training Management
3. Effective Counseling
4. Information Management *(Salas de Situación)*
5. PROCOSAN Strategy
6. Birth Planning Strategy
7. CBD Strategy
8. Health Information System
9. AMAS (Evaluation)
10. Life Saving Skills
11. Total Quality Management

12. Communication and Education (strategies for behavior change)
13. Transfer Process and Sustainability of Community Strategies

Job descriptions required program staff to support health facilities and services, facilitate and supervise community based services, promote linkages between the two, and help strengthen health systems (HIS, M&E). Thus through this project experience, all CSP staff reinforced and strengthened their capacity. Project Educators hired were strong in community organization and mobilization, but had to develop and strengthen leadership, management, M&E skills, and technical oversight to work with the project partners at the municipality levels. The MOH partners at the SILAIS and Municipality levels likewise benefited from working with the CSP, and health center/post staff strengthened their technical skills in MCH service delivery, community based services, training, and support of community based resource persons.

The CSP activities required that staff and partners apply the new skills. Staff has been used as resources for other programs, and also assisted with technical trainings at the national level. The MOH SILAIS and Municipality Directors have used new management skills in the way that they work with other NGOs and lead and organize efforts. Several project staff members have used their new skills to initiate community development projects outside of the project context. This is evidence that the project has left a strong human resource capacity with the Project Educators, who are all natives of Jinotega as well as within the MOH.

Project HOPE has been exemplary with regard to dedicating resources to staff training. With matching funds they were able to purchase motorcycles for the field staff, and through a payment towards eventual ownership of motorcycles arrangement with the staff they were able to collect monthly sums of money that was put towards an education fund for staff. All staff had access to support towards university and technical courses, towards finishing their bachelors, or their masters in public health. This effort by the Project HOPE Nicaragua country leadership was a concrete demonstration and commitment to staff professional development that is rare and commendable. It is not generally something that NGOs have been able to do for their staff.

In addition CSP Jinotega staff was able to benefit from trainings. During the start-up period of the project, the project leadership identified the need for technical assistance for education and training of staff and partners as this was a critical component of the CSP. With the support from the Project HOPE Regional Director of Latin America and the Caribbean, an Education Advisor position was created that built the capacity of local staff in participatory training techniques for adults. This technical assistance and resource person was greatly appreciated and is yet another example of the importance that project leadership placed on dedicating resources to staff training and capacity building.

It is clear that the extra effort undertaken by the project to support staff development contributed to a stronger team spirit and work ethic, staff dedication and minimal staff turnover during the life of the project.

3. Supervision of Program Staff

The supervisory system that the project promoted was for every MOH level. They worked with the SILAIS to support supervision of the 8 Municipalities and assisted with revising and implementing

guidelines and helped with transportation when necessary. At the Municipality headquarters, the CSP also helped with the training and skills building in each of the MCH strategies and supervision of these health activities at the health post and community levels. The CSP technical advisors for IEC, M&E, Maternal Health and Child Health were also given geographical areas of supervision in addition to their technical support responsibilities in order to ensure there would be adequate effort. In view of the efforts that were being put into the development and promotion of health strategies, the CSP technical advisors were quite busy and it appears that supervision was often focused more on the health facilities themselves and less on CSP Educators.

The supervisory system is institutionalized in the department and at each of the municipalities and health posts, who supervise community health resource persons. Unfortunately, due to limited human, logistical, and financial resources the MOH finds it a challenge to stick to the supervisory schedule and plans for supervision, monitoring and evaluation. Through this project and with the help of Project HOPE, supervision checklists and systems have become part of the normal work schedule. It is expected that the MOH will need to call upon the assistance of their other partners to help fill the gaps when the CSP comes to a close. These issues were discussed in the phase-out plans.

Supervisory tools for some of the strategies were developed by Project HOPE and the Nicasalud NGOs in collaboration with the MOH. CSP project staff put a great deal of effort into the supervision tools for the Birth Planning strategy.

4. **Human Resources and Staff Management**

Essential policies and procedures are in place for both Project HOPE, NicaSalud partners, and the MOH to continue program operations (Project HOPE activities funding through other sources). As mentioned before, the issue that continues to be in question is resource limitations. Discussions around organization of existing MOH and Jinotega partner resources are currently underway.

At the time of the final evaluation, the entire CSP team of approximately 17 people, including non-technical staff, had excellent moral, organizational loyalty, and team spirit. Staff spoke of the personal benefits of having worked in this project and its contribution to their professionalism and professional preparedness for new jobs and career opportunities as the project comes to a close. Staff satisfaction with the organization and their work was also something that was discussed in the MTE report. It is very clear that the positive working environment, facilitated by the character and personality of the Project Manager who is a Project HOPE Nicaragua veteran, and the support of the Country Director, had an extremely positive impact on program implementation and partner relations. All partner staff interviewed mentioned this as well.

Where local staff turnover was a little problematic was with the technical advisors. The main problem was in relation to the technical advisor for Maternal Health because the individual holding this position left the project in September 2003. After an extended period of time of not being able to replace her, the other advisors and the project manager eventually took over the task of supporting this component and did not continue expending time and effort to identify someone new. Areas of geographical supervision were divided amongst the remaining staff. From a technical point of view, as maternal health was one of the bigger components of this project, this did indeed put more pressure and work on the other technical advisors. From all reports and evidence of achievements, it did not have a negative impact on program

implementation. Other departures from technical staff did not occur until February and August of 2006 (Technical Advisor for Child Health, and for Health Information System). At this point in the project there were issues of funding shortages and preparation for phase-over of the project to the MOH and Jinotega partners, so this staff was not replaced. This put a much bigger load on the project manager and remaining two technical advisors (IEC and M&E), but at that point in the project it was not critical.

One Educator was replaced in 2006, as each of the 8 municipalities being supported by the project needed to have a field staff person present to support activities in the communities and continue to support and strengthen the health facility-community relationship. One of the two drivers also left the project in 2005 and was not replaced, but the project does use the services of an extra driver for hire during field activities as needed.

Project HOPE has made it clear to their staff that they have not been able to secure funding to retain activities at this level. They have been very supportive of its staff, recommended them to other organizations such as Save the Children, who is starting a new project in the department. They have also facilitated time for staff to go on interviews, and have kept an eye open for staff opportunities with other projects.

1. Financial Management

Budget expenditures for this project were done at three different levels: headquarters, country office in Managua, and project office in Jinotega. Following the activities outlined in the DIP and based on proposed activities for every month, the Jinotega accountant would develop a budget in collaboration with the project manager. Although budget expenditures and remaining balance per line items were monitored regularly within Nicaragua through the use of a spreadsheet, there seems to have been less communication with regard to the expenditures being made at the headquarters level. Reconciling information was difficult. As a result, although it is clear that the program implementers had adequate budgeting skills to be able to accurately estimate costs and elaborate budgets, there came a point in 2005 when there was a concern about the depletion of funds. Project HOPE was forced to plan for an early reduction of certain types of support (previously mentioned), and an early close-out of the project (June rather than September 2007).

As mentioned before, the MOH has relatively limited resources, although the health strategies supported by the program are theirs and institutionalized. Project HOPE, through smaller projects, will continue to be able to support select interventions such as the HIS *(Salas de Situacion)*, and FamiSalud. Furthermore, other NicaSalud NGOs will also continue to support health strategies in the department.

The project received technical support from CSTS to reflect on and plan for sustainability. The MOH will be working with its other partners when the CSP comes to a close to try and mobilize adequate resources to support key activities. Unfortunately, the MOH expects that there will continue to be issues of financial limitations.

2. Logistics

The project was well supported logistically. Project HOPE provided four vehicles from previous projects, considered as match contribution to the project, until the last year when they intentionally reduced project running costs and took the vehicles back to the country office in Managua. Motorcycles procured by Project HOPE were kept in good condition by their users due to the fact that the employees were paying for eventual ownership of the motorcycles. The project was also able to support health facilities with equipment and supplies through their Gifts in Kind program. This logistical support was very helpful and beneficial to the department and municipality and to program implementation.

Logistics are limited and without NGO support at the SILAIS and Municipality level it is a continuous challenge for the MOH to support all their operations and activities, but there is a commitment to continue supporting key health strategy and activities.

3. Information Management

The project conducted KPC surveys at the baseline, midterm and final evaluation using the Lot Quality Assurance methodology. The project planned for the field staff to conduct surveys with the use of Personal Digital Assistants (PDAs) on an annual basis, but after conducting the first one survey, the team decided to discontinue because of concern about bias. Other project indicators for the different health strategies were monitored during supervision and health facilities were evaluated through the use of an assessment *(AMAS* already mentioned*)*, which helped measure progress towards program objectives. Project staff also did an annual supervision of CHWs in Jinotega communities not supported directly by the CSP. These did indicate that many of these CHWs were not very active, but because the project was not in a position to give concrete assistance beyond initially supporting their participation in meetings and technical updates, nothing could be done. The capacity-building and sustainability indicators developed at the time of the midterm evaluation and measured thereafter also helped to monitor progress.

It must be noted that the progress seen in the KPC results at the time of the midterm evaluation was short lived because in several cases there was either no more progress after the midterm or a change for the worse after the MTE. It was later realized that a health education campaign to fight against a specific epidemic (rotavirus) across the entire department of Jinotega, may have influenced the KPC results as people were being bombarded with health messages on the radio at the time, and in seeking advice and consulting on the problem, were benefiting from other health services as well.

The program promoted community health strategies and assisted with the training of health providers and community resource persons in data collection and reporting for the *SICO* (Community Based Health Information System). Prior to the start-up of the project, any community health information obtained was collected by the health providers themselves when they visited the communities. With the revitalization of CHWs and expansion of their work, this data is now being collected and submitted by CHWs and TBAs every month. This information forms part of the agenda for discussion during the monthly or bimonthly meetings held between these community volunteers and the health workers. Weekly disease surveillance reporting is also being conducted. Per interviews with the health facilities, the regular meetings and health service data has helped the MOH to identify health priorities and

potential health epidemics. The SICO data is required by the municipality, and this keeps health workers attentive to the collection of this data. The *SICO* data is combined with other monthly health data, and reported to the municipality health center headquarters every month.

Program staff and partners at all levels are sufficiently skilled to continue collecting data. As previously discussed, data collection is part of the health information system and routine at this point. With regard to special assessments, the program pre-tested the mother reminder educational materials *(recordatorios)* prior to final development. They also conducted a sustainability assessment, as well as studies on CDD, EBF and pneumonia. Please refer to the previous discussions on the sustainability assessment and the aforementioned studies. Although the CSP collected some data that was not routinely part of the MOH (KPC and additional indicators for some of the health strategies), the main emphasis was helping the MOH develop and launch the indicator checklist supervisory tools program.

Both program and headquarters staff, local level partners, and the community have a clear understanding of what the program has achieved. Health facility assessments have been participatory and included partners and staff; post tests results given after project trainings have been shared; partners, staff, and community members interviewed during the midterm and final evaluations were very clear about how the program had contributed to strengthening systems, capacity, and the development and implementation of MOH health strategies. Despite the uncertainty of the KPC results because of the choice to sample across both direct and indirect communities, the MOH considers their relationship and achievements with the Project HOPE CSP partnership as exemplary, and is using those lessons learned in their relationships with other NGOs.

In addition to sharing, analysis and discussion with the SILAIS and Municipalities of Jinotega, the program's monitoring and impact data has been shared with the NicaSalud partners and USAID/ Nicaragua. The CSP has been using the *SigHope* HIS program to produce graphics to show program results per municipality. The LQAS methodology used by the CSP for the KPC baseline, midterm and final evaluations facilitated this process, and has enabled them to pinpoint problem areas and locations. Planning with the MOH took this data into consideration.

4. Technical and Administrative Support

The program received technical backstopping from Project HOPE headquarters which included assistance with the DIP. The project team was able to take advantage of training on LQAS as part of the NicaSalud partners. They found this to be very useful and adopted it as their methodology for all three KPC surveys that they conducted. The Child Survival Technical Support or CSTS, also provided technical assistance by helping the team examine the issues of program and partner sustainability using the sustainability framework. This exercise enabled them to identify sustainability indicators and develop work plans that focused on strengthening management and quality of care. Based on the MTE recommendations, the project team also received technical assistance from the M&E and Health of Women and Children units at Project HOPE headquarters in the development of a two year work plan, training/capacity building, and sustainability indicators.

The regional staff had close involvement in the project and specifically hired a technical advisor for participatory training and facilitation to build the capacity of CSP staff in participatory training methodologies.

The Nicaragua country office and field staff had many expectations in terms of technical support and participation from Project HOPE headquarters because at the time of project start-up there was a large health team there of 4 people, and communication and consultation was frequent. When staff at Project HOPE headquarters was significantly reduced to one person in 2004, this high level of support changed. Thus, the overall sentiment from field staff is that technical assistance during the life of the project was not always timely or adequate. HQ staff was only able to visit the project once following the MTE, and as a result of reduced communication between the offices, the field team implemented key activities such as operations research without the involvement of headquarters.

There should have been more guidance from Project HOPE HQ at the time of the DIP in the area of indicators and measurements. The project identified 23 KPC indicators and planned for these to be measured across an entire department consisting of 750 communities, even though direct CSP support at the community level was only in 80 villages. As mentioned earlier in the report, community resource persons in communities not directly supported by the project also benefited from a little training and linkages with health facilities. But the process and capacity indicators identified more accurately reflect this effort than the KPC indicators. It was overly ambitious to expect notable changes in the area of knowledge and practices of mothers in communities not receiving direct supervision and support of CHWs by the project.

Organizations often go through changes and staff turnover. When this occurs, it inevitably has an impact on the degree of technical assistance given to the field projects (including timeliness of assistance, as gaps and problems are often only identified at the time of the MTE). It might be a good idea if key technical guidance and assistance could be made available to field staff via regional workshops in the first months of the projects as they go into the DIP preparations. This direct TA to field project managers and staff could be an extension of CSTS support, and ensure that projects are realistic and practical in terms of choice of KPC indicators (even while being ambitious), and that they are also thorough with regard to planning in the area of training/capacity building and corresponding indicators as well as sustainability. As all projects need to focus on sustainability, they should all have access to TA on the sustainability framework early on in the process as well.

Project HOPE HQ and Regional Staff (including a Regional Director based in Costa Rica and an Education Advisor based in Peru) spent from 20% to 50% of their time backstopping this project over the project years.

5. Mission Collaboration

The project had a very good collaboration with the USAID mission, whose primary partner in health and child survival is the NGO network NicaSalud (of which Project HOPE is a leading member). The CSP and the NicaSalud partners' objectives were in line with that of the USAID Mission. The CSP program complemented projects and funding available through the mission. Project staff met with USAID for planning and updates on a regular basis and the CSP had the opportunity to present project activities in these partner meetings as well. The USAID mission has been extremely supportive of the CS activities in Jinotega and visited the project on several occasions as well. The Mission is very interested in the project experience and lessons with community based programming in particular for use by other partners.

6. Management Lessons Learned

Please refer to the list of lessons learned by the PVO under Capacity Building of the Organization.

D. Other Issues Identified by the Team

None

E. Conclusions and Recommendations

Quantitative results for the KPC show the project as having reached only 6 of the 19 targets set. These dismal results do not reflect what was seen during qualitative interviews in the project communities. It is important to note that this project had direct and indirect beneficiaries, and the results were measured across a large geographical area of communities not receiving direct support from the project. It is thus a lesson learned in M&E for the project, i.e. the project could not expect to have a real impact on knowledge and behavior change in communities where they only gave limited training to CHWs and strengthened health facility services. It should be noted that at the time of the MTE they made a request with regard to this, but USAID did not agree to this. Nevertheless, the results for Maternal and Newborn Care were excellent with the project achieving all three of the three indicators (prenatal visits, birth attended by trained attendant and postnatal visit), and showed remarkable progress from baseline to final. Under Nutrition, the project saw a dramatic change in percent of children with low weight for age, but the measurement method for number of children weighed did not reflect the reality and thus falsely appears not to have achieved the objective. The prevalence of anemia increased rather than decreased during the life of the project. In the case of breastfeeding, the project saw a lot of improvement in immediate breastfeeding from baseline, but no change in exclusive breastfeeding at all. Neither objective seems to have been met. Immunization coverage saw a lot of progress from baseline. In the CDD component none of the five objectives were achieved, and only 2 out of 5 saw very slight improvement from the baseline. There was a very slight improvement in recognition of danger signs of pneumonia, but care seeking results went down from what it was at the time of the baseline. In the area of FP, the project saw use shoot up by a huge percentage from baseline, but the spacing indicator decreased rather than increased. The indicator for knowledge of HIV was achieved and increased substantially from the time of the baseline.

The Jinotega CSP put a lot of effort into strategy development and launching (including training manuals, supervision and IEC tools), in addition to the implementation of these strategies. The various strategies started at different points during the course of the program so some have been implemented longer than others, i.e. the CBD program for FP, and Life Skills Training for maternal health started early in the project whereas the Integrated Community-based Growth Monitoring (PROCOSAN) and Birth Planning initiative at the community level started later. More time needs to be dedicated to strengthening some of the more recent activities launched, including counseling and follow up done by CHWs in the area of anemia as prevalence levels are still high, and key messages and information on child care during illness, which community resource persons have not yet been trained in. Community committees interviewed did not appear to be very dynamic in the area of health, although they were organized and prepared for emergency obstetric evacuation. These entities need to benefit from more capacity building and empowerment efforts. The CHWs and TBAs, on the other hand, are very empowered and dynamic and in many cases are the ones leading the community committees. Linkages

with the health facilities at this end point in the project are fairly strong and relationships are established enough to continue beyond the life of the project. MOH resources in terms of support to community activities are limited and there will be some challenges to maintain the high level of support and supervision that the project was providing. Health services have improved with the support of the project in terms of MOH staff technical skills in MCH case management, data collection and reporting, planning and community based services. Unfortunately, quality of care is challenged by high staff turnover, staff shortages, logistical and financial constraints at the SILAIS and municipality levels.

Main Achievements of the Project:

1. Mobilization and capacity building of community based resource persons (282 CHWs, 88 TBAs and 759 Community committee members).
2. Improvement in knowledge, involvement in health, and health behavior of mothers in communities directly supported by the project.
3. Development and support of Jinotega department MOH strategies by providing training manuals, guides, and supervision checklists in child health promotion, maternal and newborn care, and community based family planning strategies.
4. Creation of 43, 18 and 36 training facilitators in PROCOSAN, ECMAC and Birth Planning respectively in the SILAIS and municipalities of Jinotega.
5. Institutional strengthening of the Jinotega department in quality of services through the training of 20 key management personnel at SILAIS and municipality levels.
6. Institutional strengthening in monitoring and evaluation for MCH through training and partnership with 20 key personnel at SILAIS and municipality levels.
7. Development of linkages between the MOH health facilities and 80 communities through community based services, community health data collection, monthly reporting, monthly/bimonthly meetings, references and counter references.
8. Model collaboration with the MOH and with the NicaSalud network of NGOs, including spirit of flexibility, cooperation and support.
9. Mobilization of $1,208,006 in direct funds, and $27,286,110 in medicines and supplies to complement those provided by the child survival project, i.e. PROSIC, FamiSalud, ProSalud, and Gifts in Kind from Project HOPE, support for infrastructure.
10. Involvement of the 23 coffee plantation owners in the improvement of health service provision in the plantations, and the development of linkages with the MOH for follow-up and monitoring.
11. The support of a Maternity home in WanBlan managed by community health committee.
12. Contribution of technical project staff to training methodologies and materials at the national level.

Constraints

- MOH staff rotation and staff shortage.
- Staff shortages and large patient load make it difficult for health workers to always follow the protocols and norms for quality of care.
- Insufficient budget for fuel compounded by rise in international fuel prices (large distances between the project office and five of the eight municipalities - up to 156 kilometers, and large distances from municipal health center headquarters and certain communities - up to 55 kilometers).
- Shortage of drugs at the health post level.
- Some indicators identified in DIP were dependent on MOH, not the project.
- The MOH health strategy approach resulted in a heavy load of monitoring indicators for each strategy. These together put a lot of stress and pressure on those responsible for follow up.
- The MOH has been very quick to adopt and launch new strategies, but they do not put any additional logistical, material and financial resources towards the implementation of these strategies (including the community based components).

- The KPC measured results over the entire department of Jinotega rather than just communities receiving direct support and thus did not reflect the real results in the direct beneficiary population.
- Lack of support and supervision of ORS corners by health facilities.
- Limited time period for implementation of PROCOSAN strategy because of MOH strategy change from AIN, thus impacting time needed for training CHWs in childhood illnesses and strengthening of counseling skills to address traditional feeding behaviors and practices as well as care-seeking.

Lessons Learned:

- The project effort on relationship building with the MOH, including collaboration, support, information-sharing and communication, as well as focus on shared interest, was an investment that paid off in the Jinotega CSP. It greatly contributed to advancing the priorities outlined in the program DIP.
- For an accurate reflection and evaluation of growth monitoring activities, it is important to envisage the training of CHWs to be able to plot child weights on child GM cards.
- In the case of a new project, program staff has learned that it would be better to prioritize two or three indicators for a CDD component, put the necessary level of effort in those areas with focused messages and strategies that address the challenges and barriers identified.
- In terms of M&E, the Jinotega CSP staff has also learned a lesson with regard to how they chose to measure KPC results in a program that had direct and indirect community beneficiaries. In a new program they would opt to measure KPC only in communities with direct interventions, while identifying other types of indicators to measure the department-wide support given by the project in the area of capacity building and quality of care.
- The slight decline in immunization coverage at the final, identified as being mainly due to the missing MMR vaccines, is an indication that there was too much of a dependence on the NID that was not implemented in 2006, rather than ensuring complete coverage through the routine vaccination services both at the community and health facility levels. There is also a need for providers to travel with enough vaccines.
- The CSP learned that it is important to emphasize the recommended birth spacing interval when promoting family planning.
- With regard to improving MOH health services, one lesson learned in the project experience is that relationship-building and true partnership is the key to making progress and achieving goals. During the life of the project, Project HOPE was held in very high esteem by the MOH and was in a position to influence and have an impact on MOH strategies, quality of care, and community outreach. This happened because of the following reasons: 1) the CSP devoted their efforts to supporting the MOH in their areas of priority and needs; 2) the project leadership and staff were flexible, available and engaged when it came to initiating and supporting health strategies for the department of Jinotega; 3) project management was resourceful and made efforts to mobilize financial and technical resources, and link to other donors and institutions to meet identified needs.
- With the issue of high-drop outs of CHWs, the lesson learned by the CSP, similar to what other projects have also experienced, is that it is important to go step by step and take all the time necessary for communities to get on board with regard to community

participation and mobilization, criteria and choice of community volunteers. In the case of Jinotega (and Nicaragua in general) the *Brigadistas* already existed, but in such situations it is still a good idea to help these individuals and the community revisit the commitment based on potential new developments and activities.

Best Practice

- The AMATE-IDRE participatory learning methodology for improved participant absorption of information, information retention, and fun.
- NGO integration in government services such that they support the development, strengthening and implementation of MOH strategies, including community linkages, for sustainable health and development.

Recommendations:

1. It is important to support the MOH in problems that they have identified, rather than do things that they do not feel is their initiative.
2. The MOH has identified the urban areas of Jinotega as areas with high poverty and overpopulation, poor water and sanitation, as well as increased occurrences of diarrhea and pneumonia. It is recommended that future projects consider supporting these communities as well.
3. When addressing culture beliefs and practices around child feeding and care during illness, it is important for programs to dedicate some time to identify successful behavior change strategies for those interventions through the use of such things as the BEHAVE model.
4. It is recommended that future programs dedicate some time and resources to the revitalization of community ORS corners. This activity is complementary to the PROCOSAN monthly GM and community based vaccination services, and to become more attractive to clients, it could be expanded to include such things as the provision of iron, vitamin A, condoms and FP contraceptives, as well as focused counseling on the prior-mentioned and in particular on feeding and care during episodes of diarrhea.
5. It would be a very good idea to do a qualitative study on the effectiveness and the impact of the health practice reminders *(recordatorios)* that are given to mothers as a follow-up to counseling. This is an innovative strategy and something that could potentially be replicated in other countries.
6. Train the community volunteer on how to complete the child health card for growth monitoring.
7. Promote growth monitoring in all communities per MOH norms.
8. The SILAIS and municipalities should prioritize trainings to fill in the community volunteer technical information gaps related to child health management and counseling.
9. Prioritize, emphasize, and strengthen the skills of community volunteers on counseling for feeding/fluids during illness so they can educate mothers on the importance of this.
10. In order to maintain high vaccination coverage of children under the age of 1, it is important to implement all the strategies that support vaccination coverage. This includes: train all community volunteers in the vaccination schedule; identify and refer children for vaccination at the health facilities; mobilize resources for more frequent and regular community outreach in communities that are farther away from health facilities; review the registry (PAI) so as ensure an accurate calculation of the amount of vaccine antigen needed during community vaccination sessions.

11. Based on the experience in Jinotega where a large percentage of births are cesarean section and depending on the situation, some mothers are unable to breastfeed immediately after delivery. In order to more accurately measure this indicator, it is suggested that the KPC survey insert a question verifying the conditions of childbirth and newborn prior to asking about immediate breastfeeding after delivery.
12. Strengthen and improve counseling around breast milk extraction for new mothers who spend a time outside the home.
13. To support behavior change for exclusive breastfeeding, grandmothers should be included in the breastfeeding support group initiative and should be targeted during other opportunities such as health talks and home visits.
14. Considering the prevalence of anemia in the department of Jinotega, it is recommended that the MOH make an effort to ensure the availability of iron folic acid for all children under 5 years of age.
15. To ensure that mothers comply with the intake of iron prescribed for children in an effort to improve the existing prevalence, there needs to be more promotion, education, and one and one follow-up with mothers during growth monitoring sessions in communities and visits at the health facility.
16. Strengthen the capacity and ability of the health committee members to function in the area of problem identification and problem solving, management, and evaluation of activities with exchange visits between communities and through meetings and workshops.
17. The family planning strategy should include reaching households with information and counseling on child spacing recommendations and benefits at both the community and health facility levels.
18. In a potential follow up of the project, it would be good to plan for additional effort and support for institutional strengthening of the MOH department of Jinotega in administration and financial management, resource mobilization and project design.
19. In a potential follow up of the project, it would be good to mobilize resources and linkages between communities and other NGOs who can support them with other areas of need such as water, sanitation and hygiene, and agriculture.

Dissemination of Best Practices and Lessons Learned

The CS Nicaragua project has allowed Project HOPE the opportunity to continue solidifying it's expertise in implementing CS programs. Relevant best practices and lessons learned from the current project will be adapted and incorporated into future CS program designs when feasible. HOPE's ability to develop positive and productive working relationships with the MOH is a consistent best practice that will continue to be the cardinal strategy of our international work. Project HOPE has also strengthened public-private partnerships by working on coffee plantations in Jinotega. Project HOPE will encourage other pvos to explore this type of collaboration in future programming to increase access to health care to underserved populations, in this case, women and children of migrant farmers. The very painful lesson of designating communities priority/non priority will be strongly discouraged in future programming, although this seems to be preferred strategy of the SILAIS in Jinotega[1]. The lesson learned of limiting the project to implement a few interventions has also been suggested by USAID and will be applied to future

[1] Minnesota International Health Volunteers (MIHV) CS Nicaragua project, 1993-1997, personal communication with member of Technical Team.

program designs, with the desired outcome of more focused activities. Mother home reminder materials have been an extremely successful strategy of Project HOPE's that will also be incorporated into future programming. Project HOPE will use its membership in the CORE group as an avenue to disseminate the best practices and lessons learned of the CS Nicaragua project. It bears noting that during this project, Project HOPE had responded to a request for abstracts from CORE on family planning. Project HOPE highlighted the successful ECMAC experience in Jinotega and the abstract was viewed favorably by CORE, which encouraged its dissemination to other pvos.

Scale Up, Expansion, and Sustainability Plans

Please refer to previous comments on the above. Additionally, with the creation of NicaSalud as a funding agency in Nicaragua, the probability of local ngos in collaboration with the MOH of sustaining community health activities after projects end is greatly increased. Project HOPE has leveraged the CS project to receive additional funding from NicaSalud to continue working in target areas of Jinotega through the FamiSalud project.

F. Results Highlight

Implementation of AMATE-IDRE: An Adult Learning Methodology for Health Education

To meet the enormous staff and volunteer training needs of the health department of Jinotega, Nicaragua, Project HOPE's Child Survival CSP adopted the AMATE-IDRE adult learning, participatory methodology for conducting health education activities to key project partners: MOH staff and community volunteers. This methodology promotes positive models, active decision making, taking responsibility, and adoption of key behaviors, while focusing on problem-solving, building capacity, skills development, and improving job performance.

AMATE consists of five components: Animation ('Liveliness')—getting the audience prepared and interested in learning; Motivation—stimulating the curiosity of the audience, introducing the topic and finding out what the audience already knows; Appropriation—testing what the audience knows and challenging assumptions through exchange of knowledge, ideas, experiences and the introduction of new information and constructing/incorporating the new ideas/ knowledge; Transference—applying the theory to practical situations, working with new knowledge and skills creatively; and Evaluation—demonstrating the integration and connection of new knowledge and skills as evidenced by the results (products) created. IDRE is a simplified version for shorter training sessions (sessions under 4 hours), and includes the steps of Introduction; Development of the topic; Reflection on use of the new information; and Evaluation.

The AMATE-IDRE methodology was used by Project HOPE in all of its training activities. It has really taken off in Nicaragua because of the fact that it has made learning at all levels easy and fun. The NicaSalud NGO network partners have also approached Project HOPE for training and have had success with using the methodology for their own training activities. Partners and training participants all speak very positively of this methodology as one that has also helped with information and skills retention.

Project HOPE gave technical assistance to the integration of the AMATE-IDRE methodology in the training manuals for the MOH Birth Plan strategy, PROCOSAN and ECMAC as well. As the success of this methodology is being shared on a national level, it is expected to have wider impact and benefit with the NGO support of other health departments.

The adoption of AMATE-IDRE by Project HOPE's CSP has provided the following results:

- 12 Project HOPE Nicaragua staff trained as trainers of trainers are competent in the integration of AMATE-IDRE in training manuals;
- 34 MOH staff at the SILAIS, Municipality and health facility levels trained as trainers and a number of them competent in integration of AMATE-IDRE in training manuals;
- 4 staff from CARE; 15 staff from Caritas (CRS) and 10 staff from ADRA trained as trainers;
- 358 CHWs using the participatory methodology in their education session with mothers;
- 100 TBAs trained using the methodology.

ANNEXES:

A. Evaluation Team Members and their titles

Teams	Name	Affiliation	Role in interviews	Selected communities for interviews
1	Marguerite Joseph	External Evaluator	Interviewer	San Marcos Abajo (8) La Concepción (9) El Mojón (10)
	Pedro Ramírez	HOPE Jinotega	Interviewer	
	Justo Real	HOPE Jinotega	Notetaker	
	Agustín Herrera	HOPE Jinotega	Notetaker	
	Leonel Martínez	HOPE Jinotega	Notetaker	
2	Santos Medina	SILAIS	Interviewer	El Zancudal (8) Planes de Vilán (9) Escambray (10)
	Edgar Rodríguez	HOPE Jinotega	Interviewer	
	Judith Rizo	HOPE Jinotega	Notetaker	
	Javier Méndez	HOPE Jinotega	Notetaker	
	Nohemí Mercado	HOPE Jinotega	Notetaker	
3	Mario Ortega	HOPE Jinotega	Interviewer	Sisle 2 (8) Las Vueltas (9) Pacayal (10)
	Ruth Madison	HOPE Center	Interviewer	
	Horacio Cano	HOPE Jinotega	Notetaker	
	Armando Zeledón	HOPE Jinotega	Notetaker	
	Eugenio Arbizú	HOPE Jinotega	Notetaker	

B. Evaluation Assessment Methodology

The evaluation was led by an outside team leader. Also participating as part of the team was a headquarters technical backstop, program, and partner staff. Group interviews were conducted with the MOH SILAIS level, NicaSalud partners, coffee growers, and with CSP Educators. Individual interviews were conducted with MOH Municipality Directors, Educators, Trainers and health providers. They were also conducted with program staff. The team leader and headquarters backstop person conducted most of those interviews. Other FGDs and interviews were organized at the community level and these included mothers, community committees, CHWs and TBAs. Nine communities across six Jinotega municipalities were selected for these activities. The sample was based on accessibility due to the

limited time available (within 3 ½ hours distance from the office), as well as degree of community mobilization (weak, medium and strong) per staff perception.

Evaluation Schedule:

Date	Day	Activities
2 May	Wednesday	Travel to Jinotega CSP office. FE Planning meeting (identification of sample communities for interviews, HFs to visit formation of teams; confirm dates with MOH).
3 May	Thursday	Interviews with project staff and MOH Municipal Directors.
4 May	Friday	Interviews with project staff and MOH partners continued.
5 May	Saturday	Interviews with project management.
6 May	Sunday	Development of community interview tools.
7 May	Monday	Team feedback and revision of interview tools. Interview with MOH SILAIS partner.
8 May	Tuesday	Community visits: Sisle 2 (Jinotega), San Marcos Abajo (SRN) and El Zancudal (Yalí).
9 May	Wednesday	Community visits: Planes de Vilán (Pantasma), Las Vueltas (Wiwili) and La Concepción (El Cua).
10 May	Thursday	Community visits: El Mojón (Jinotega), Escambray (Jinotega) and Pacayal (Pantasma).
11 May	Friday	Interview with Managua country office managers. Feedback meeting from 3 FE teams and development of LL/recommendations.
12 May	Saturday	Data analysis and discussions continued.
14 May	Monday	Interviews with NicaSalud NGO partners Interviews with Coffee Plantation owner Project partners. Interviews with MOH Municipal Educators, trainers, and service providers.
15 May	Tuesday	Presentation of FE results in Jinotega. Travel to Managua
16 May	Wednesday	Presentation of FE results to USAID Mission in Managua.

Community Interviews

Target	Methodology	Number per community
Mothers (6-12)	Focus Group Discussion	1
Leaders/members of Community Committee (6-12)	Focus Group Discussion	1
TBAs	Individual interview	1 – 2
CHWs	Individual or group interview	1 – 3

Partner meetings

Profile	Methodology	Number of Groups
Coffee Plantation Owners (6) NGO partners (3)	Focus Group Discussion	1 1
MOH SILAIS management team (6)	Focus Group Discussion	1
Municipal Directors (3)	Individual Interview	3
Municipal staff (8)	Focus Group Discussion	1

Project HOPE, Jinotega Child Survival Program
In-depth Interview Guidelines,
Community Health Volunteer

1. How long have you been a CHW? How many hours/days a month do you work as a volunteer? What activities are you undertaking?

2. Were you satisfied with the training you received from the project? If no, why? What more would you have liked to be including in your training? If yes, explain. (Interviewer: Listen for change in knowledge, skills and capacity).

3. Has your relationship with the Ministry of Health changed since the beginning of the project? If so, in what ways? (Interviewer: Listen for supervision, referrals, meetings, contact, and frequency of reporting).

4. (Interviewer – If not previously mentioned, check whether or not volunteers collect community health information. If yes, ask the following question: Does this data help you with your work? If so how? (Interviewer: Listen for what volunteer does with the information.)

5. Do you receive support or encouragement from the Community Health Committee or other community members? If yes, what?

6. What motivates you to continue working?

7. There has been a high turnover of CHWs during the life of the project. In your opinion why is this? What suggestions do you have to reduce drop-outs?

8. When the project is no longer able to support you, do you think you will be able to continue to carry out the activities that you are doing now? Do you think that your relationship with the health facility will change? What challenges do you expect to encounter?

9. With regard to certain project focus areas, how do you explain the reductions and/or lack or notable change in the indicators? (Interviewer: Discuss KPC results. See list).

10. Have you noted any changes in health service provision since the beginning of the project?

11. Do husbands get involved in health care? Do they support you on decisions and participation in health activities?

Project HOPE, Jinotega Child Survival Program
In-depth Interview Guidelines,
Traditional Birth Attendant

1. Were you satisfied with the training you received from the project? If no, why? What more would you have liked to be including in your training? If yes, explain. (Interviewer: Listen for change in knowledge, skills and capacity).

2. Has your relationship with the Ministry of Health changed since the beginning of the project? If so, in what ways? (Interviewer: Listen for supervision, referrals, meetings, contact, and frequency of reporting).

3. Do you continue to do at-home deliveries? If yes, in your experience what have been advantages or disadvantages to this?

4. Have you needed to refer cases to the health facility? If yes, what kind of support have you received from the Community Health Committee or community members?

5. Have you been able to help families with birth planning? What difficulties have you encountered?

6. Do you usually know when a woman is pregnant? If yes, do you have the opportunity to support her during the pregnancy? If yes, what advice do you usually give pregnant women?

7. What motivates you to continue working?

8. With regard to certain project focus areas, how do you explain the reductions and/or lack or notable change in the indicators? (Interviewer: Discuss KPC results related to immediate breastfeeding, vaccination, birth spacing).

Project HOPE, Jinotega Child Survival Program
Focus Group Discussion Guidelines,
Community Health Committee

1. Discuss role of the Committee and role of members and what you do every week/month.

2. How has your involvement with the project contributed to your level of community organization?

3. How has your involvement with the project contributed to your capacity for problem identification and problem solving?

4. How has your involvement with the project contributed to the number of community activities and initiatives that you undertake? Explain.

5. Are there gaps in the training/capacity building that you received from the project? If yes, what more would you have like to receive?

6. How often do you meet as a committee? Do you develop action plans? If yes, how often? Give examples from the past year (Unless already given above).

7. In what ways do you support your CHWs and TBAs?

8. Do you think that this support will be adequate for them to continue working?

9. Has there been a high turnover of CHWs during the project period? In your opinion, why is this? What suggestions do you have to reduce drop-outs?

10. What kind of relationship do you have with the Ministry of Health? Do you expect to be able to sustain your relationship at the end of the project?

Project HOPE, Jinotega Child Survival Program
Focus Group Discussion Guidelines,
Mothers

1. What is your knowledge of anemia? Do you do anything to prevent anemia in yourself or your children? If yes, what?

2. What have you learned about immediate breastfeeding? What are common practices after delivery? Are these different at home compared to practices after delivering at the health facility?

3. What have you learned about exclusive breastfeeding? What barriers do mothers have to doing this?

4. What do you know about dehydration and its consequences? What prevents some mothers from seeking care?

5. What have you learned about feeding and liquids during episodes of illness in children? What are common practices in your community? What are barriers to giving as much or more food and liquids during illness?

6. What are barriers to care-seeking for cough and fast breathing in a child? What are common practices for the treatment of pneumonia in your community?

7. What have you learned about hand washing and hygiene? What prevents some mothers from practicing this knowledge?

8. There has been a reduction in vaccination coverage of children in the Department of Jinotega since the project started. What are some of things that might have contributed to this? What problems do people encounter in getting their children vaccinated?

9. What are your sources of information for STIs/HIV/AIDS? For those who have learned something about HIV, have you shared this information with anyone else? Has this information had an impact on the way you do things? If yes, explain.

10. Many people are aware of family planning and are using modern contraceptives, but many families do not space their children. What are the reasons for this?

11. Many women do not have a postpartum visit after delivery. What makes it difficult for women to have this check up?

12. Have you noted any changes in health service provision since the beginning of the project?

13. Do husbands get involved in health care? Do they support you on decisions and participation in health activities?

Project HOPE, Jinotega Child Survival Program
Focus Group Discussion Guidelines,
Health Workers

1. Did the project trainings you received help you in performing your job? If yes, how?

2. How has the community mobilization work of the project affected demand for services?

3. How is the 'sala de situation' (HIS) organized? How do you use it and how is it useful to you?

4. What do you think of references coming from the community?

5. What is your relationship with the community network of volunteers?

6. What challenges do you face in getting your work done?

C. List of person interviewed and contacted

Jinotega CSP staff interviewed	
Dr. Mario Ortega	Project Manager
Dr. Edgar Rodriguez	M&E Specialist
Dr. Pedro Ramirez	IEC Specialist
Karen Loaisiga	Administrative Assistant
Eugenio Arbizu	Educator
Agustin Herrera Armando Jose Zeledon Javier Mendez Herrera Judith Rizo Lopez Justo Jose Real Nohemi Mercado Horacio Castillo	Educator Educator Educator Educator Educator Educator Educator

Jinotega Department (SILAIS) Management team interviewed	
Dra: Ana Cely Gomez.	Directora SILAIS-Jinotega.
Dra. Myriam Siles Hernandez	Sub-Directora SILAIS-Jinotega.
Dr.Jose Ugarte	Responsable de Docencia e Investigacion-SILAIS-Jinotega.
Dr.Luis Emilio Rugada Reyes	Responsable de AIMN-SILAIS-Jinotega.
Dr. Santos Bernardo Medina Lopez.	Coordinador Cooperacion Externa SILAIS-Jinotega.
Lic. Nerea Lopez Davila	Responsable de Enfermeria. SILAIS-Jinotega.

Jinotega Municipality staff interviewed	
Dra Maria Lastenia Zelaya Mendez.	Directora de C/S La Concordia.
Starling Herrera	La Concordia Health Center – Educator
Enrique Gonzales	Guillermo Matute Health Center – Educator
Antonio Pineda	MOH San Rafael del Norte –Educador
Rosa Campos	Sisle Health Post – Nurse Auxilliary
Rosario Martinez	Ernesto Acuna Health Post – Professional Nurse
Cesar Augusto Zavala Denis Garcia Levis Castillo Dra. Nineth Palacio	Datanli Health Post –Nurse Auxilliary Pantasma Health Center – Educator El Cua Health Center – Educator Previous Municipality Director for Jinotega

Health Facility personnel interviewed	
Name	**Municipality/Community**
Dra. Marbely Chavez	El Cua.
Maria Lourdes Blandon anchez.	San Marcos.
Rosa Amanda Campos.	El Mojon.
Luis Castillo.	Planes de Vilan.
Doris Polanco.	Malecon.
Rosario Martinez.	Ernesto Acuña.
Marlene Gonzalez Bermudez	Tamalaque.
Manrique Martinez.	Wiwili.

Project Partners/Collaborators interviewed	
Dr. Sergio Amador	Project Concern International – Manager
Lic. Marjories Loza	Wisconsin Partners – Health Facilitator
Dr. Julio Valerio	CARITAS (Catholic Relief Services) –FamiSalud Project coordinator
Ing. Jose Tavare	Coffee Farm Jesus Maria – Administrator
Lic. Mario Lopez	Coffee Farm La Viola – Manager
Lic. Teresa Leon York	Coffee Farm La Colonia – Representative
Lic David Zelaya	Coffee Farm Santa Maura – Representative
Sr. Ronaldo Palacios	Coffee Farm La Florida – Representative

CHWs interviewed		
No	**Name**	**Community**
1	Santos Hernadez Lopez	Las Vueltas
2	Esmeralda Hernadez	Sisle 1
3	Esmeralda Zeledon	Pacayal
4	Jaime Rizo Amaya	Planes de vilan
5	Ana Maria Picado	Escambray
6	Evelio Galeano	El Zancudal
7	Jose Mendoza	La concepcion
7	Ester Ruiz Castillo	San Marcos
8	Ivania Lanzas	San Marcos
9	Xiomara Herrera	San Marcos
10	Sandra Torres	San Marcos
11	Rosa Antonia Perez	El mojon
12	Juana Evangelina Mendez	El mojon
13	Martha Gomez	El mojon
	Traditional Birth Attendants interviewed	
No.	**Name**	**Community**
1	Maxima Guatemala.	Las Vueltas
2	Francisca Zelaya.	Sisle No. 1
3	Virginia Vilches	Pacayal.
4	Francisca Picado.	Planes de Vilan.
5	Vilma Rosa Rizo.	El Zancudal(Los Terreros)
6	Matilde Mairena.	El Escambray
7	Juana Maria Castro CH.	San Marcos.

D. KPC Results from 80 direct beneficiary communities

KPC Final results by indicator – Department of Jinotega, Nicaragua

Indicator (for the entire project area)	FE March 2007 All areas	FE June 2007 80 communities	*GOAL*
Maternal and Newborn Care Maternal and Newborn Care			
20. % of mothers of children aged 0-23 months who report having had at least one prenatal visit with a doctor or nurse.	95%	95%	**94%**
21. % of mothers of children aged 0-23 months who report having had two or more prenatal visit with a doctor or nurse.	40%	90%	*
22. % of mothers of children aged 0-23 months that report receiving on their arm the DT vaccine during the last pregnancy.	89%	92%	**
23. % of children aged 0-23 months whose birth was attended by a doctor or nurse.	71%	61%	**65%**
24. % of mothers of children aged 0-11 months who report having had at least one postpartum visit.	51%	52%	**45%**
Nutrition and Micronutrients			
25. % of children aged 0-23 months weighed in the last four months according to growth monitoring card.	75%	96%	**90%**
26. % of children aged 0-23 months with low weight (Weight-For-Age) (<2Z).	1%		**8%**
27. % of children aged 0-23 months stunted (Height-For-Age) (<2Z).	%		
28. % of children aged 0-23 months with anemia (hemoglobin level < 11mg/dl).	47%		**30%**
Breastfeeding Promotion			
29. % of mothers of children aged 0-23 months who report having breastfed within the first hour after birth.	77%	82%	**80%**
30. % of mothers of children aged 0-23 months who report having breastfed within the first 8 hours after birth.	85%	89%	**
31. % of infants aged 0-5 months who received only breast milk in the past 24 hours.	56%	74%	**70%**
Immunization			
32. % of children aged 12-23 months with all recommended vaccines at the moment of their first birthday according to the growth monitoring card.	78%	87%	**80%**
Control of Diarrheal Diseases			
33. % of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more food to their child.	31%	59%	**60%**
34. % of mothers with children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more liquids or breast milk to their child.	65%	85%	**80%**

35. % of mothers of children aged 0-23 months who report having sought assistance or counseling from a health unit or CORU during the child's last diarrheal episode.	40%	54%	**50%**
36. % of mothers of children aged 0-23 months who report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation, and after tending a child that has defecated.	7%	24%	**35%**
37. % of mothers of children aged 0-23 months that know at least two signs of dehydration due to diarrhea.	31%	73%	**40%**

Indicator (for the entire project area)	**EF March 2007 All the areas**	**EF June 2007 80 communities**	***META***
Pneumonia Case Management			
38. % of children aged 0-23 months with cough and fast breathing in the last two weeks taken to a health unit.	53%	30%	**75%**
39. % of mothers of children aged 0-23 months that can identify fast breathing as a danger sign for pneumonia.	83%	90%	**90%**
Child Spacing			
40. % of children aged 0-23 months that were born at least 24 months after the previous surviving child.	77%	90%	**86%**
41. % of mothers of children aged 12-23 months who desire no more children in the next two years, who are using some type of modern child spacing method.	100%	66%	**85%**
HIV/AIDS			
42. % of mothers of children aged 0-23 months who know at least one way to prevent STIs-HIV/AIDS.	20%	62%	**15%**

****indicador monitoreado a solicitud de Bonnie Kittle, en consecuencia, no hay meta.***

***Indicador no tiene meta, pues solamente se ha dado seguimiento sin ser un objetivo del programa*

Improving the Health of Mothers and Children of Rural Jinotega, Nicaragua: An Integrated Approach in Partnership with the Public and Private Sector Providers in Coffee-Growing Areas

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Cooperative Agreement No. HFP-A-00-02-00026-00

KPC FINAL SURVEY REPORT

Project Location: Department of Jinotega, Nicaragua

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August 29, 2007

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Lic. Silvia Coronado López
Country Director

ACKNOWLEDGMENTS

The Jinotega Child Survival project wishes to thank all the mothers that gladly accepted to take part in the final evaluation process of the interviews and provided a valuable contribution to the information obtained.

The project would also like to thank the Community Health Volunteers (CHVs), whose work is cardinal to the success of the project and who served as guides identifying the project communities and facilitating travel to them during the final evaluation.

Additionally, thanks are extended to the health personnel of the SILAIS Jinotega, who have been partners in the project and who facilitated maps and census data of most of the surveyed communities for the final evaluation.

And finally, the project wishes to thank Lic. Mirna Zelaya of the Central MOH (MINSA Central) and the technical teams from NicaSalud (FamiSalud), especially, Dr. Adelina Barrera who made available the complete team of facilitators for training anthropometrical measurements and blood sampling for the hemoglobin testing.

A special thanks to all the participants in the survey process who are listed below:

INTERVIEWERS	SUPERVISORS	QUALITY CONTROL	DRIVERS
Edgar Alberto Rodríguez	Uriel Pineda	Mario Ortega	Daniel García
Pedro Ramírez Mora	Agustín Herrera Estrada		
Eugenio Arbizú Laguna	Judith Rizo López		
Justo José Real	Marlon Sevilla		
Horacio Castillo Cano	Karla Rugama Reyes		
Noemí Mercado Palacios	Leonel Martínez Thomas		
Armando Zeledón López	Damaris Centeno		
Francisco Javier Méndez	Isaías González		

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ACRONYMS

ARI	Acute Respiratory Infection
BF	Breastfeeding
CDD	Control of Diarrheal Diseases
CHV	Community Health Volunteer
CHW	Community Health Worker
CORU	Community Oral Rehydration Unit
CSTS	Child Survival Technical Support Project
CS	Child Survival
DHS	Demographic Health Survey
DIP	Detailed Implementation Plan
DR	Decision Rule
FP	Family Planning
GM	Growth Monitoring
GMP	Growth Monitoring and Promotion
GIK	Gift-In-Kind
GON	Government of Nicaragua
H/C	Health center
H/P	Health post
HIS	Health Information System
IEC	Information, Education and Communication
IMCI	Integrated Management of Childhood Illness
IMR	Infant Mortality Rate
IUD	Intra-Uterine Device
KPC	Knowledge, Practice, and Coverage
LAM	Lactational Amenorrhea Method
LQAS	Lot Quality Assurance Sampling
MCH	Maternal and Child Health
MMR	Measles, Mumps and Rubella
MN	Micronutrients
MOH	Ministry of Health
MWH	Maternity Waiting Homes
NFP	Natural Family Planning
NGO	Non-Governmental Organization
NICASALUD	Network of PVOs in Nicaragua
OR	Operations Research
ORT	Oral Rehydration Therapy
ORS	Oral Rehydration Salt
ORT	Oral Rehydration Therapy
PHC	Primary Health Care
PVO	Private Voluntary Organization
QA	Quality Assurance
RDA	Recommended Dietary Allowance
RH	Reproductive Health
SILAIS	Sistemas Locales de Atencion Integral en Salud
STI	Sexually Transmitted Infections
TA	Technical Assistance
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
VA	Vitamin A
VAD	Vitamin A Deficiency
W/MCH	Woman/Maternal Child Health

EXECUTIVE SUMMARY

During the month of March 2007, Project HOPE, with the cooperation of the Ministry of Health of Nicaragua, community agents, and the population in the target communities, planned and implemented a Knowledge, Practices, and Coverage (KPC) survey among mothers with children under two years of age. The KPC survey, which sampled communities from all eight municipalities in the Department of Jinotega, served to provide key information on maternal and child health knowledge and practices. Results of the survey provided quantitative data to identify the objectives achieved during the final evaluation of the Child Survival (CS) program, in the mostly rural communities of the department of Jinotega.

The KPC survey was carried out by the technical team of Project HOPE Jinotega and external personnel with experience in conducting this type of surveys. Technical assistance was provided by the Director of Project HOPE Nicaragua and Project HOPE Headquarters personnel. Technical support in the form of training process and monitoring of the anthropometrical measurement samplings was provided by NicaSalud and the Ministry of Health (MINSA).

To conduct the final evaluation, Project HOPE team used the Lot Quality Assurance Sampling (LQAS), a stratified random sampling methodology. In addition, parallel sampling was used to focus on two target groups for the survey: mothers with children 0-11 months of age, and mothers with children aged 12-23 months. For each of these groups, slightly different instruments were used, which have been validated by Child Survival Technical Support (CSTS). These instruments had already been used in prior KPC surveys with some adaptations and inclusion of questions about reproductive health, danger signs, diarrhea, feeding practices and fluids intake during infant diseases episodes, and HIV/AIDS. Measurements for weight, height, and hemoglobin levels were also taken for children under two years of age, and hemoglobin levels for mothers, using the universally accepted HEMOCUE equipment. The team, which was composed of NicaSalud, MINSA Central, and Project HOPE, provided training for weighing, height measuring, hemoglobin nutrition components and on sampling and LQAS methodology for the survey. The sample size was 19 mothers with children under two years of age in each of the two groups 0 to 11 and 12 to 23 months of age, for each Supervision Area (SA=8), with a subtotal of 152 mothers by age group, and a grand total of 304 interviewed mothers selected randomly for the final evaluation.

Data collection took place approximately within a two-week period. Eight survey teams were formed with one supervisor and one interviewer in each team. Quality control was done by six staff members from Project HOPE and stakeholders, who used a quality control checklist during the interview process. In addition, this CS program pilot-tested the use of electronic Portable Digital Assistants (PDAs) for data capturing and analysis.

The analysis was done using LQAS tabulation forms in the field. Average coverage rates (non-weighted) were calculated for CS indicators —including Rapid CATCH ones— for the entire program area. In addition, adjusted coverage rates (weighted) were calculated for each indicator based on population size. Finally, 95% Confidence Intervals (CI) were calculated for each indicator considering population size for each SA.

RESULTS

Breastfeeding practices for mothers of children from 0 to 23 months of age showed an average of 77% of the children receiving breast milk during the first hours after birth. All municipalities were found to

be equal or above this average. The percentage of children 0 to 5 months of age that received breast milk in the last 24 hours was 56% (95% CI = +/- 10.8%).

Regarding the nutritional practices of mothers, 76% of children 0 to 23 had weight measurements recorded in their health cards in the last four months. The municipalities of El Cuá and Bocay were found to be below average coverage.

Stunting (Height-For-Age) in children aged 0-23 months was 2% and children aged 0-23 months with low weight (Weight-For-Age) was 1%.

The results for hemoglobin determination for the project area showed that 47% of children under two years of age have anemia (levels below 11mg/dl.).

The results of the immunization coverage for the project area reflect that 78% of children 12 to 23 months old received all vaccines at the moment of their first birthday. The municipality of Jinotega, El Cuá and Bocay was found to be below this average coverage.

Regarding diarrhea, the KPC survey revealed low knowledge of danger signs recognition by the mother. Survey results found that 26% (non-weighted average) of mothers could recognize at least two danger signs (dehydration signs) during diarrhea episodes for children aged 0 to 11 months old. In the 12 to 23 month old group, 39% (non-weighted average) of mothers could recognize at least two danger signs. The municipality of Jinotega and Bocay are below this average.

As for the demand of services, results showed a significantly low rate of utilization. The average number of children with diarrhea seen by qualified medical personnel or at the Community Oral Rehydration Unit (CORU) was 35% (non-weighted average) for the 0 to 11 months old group. For the 12 to 23 months old group the result was 43% (non-weighted average). Overall, only 40% of children aged 0-23 months with diarrhea sought help at a health facility or CORU (95% CI= +/- 10.6%).

Regarding the percentage of mothers that reported having given equal amount or more food to their child during the last diarrheal episodes for both groups (0 to 11 and 12 to 23 months old), the result was 31%.

The percentage of mothers that reported having given equal amount or more liquids to their child during the last diarrheal episodes for both groups (0 to 11 and 12 to 23 months old) was 65%.

With respect to Acute Respiratory Infections (ARI) management, the percentage of children 0 to 23 months old with fast breathing that were seen at a health unit was 53%. Regarding pneumonia danger signs knowledge, 88% (non-weighted average) of mothers for children 0 to 11 months old can identify fast breathing as a danger sign. For the 12 to 23 months old group, the result was 84% (non-weighted average).

Regarding maternal and newborn care, the percentage of mothers who reported that during their last pregnancy received the tetanus vaccine (dT) was 91% (non-weighted average) for the 0 to 11 months old group and 89% (non-weighted average) mothers with children 12 to 23 months of age.

Only 55% (non-weighted average) of mothers with children 0 to 11 months old reported having at least one postnatal visit. The municipality of Bocay is the only municipality below the project area average.

Almost ¾ of children 71% 0 to 23 months of age had their birth attended by qualified medical personnel (doctor or nurse). The municipalities of Jinotega, Wiwili, Cua and Bocay were found to be below the average.

With respect to birth spacing, the percentage of children 0 to 11 months old that were born at least 24 months after the previous surviving child was 76% (non-weighted average). For the 12 to 23 months old group, the average was 80% (non-weighted average). The municipality of Bocay was found to be below the average in both groups.
Regarding mothers with children 12 to 23 months of age that stated using some type of modern family planning method, the average coverage was 100%.

With regard to STIs and HIV/AIDS, the percentage of mothers that know at least one way to prevent the disease was 24% (non-weighted average) for the 0 to 11 months group. For the mothers with children 12 to 23 months of age, the result was 20% (non-weighted average).

I. BACKGROUND

The department of Jinotega is located in the north region of Nicaragua, with an area of 9,389 km^2 (8% of the total country surface). The estimate of population for the year 2006, according to the Instituto Nicaraguense de Estadisticas y Censos (INEC), is 301,214 inhabitants, with a density of 32.08 person per km^2, much lower than the national average of 75 people per km^2. Jinotega borders at the north with Honduras, to the south with the department of Matagalpa, to the east with the Region Autónoma del Atlántico Norte (RAAN) and to the west with the departments of Nueva Segovia, Madriz and Esteli.

Politically, the department is divided into eight municipalities: Jinotega, San Rafael del Norte, La Concordia, San Sebastian de Yali, Santa Maria de Pantasma, Wiwili, El Cua, and San Jose de Bocay. The department can be described as mountainous, with warm weather but with specific weather characteristics in each municipality, ranging from very humid to dry. The city of Jinotega is the capital of the department, and is located 161 kilometers from the country's capital Managua. The road Jinotega to Managua is accessible through Matagalpa on good paved roads and via Esteli on unpaved roads all year. The municipalities are linked by unpaved roads in poor conditions and some municipalities such as Wiwili and San Jose de Bocay have communities that are only accessible via the rivers in a large portion of the territories. The main rivers in the department are: the Coco River, which is the longest and largest in Central America, and the Bocay and Amaka Rivers which feed into the Coco River and cross the municipalities of El Cua, and San Jose de Bocay.

Jinotega is characterized as a region producing staple grains, coffee, and non-traditional products, and a limited cattle industry. The mountainous areas of Jinotega, Wiwili, El Cua, Bocay, Yali and San Rafael are perfect for the production of coffee. The municipality of Pantasma produces different crops such as staple grains, vegetables, and tobacco. Some of the areas are classified as "*zona seca*" (dry zone) in which there is limited production due to lack of rain. Jinotega also generates electricity by means of the hydroelectric plant of Lake Apanas, which produces about 30% of the national electrical energy.

The social and economic situation of the department of Jinotega has been depressed in the last years by the return of large populations to their original homes after the civil war, and by the fall of the international coffee prices, the main source of financial income for the department of Jinotega.

Water and sanitation

In the urban area, 40% of the houses have drinking water as compared to only 10% in the rural area. The percentage of houses that have latrines is 41.3% for the whole department of Jinotega (ENDESA 2001).

Poverty

According to the poverty map of the UNDP and the Technical Secretariat of the Presidency for the year 2000, the municipalities of El Cua, Bocay and Wiwili are classified as of extreme poverty; Yali, San Rafael del Norte and Pantasma are classified as high poverty; La Concordia and Jinotega are medium poverty. The municipalities with severe poverty represent 41% of the department's population.

The Ministry of Education (MECD) estimates that the number of education centers covers only 40% of the territory. According to ENDESA 2001, 39.9% of the population cannot read or write and 41.5% of women have never attended school. Regarding the education level of heads of family, 55% do not know how to read or write, only 10% have attended secondary school or higher studies and 35% completed primary education. Of the heads of family, 20% are single mothers.

The depressed social and economic conditions, directly impact on health indicators of the general population with a greater risk of illnesses or death. Women of reproductive age and children under five years old are the group at greater risk, comprising 51.2% of the total population. The latest survey carried out by the MINSA's Nutrition Office in 1994 ranked Jinotega as a high risk department regarding micronutrient deficiency.

Table 1: Health indicators – SILAIS Jinotega

Pathology	Rate Dept./ 2000	ENDESA /2001 Rate	Rate Dept./ 2004	Rate Dept./ 2006
Mortality from diarrhea	11.8	N/A		128 / 45.8***
Mortality from ARIs	13	N/A		183 / 201***
Maternal mortality	98.6x100,000NVR	N/A	224.1x100,000NVR*	163.3x100,000NVR
Infant mortality	18 x 1000	40** x 1,000	11.3 * x 1000	10.7 x 1000
Perinatal mortality	19.8	21	17 *	16.9
Diarrhea prevalence	N/A	19.6		34.8
ARIs prevalence	N/A	35.4		17.07

* It is suggested that the principal cause in the difference between these two statistics is that in official data, there is a under registration of live births. In the case of infant mortality, SILAIS Jinotega reports that there has been a reduction of infant deaths related to diarrhea which has reduced the overall infant mortality rate.

** This data corresponds to infant mortality rate the 10 years prior to the survey (1996-2001), calculated from the history of births and deaths obtained from interviews of WRA.

***For the year 2006, SILAIS separated the mortality rates for diarrhea and ARI according to age groups. The first age group was for children under 1 year of age and the second group for children 1 to 5 years of age.

Women's health indicators for the year 2004 present a coverage of prenatal control of 84.1% with a concentration of 3.2 visits per pregnant woman. Coverage for postnatal care was 52%, family planning coverage was 31.6% with a preference for injectables (Depo-Provera). The ENDESA 2001 presents a coverage for modern family planning methods of 52% and the knowledge of women regarding HIV/AIDS as 81% of them having heard about the subject and 42.6% knowing two or three forms to avoid the disease.

Table 2: Department of Jinotega Demographics

Municipalities	**Population 2003**	**%**	**Km^2**	**Density**
Jinotega	58,788	24.0	1,239	46.7
San Rafael del Norte	16,978	7.0	468	36.3
La Concordia	7,658	3.0	224	42.1
San Sebastian de Yali	21,803	9.0	595	39.2
Pantasma	39,555	16.0	546	68.5
Wiwili	35,847	14.0	2,444	13.9
El Cua	42,572	17.0	3,872	9.9
San Jose de Bocay	24,961	10.0	N/A	N/A
Total	**248,162**	**100.0**	**9,388**	**26.2**

Program description (September 2002 – March 2007)

Project HOPE has been implementing the CS project in the 8 municipalities of Jinotega since 2002. The strategies and activities designed have been developed around PROCOSAN, Community Based Distribution of Family Planning Methods (ECMAC, for its initials in Spanish); Birth Plan for Safe Motherhood; and Community Based Life Saving Skills. All of these initiatives have been implemented with our partners who include: Ministry of Health- SILAIS Jinotega, Community Health Volunteers (CHWs and TBAs), the private coffee plantation owners and other ngos in the department such as CARE, Caritas-CRS, Wisconsin Partners of the Americas and Project Concern International.

The target population includes 60,031 children under five and 70,827 women of reproductive age for a total of 130,858 beneficiaries. The goal of this program is to reduce morbidity and mortality rates of

children under five and women of reproductive age in Jinotega's primarily rural communities. This has been accomplished by building the service-delivery capacity of local health facilities and organizations; increasing the skills and elevating the morale of health care providers; strengthening cooperation among public, private and community stakeholders; and empowering consumers, particularly women, to take greater responsibility for personal and family health maintenance decisions.

The program includes a specific set of capacity-building activities and objectives as well as health-related interventions. With respect to capacity building, HOPE will facilitate the establishment of Department- and Municipality-level Health Councils—to include representatives of SILAIS, municipalities, private coffee plantations and associations, PVOs, NGOs, community leaders, health providers, and international donors—to guide and extend the project.

II. PROCESS AND PARTNERSHIP BUILDING

A. Specific roles of local partners/stakeholders in the KCP Survey

Project HOPE/ Jinotega coordinated the planning and the implementation of the Final KPC survey. The following is a list of local partners and stakeholders involved in the implementation of the KPC and their specific roles.

MINSA—At the national level, MINSA provided one facilitator, Lic. Mirna Zelaya, who participated in the training of interviewers in how to weigh children with the special Salter scales. At the SILAIS level, MINSA provided population (census) data and detailed local maps that were used to select communities and households, and provided equipment, including HEMOCUE machines that were used to take hemoglobin measurements. The maps had been drawn in January 2005 by local "brigadistas" (community health promoters), and were very helpful in orienting the survey team to locate households once they arrived in a particular community.

B. Constraints in making the process more participatory

La participación del personal del MINSA en el proceso de recolección de datos en la encuesta de medio termino se enfoco a coordinar las visitas a las comunidades, acompañamiento en algunas visitas a comunidades seleccionadas y acompañamiento a en algunas visitas de control de calidad de las encuestas. Un factor que limito el acompañamiento del personal del MINSA durante todo el proceso fue el período de 15 días que implica realizar todo el estudio y del MINSA nadie pudo ausentarse tanto tiempo, pues conllevaba dejar un puesto o unidad de salud descubierto.

The participation of MINSA personel in the recollection of information for the final evaluation was focused on coordinating visits to the communities and visiting communities to ensure proper filling out of survey forms. One factor that limited the participation of MINSA personnel throughout the entire survey period of 15 days was that full participation in the survey would result in health facilities being left unattended for over two weeks, which is inconceivable to all involved.

C. Participatory research used in the study

Information for each KPC was collected using two methods: manually, by each supervisor and electronically by each interviewer, using Portable Digital Assistants (PDAs) to improve data collection practices and minimize data errors, as part of the Management Information System of Project HOPE called SIGHOPE.

III. METHODS

A. Questionnaires

Questionnaire development process

The sections and questions included in the midterm Project HOPE/ Jinotega KPC Survey are based on the model of questions and modules contained in KPC 2000+ Questionnaire Manual (Spanish version). Project HOPE/ Jinotega staff is experienced in developing and implementing cross-sectional maternal and child health surveys: as they have conducted several such surveys during the project to date: Base Line and Midterm KPCs. Project HOPE/ Nicaragua staff has also participated in numerous survey workshops and trainings on LQAS hosted by NicaSalud.

The questionnaires used were adapted and validated during the baseline with the proviso that certain indicators were incorporated at a later date (RAPID CATCH) and were not collected at baseline.

The LQAS methodology employed to conduct the KPC during the final evaluation was also used at baseline and during two monitoring exercises conducted by the project. Additionally, it was also decided to conduct parallel sampling to obtain the needed sample size for the relevant indicators, and two questionnaires were developed, one for those mothers with infants 0-11 months, and the other for mothers with children 12-23 months. Parallel sampling is designed to target the most appropriate sub-target group with the most appropriate questions for that subgroup, allowing for a fewer number of questions to be administered to any one subgroup. Another advantage is that recall bias may be reduced, as the question content will focus on behaviors or experiences relatively recent or current to a particular subgroup. Parallel sampling may also provide higher quality data, as shorter interviews are less likely to trigger 'interview fatigue' compared to longer ones. Lastly, parallel sampling may produce more precise point estimates, because data from questionnaires with common questions can be pooled, allowing relatively larger sample sizes for particular items.

Scope of survey, survey length, and versions of the questionnaire

Modules included in the survey questionnaires correspond roughly to the proposed interventions included in the project proposal submitted to USAID/ Washington in December 2001. The two questionnaires included the following modules:

Table 3: Number of Questions by Questionnaire

Module	Number of Questions*		Module	Number of Questions*	
	0-11 months	12-23 months		0-11 months	12-23 months
Identification	14	14	Malaria **	4	4
Background	5	5	Prenatal Care ***	8	5
Nutrition and Breastfeeding	7	7	Intrapartum and Newborn Care	5	2
Growth and Monitoring	8	8	Family Planning	5	7
Immunization	-	2	HIV/AIDS	3	3
Sick Child	4	2	Water and Sanitation	2	2
Diarrheal Management	9	9	Anthropometry and Hemoglobin	4	4
Acute Respiratory Infections	9	9	**Total**	**87**	**83**

* A few questions contain fields for more than one variable

** This intervention area was not included in the baseline but as part of monitoring, the 4 questions on both surveys for both age groups (0-11 y 12-23 months of age), have been included to obtain data on Rapid Catch for Malaria.

*** This intervention area was also included on both questionnaires to obtain information for Rapid Match indicators.

B. KPC Indicators

The following table lists the main indicators proposed for the program with the respective construction:

Table 4: Indicators construction

Indicator	Numerator	Denominator	Question Reference
1. % of children aged 0-23 months weighed in the last 4 months according to growth monitoring card	Children aged 0-23 months weighed in the last 4 months according to growth monitoring card	Total children 0-23 months with growth monitoring card	CD2
2. % of children aged 0-23 months with low weight (weight for age) (<2Z)	Children aged 0-23 months with low weight (weight for age) (<2Z)	Total children 0-23 months in the study	AH1 / Pi 14
3. % of children aged 0-23 months stunted (height for age) (<2Z)	Children aged 0-23 months stunted (height for age) (<2Z)	Total children 0-23 months in the study	AH 2 / Pi 14
4. % of children aged 0-23 months with anemia	Children aged 0-23 months with hemoglobin less than 11mg/dl.	Total children 0-23 months in the study	AH 3
5. % of mothers of children aged 0-23 months who report having breastfed within the first hour after birth	Mothers of children aged 0-23 months who report having breastfed within the first hour after birth	Total mothers of children 0-23 months in the study	LN 2
6. % of mothers of children aged 0-23 months who report having breastfed within the first eight hours after birth	Mothers of children aged 0-23 months who report having breastfed within the first eight hours after birth	Total mothers of children 0-23 months in the study	LN 2
7. % of infants aged 0-5 months who received only breast milk in the past 24 hours	Infants aged 0-5 months who received breast milk only in the past 24 hours	Total infants 0-5 months in the study	LN6 A = 1 LN6 B-U = 0 Pi 14 < 6
8. % of mothers of children aged 0-23 months that know at least two signs of dehydration due to diarrhea	Mothers of children aged 0-23 months who can mention at least two of the following signs: sleepy, sunken eyes, folding skin, thirsty, restless or cranky.	Total mothers of children 0-23 months in the study	DM 9 = two or more of A to E
9. % of mothers of children aged 0-23 months who report having sought assistance or counseling from a health unit or CORU during the child's last diarrheal episode	Mothers of children aged 0-23 months which had diarrhea in the last two weeks that report having sought assistance or counseling from a health unit or CORU	Total mothers of children 0-23 months in the study who had diarrhea in the last two weeks	DM7= A,B,C & F / DM1 = 1
10. % of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more food to their child	Mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more food to their child during this episode	Total mothers of children 0-23 months in the study who had diarrhea in the last two weeks, excluding children 0-5 months with exclusive breastfeeding	DM5= 2 or 3 / DM1 = 1 – [(Pi 14 < 6) + (LN6 A = 1, LN6 B-U = 0)]
11. % of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more liquids or breast milk to their child	Mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more liquids or breast milk to their child during this episode	Total mothers of children 0-23 months in the study who had diarrhea in the last two weeks	DM4= 2 or 3 / DM1 = 1
12. % of children aged 0-23 months with cough and fast breathing in the last two weeks taken to a health unit	Mothers of children aged 0-23 months with cough and fast breathing in the last two weeks who report having taken the child to a health unit	Total mothers of children 0-23 months in the study with cough and fast breathing in the last two weeks	IR7= A or B or C / IR2 = 1
13. % of mothers of children aged 0-23 months who can identify fast breathing as a danger sign for pneumonia	Mothers of children aged 0-23 months who can identify fast breathing as a danger sign for pneumonia	Total mothers of children 0-23 months in the study	IR 9 = B
14. % of children aged 12-23 months with all recommended vaccines according to the growth monitoring card	Children aged 12-23 months with one dose of BCG, OPV3, 3Pentavalente and one MMR at the moment of their first birthday	Total children 12-23 months in the study	IN 2 = A - H

Indicator	Numerator	Denominator	Question Reference
15. % of mothers of children aged 0-23 months who know at least one way to prevent STIs-HIV/AIDS	Mothers of children aged 0-23 months who can mention at least one of the followings: abstinence, use of condom, having only one sex partner / being faithful	Total mothers of children 0-23 months in the study	VS 3 = B or C or D or E
16. % of children aged 0-23 months who were born at least 24 months after the previous surviving child	Children aged 0-23 months born at least 24 months after the previous surviving child mas los hijos únicos	Total children 0-23 months in the study	PF 3 (Child DOB1-Child DOB2) >24 months+ Hijos Únicos
17. % of mothers of children aged 12-23 months who desire no more children in the next two years, who are using some type of modern child spacing method	Mothers of children aged 12-23 months who are not pregnant, desire no more children or are not sure and report using one of the following modern child spacing methods: norplant, injectables, oral, IUD, condom / diaphragm, gel / foam, male or female surgical sterilization	Total mothers of children 12-23 months in the study, excluding pregnant women	PF 4 = 0 + PF 7 = 02 – 10 152 – PF 4 = 1
18. % of mothers of children aged 0-23 months who report having had at least one prenatal visit with a doctor or nurse	Mothers of children aged 0-23 months who report having had at least one prenatal visit with a doctor or nurse	Total mothers of children 0-23 months in the study	AP 1 = B
19. % of mothers of children aged 0-23 months that report receiving on their arm the dT vaccine during the last pregnancy	Mothers of children aged 0-23 months that report receiving on their arm the dT vaccine during the last pregnancy	Total mothers of children 0-23 months in the study	AP 2 = 1 (12 to 23 m) AP 3 = 1 (0 to 11 m)
20. % of mothers of children aged 0-11 months who report having had at least one postpartum visit	Mothers of children aged 0-11 months, who report having had at least one postpartum visit	Total mothers of children 0-11 months in the study	PF 4 = 2 or 3
21. % of children aged 0-23 months whose birth was attended by a doctor or nurse	Children aged 0-23 months whose birth was attended by a doctor or nurse	Total children 0-23 months in the study	RN 2 = A or B

Table 5: Rapid CATCH Indicators

Indicator	Numerator	Denominator	Question Reference
1. % of children aged 0-23 months with low weight (weight for age) (<2Z)	Children aged 0-23 months with low weight (weight for age) (<2Z)	Total children 0-23 months in the study	AH1 Pi 14
2. % of children aged 0-23 months who were born at least 24 months after the previous surviving child	Children aged 0-23 months born at least 24 months after the previous surviving child	Total children 0-23 months in the study	PF 3 (Child DOB1-Child DOB2) >24 months
3. % of children aged 0-23 months whose birth was attended by a doctor or nurse	Children aged 0-23 months whose birth was attended by a doctor or nurse	Total children 0-23 months in the study	RN 2 = A or B
4. % of mothers of children aged 0-23 months that received two doses of dT vaccine during the last pregnancy, according to health card	Madres de niños de 0 – 23 meses que tienen registradas al menos dos dosis de dT en su tarjeta de embarazo.	Total de madres de niños de 0 – 23 meses con tarjeta de embarazo	AP6=2 0-11m AP5=2 12-23m AP4=1 0-11m + AP3=1 12-23m
5. % of infants aged 0-5 months who received breast milk only in the past 24 hours	Infants aged 0-5 months who received breast milk only in the past 24 hours	Total infants 0-5 months in the study	LN6 A = 1 LN6 B-U = 0 Pi 14 < 6
6. % of children aged 6-9 months who received breast milk and complementary feeding in the past 24 hours	Mothers of children aged 6-9 months that report having given breast milk and complementary feeding in the past 24 hours	Total mothers of children 6-9 months in the study	LN 6 A = 1 LN 6 B to U = 1 (minimum 1) LN 7 > 0
7. % of children aged 12-23 months with all recommended vaccines at the moment of their first birthday according to the growth monitoring card	Children aged 12-23 months with one dose of BCG, OPV3, 3Pentavalente and one MMR at the moment of their first birthday	Total children 12-23 months in the study	IN 2 = A - H

Indicator	Numerator	Denominator	Question Reference
8. % of children aged 12-23 months that received the MMR vaccine according to the growth monitoring card	Children aged 12-23 months that received the MMR according to the growth monitoring card	Total children 12-23 months in the study	IN 2 = A - H
9. % of children aged 0-23 months who slept under an impregnated mosquito net the previous night	Niños de 0-23 meses que durmieron la noche anterior con mosquitero impregnado	Total children 0-23 months in the study	CM1=2 / CM4=1 both questionnaires
10. % of mothers of children aged 0-23 months that know at least two signs of childhood illnesses indicating the need for treatment	Mothers of children aged 0-23 months who can mention at least two of the following signs: looks tired, does not eat or drink, sleepy or hard to awake, has high fevers, has fast breathing, vomits all food or drinks, has seizures	Total mothers of children 0-23 months in the study	DM 9 = D
11. % of children aged 0-23 months that received more liquids and continued feeding during an illness in the last two weeks	Mothers of children aged 0-23 months that had diarrhea or ARI in the last two weeks that report having given more liquids and continued feeding during an illness in the last two weeks	Total mothers of children 0-23 months with diarrhea or ARI in the last two weeks in the study	DM5= 2 or 3 / DM1 = 1 – [(Pi 14 < 6) + (LN6 A = 1, LN6 B-U = 0)]
12. % of mothers of children aged 0-23 months who know at least one way to prevent STIs-HIV/AIDS	Mothers of children aged 0-23 months who can mention at least one of the followings: abstinence, use of condom, having only one sex partner / being faithful	Total mothers of children 0-23 months in the study	VS 3 = B or C or D or E
13. % of mothers of children aged 0-23 months who report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation and after tending a child that has defecated	Mothers of children aged 0-23 months that mentioned the 4 situations when hands must be washed: before the preparation of meals, before feeding children, after defecation and after tending a child that has defecated	Total mothers of children 0-23 months in the study	AS1 = B, D , E & F

C. Sampling Design

Universe: 248,162 inhabitants of the Department of Jinotega
Sampling size: A random stratified sampling method, known as LQAS (Lot Quality Assurance Sampling), was used. Through LQAS, a sample size of 19 interviews per lot were obtained. Eight lots were identified, corresponding to each municipality in the Department of Jinotega. In addition, parallel sampling was used to better understand the knowledge, practices, and coverage of mothers with children 0-11 months, and mothers with children 12-23 months. Thus, slightly different questionnaires were used for each group (see Appendix B for the both instruments used). The sample sized used gave a total of 38 interviews per supervision area, or 152 interviews from each age group, or a grand total of 304 interviews for the total area of the project (Department of Jinotega).

For the purpose of the KPC midterm study, eight supervision areas were defined as follows:

- SA 1: Jinotega
- SA 2: San Rafael del Norte
- SA 3: La Concordia
- SA 4: San Sebastián de Yalí
- SA 5: Santa Maria de Pantasma
- SA 6: Wiwilí
- SA 7: El Cua
- SA 8: San José de Bocay

For the selection of the communities, a random sampling framework was used based on the population of communities within each supervision area. The result was the identification of communities to be

sampled, which are listed in Appendix C. For each selected community, the census and maps were updated, which was done in close coordination with MINSA personnel and CHVs.

According to the sampling framework, each one of the homes was numbered within the respective community map, selecting at random the homes to be interviewed. If there was more than one mother who had children both 0 to 11 and 12 to 23 months old in the home, only one of them was selected at random to participate in the survey. In cases where there were no mothers in the home selected for the survey, the nearest home was identified. No two interviews were ever made to the same mother, nor were two interviews ever carried out at the same home.

An interview was considered complete after filling out the questionnaire, weighting and measuring the child and taking the blood sample both from the mother and child. A sampling set was considered complete after having completed both interviews (0 to 11 and 12 to 23 months old). Only at this point a new home was selected to start the new sampling set. This procedure was followed until all sets identified for each community were completed.

D. Training

In preparation for the use of the LQAS methodology, technical and support personnel received training from Project HOPE´s Specialists, with expertise in the use of LQAS methodology for baseline and another assessments in Nicaragua. Training was also provided to all personnel in anthropometrical measurements, blood sampling and hemoglobin determination, from MINSA Central and NicaSalud.

For the hemoglobin determinations, HEMOCUE[1] photometers were utilized, which used the principle that after erythrocytes are hemolyzed by sodium deoxycholate, hemoglobin is released. Hemoglobin is converted to methemoglobin by sodium nitrate, which together with sodium azide, produce azidemethemoglobin. The absorbance is then measured at two wavelengths (570 and 880 nm) in order to compensate for turbidity in the sample. The sample is collected from arterial or venous blood and place on a microcuvette. For the sampling and survey, procedures and recommendations outlined in the HEMOCUE Operating Manual were followed.

For the measurement of weight on children, SALTER scales graduated in kilograms were used; and to gather height measurements, the UNICEF manufactured measuring boards graduated in centimeters were used (Infantómetros). Procedures outlined in the Manual for Determination of Nutritional Status[2] were followed. In order to achieve the standardized performance of the survey teams for all these procedures, field tests were conducted to assure quality of measure among survey personnel.

E. Data Collection and Quality Control

The KPC data collection was conducted by the technical team from Project HOPE Jinotega and external personnel with experience in this type of surveys. The collection of data took place approximately within an intensive two-week fieldwork period. Project HOPE Jinotega used ten survey teams, which were comprised of one supervisor and one interviewer in each team. The average time of the interview including for anthropometrical measurements and hemoglobin determination was forty-five minutes.

Project HOPE's technical personnel collected the survey information manually (supervisor, which in several cases was non Project HOPE staff) and electronically by Project HOPE staff. Both roles were

[1] HemoCue, Blood Hemoglobin Photometer. Operating Manual. Bergstens, HBG H. US 2003

[2] COMO PESAR Y MEDIR NINOS. Procedures Manual for Measuring Nutritional Status, UN, Department of Technical Cooperation for Development and Office of Statistics. New York, 1988.

carried out by highly experienced individuals, which years of KPC experience. Those who utilized PDAs for data entry were selected based on using said equipment previously. Those who collected the information manually filled out the paper surveys with pen or pencil. This way of entering the responses ensured the quality of the surveys

F. Data Analysis

All information collected was entered into the Microsoft Access™ program, by the Project HOPE Jinotega information systems specialist. Data analysis was made by comparing the specific results obtained for each supervision area with the average project coverage and with statistical data from the SILAIS and ENDESA 2001. The results of the survey are presented in LQAS summary tables in Section IV and discussed in Section V.

Information on weight, height and age was analyzed using the CDC statistical package, EpiNut, using the population reference of 1978 of the US National Center for Health Statistics, used to determine nutritional status of children using height for age and weight for age indicators, recommended by the World Health Organization. Height, weight, and age data was analyzed using the EpiNut statistical package of the CDC, using the 1978 population reference. The use of this reference population of 1978 is based on the fact that all well nourished children of all populations follow similar growth patterns. For the midterm evaluation and with the support of the Central Ministry of Health, all project field staff were trained on how to properly weigh and measure children. Height was determined by laying the child down and measuring.

Weighted population

It is important to remember that when information from different supervision areas is collected, the specific estimates obtained for each area will not be exact. It is for this reason that an estimation of coverage (with respective confidence intervals) areas must be calculated for the total project area by combining all supervision areas with enough precision. This is accomplished by weighing the results of each supervision area according to the total population in the project area.

In other words, the weighted population is simply the proportion of the total programmed area population living within a specific lot or area. Furthermore, this weighted population can be used to calculate coverage for the total project area as well as confidence intervals.

Even though the weighted estimates are considered more precise than the non-weighted estimates, the difference between these two is generally not that large. In order to carry out the comparison of data between all supervision areas and the total project area, the population was weighted for each one of the supervision areas.

Table 7: Total estimate sample with weighted population:

Supervision area	Sampling size (n)	Population (N)	Weighting (w_i)
1. Jinotega	38	57,682	57,682 / 249,792 = **0.23**
2. San Rafael del Norte	38	18,340	18,340 / 249,792 = **0.07**
3. La Concordia	38	6,585	6,585 / 249,792 = **0.03**
4. San Sebastián de Yalí	38	23,190	23,190 / 249,792 = **0.09**
5. Santa María de Pantasma	38	37,761	37,761 / 249,792 = **0.15**
6. Wiwilí	38	33,462	33,462 / 249,792 = **0.13**

7. El Cua	38	46,305	46,305 / 249,792	**= 0.19**
8. San José de Bocay	38	26,467	26,467 / 249,792	**= 0.11**
Total project area	**304**	**248,162**		

The following formulas were used to calculate adjusted (weighted) coverage rates for the entire region at 95% Confidence Intervals (C.I.) for stratified random sampling using weighted coverage rates:

$$\mathbf{p}_w = \sum \boldsymbol{wt_i} * \boldsymbol{p_i}$$

$$\text{C.I.} = \pm 1.96 * \sqrt{\sum \frac{\boldsymbol{wt_i}^2 * \boldsymbol{p_i q_i}}{\boldsymbol{n_i}}}$$

where:

p_w = adjusted coverage rates for a region with multiple Supervision Areas
C.I. = confidence interval for a coverage proportion for a region with multiple Supervision Areas
1.96 = Z score for the 95% confidence interval
wt_i = the weight for the *i*th Supervision Area described in Table 10
p_i = the coverage proportion for the *i*th Supervision Area
q_i = $1 - p_i$
n_i = the sample size from the *i*th Supervision Area

The formula for the C.I. was taken from Valadez, Joseph J. "*Assessing Child Survival Programs in Developing Countries*" Harvard School of Public Health. Boston. Massachusetts. p94. 1991.

See Annex A for a complete list of all calculations by indicator, including average coverage rates, adjusted coverage rates (by population weigh), and confidence intervals calculations.

Table 8: KPC Final results by indicator – Department of Jinotega, Nicaragua

Indicator (for the entire project area)	Baseline March 2003			Midterm March 2005			Finally Evaluation March 2007			GOAL
	Average Coverage Rates (%)	Adjusted Coverage Rates (%)	95% C.I. (+ / -)	Average Coverage Rates (%)	Adjusted Coverage Rates (%)	95% C.I. (+ / -)	Average Coverage Rates (%)	Adjusted Coverage Rates (%)	95% C.I. (+ / -)	
Maternal and Newborn Care Maternal and Newborn Care										
1. % of mothers of children aged 0-23 months who report having had at least one prenatal visit with a doctor or nurse.	89.1	89.0	**3.8**	93.4	93.5	**2.9**	95.4	94.9	**2.7**	**94%**
2. % of mothers of children aged 0-23 months that report receiving on their arm the dT vaccine during the last pregnancy.	85.5	85.4	**4.2**	89.8	90.2	**3.5**	89.8	88.6	**4.0**	**
3. % of mothers of children aged 0-23 months who report having had at least two prenatal visit with a doctor or nurse.	39.5	35.5	**5.8**	37.5	35.0	**5.9**	36.8	39.8	**6.1**	*
4. % of children aged 0-23 months whose birth was attended by a doctor or nurse.	52.3	51.4	**5.8**	56.6	53.7	**5.7**	73.4	71.2	**5.5**	**65%**
5. % of mothers of children aged 0-11 months who report having had at least one postpartum visit.	37.5	32.4	**7.9**	37.5	32.5	**7.9**	54.6	50.8	**8.5**	**45%**
Nutrition and Micronutrients										
6. % of children aged 0-23 months weighed in the last four months according to growth monitoring card.	73.7	67.9	**6.0**	86.6	86.1	**4.5**	75.4	74.5	**5.4**	**90%**
7. % of children aged 0-23 months with low weight (Weight-For-Age) (<2Z).	6.6	7.6	**3.5**	5.9	7.5	**3.5**	1.0	1.0	**1.3**	**8%**
8. % of children aged 0-23 months stunted (Height-For-Age) (<2Z).	19.1	19.8	**4.9**	16.4	17.2	**4.7**	2.0	2.0	**1.9**	
9. % of children aged 0-23 months with anemia (hemoglobin level < 11mg/dl).	39.8	41.9	**6.1**	47.4	47.0	**6.2**	47.4	47.2	**6.2**	**30%**
Breastfeeding Promotion										
10. % of mothers of children aged 0-23 months who report having breastfed within the first hour after birth	67.8	67.8	**5.9**	83.2	81.6	**5.6**	76.3	76.9	**5.2**	**80%**
11. % of mothers of children aged 0-23 months who report having breastfed within the first 8 hours after birth.	82.4	82.4	**4.7**	82.4	82.4	**4.9**	85.5	85.3	**4.4**	**
12. % of infants aged 0-5 months who received only breast milk in the past 24 hours.	58.2	56.0	**12.5**	40.8	51.8	**9.0**	56.2	55.9	**10.8**	**70%**
Immunization										
13. % of children aged 12-23 months with all recommended vaccines at the moment of their first birthday according to the growth monitoring card.	70.4	68.7	**8.2**	80.9	80.5	**6.9**	82.0	77.6	**8.0**	**80%**

Indicator (for the entire project area)	Baseline March 2003			Midterm March 2005			Finally Evaluation March 2007			GOAL
	Average Coverage Rates (%)	Adjusted Coverage Rates (%)	95% C.I. (+ / -)	Average Coverage Rates (%)	Adjusted Coverage Rates (%)	95% C.I. (+ / -)	Average Coverage Rates (%)	Adjusted Coverage Rates (%)	95% C.I. (+ / -)	
Control of Diarrheal Diseases										
14. % of mothers of children aged 0-23 months that know at least two signs of dehydration due to diarrhea.	28.3	26.9	**5.5**	18.8	16.8	**4.6**	32.2	31.1	**5.6**	**40%**
15. % of mothers of children aged 0-23 months who report having sought assistance or counseling from a health unit or CORU during the child's last diarrheal episode.	33.6	35.7	**8.8**	49.5	52.5	**9.9**	39.6	39.9	**10.6**	**50%**
16. % of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more food to their child.	46.0	45.5	**9.5**	44.0	44.9	**10.4**	32.3	31.3	**10.4**	**60%**
17. % of mothers with children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more liquids or breast milk to their child	69.7	69.1	**8.8**	69.7	71.0	**9.4**	70.8	64.7	**10.7**	**80%**
18. % of mothers of children aged 0-23 months who report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation and after tending a child that has defecated	19.1	19.2	**4.9**	11.2	11.0	**3.9**	7.6	6.9	**3.1**	**35%**
Pneumonia Case Management										
19. % of children aged 0-23 months with cough and fast breathing in the last two weeks taken to a health unit.	60.4	59.7	**10.6**	54.9	54.7	**10.7**	55.4	53.3	**11.5**	**75%**
20. % of mothers of children aged 0-23 months who can identify fast breathing as a danger sign for pneumonia.	74.3	76.0	**5.2**	78.9	77.6	**5.1**	85.9	83.3	**4.8**	**90%**
Child Spacing										
21. % of children aged 0-23 months who were born at least 24 months after the previous surviving child.	83.9	83.9	**4.5**	86.5	85.7	**4.4**	78.0	76.6	**5.2**	**86%**
22. % of mothers of children aged 12-23 months who desire no more children in the next two years, who are using some type of modern child spacing method.	62.3	65.3	**8.7**	91.4	90.3	**5.4**	100.0	100.0	**0.0**	**85%**
HIV/AIDS										
23. % of mothers of children aged 0-23 months who know at least one way to prevent STIs-HIV/AIDS.	44.1	43.3	**6.0**	17.4	14.0	**4.2**	22.0	20	**4.8**	**15%**

indicador monitoreado a solicitud de Bonnie Kittle, en consecuencia, no hay meta.

****Indicador no tiene meta, pues solamente se ha dado seguimiento sin ser un objetivo del programa***

Table 9: Rapid Catch Indicators

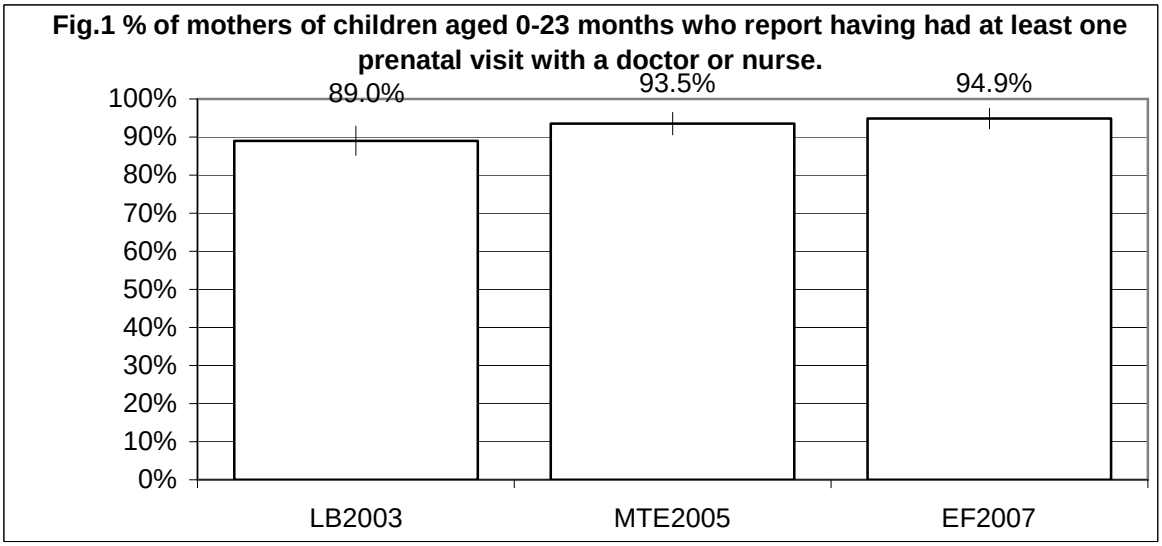
Indicator (for the entire project area)	Baseline March 2003			Midterm March 2005			Finally Evaluation March 2007		
	Average Coverage Rates (%)	Adjusted Coverage Rates (%)	95% C.I. (+ / -)	Average Coverage Rates (%)	Adjusted Coverage Rates (%)	95% C.I. (+ / -)	Average Coverage Rates (%)	Adjusted Coverage Rates (%)	95% C.I. (+ / -)
1. % of children aged 0-23 months with low weight (weight for age) (<2Z).	6.6	7.6	**3.5**	5.9	7.5	**3.5**	1.0	1.0	**1.3**
2. % of children aged 0-23 months who were born at least 24 months after the previous surviving child.	83.9	83.9	**4.5**	86.5	85.7	**4.4**	78.0	76.6	**5.2**
3. % of children aged 0-23 months whose birth was attended by a doctor or nurse.	52.3	51.4	**5.8**	56.6	53.7	**5.7**	73.4	71.2	**5.5**
4. % of mothers of children aged 0-23 months that received two doses of the dT vaccine during the last pregnancy, according to health card.				37.5	35.0	**5.9**	95.7	96.1	**3.3**
5. % of infants aged 0-5 months who received breast milk only in the past 24 hours.	58.2	56.4	**12.5**	40.8	51.8	**9.0**	56.2	55.9	**10.8**
6. % of children aged 6-9 months who received breast milk and complementary feeding in the past 24 hours.	80.4	86.8	**8.9**	77.4	76.7	**11.2**	79.2	76.8	**12.1**
7. % of children aged 12-23 months with all recommended vaccines at the moment of their first birthday according to the growth monitoring card	71.1	69.6	**8.1**	80.9	80.5	**6.9**	75.0	69.5	**8.0**
8. % of children aged 12-23 months that received the MMR vaccine according to the growth monitoring card	71.1	69.6	**8.1**	81.6	80.7	**6.9**	78.3	72.5	**7.7**
9. % of children aged 0-23 months who slept under an impregnated mosquito net the previous night				27.3	25.5	**5.4**	33.2	30.2	**5.6**
10. % of mothers of children aged 0-23 months that know at least two signs of childhood illnesses indicating the need for treatment	43.4	46.8	**6.2**	90.5	90.7	**3.5**	91.1	91.2	**3.4**
11. % of children aged 0-23 months that received more liquids and continued feeding during an illness in the last two weeks	55.2	53.4	**8.4**	13.3	14.4	**6.0**	8.0	7.3	**4.3**
12. % of mothers of children aged 0-23 months who know at least two ways to prevent STIs-HIV/AIDS	5.9	6.3	**3.2**	17.4	14.0	**4.2**	22.0	20	**4.8**
13. % of mothers of children aged 0-23 months who report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation and after tending a child that has defecated	19.1	19.2	**4.9**	11.2	11.0	**3.9**	7.6	6.9	**3.1**

IV. Results:
Discussion and Analysis

Below are graphs and discussion on the 19 project indicators of the project. Each graph shows Baseline (March 2003), midterm (March 2005) and final (March 2007) evaluation data to facilitate analysis of project indicators during the life of the project.

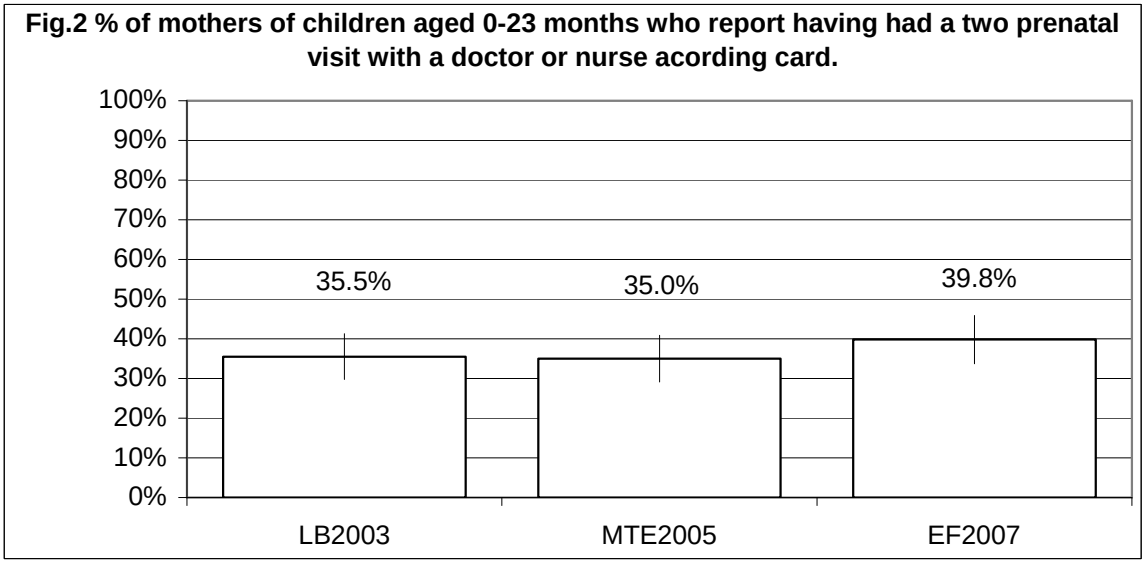
A. Maternal and Newborn Care

Fig.1 % of mothers of children aged 0-23 months who report having had at least one prenatal visit with a doctor or nurse.

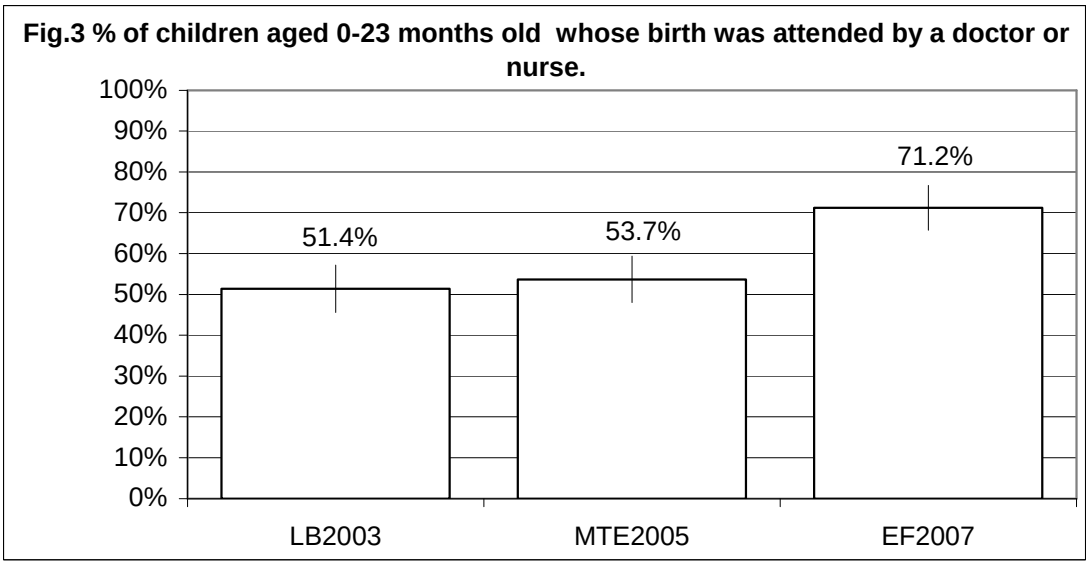


The percentage of mothers reported having had at least one prenatal visit during their last pregnancy increased from 89% to 94.9% by the final evaluation.

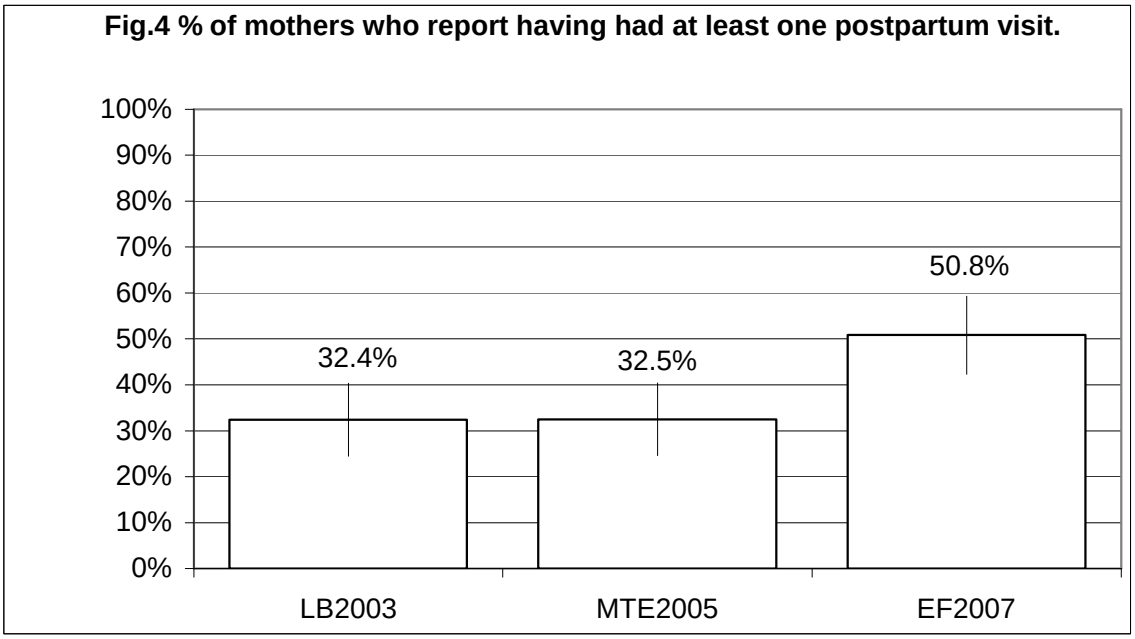
Fig.2 % of mothers of children aged 0-23 months who report having had a two prenatal visit with a doctor or nurse acording card.



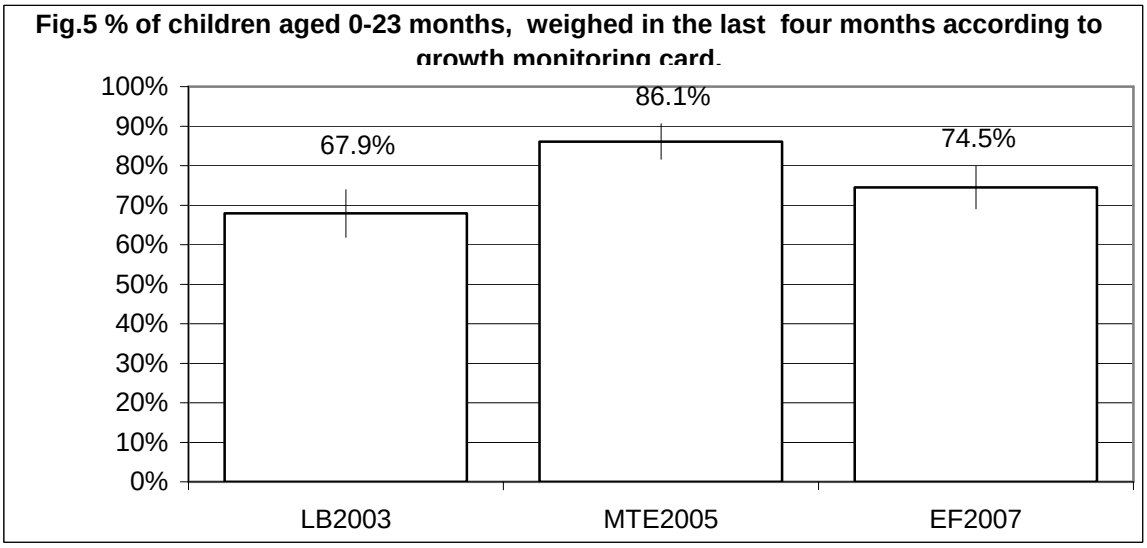
Percentage of mothers who reporting having two prenatal visits during their last pregnancy increased from 35.5% at baseline to 39.8% at the final evaluation.



Institutional births also increased during the life of the project from 51.4% at baseline to 71.2% at final evaluation.



The percentage of mothers who report having a postpartum visit also increased, from 32.4% at baseline to 50.8% at the final evaluation.

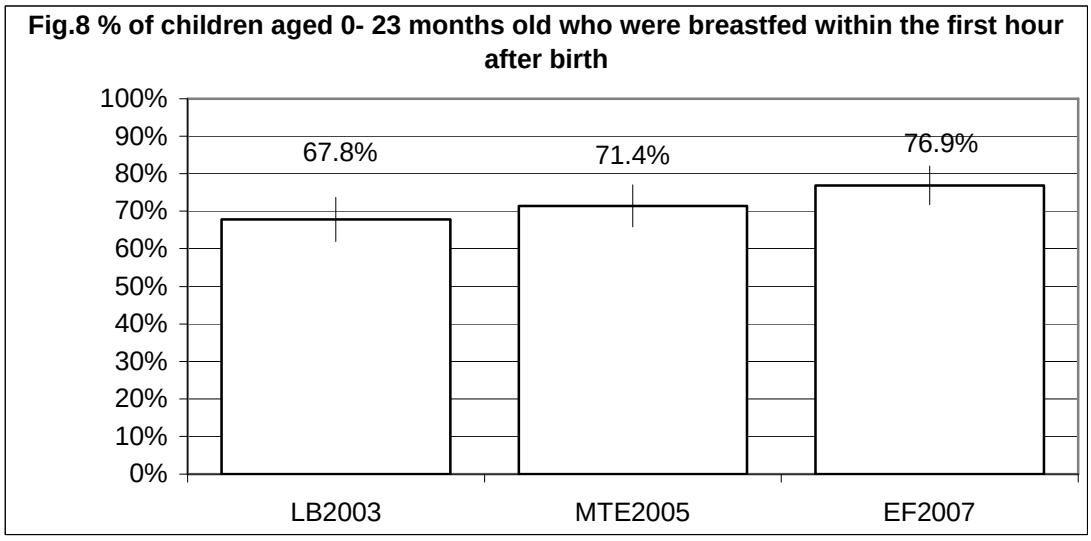


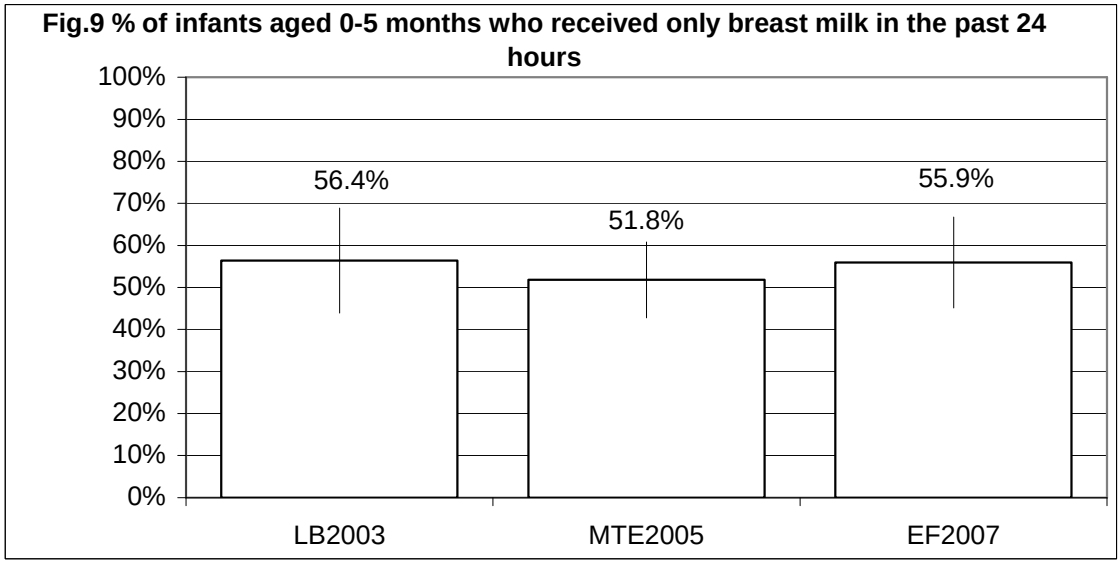
B. Nutrition and Micronutrients

En the last two years, the project has witnessed an increase in number of children weighed, as captured by the baseline and midterm evaluations, which recorded 67.9% and 86.1% respectively. Although the PROCOSAN program has been supporting activities in many communities, results of the final evaluation reveal that only 74.5% children were weighed in the last 4 months, according to growth monitoring card.

The prevalence of children with satisfactory growth (weight for age) increased from 92% at baseline to 99% at the final evaluation.

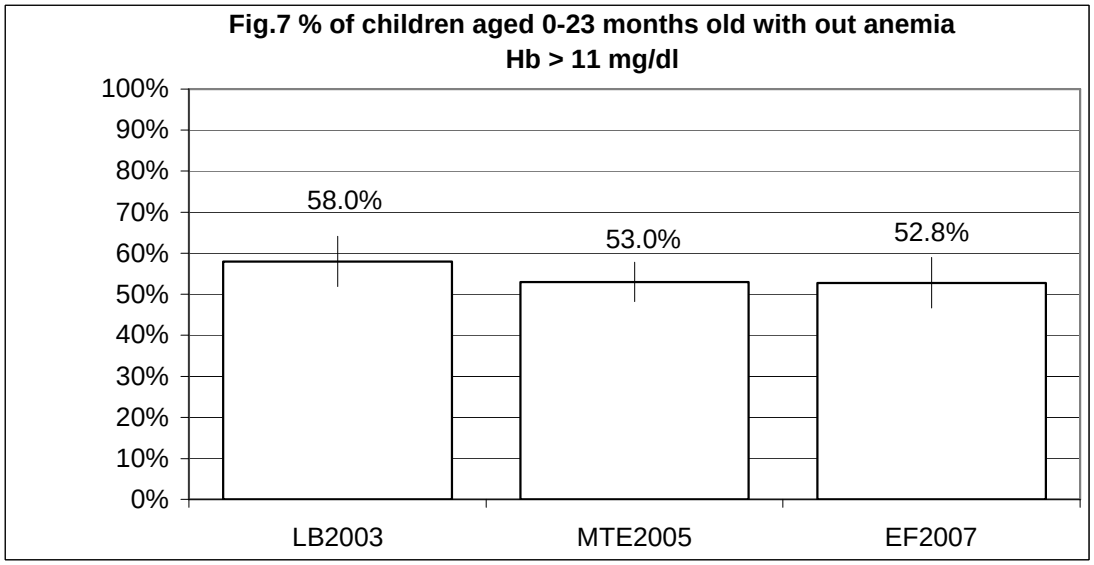
C. Breastfeeding Promotion





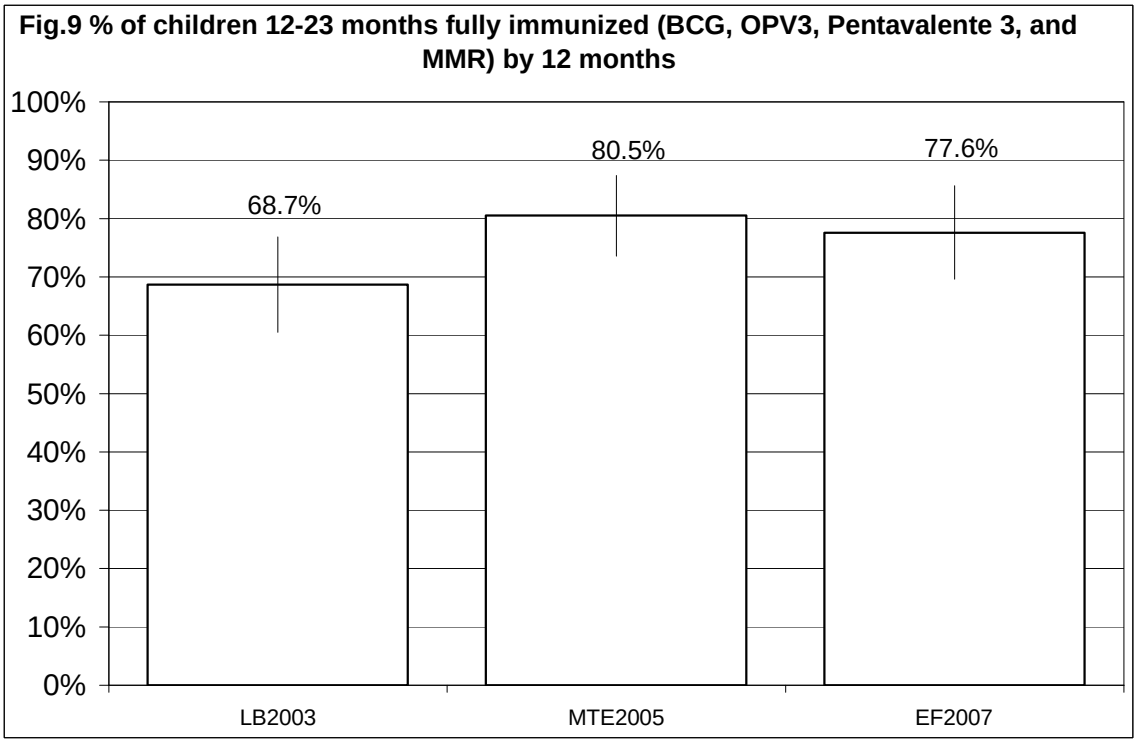
Through the life of the project, there were slight increases in breastfeeding within an hour of birth. At baseline, 67.8% mothers initiated breastfeeding within the hour and by the final evaluation 76.9% of mothers interviewed had adopted the behavior.

Exclusive breastfeeding continues to be a challenging indicator. Baseline revealed that only 56.4% of mothers practiced EBF and the result at final evaluation had decreased slightly to only 55.9%



There was a slight decrease in children with anemia, from 58% at baseline to 52.8% at the final evaluation.

D. Immunization



The number of children completely vaccinated by their first birthday increased from baseline (68.7%) to midterm (80.5%) but decreased slightly by the final evaluation (77.6%).

E. Control of Diarrheal Diseases

Fig.12 % of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more liquids or breast milk to their child

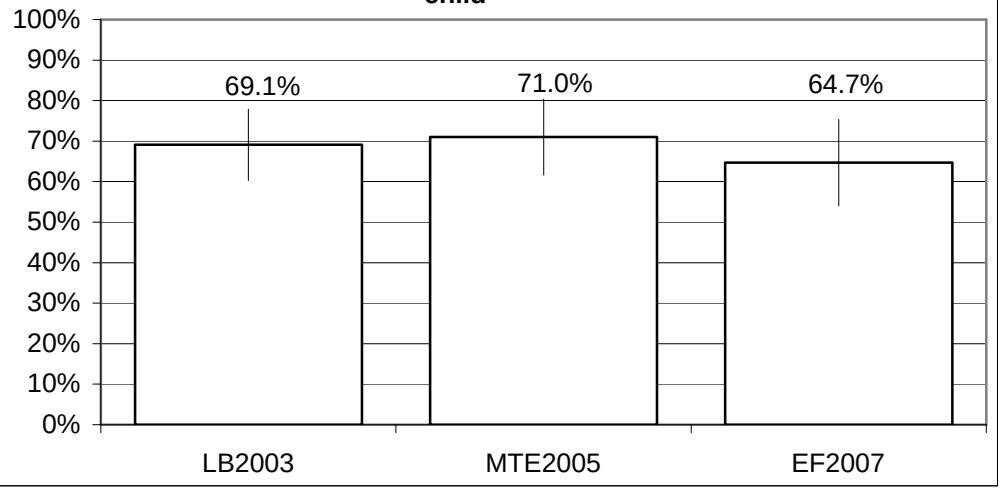


Fig.11 % of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more food to their child

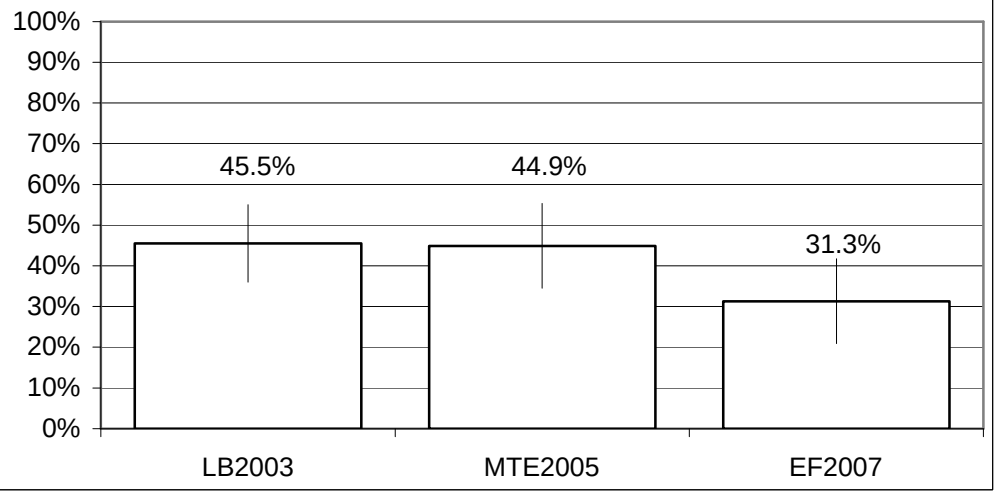
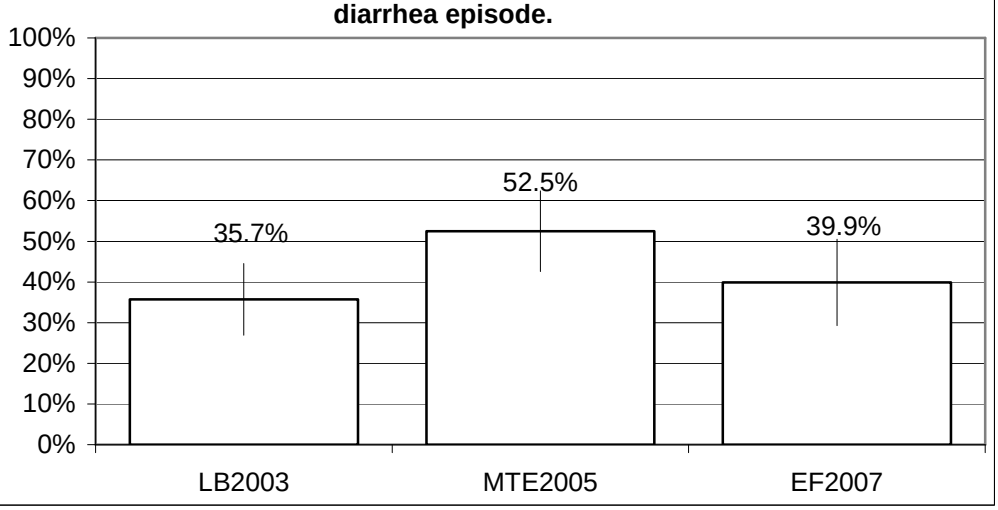
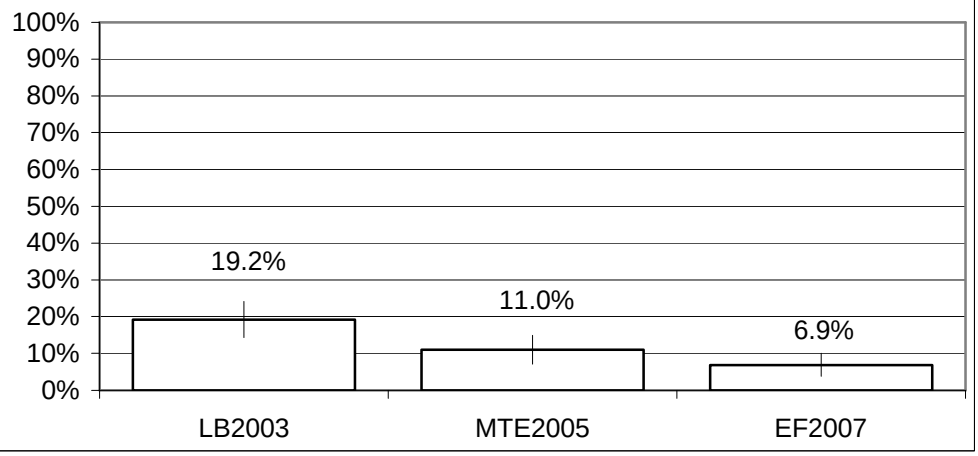


Fig.13 % of mothers of children aged 0-23 months who report having sought assistance or counseling from a health unit or CORU during the child's last diarrhea episode.

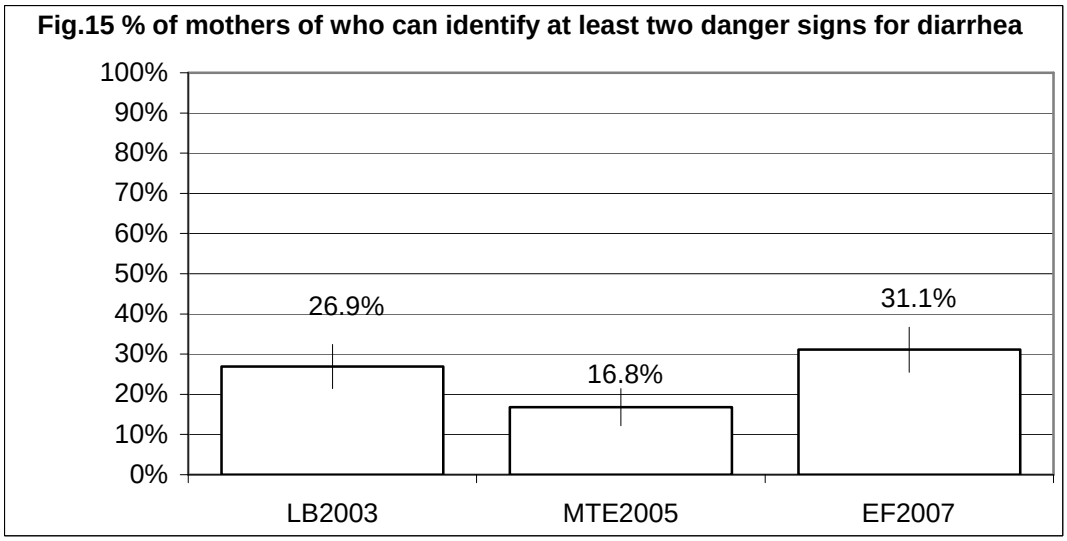


Careseeking behavior of mothers, whether at a CORU or health post increased from baseline (35.7%) to midterm (52.5%) but decreased by the final evaluation (39.9%).

Fig.14 % of mothers of children aged 0-23 months who report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation and after tending a child that has defecated

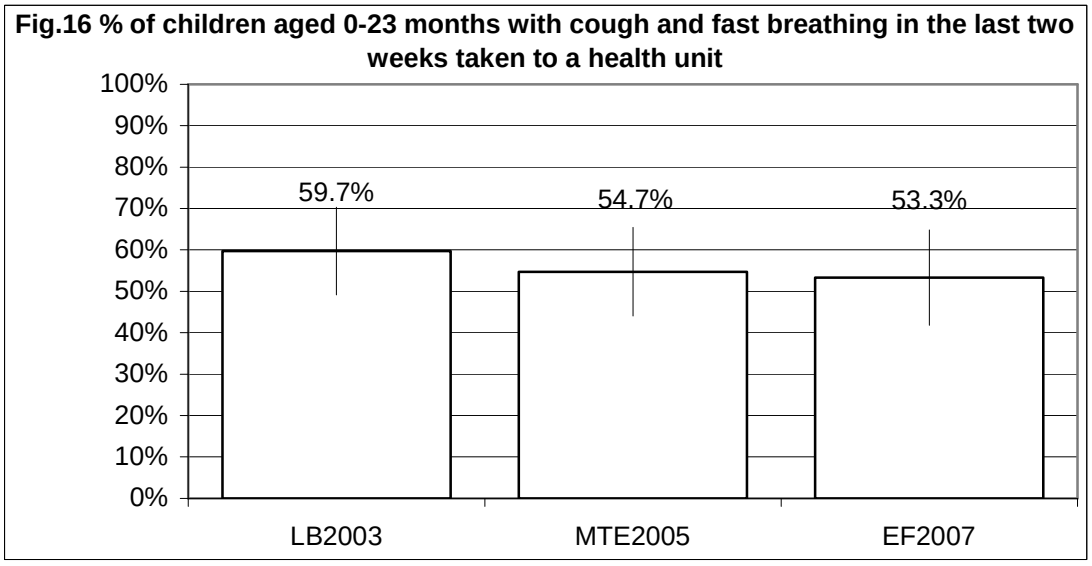


Regarding hand washing, there were no major changes in mothers' behaviour, as only 19.2% of mothers washed their hands the four times indicated, while by the final evaluation, only 6.9% of mothers interviewed wash their hands as recommended.



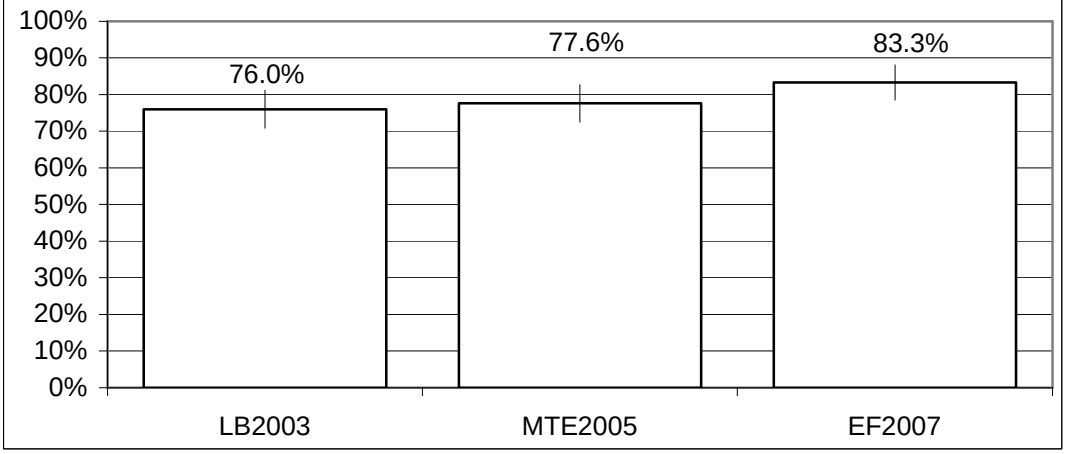
At the end of the project, one can see a slight increase in percentage of mothers who can name at least two danger signs for diarrhea.

F. Pneumonia Case Management



The percentage of mothers going to the health facility when their child had fast breathing in the last two weeks decreased from the baseline of 59.7% to 53.3% at final evaluation.

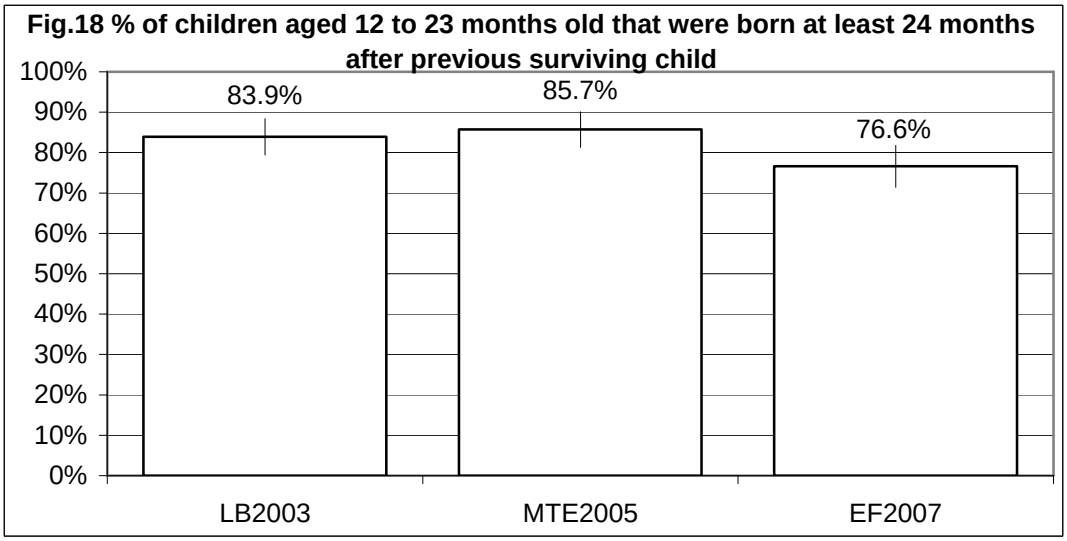
Fig.17 % of mothers who identify fast breathing as a danger sign of pneumonia



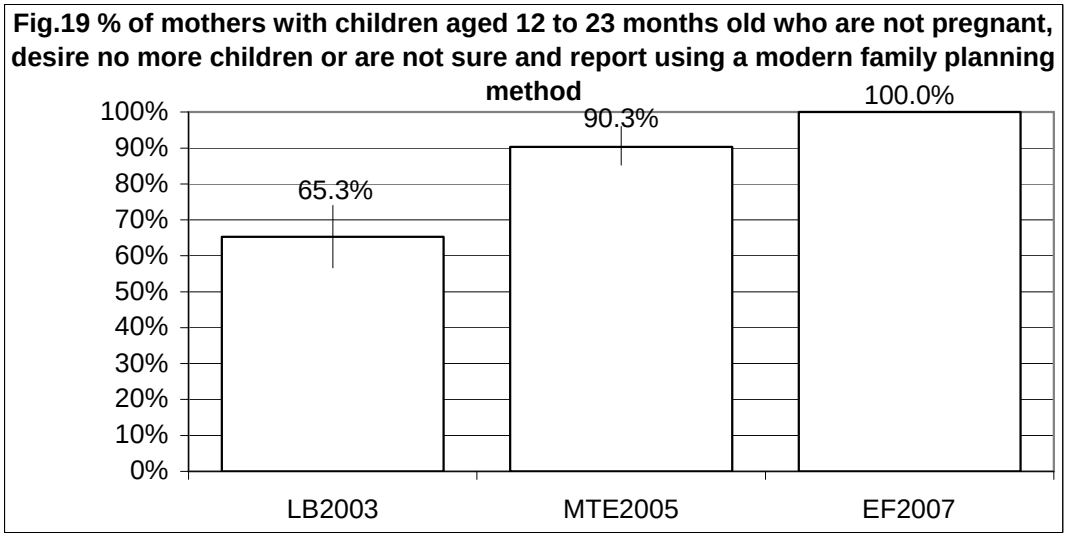
The percentage of mothers who can identify fast breathing as a sign of pneumonia increased from 76% to 83.3% by the final evaluation.

G. Child Spacing

Fig.18 % of children aged 12 to 23 months old that were born at least 24 months after previous surviving child

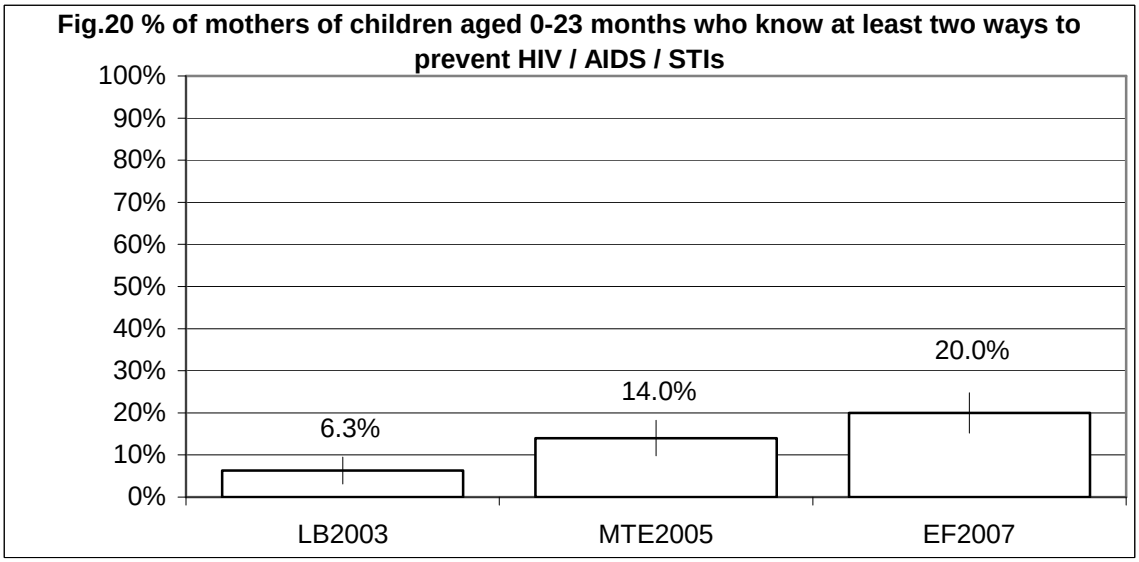


The percentage of children aged 12-23 months who were born at least 24 months alter the previous sibling decreased from the baseline of 83.9% to 76.6% by the final evaluation.



Family planning coverage has increased significantly from the baseline, moving from 65.3% to 100% by the final evaluation. This result is a product of the various strategies implemented by the project in coordination with the Ministry of Health.

H. HIV/AIDS



The percent of mothers who know at least two ways to prevent HIV/AIDS increased dramatically from the baseline of 6.3% to 20%, an increase of over three times.

Table 11: KPC Final results by indicator – Department of Jinotega, Nicaragua

Indicator (for the entire project area)	Numerator	Denominator	Average Coverage Rates (%)	Adjusted Coverage Rates (%)	95% C.I. (+ / -)
1. % of children aged 0-23 months weighed in the last four months according to growth monitoring card.	214	284	75.4	74.5	5.4
2. % of children aged 0-23 months with low weight (Weight-For-Age) (<2Z).	3	304	1.0	1.0	1.3
3. % of children aged 0-23 months stunted (Height-For-Age) (<2Z).	6	304	2.0	2.0	1.9
4. % of children aged 0-23 months with anemia (hemoglobin level < 11mg/dl).	144	304	47.4	47.2	6.2
5. % of mothers of children aged 0-23 months who report having breastfed within the first hour after birth	232	304	76.3	76.9	5.5
6. % of mothers of children aged 0-23 months who report having breastfed within the first 8 hours after birth.	260	304	85.5	85.3	4.4
7. % of infants aged 0-5 months who received only breast milk in the past 24 hours.	50	89	56.2	55.9	10.8
8. % of mothers of children aged 0-23 months that know at least two signs of dehydration due to diarrhea.	98	304	32.2	31.1	5.6
9. % of mothers of children aged 0-23 months who report having sought assistance or counseling from a health unit or CORU during the child's last diarrheal episode.	38	96	39.6	39.9	10.6
10. % of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more food to their child.	31	96	32.3	31.3	10.4
11. % of mothers with children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more liquids or breast milk to their child	68	96	70.8	64.7	10.7
12. % of children aged 0-23 months with cough and fast breathing in the last two weeks taken to a health unit.	46	83	55.4	53.3	11.5
13. % of mothers of children aged 0-23 months who can identify fast breathing as a danger sign for pneumonia.	261	304	85.9	83.3	4.8
14. % of children aged 12-23 months with all recommended vaccines at the moment of their first birthday according to the growth monitoring card.	114	139	82.0	77.6	8.0
15. % of mothers of children aged 0-23 months who know at least two way to prevent STIs-HIV/AIDS.	67	304	22.0	20.0	4.8
16. % of children aged 0-23 months who were born at least 24 months after the previous surviving child.	237	304	78.0	76.7	5.2
17. % of mothers of children aged 12-23 months who desire no more children in the next two years, who are using some type of modern child spacing method.	139	139	100.0	100.0	0.0
18. % of mothers of children aged 0-23 months who report having had at least one prenatal visit with a doctor or nurse.	290	304	95.4	94.9	2.7
19. % of mothers of children aged 0-23 months that report receiving on their arm the dT vaccine during the last pregnancy.	273	304	89.8	88.6	4.0
20. % of mothers of children aged 0-11 months who report having had at least one postpartum visit.	83	152	54.6	50.8	8.5
21. % of children aged 0-23 months whose birth was attended by a doctor or nurse.	223	304	73.4	71.2	5.5

Table 12: Rapid Catch Indicators

Indicator (for the entire project area)	Numerator	Denominator	Average Coverage Rates (%)	Adjusted Coverage Rates (%)	95% C.I. (+ / -)
1. % of children aged 0-23 months with low weight (weight for age) (<2Z).	3	304	1.0	1.0	1.3
2. % of children aged 0-23 months who were born at least 24 months after the previous surviving child.	237	304	78.0	76.7	5.2
3. % of children aged 0-23 months whose birth was attended by a doctor or nurse.	223	304	73.4	71.2	5.5
4. % of mothers of children aged 0-11 months that received two doses of the dT vaccine during the last pregnancy, according to health card.	112	117	95.7	96.1	3.3
5. % of infants aged 0-5 months who received breast milk only in the past 24 hours.	50	89	56.2	55.9	10.8
6. % of children aged 6-9 months who received breast milk and complementary feeding in the past 24 hours.	38	48	79.2	76.8	12.1
7. % of children aged 12-23 months with all recommended vaccines at the moment of their first birthday according to the growth monitoring card	114	139	82.0	77.6	8.0
8. % of children aged 12-23 months that received the MMR vaccine according to the growth monitoring card	119	139	85.6	80.8	7.6
9. % of children aged 0-23 months who slept under an impregnated mosquito net the previous night	101	304	33.2	30.2	5.6
10. % of mothers of children aged 0-23 months that know at least two signs of childhood illnesses indicating the need for treatment	277	304	91.1	91.2	3.4
11. % of children aged 0-23 months that received more liquids and continued feeding during an illness in the last two weeks	12	150	8.0	7.3	4.3
12. % of mothers of children aged 0-23 months who know at least two ways to prevent STIs-HIV/AIDS	67	304	22.0	20.0	4.8
13. % of mothers of children aged 0-23 months who report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation and after tending a child that has defecated	23	304	7.6	6.9	3.1

Annex A: Indicators by Supervision Area

The following LQAS tables summarize the results found from the KPC midterm survey. Appendix F shows each indicator by supervision area, along with decision rules and average coverage rates. **1: Jinotega; 2:San Rafael Norte; 3: La Concordia; 4:Yali; 5: Pantasma; 6: Wiwili; 7: El Cua; 8: Bocay.**

Table 10: Breastfeeding

Indicator		Baseline March 2003										Midterm Evaluation March 2005										Final Evaluation 2007									
		1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD
% of mothers of children aged 0-23 months who report having breastfed within the first 8 hours after birth.	0-11 months	18	17	17	15	18	17	14	14	86.1	15	16	17	16	18	15	15	13	13	80.92	14	16	16	16	18	16	18	16	17	87.50	15
	12-23 months	14	15	18	17	16	16	10	12	78.7	13	15	17	17	16	16	16	15	18	85.53	15	17	13	15	16	17	16	16	15	82.24	14
	Total	32	32	35	32	34	33	24	26	82.4		31	34	33	34	31	31	28	31	83.22		33	29	31	34	33	34	32	32	84.87	
	Weighted	0.21	0.06	0.04	0.08	0.13	0.14	0.1	0.8	**0.84**		0.19	0.06	0.03	0.08	0.13	0.12	0.13	0.08	**0.82**		0.2	0.06	0.02	0.08	0.13	0.11	0.16	0.09	**0.85**	
% of mothers of children aged 0-23 months who report having breastfed within the first hour after birth.	0-11 months	15	14	12	13	14	11	14	12	69.5	11	14	15	13	16	15	13	13	9	71.05	12	15	13	14	17	14	18	15	14	78.95	13
	12-23 months	10	13	14	16	15	14	8	9	66.0	11	13	16	13	14	13	12	15	14	72.37	12	14	13	15	13	12	16	15	14	73.68	12
	Total	25	27	26	29	29	25	22	21	67.8		27	31	26	30	28	25	28	23	71.71		29	26	29	30	26	34	30	28	76.32	
	Weighted	0.16	0.05	0.03	0.07	0.11	0.09	0.1	0.07	**0.68**		0.17	0.06	0.02	0.07	0.12	0.1	0.13	0.06	**0.71**		0.18	0.05	0.02	0.07	0.11	0.12	0.15	0.08	**0.77**	
% of infants aged 0-5 months who received only breast milk in the past 24 hours.	0-11 months	5	8	5	8	5	3	4	8	58.2		5	6	2	3	4	5	4	2	40.79		5	3	3	10	5	11	9	4	56.18	
	Weighted	0.13	0.06	0.02	0.07	0.08	0.05	0.09	0.06	**0.56**		0.24	0.04	0.01	0.03	0.06	0.06	0.06	0.02	**0.52**		0.1	0.04	0.01	0.07	0.06	0.11	0.12	0.05	**0.56**	

Source: Primary data, Final Study, Child Survival – 2007.

By the final evaluation, we can see that only the municipality of San Rafael del Norte was unable to achieve average coverage for the 12-23 month old children within 8 hours of birth breastfeeding indicator. Also by the final evaluation, all municipalities were able to achieve average coverage in the immediate (within an hour) breastfeeding indicator, although the exclusive breastfeeding indicator remained unchanged from baseline (56%) to the final evaluation (56%).

Table 11: Nutrition

Indicator		Baseline March 2003										Midterm Evaluation March 2005										Final Evaluation 2007									
		1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD
% of children aged 0-23 months weighed in the last 4 months according to growth monitoring card.	0-11 months	11	19	18	18	16	6	14	10	83.0	14	15	18	17	19	16	17	15	9	82.89	14	16	16	16	16	18	11	11	11	79.31	13
	12-23 months	9	16	17	17	14	5	10	5	65.0	10	14	18	16	17	14	17	16	10	80.26	14	14	14	15	14	7	15	10	10	71.22	12
	Total	20	35	35	35	30	11	24	15	73.7		29	36	33	36	30	34	31	19	81.58		30	30	31	30	25	26	21	21	75.27	
	Weighted	0.15	0.06	0.04	0.09	0.13	0.05	0.11	0.06	**0.68**		0.2	0.07	0.03	0.09	0.13	0.14	0.15	0.06	**0.86**		0.2	0.07	0.02	0.08	0.1	0.1	0.11	0.06	**0.74**	

Source: Primary data, Final Study, Child Survival – 2007.

By the final evaluation, the municipalities of Pantasma, Wiwili, Cua and Bocay were unable to achieve average coverage for infants 0-23 months. In the 12-23 age group, the municipalities of El Cua, Pantasma and Bocay were unable to achieve average coverage.

Table 12: Immunization

Indicator		Baseline March 2003										Midterm Evaluation March 2005										Final Evaluation 2007									
		1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD
% of children aged 12-23 months with all recommended vaccines at the moment of their first birthday according to the growth monitoring card	12-23 months	13	13	16	17	10	12	14	12	70.4	12	15	17	15	16	18	16	13	13	80.92	14	10	15	18	17	15	17	11	11	82.01	14
	Weighted	0.16	0.05	0.03	0.08	0.08	0.09	0.12	0.08	**0.69**		0.19	0.06	0.02	0.07	0.15	0.12	0.12	0.07	**0.81**		0.14	0.06	0.03	0.09	0.13	0.12	0.14	0.06	**0.78**	

Source: Primary data, Final Study, Child Survival – 2007.

Complete immunization coverage for children 12 to 23 months of age found was 78%.

The municipalities of El Cua and Bocay were the ones that were unable to achieve average coverage by the final evaluation, although overall, there was a 10% increase in results in this indicator from 69% at baseline to 78% at the final evaluation.

Table 13: Diarrhea

Indicator		Baseline March 2003										Midterm Evaluation March 2005										Final Evaluation 2007									
		1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD
% of mothers of children aged 0-23 months that know at least two signs of dehydration due to diarrhea	0-11 months	2	7	8	6	2	7	5	3	26.3	3	3	4	4	1	4	4	1	3	15.79	1	2	7	3	7	6	8	4	2	25.66	3
	12-23 months	9	6	7	6	7	4	3	4	30.3	4	4	4	11	3	5	1	3	2	21.71	2	6	10	6	7	9	9	5	7	38.82	5
	Total	11	13	15	12	9	11	8	7	28.3		7	8	15	4	9	5	4	5	18.75		8	17	9	14	15	17	9	9	32.24	
	Weighted	0.07	0.02	0.02	0.03	0.04	0.04	0.03	0.02	**0.27**		0.04	0.01	0.01	0.01	0.04	0.02	0.02	0.01	**0.17**		0.05	0.03	0.01	0.03	0.06	0.06	0.04	0.03	**0.31**	
% of mothers of children aged 0-23 months who report having sought assistance or counseling from a health unit or CORU during the child's last diarrheal episode.	0-11 months	5	1	3	1	2	3	5	1	36.2		3	2	2	4	6	3	4	4	50.00		2	4	1	1	2	2	2	0	35.00	
	12-23 months	5	1	6	2	0	3	0	2	31.1		4	1	6	3	4	0	6	2	49.06		1	4	2	6	5	1	2	3	42.86	
	Total	10	2	9	3	2	6	5	3	33.6		7	3	8	7	10	3	10	6	49.53		3	8	3	7	7	3	4	3	39.58	
	Weighted	0.15	0.01	0.03	0.03	0.02	0.05	0.04	0.02	**0.35**		0.15	0.03	0.03	0.06	0.11	0.02	0.1	0.03	**0.53**		0.08	0.05	0.02	0.07	0.08	0.03	0.06	0.01	**0.40**	
% of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more food to their child.	0-11 months	2	4	5	1	4	5	2	2	45.5		2	3	1	2	3	7	3	4	44.64		1	2	1	0	2	1	0	3	25.00	
	12-23 months	5	0	3	2	5	4	1	7	46.6		3	1	2	2	4	5	3	3	43.40		3	4	1	3	0	3	2	5	37.50	
	Total	7	4	8	3	9	9	3	9	46.0		5	4	3	4	7	12	6	7	44.02		4	6	2	3	2	4	2	8	31.25	
	Weighted	0.11	0.03	0.02	0.03	0.1	0.08	0.03	0.06	**0.46**		0.11	0.03	0.01	0.04	0.07	0.09	0.06	0.04	**0.45**		0.1	0.04	0.01	0.03	0.02	0.04	0.03	0.04	**0.31**	
% of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more liquids or breast milk to their child.	0-11 months	5	4	5	1	7	6	5	5	65.5		2	3	1	3	6	7	6	9	66.07		1	4	1	1	4	3	4	7	62.50	
	12-23 months	6	2	6	3	6	9	3	10	73.8		6	2	5	4	7	6	5	4	73.58		3	6	2	7	6	5	3	11	76.79	
	Total	11	6	11	4	13	15	8	15	69.7		8	5	6	7	13	13	11	13	69.83		4	10	3	8	10	8	7	18	69.64	
	Weighted	0.17	0.04	0.03	0.04	0.13	0.1	0.09	0.08	**0.69**		0.09	0.04	0.02	0.04	0.16	0.05	0.08	0.09	**0.57**		0.1	0.07	0.02	0.09	0.1	0.08	0.11	0.09	**0.65**	
% of mothers of children aged 0-23 months who report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation and after tending a child that has defecated	0-11 months	6	4	5	5	5	3	5	1	22.4	2	2	2	5	4	1	3	1	0	11.84	0	1	2	2	1	1	1	1	3	7.89	0
	12-23 months	4	2	7	3	4	3	1	0	15.8	1	3	2	2	0	1	3	4	1	10.53	0	1	2	3	0	1	1	3	0	7.24	0
	Total	10	6	12	8	9	6	6	1	19.1		5	4	7	4	2	6	5	1	11.18		2	4	5	1	2	2	4	3	7.57	
	Weighted	0.06	0.01	0.01	0.02	0.04	0.02	0.03	0	**0.19**		0.03	0.01	0.01	0.01	0.01	0.02	0.02	0	**0.11**		0.01	0.01	0	0	0.01	0.01	0.02	0.01	**0.07**	

Source: Primary data, Final Study, Child Survival – 2007.

The above table shows a slight increase in knowledge on signs of dehydration, although the municipalities that were unable to achieve average coverage were Jinotega and Bocay. There were slight increases in careseeking practices, prevention of diarrhea and increased feeding during illnesses but in some cases, results at the final evaluation were lower than those achieved at baseline (i.e., handwashing, liquids and food during diarrheal episodes).

Table 14. Pneumonia case management:

Indicator		Baseline March 2003										Midterm Evaluation March 2005										Final Evaluation 2007									
		1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD
% of children aged 0-23 months with cough and fast breathing in the last two weeks taken to a health unit.	0-11 months	3	5	1	4	5	3	5	4	62.5		4	2	3	2	5	4	3	1	52.17		5	1	4	3	3	4	2	1	58.97	
	12-23 months	4	1	5	4	2	0	6	6	58.3		3	3	3	2	3	2	4	6	57.78		0	2	3	5	2	4	1	6	52.27	
	Total	7	6	6	8	7	3	11	10	60.4		7	5	6	4	8	6	7	7	54.98		5	3	7	8	5	8	3	7	55.62	
	Weighted	0.15	0.04	0.03	0.06	0.1	0.04	0.1	0.08	**0.60**		0.13	0.05	0.02	0.04	0.11	0.06	0.09	0.05	**0.55**		0.1	0.05	0.02	0.09	0.09	0.06	0.07	0.06	**0.53**	
% of mothers of children aged 0-23 months who can identify fast breathing as a danger sign for pneumonia	0-11 months	16	14	15	13	15	12	16	15	76.3	13	17	13	18	15	15	17	14	13	80.26	14	15	18	18	17	16	18	16	15	87.50	15
	12-23 months	16	13	14	18	14	10	14	11	72.4	12	15	16	18	15	13	15	11	15	77.63	13	15	18	19	15	16	16	14	15	84.21	14
	Total	32	27	29	31	29	22	30	26	74.3		32	29	36	30	28	32	25	28	78.95		30	36	37	32	32	34	30	30	85.86	
	Weighted	0.2	0.05	0.03	0.07	0.11	0.08	0.13	0.08	**0.76**		0.2	0.05	0.03	0.07	0.12	0.12	0.11	0.07	**0.78**		0.18	0.07	0.03	0.08	0.13	0.12	0.15	0.08	**0.83**	

Source: Primary data, Final Study, Child Survival – 2007.

The table shows that more mothers at final were able to identify fast breathing as a danger sign of pneumonia and all municipalities were above the decision rule. Careseeking among mothers remains a problem and has actually decreased from baseline (60%) to final evaluation (53%).

Table 15: Maternal and newborn care

Indicator		Baseline March 2003										Midterm Evaluation March 2005										Final Evaluation 2007									
		1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD
% of mothers of children aged 0-23 months who report having had at least one prenatal visit with a doctor or nurse.	0-11 months	18	19	19	19	16	17	16	13	90.1	16	19	19	19	18	18	18	18	15	94.74	16	18	19	19	19	19	17	19	16	96.05	16
	12-23 months	18	19	18	18	17	15	17	12	88.2	15	18	19	18	19	17	16	19	14	92.11	16	18	19	19	19	18	18	18	15	94.74	16
	Total	36	38	37	37	33	32	33	25	89.1		37	38	37	37	35	34	37	29	93.42		36	38	38	38	37	35	37	31	95.39	
	Weighted	0.23	0.07	0.04	0.09	0.13	0.12	0.14	0.08	**0.89**		0.23	0.07	0.03	0.09	0.15	0.13	0.17	0.08	**0.93**		0.22	0.07	0.03	0.09	0.15	0.12	0.18	0.09	**0.95**	
% of mothers of children aged 0-23 months that report receiving on their arm the dT vaccine during the last pregnancy.	0-11 months	18	19	19	18	16	14	16	12	86.8	15	18	19	18	17	17	17	17	14	90.13	16	17	19	18	18	18	15	19	14	90.79	16
	12-23 months	18	18	18	17	16	13	16	12	84.2	14	18	19	16	18	17	15	19	14	89.47	15	15	19	18	18	18	18	16	13	88.82	15
	Total	36	37	37	35	32	27	32	24	85.5		36	38	34	35	34	32	36	28	89.80		32	38	36	36	36	33	35	27	89.80	
	Weighted	0.23	0.07	0.04	0.09	0.13	0.12	0.14	0.08	**0.89**		0.22	0.07	0.03	0.08	0.14	0.12	0.16	0.07	**0.90**		0.19	0.07	0.03	0.09	0.14	0.12	0.17	0.08	**0.89**	
% of mothers of children aged 0-11 months who report having had at least one postpartum visit.	0-11 months	6	11	14	7	7	5	4	3	37.5	5	8	11	13	9	5	5	3	3	37.50	5	8	17	12	12	13	8	9	4	54.61	8
	Weighted	0.08	0.04	0.03	0.03	0.06	0.04	0.03	0.02	**0.32**		0.1	0.04	0.02	0.04	0.04	0.04	0.03	0.02	**0.32**		0.1	0.07	0.02	0.06	0.1	0.06	0.09	0.02	**0.51**	
% of children aged 0-23 months whose birth was attended by a doctor or nurse.	0-11 months	12	13	16	9	11	4	12	3	52.6	8	14	16	15	13	7	8	5	5	54.61	9	12	19	17	16	18	11	14	9	76.32	13
	12-23 months	13	12	14	12	10	5	11	2	52.0	8	15	17	14	14	10	4	10	5	58.55	9	16	19	15	13	14	12	11	7	70.39	12
	Total	25	25	30	21	21	9	23	5	52.3		29	33	29	27	17	12	15	10	56.58		28	38	32	29	32	23	25	16	73.36	
	Weighted	0.16	0.05	0.03	0.05	0.08	0.03	0.1	0.02	**0.51**		0.18	0.06	0.02	0.06	0.07	0.05	0.07	0.03	**0.54**		0.17	0.07	0.02	0.07	0.13	0.08	0.12	0.04	**0.71**	

Source: Primary data, Final Study, Child Survival – 2007.

In the above table, we observe that the municipalities that consistently have fallen below average coverage are Wiwili, El Cua and Bocay, although overall, indicators have improved considerably from baseline.

Table 16: Child spacing:

Indicator		Baseline March 2003										Midterm Evaluation 2005										Final Evaluation 2007									
		1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD
% of children aged 0 to 23 months old that were born at least 24 months after previous surviving child	0-11 months	16	16	18	18	15	14	16	10	80.9	14	17	17	16	18	17	17	18	14	88.16	15	14	16	17	15	13	15	14	11	75.66	13
	12-23 months	18	17	19	15	17	14	16	16	86.8	15	13	17	17	18	15	19	16	14	84.87	14	16	14	19	15	16	14	16	12	80.26	14
	Total	34	33	37	33	32	28	32	26	83.88		30	34	33	36	32	36	34	28	86.51		30	30	36	30	29	29	30	23	77.96	
	Weighted	0.21	0.06	0.04	0.08	0.13	0.1	0.13	0.08	**0.84**		0.19	0.06	0.03	0.08	0.13	0.14	0.15	0.07	**0.86**		0.18	0.06	0.03	0.07	0.12	0.1	0.15	0.06	**0.77**	
% of mothers with children aged 12 to 23 months old who are not pregnant, desire no more children or are not sure and report using a modern family planning method	12-23 months	12	9	11	11	12	11	11	9	62.3	10	16	16	19	18	18	18	17	17	91.45	16	19	19	17	17	16	16	17	18	100.00	16
	Weighted	0.16	0.03	0.02	0.06	0.12	0.09	0.09	0.08	**0.65**		0.2	0.06	0.03	0.08	0.15	0.14	0.15	0.09	**0.90**		0.23	0.07	0.03	0.09	0.15	0.13	0.19	0.11	**1.00**	

Source: Primary data, Final Study, Child Survival – 2007.

The percentage of mothers that maintained 2 years spacing between children witnessed a reduction from 84% to 77% at the final evaluation. The municipality of Bocay was below average coverage.

Table 18: STIs-HIV/AIDS:

Indicator		Baseline March 2003										Midterm Evaluation March 2005										Final Evaluation 2007									
		1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD	1	2	3	4	5	6	7	8	%	RD
% of mothers of children aged 0-23 months who know at least one way to prevent STIs-HIV/AIDS.	0-11 months	2	0	0	1	1	2	1	0	4.605	0	4	6	5	1	2	1	2	2	15.13	1	7	8	8	6	0	2	3	2	23.68	2
	12-23 months	3	1	5	1	0	0	1	0	7.237	0	3	5	13	2	2	1	3	1	19.74	1	4	9	3	5	4	4	2	0	20.39	2
	Total	5	1	5	2	1	2	2	0	5.921		7	11	18	3	4	2	5	3	17.43		11	17	11	11	4	6	5	2	22.04	
	Weighted	0.03	0.00	0.01	0.00	0.00	0.01	0.01	0.00	**0.06**		0.04	0.02	0.01	0.01	0.02	0.01	0.02	0.01	**0.14**		0.07	0.03	0.01	0.03	0.02	0.02	0.02	0.01	**0.20**	

Source: Primary data, Final Study, Child Survival – 2007.

Although there was an increase from 6% at baseline to 20% at the final evaluation in knowledge among mothers on how to prevent STIs and HIV/AIDs, the municipalities of Pantasma and Bocay did not achieve average coverage. As these two municipalities have consistently been below average coverage for this and other indicators, they would be priority areas for any future governmental or non governmental programs.

VI. BIBLIOGRAPHY

1. Espeut, D., CSTS., The CORE Group. Manual de Actividades de Campo, KPC 2000+. August 2001.
2. Valadez, Joseph. Guía Sobre Metodología LQAS. 2001.
3. INEC-MINSA. Encuesta Nicaragüense de Demografía y Salud 2001, ENDESA.
4. Valadez, Joseph. Assessing Child Survival Programs in Developing Countries. Harvard School of Public Health. 1991.

Annex B: KPC Survey 0-11 month old

ENTREVISTA
MADRES CON NIÑOS (AS) ENTRE 0 a 11 MESES
ESTUDIO RÁPIDO DE CONOCIMIENTO, PRACTICAS Y COBERTURA (KPC)
Project HOPE Nicaragua – Jinotega

PAGINA INICIAL: IDENTIFICACIÓN INFORMACION		
2 PI_2	MUNICIPIO: JINOTEGA.....1 SAN RAFAEL DEL NORTE…….……2 LA CONCORDIA.....3 SAN SEBASTIAN DE YALI.....4 SANTA MARIA DE PANTASMA.....5 WIWILI.....6 EL CUA.....7 BOCAY 8	
3 PI_3	NUMERO DE LA ENTREVISTA:	I_____I I_____I
4 PI_4	FECHA DE ENTREVISTA: (ANO/ MES/ DIA)	+-------++-------++-------++-------+ / +-------++-------+ / +-------++-------+ A A A A M M D D
5 PI_5	FECHA DE RE: ENTREVISTA: (ANO/ MES/DIA)	+-------++-------++-------++-------+ / +-------++-------+ / +-------++-------+ A A A A M M D D
6 PI_6	NOMBRE DEL ENTREVISTADOR:	_____
7 PI_7	NOMBRE DEL SUPERVISOR:	_____
8 PI_8	TIPO DE COMUNIDAD: _____ (NOMBRE DE LA COMUNIDAD)	URBANA .....1 RURAL.....2
9 PI_9	NOMBRE DE LA MADRE:	_____
10 PI_10	EDAD DE MADRE (EN ANOS)	I_____I I_____I
11 PI_11	NOMBRE DEL NIN@:	_____
12 PI_12	SEXO DEL NIN@:	MASCULINO.....1 FEMENINO.....2
13 PI_13	FECHA DE NACIMIENTO DEL NIN@: (ANO/MES/DIA)	+-------++-------++-------++-------+ / +-------++-------+ / +-------++-------+ A A A A M M D D
14 PI_14	EDAD DEL NIN@: (EN MESES)	I_____I I_____I

SECCIÓN 1: ANTECEDENTES DE LA MADRE Y NIÑO

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 AN1	¿Alguna vez ha asistido a la escuela?	**NO**.....**0** SI 1	→ **3**

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
2 AN2	¿Hasta que nivel llego?	PRIMARIA.....1 **SECUNDARIA .....2** **TÉCNICO .....3** **UNIVERSITARIO 4**	 **→ 4** **→ 4** **→ 4**
3 AN3	¿Puede leer y entender una carta o periódico fácilmente, con dificultad, o no sabe?	FACILMENTE .....1 CON DIFICULTAD .....2 NO SABE 3	
4 AN4	¿Realiza algún trabajo para ganar dinero, durante el año? ANOTE TODO LO QUE SE MENCIONE.	**NO TRABAJA ..... A** ARTESANIAS/ TEJIDO/ ETC B AGRICULTURA C GANADERIA D ENDIENDO COMIDAS SERVICIOS DOMESTICOS F DUENO DE TIENDA / PULPERÍA G TRABAJADORA ASALARIADA H OTROS_____ X (ESPECIFIQUE)	**→ LN1**
5 AN5	¿Quién cuida a (NOMBRE DEL NIÑ@) mientras Ud. trabaja o está fuera de su casa? ANOTE TODO LO QUE SE MENCIONE.	VA CON LA MADRE ..... A ESPOSO/ COMPAÑERO ..... B HERMANOS MAYORES ..... C OTROS PARIENTES ..... D _____ (ESPECIFIQUE) VECINOS / AMIGOS..... E EMPLEADA DOMESTICA ..... F CDI/ CICO .....G OTROS_____X (ESPECIFIQUE)	

SECCIÓN 2: NUTRICIÓN INFANTIL

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 LN1	¿Alguna vez le dio de mamar a (NOMBRE DEL NIÑ@)?	**NO 0** SI 1	**→ 6**
2 LN2	¿Cuánto tiempo después del parto tardo en pegarse al pecho a (NOMBRE DEL NIÑ@) ?	DURANTE LA PRIMERA HORA 1 ENTRE LA PRIMERA Y 8 HORAS 2 DESPUES 8 HORAS 3 NO SABE/NO RECUERDA..... 4	

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
3 LN3	¿Durante los primeros tres días despues del parto le dio a (NOMBRE DEL NIÑ@)) su primera leche?	NO ..... 0 SI ..... 1 NO SABE..... 8	
4 LN4	¿Actualmente le está dando de mamar a (NOMBRE DEL NIÑ@)?	NO ..... 0 **SI 1**	**→ 6**
5 LN5	¿Durante cuánto tiempo le dio el pecho a (NOMBRE DEL NIÑ@)? SI MENOS DE UN MES, ANOTE '00' MESES	MESES ☐☐	

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
6 LN6	Ahora quisiera preguntarle acerca de los tipos de líquidos que (NOMBRE DEL NIÑ@) bebió ayer durante el día y la noche. ¿Bebió (NOMBRE DEL NIÑ@) algunos de los siguientes líquidos **ayer durante el día ó la noche?** PUEDE MARCAR MAS DE UN RESPUESTA. Bebió (NOMBRE DEL NIÑ@) . .		
A	¿Leche materna?	NO ..... 0 SI 1	
B	¿Agua o cocimiento?	NO ..... 0 SI 1	
C	¿Leche de vaca, de cabra, o en polvo?	NO ..... 0 SI 1	
D	¿Jugo de frutas?	NO ..... 0 SI 1	
E	¿Te o café?	NO ..... 0 SI 1	
F	¿Algún otro líquido como gaseosas (sodas) refrescos, o sopas?	NO ..... 0 SI 1	
Ahora quisiera preguntarle acerca del tipo de comidas que (NOMBRE DEL NIÑ@) comió ayer durante el día y la noche, ¿Comió (NOMBRE DEL NIÑ@) algunas de las siguientes comidas **ayer durante el día y la noche?** PUEDE MARCAR MAS DE UN RESPUESTA			
G	¿Cualquier alimento hecho de granos como maíz, arroz, trigo, avena?	NO ..... 0 SI 1	
H	¿Algún alimento fortificado con vitaminas o minerales como azucar y harina fortificada, o sal?	NO ..... 0 SI 1	
I	¿Ayote, pijibay o zanahorias?	NO ..... 0 SI 1	
J	¿Algún comida como (papas, yuca, quequisque, o malanga)?	NO ..... 0 SI 1	
K	¿Algún vegetal que tenga hojas verdes oscuras como hoja de ayote, o yuca?	NO ..... 0 SI 1	
L	¿Mango maduro?	NO ..... 0 SI 1	
M	¿Algún otro vegetal o fruta como chaya, naranja, banana?	NO ..... 0 SI 1	
N	¿Carne como cerdo, res, etc.?	NO ..... 0 SI 1	

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
O	¿Aves como pollo, pato, etc.?	NO ..... 0 SI 1	
P	¿ Pescado o mariscos?	NO ..... 0 SI 1	
Q	¿Huevos?	NO ..... 0 SI 1	
R	¿Alguna leguminosas (frijoles, lentejas, frijol de soya, etc.)?	NO ..... 0 SI 1	
S	¿Algun tipo de mani o cacahuate?	NO ..... 0 SI 1	
T	¿Queso, crema, cuajada, mantequilla, u otros?	NO ..... 0 SI 1	
U	¿Algún alimento frito con aceite, manteca o mantequilla?	NO ..... 0 SI 1	
7	¿Cuántas veces comió (NOMBRE DEL NIÑ@) alimentos sólidos o semisólidos (p.ej, mogos de carne, cuajadas) ayer durante el día o la noche? SI FUERON 7 VECES O MAS, ANOTE '7'.	NUMERO DE VECES ☐☐ NO SABE..... 8	

SECCIÓN 3: CONTROL DEL CRECIMIENTO Y DESARROLLO

NO	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 CD1	¿Tiene (NOMBRE DEL NIÑ@) una tarjeta infantil para el control del peso? EN CASO AFIRMATIVO: ¿Me la puede mostrar por favor?	**NO DISPONIBLE/ PERDIDA/ EXTRAVIADA....0** SI, LA VI .....1 **NUNCA TUVO TARJETA .....2** **NO SABE 8**	**→ NE1** **→ NE1** **→ NE1**
2 CD2	FIJESE EN LA TARJETA DE INFANTIL DE CONTROL DE CRECIMIENTO DEL BEBE (NOMBRE DEL NIÑ@) Y NOTE SI HA SIDO PESADO EN LOS ULTIMOS CUATRO MESES.	**NO FUE PESADO 0** SI FUE PESADO 1	**→ 4**
3 CD3	¿Dónde fue pesado el niño en los últimos 4 meses?	LA UNIDAD DE SALUD.....1 EN SESIONES DE PESAJE EN LA COMUNIDAD.....2 OTROS.....3 (ESPECIFIQUE)	
4 CD4	MIRE TAMBIEN LA TARJETA DE CONTROL DE CRECIMIENTO E INDIQUE SI HAY ESPACIO PARA REGISTRAR LAS CAPSULAS CON VITAMINA 'A'	**NO HAY 0** SI HAY 1	**→ 6**
5 CD5	SI LA TARJETA TIENE ESPACIO PARA REGISTRAR VITAMINA A, ANOTE LA ULTIMA FECHA EN QUE SE SUMINISTRÓ LA CAPSULA DE VITAMINA A.	|__|__|__|__| |___|___| |___|___| A A A A M M D D	
6	MIRE TAMBIEN LA TARJETA DE CONTROL	**NO HAY 0**	**→ NE1**

NO	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
CD6	DE CRECIMIENTO E INDIQUE SI HAY ESPACIO PARA REGISTRAR LAS DOSIS DE 'HIERRO''	SI HAY 1	
7 CD7	SI LA TARJETA TIENE ESPACIO PARA REGISTRAR EL HIERRO, ANOTE LAS FECHAS EN QUE LE SUMINISTRARON LAS DOSIS DE HIERRO EN LOS ULTIMOS 6 MESES	1. I__I__I__I__I I___I___I I___II___I A A A A M M D D 2. I__I__I__I__I I___I___I I___II___I A A A A M M D D 3. I__I__I__I__I I___I___I I___II___I A A A A M M D D	

SECCIÓN 4a: NIÑO/A ENFERMO/A

SECCIÓN 4a : ENFERMEDADES PREVALENTES EN LA INFANCIA EN LOS NIÑOS

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 NE1	A veces los niños se enferman y necesitan atención o tratamiento contra enfermedades. ¿Cuáles son las señales de peligro que pudieran indicar que su niño necesita atención inmediata? ANOTE TODAS LAS QUE SE MENCIONEN	**NO SABE.....A** TIENE MAL ASPECTO O NO JUEGA NORMALMENTE.....B NO COME NI BEBE.....C LETARGICO O DIFICIL DE DESPERTAR.....D FIEBRE ALTA.....E RESPIRACION RAPIDA O DIFICULTOSA.....F VOMITA TODO LO QUE COME O BEBE.....G CONVULSIONES.....H OTROS _____ I (ESPECIFIQUE)	**→ 2**

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
2 NE2	¿En las ultimas dos semanas (NOMBRE DEL NIÑ@) experimento algunas de las cosas siguientes? LEA LAS OPCIONES Y ANOTE TODAS LO QUE SON AFIRMATIVAS ¿Diarrea? ¿Sangre en las heces? ¿Tos? ¿Respiración difícil/ rapida o acelerada? ¿Fiebre? ¿Malaria? ¿Convulsiones?	DIARREA.....A SANGRE EN LAS HECES.....B TOS.....C RESPIRACIONRAPIDA//ACERERADA.....D FIEBRE.....E MALARIA.....F CONVULSIONES.....G NINGUNA.....H	
3 NE3	¿Cómo se da cuenta usted cuando un nino menor de dos meses esta muy mal y debe buscar atención medica y tratamiento inmediato? ANOTE TODAS LAS QUE SE MENCIONEN	**NO SE.....A** OMBLIGO ENROJECIDO O SUPURANDO.....B CONVULSIONES.....C QUEJIDO.....D ANORMALMENTE SOMNOLIENTO.....E DIFICULTAD PARA ALIMENTARSE.....F ALETEO NASAL.....G MOLLERA ABOMBADA.....H RESPIRACIÓN RAPIDA.....I OTROS_____J (ESPECIFIQUE)	**→ 4**
4 NE4	¿Cómo se da cuenta usted cuando un niño mayor de dos meses esta muy mal y debe buscar atención medica y tratamiento inmediato?	**NO SE.....A** DEJO DE COMER O BEBER.....B CONVULSIONES.....C VOMITA TODO LO QUE COME O BEBE.....D OTROS._____J (ESPECIFIQUE)	**→ DM1**

SECCIÓN 4b: DIARREA (MANEJO DE CASOS DE DIARREA)

NO.	PREGUNTAS Y FILTRO	CATEGORIA DE CODIFICACION	SALTAR
1 DM1	¿Ha tenido (NOMBRE DEL NIÑ@) diarrea en las últimas dos semanas?	**NO 0** SI.....1 **NO SABE 8**	**→ 9** **→ 9**
2 DM2	¿Cuándo (NOMBRE DEL NIÑ@) tenia diarrea, recibio algún tratamiento? ¿Algo más? ANOTE TODO LO MENCIONADO.	**NADA** **.....** **A** SRO.....B SUERO CASERO.....C SOLUCIONES A BASE DE CEREALES.....D	**→ 3**

NO.	PREGUNTAS Y FILTRO	CATEGORIA DE CODIFICACION	SALTAR
		Medicinas Antidiarreicas/Antibióticos.....E (IV) INTRAVENOSO.....F REMEDIOS CASEROS.....G OTROS_____(Especifique).. X	
3 DM3	¿Cuándo (NOMBRE DEL NIÑ@) tenia diarrea le dio el pecho, menos que lo normal, aproximadamente lo mismo, o más que lo usual?	MENOS.....1 IGUAL .....2 MAS .....3 NO DIO PECHO .....4 NO SABE.....8	
4 DM4	¿Cuándo (NOMBRE DEL NIÑ@) tenia diarrea le dieron además de su pecho, menos que lo usual para beber, aproximadamente lo mismo, o más de lo usual?	MENOS.....1 IGUAL .....2 MAS .....3 NADA DE BEBER.....4 NO SABE.....8	
5 DM5	¿Cuando (NOMBRE DEL NIÑ@) tenia diarrea le dieron menos que lo usual de comer, aproximadamente lo mismo, o más que lo usual?	MENOS.....1 IGUAL .....2 MAS .....3 NADA DE COMER .....4 NO SABE.....8	
6 DM6	¿Cuándo (NOMBRE DEL NIÑ@) tenia diarrea ¿Pidió consejo o ayuda?	**NO 0** SI.....1	**→ 8**
7 DM7	¿Dónde pidió el consejo o ayuda para la diarrea de (NOMRE)? ANOTE TODO LO MENCIONADO SI LA FUENTE ES UN HOSPITAL, CENTRO DE SALUD O CLÍNICA, ANOTE EL NOMBRE DEL SITIO: _____ (NOMBRE DEL SITIO)	HOSPITAL.....A CENTRO/PUESTO DE SALUD.....B MÉDICO/CLINICA PARTICULAR.....C FARMACIA.....D TIENDA.....E BRIGADISTA/UROC.....F CURANDERO.....G PARTERA.....H AMIGO/PARIENTE.....I OTROS:_____(Especifique)___J	
8 DM8	¿Durante el período en que (NOMBRE DEL NIÑ@) se recuperaba de la diarrea, le dio menos de lo usual de beber y comer, aproximadamente lo mismo, o más que lo usual?	MENOS.....1 IGUAL .....2 MAS .....3 AUN CON DIARREA.....4 NO SABE.....8	

NO.	PREGUNTAS Y FILTRO	CATEGORIA DE CODIFICACION	SALTAR
9 DM9	¿Cuándo esta con diarrea, ¿Cómo se da cuenta que esta grave? ANOTE TODO LO MENCIONADO.	SOMNOLIENTO.....A OJOS HUNDIDOS.....B PLIEGUE/ PIEL.....C BEBE CON SED.....D INQUIETO/ IRRITABLE.....E **NO SABE.....F** OTROS_____K (ESPECIFIQUE)	**→ IR1**

SECCIÓN 4c: INFECCIONES RESPIRATORIAS AGUDAS

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 IR1	¿Ha estado (NOMBRE DEL NIÑ@) enfermo con tos en las últimas dos semanas?	**NO..... 0** SI..... 1 **NO SABE..... 8**	**→ 9** **→ 9**
2 IR2	¿Ha estado (NOMBRE DEL NIÑ@) con dificultad en respirar, o respiraba como cansado (disnea) o respiraba más rápido que lo usual en forma entrecortada y poco profunda?	NO..... 0 SI..... 1 **NO SABE 8**	**→ 9** **→ 9**
3 IR3	¿Qué cantidad de liquidos le dio a (NOMBRE DEL NIÑ@) durante la enfermedad?	MAS DE LO NORMAL..... 1 LA MISMA CANTIDAD ..... 2 MENOS..... 3 **LE DABA SOLO PECHO 4**	**→ 5**
4 IR4	¿Qué cantidad de alimentos le dio a (NOMBRE DEL NIÑ@) durante la enfermedad?	MAS DE LO NORMAL..... 1 LA MISMA CANTIDAD ..... 2 MENOS..... 3	
5 IR5	¿Ha pedido consejo o tratamiento para (NOMBRE DEL NIÑ@) para la tos/ respiración rápida?	**NO 0** SI..... 1	**→ 8**
6 IR6	¿Cuánto tiempo después llevo a (NOMBRE DEL NIÑ@) para consejos o tratamiento contra la tos y respiración rápida?	El MISMO DIA..... 1 DIA SIGUIENTE..... 2 DOS DIAS..... 3 TRES DIAS O MAS 4	
7 IR7	¿Dónde recibió consejos o tratamiento para (NOMBRE DEL NIÑ@) contra la tos y respiración rápida?[1] ANOTE TODO LO MENCIONADO SI LA FUENTE ES UN HOSPITAL, CENTRO DE SALUD O CLINICA, ANOTE EL NOMBRE DEL SITIO: _____ (NOMBRE DEL SITIO)	HOSPITAL GENERAL..... A CENTRO/ PUESTO DE SALUD. B MEDICO/ CLIN. PARTICULAR ..C FARMACIA .....D BRIGADISTA / URO ..... E CURANDERO.....F PARTERA .....G AMIGO/ PARIENTE.....H OTROS_____(Especifique)X	

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
8 IR8	¿Cuándo (NOMBRE DEL NIÑ@) tenia tos y respiración rápida/ dificultosa, ¿Recibio algún tratamiento? ¿Cual? ANOTE TODO LO MENCIONADO	NADA ..... A PENICILINA PROCAÍNICA ..... B PANADOL ..... C AMOXICILINA ..... D ERITROMICINA ..... E TRIMETROPIN SULFA..... F OTROS_____(Especifique)X	→ **9**
9 IR9	¿Cuándo un nino esta con una enfermedad respiratoria, ¿Cómo se da cuenta que esta grave? ANOTE TODO LO MENCIONADO	**NO SABE** **.....A** RESPIRACIÓN RAPIDA /AGITADA.....B RETRACCIONES INTERCOSTALES.....C PERDIDA DEL APETITO .....D FIEBRE.....E TOS.....F OTRO_____(Especifique) X	→ **CM1**

SECCIÓN 4d : CONTROL DE MALARIA

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 CM1	Tiene usted algún mosquitero en su casa?	**NO.....0** SI.....1	→ **Sec.5a**
2 CM2	Quién usó anoche el mosquitero para dormir?	NIÑO (A) (NOMBRE).....1 ELLA (LA ENTREVISTADA).....2 ESPOSO O COMPAÑERO.....3 OTRO_____96	
3 CM3	Cuánto tiempo hace que usted (es) compraron u obtuvieron ese mosquitero?	MESES _____ _____ NO SABE.....88	
4CM4	Fue el mosquitero remojado en un líquido para ahuyentar los zancudos?	NO.....0 SI .....1 NO SABE.....88	

SECCIÓN 5a: ATENCION PRENATAL

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 AP1	¿Consultó a alguien para recibir cuidado prenatal cuando estaba embarazada de (NOMBRE DEL NIÑ@)? EN CASO AFIRMATIVO: ¿A quién consultó? ¿Alguien más? TRATE DE AVERIGUAR EL TIPO DE PERSONA Y ANOTE TODAS LAS PERSONAS MENCIONADAS POR LA MADRE	**NADIE.....A** MEDICO / ENFERMERA.....B PARTERA TRADICIONAL.....C BRIGADISTA.....D OTROS _____(ESPECIFIQUE)___ X	→ **7**
2 AP2	Durante su control prenatal, le aconsejaron sobre lo siguiente: ¿Lactancia? ¿Espaciamiento de Embarazos? ¿Uso de la lactancia materna como método de planificación familiar, lo que conocemos como MELA ? ¿Señales de peligro durante el embarazo?	NO SI Lactancia.....0 1 Espaciamiento de embarazos.....0 1 MELA..... 0	

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
		1 Señales de peligro en Embarazo.....0 1	
3 AP3	¿Cuando estuvo embarazada de (NOMBRE DEL NIÑ@) le aplicaron en el brazo la vacuna contra de tetano?	NO..... 0 SI..... 1 NO SABE 8	
4 AP4	¿Tiene usted una tarjeta de control del embarazo?	**NO DISPONIBLE 0** SI, LA VI..... 1 **NUNCA TUVO 2**	**→ 7** **→ 7**
5 AP5	FIJESE EN ÑA TARJETA DE CONTROL PRENATAL DE LA MADRE Y ANOTE CUANTAS ATENCIONES PRENATALES SE REALIZÓ	NINGUNO ..... 0 UNA ..... 1 DOS O MAS..... 2	
6 A P6	REVISE LA TARJETA Y ESCRIBA EL NÚMERO DE DOSIS DE dT MIENTRAS ESTABA EMBARAZADA DE (NOMBRE).	NINGUNO ..... 0 UNA ..... 1 DOS O MAS..... 2	
7 AP7	¿Cuando usted estuvo embarazada de (NOMBRE DEL NIÑ@) tomó tabletas de hierro?	NO..... 0 SI..... 1 NO SABE 8	

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
8 AP8	¿En el embarazo, cuáles son los síntomas que le indican la necesidad de buscar urgentemente cuidados de salud? ANOTE TODO LO MENCIONADO.	NO SABE.....A FIEBRE.....B FALTA DE RESPIRACION.....C HEMORRAGIA.....D HINCHAZON DEL CUERPO O PIE/MANO/CARA.....E DOLOR DE PARTO ANTES DE TIEMPO.....F LA CRIATURA NO MUEVE.....G VOMITO INCONTENIBLE.....H DOLOR DE CABEZA INTENSO Y CHISPERIO .....I OTROS_____(ESPECIFIQUE)_____X	

SECCIÓN 5b: PARTO Y CUIDADO INMEDIATO DEL RECIEN NACIDO

NO.	PREGUNTAS Y FILTROS	CATEGORIA DE CODIFICACION	SALTAR
1 RN1	¿Dónde dio a luz a (NOMBRE DEL NIÑ@)? SI ES UN HOSPITAL, CENTRO DE SALUD O CLINICA, ANOTE EL NOMBRE DEL SITIO.	EN CASA .....1 HOSPITAL .....2 CLINICA.....3 CENTRO DE SALUD.....4	

NO.	PREGUNTAS Y FILTROS	CATEGORIA DE CODIFICACION	SALTAR
	_____ __(NOMBRE DEL SITIO))	PUESTO DE SALUD.....5 OTROS_____(Especifique)6	
2 RN2	¿Quién le atendió el parto de (NOMBRE DEL NIÑ@)? ANOTE TODOS LOS MENCIONADOS	MEDICO .....A ENFERMERA .....B PARTERA ENTRENADA .....C PARTERA EMPÍRICA TRADICIONAL.....D TRABAJADOR DE SALUD COMUNITARIO.....E FAMILIAR_____(ESPECIFIQUE)____F OTRO _____(ESPECIFIQUE)___G ELLA MISMA .....H	
3 RN3	¿Se usó un equipo de parto limpio?	NO ..... 0 SI ..... 1 NO SABE..... 8	
4 RN4	¿Qué instrumento se usó para cortar el cordón?	NAVAJA DE AFEITAR NUEVA....1 TIJERA ESTERIL.....2 OTRO INSTRUMENTO..... .....3 NO SABE/ NO RECUERDO.....4	
5 RN5	¿Quién le cortó el cordón a (NOMBRE DEL NIÑ@) ?	MEDICO.....1 ENFERMERA.....2 PARTERA TRADICIONAL.....3 BRIGADISTA.....4 FAMILIAR_____ (ESPECIFIQUE) __ 5 OTRO_____(ESPECIFIQUE)____ __ 6 ELLA MISMA 7	

SECCIÓN 6: PLANIFICACIÓN FAMILIAR

NO.	PREGUNTAS Y FILTROS	CATEGORIA DE CODIFICACION	SALTAR
1 PF1	¿Cuántos niños que viven en este hogar son menores de cinco años?	**UN NIÑO .....1** DOS NIÑOS..... 2 TRES O MAS..... 3	**→ 4**
2 PF2	¿Cuántos de esos niños son hijos biológicos suyos?	**UN NIÑO .....1** DOS NIÑOS..... 2 TRES O MAS..... 3	**→ 4**

NO.	PREGUNTAS Y FILTROS	CATEGORIA DE CODIFICACION	SALTAR
3 PF3	¿Cuál es el sexo y fecha de nacimiento de los dos niños más jóvenes?	HIJO/A #1 (NOMBRE DEL NIÑ@) SEXO VARON ..... 1 HEMBRA..... 2 FECHA DE NACIMIENTO DIA ☐☐ MES ☐☐ AÑO ☐☐ HIJO/A #2 (PROX. MAYOR) SEXO VARON ..... 1 HEMBRA..... 2 FECHA DE NACIMIENTO DIA ☐☐ MES ☐☐ AÑO ☐☐	
4 PF4	¿Después de nacer (NOMBRE DEL NIÑ@) alguien le hizo a Ud. un chequeo de salud? EN CASO AFIRMATIVO, PREGUNTE: ¿Le dieron información acerca de planificación familiar o espaciamiento de nacimientos en esa ocasión?[1]	**SIN CHEQUEO PUERPERAL .....1** **CHEQUEO PERO SIN INFORMACION .....2** RECIBIO INFORMACION 3	**→ VS1** **→ VS1**
5 PF5	¿Le dieron información acerca del método MELA o Amenorrea de Lactancia?	NO..... 0 SI..... 1 NO RECUERDA 8	

SECCIÓN 7: VIH/ SIDA

NO	PREGUNTAS Y FILTROS	CATEGORIA DE CODIFICACION	SALTAR
1 VS1	¿Ha oido alguna vez hablar de la enfermedad del SIDA?	**NO .....0** SI..... 1	**→ AS1**
2 VS2	¿Hay algo que se pueda hacer para evitar que nos de el SIDA?	**NO .....0** SI..... 1 **NO SABE 8**	**→ AS1** **→ AS1**

NO.	PREGUNTAS Y FILTROS	CATEGORIAS A CODIFICAR	SALTAR
3 VS3	¿Qué se puede hacer? ¿Algo más? ANOTE TODO LO MENCIONADO	**NO SABE.....A** ABSTENERSE DEL SEXO.....B USAR CONDONES.....C LIMITAR EL SEXO A UNA PAREJA/ SER FIEL A UNA PAREJA.....D LIMITAR EL NUMERO DE PAREJAS SEXUALES.....E EVITAR EL SEXO CON PROSTITUTAS.....F EVITAR EL SEXO CON PERSONAS QUE TIENEN MUCHAS PAREJAS.....G EVITAR RELACIONES CON PERSONAS DEL MISMO SEXO.....H EVITAR EL SEXO CON PERSONAS QUE SE INYECTAN DROGAS.....I EVITAR TRANSFUSIONES DE SANGRE.....J EVITAR INYECCIONES.....K EVITAR BESOS.....L EVITAR PICADURAS DE MOSQUITO.....M OBTENER PROTECCIÓN DE UN CURANDERO TRADICIONAL.....N EVITAR COMPARTIR NAVAJAS/HOJAS DE AFEITAR.....O OTROS_____(ESPECIFIQUE)____W OTROS_____ (ESPECIFIQUE)___X	**→ AS1**

SECCIÓN 8: AGUA Y SANEAMIENTO

NO.	PREGUNTAS Y FILTROS	CATEGORIAS A CODIFICAR	SALTAR
1 AS1	¿Cuándo se lava usted las manos con jabón? ANOTE TODO LO QUE SE MENCIONE.	**NUNCA .....A** ANTES DE PREPARAR LA COMIDA .....B ANTES DE COMER..... ... .C ANTES DE ALIMENTAR A LOS NIÑOS D TRAS DEFECAR/ ORINAR .....E TRAS ATENDER A UN NIÑO QUE HA DEFECADO .....F DESPUES DE BOTAR LAS HECES DEL BEBE..... ....G CUANDO ME BANO.....H OTROS_____X (ESPECIFIQUE)	**→ 2**

NO.	PREGUNTAS Y FILTROS	CATEGORIAS A CODIFICAR	SALTAR
2 AS2	¿Donde hace sus necesidades usualmente usted y su familia?	LETRINA O SANITARIO.....1 EN ALGUN ESPACIO DE SU PROPIEDAD.....2 AL AIRE LIBRE.....3 DIRECTAMENTE EN EL RIO.....4 OTRO_____5 (ESPECIFIQUE)	

SECCIÓN 9: ANTROPOMETRÍA Y HEMOGLOBINA

NO.	PREGUNTAS Y FILTROS	CATEGORIA DE CODIFICACION	SALTAR
	DEL NIÑO		
1 AH1	**PESO (Kg / grs)**	_____ _____ ▪ _____ _____	
2 AH2	**TALLA (CENTÍMETROS)** **METODO DE MEDICION: ACOSTADO**	_____ _____ ▪ _____ _____	
3 AH3	**HEMOGLOBINA (gr. / dl)**	_____ _____ ▪ _____ _____	
	DE LA MADRE		
4 AH4	**HEMOGLOBINA (gr. / dl)**	_____ _____ ▪ _____ _____	

Annex C: KPC 12-23 month old child

ENTREVISTA
MADRES CON NIÑOS (AS) ENTRE 12 a 23 MESES
ESTUDIO RÁPIDO DE CONOCIMIENTO, PRACTICAS Y COBERTURA (KPC)
Project HOPE Nicaragua – Jinotega

PAGINA INICIAL: IDENTIFICACIÓN INFORMACION		
2 PI_2	MUNICIPIO: JINOTEGA.....1 SAN RAFAEL DEL NORTE…….2 LA CONCORDIA.....3 SAN SEBASTIAN DE YALI.....4 SANTA MARIA DE PANTASMA.....5 WIWILI.....6 EL CUA.....7 BOCAY 8	
3 PI_3	NUMERO DE LA ENTREVISTA:	I_____I I_____I
4 PI_4	FECHA DE ENTREVISTA: (AÑO / MES/ DIA)	+-------++-------++-------++-------+ / +-------++-------+ / +-------++-------+ A A A A M M D D
5 PI_5	FECHA DE RE: ENTREVISTA: (AÑO / MES/ DIA)	+-------++-------++-------++-------+ / +-------++-------+ / +-------++-------+ A A A A M M D D
6 PI_6	NOMBRE DEL ENTREVISTADOR:	_____
7 PI_7	NOMBRE DEL SUPERVISOR:	_____
8 PI_8	TIPO DE COMUNIDAD: _____ (NOMBRE DE LA COMUNIDAD)	URBANA .....1 RURAL.....2
9 PI_9	NOMBRE DE MADRE:	_____
10 PI_10	EDAD DE MADRE (EN ANOS)	I_____I I_____I
11 PI_11	NOMBRE DEL NIN@:	_____
12 PI_12	SEXO DEL NIN@:	MASCULINO.....1 FEMENIÑO.....2
13 PI_13	FECHA DE NACIMIENTO DEL NIN@:	+-------++-------++-------++-------+ / +-------++-------+ / +-------++-------+ A A A A M M D D
14 PI_14	EDAD DEL NIN@: (EN MESES)	I_____I I_____I

SECCIÓN 1: ANTECEDENTES DE LA MADRE Y NIÑO

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 AN1	¿Alguna vez ha asistido a la escuela?	**NO 0** SI.....1	**→ 3**
2 AN2	¿Hasta que nivel llego?	PRIMARIA.....1 **SECUNDARIA .....2** **TÉCNICO.....3** **UNIVERSITARIO.....4**	 **→ 4** **→ 4** **→ 4**
3 AN3	¿Puede leer y entender una carta o periódico fácilmente, con dificultad, o no sabe?	FACILMENTE .....1 CON DIFICULTAD.....2 NO SABE 3	
4 AN4 ANOTE TODO LO QUE SE MENCIONE.	¿Realiza algún trabajo para ganar dinero, durante el año?	**NO TRABAJA ..... A** ARTESANIAS/ TEJIDO/ ETC B AGRICULTURA C GANADERIA D ENDIENDO COMIDAS SERVICIOS DOMESTICOS ..... F DUENO DE TIENDA / PULPERÍA G TRABAJADORA ASALARIADA H OTROS_____ X (ESPECIFIQUE)	**→ LN1**
5 AN5 ANOTE TODO LO QUE SE MENCIONE.	¿Quién cuida a (NOMBRE DEL NIÑ@) mientras Ud. trabaja o está fuera de su casa?	VA CON LA MADRE..... A ESPOSO/ COMPAÑERO ..... B HERMANOS MAYORES ..... C OTROS PARIENTES..... D _____ (ESPECIFIQUE) VECINOS / AMIGOS ..... E EMPEADA DOMESTICA.....F CDI/ CICO .....G OTROS_____X (ESPECIFIQUE)	

SECCIÓN 2: NUTRICIÓN INFANTIL

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 LN1	¿Alguna vez le dio de mamar a (NOMBRE DEL NIÑ@)?	**NO..... 0** SI..... 1	**→ 6**
2 LN2	¿Cuánto tiempo después después del parto tardo en pegarse al pecho a (NOMBRE DEL NIÑ@) ?	DURANTE LA PRIMERA HORA .....1 ENTRE LA PRIMERA HORA Y 8 HORAS.....2 DESPUES 8 HORAS.....3 NO SABE ACUERDA..... 4	
3 LN3	¿Durante los primeros tres días después del parto le dio a (NOMBRE DEL NIÑ@)) su primera leche?	NO..... 0 SI..... 1 NO SABE..... 8	
4 LN4	¿Actualmente le está dando de mamar a (NOMBRE DEL NIÑ@)?	NO..... 0 **SI..... 1**	**→ 6**
5 LN5	¿Durante cuánto tiempo le dio el pecho a (NOMBRE DEL NIÑ@)? SI MENOS DE UN MES, ANOTE '00' MESES	MESES ☐☐	
6 LN6	Ahora quisiera preguntarle acerca de los tipos de líquidos que (NOMBRE DEL NIÑ@) bebió ayer durante el día y la noche. ¿Bebió (NOMBRE DEL NIÑ@) algunos de los siguientes líquidos **ayer durante el día ó la noche?** PUEDE MARCAR MAS DE UN RESPUESTA Bebió (NOMBRE DEL NIÑ@) . .		
A	¿Leche materna?	NO..... 0 SI..... 1	
B	¿Agua o cocimiento?	NO..... 0 SI..... 1	
C	¿Leche de vaca, de cabra, o en polvo?	NO..... 0 SI..... 1	
D	¿Jugo de frutas?	NO..... 0 SI..... 1	
E	¿Te o café?	NO..... 0 SI..... 1	
F	¿Algún otro líquido como gaseosas (sodas) refrescos, o sopas?	NO..... 0 SI..... 1	
Ahora quisiera preguntarle acerca del tipo de comidas que (NOMBRE DEL NIÑ@) comió ayer durante el día y la noche, ¿Comió (NOMBRE DEL NIÑ@) algunas de las siguientes comidas **ayer durante el día y la noche?** PUEDE MARCAR MAS DE UN RESPUESTA			
G	¿Cualquier alimento hecho de granos como maíz, arroz, trigo, avena?	NO..... 0 SI..... 1	
H	¿Algún alimento fortificado con vitaminas o minerales como azúcar, harina fortificada, o sal?	NO..... 0 SI..... 1	
I	¿Ayote, pijibay o zanahorias?	NO..... 0 SI..... 1	
J	¿Algún comida como papas, yuca, quequisque, malanga?	NO..... 0 SI..... 1	

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
K	¿Algún vegetal que tenga hojas verdes oscuras como hoja de ayote, o yuca?	NO..... 0 SI..... 1	
L	¿Mango maduro?	NO..... 0 SI..... 1	
M	¿Algún otro vegetal o fruta como chaya, naranja, o banano o otras?	NO..... 0 SI..... 1	
N	¿Carne como cerdo, res, etc.?	NO..... 0 SI..... 1	
O	¿Aves como pollo o pato?	NO..... 0 SI..... 1	
P	¿ Pescado, o mariscos?	NO..... 0 SI..... 1	
Q	¿Huevos?	NO..... 0 SI..... 1	
R	¿Alguna leguminosas? (frijoles, lentejas, frijol de soya, etc?)	NO..... 0 SI..... 1	
S	¿Algun tipo de mani o cacahuate?	NO..... 0 SI..... 1	
T	¿Queso, crema, cuajada, mantequilla, otros?	NO..... 0 SI..... 1	
U	¿Algún alimento frito con aceite, manteca o mantequilla?	NO..... 0 SI..... 1	
7	¿Cuántas veces comió (NOMBRE DEL NIÑ@) alimentos sólidos o semisólidos (p.ej, mogos de carne, cuajadas) ayer durante el día o la noche? SI FUERON 7 VECES O MAS, ANOTE '7'.	NUMERO DE VECES ☐☐ NO SABE..... 8	

SECCIÓN 3: CONTROL DEL CRECIMIENTO Y DESARROLLO

NO	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 CD1	¿Tiene (NOMBRE DEL NIÑ@) una tarjeta infantil para el control del peso? EN CASO AFIRMATIVO: ¿Me la puede mostrar por favor?	**NO DISPONIBLE/ PERDIDA/EXTRAVIADA.....0** SI, LA VI .....1 **NUNCA TUVO TARJETA ... .2** **NO SABE.....8**	**→ 8** **→ 8** **→ 8**
2 CD2	FIJESE EN LA TARJETA DE INFANTIL DE CONTROL DE CRECIMIENTO DE (NOMBRE DEL NIÑ@) Y NOTE SI HA SIDO PESADO EN LOS ULTIMOS CUATRO MESES.	**NO FUE PESADO.....0** SI FUE PESADO 1	**→ 4**
3 CD3	¿Dónde fue pesado el niño en los últimos 4 meses?	LA UNIDAD DE SALUD.....1 EN SESIONES DE PESAJE EN LA COMUNIDAD.....2 OTROS.....3	

NO	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
		(ESPECIFIQUE)	
4 CD4	MIRE TAMBIEN LA TARJETA DE CONTROL DE CRECIMIENTO E INDIQUE SI HAY ESPACIO PARA REGISTRAR LAS CAPSULAS CON VITAMINA 'A'	**NO HAY .....0** SI HAY.....1	**→ 6**
5 CD5	SI LA TARJETA TIENE ESPACIO PARA REGISTRAR VITAMINA A, ANOTE LA ULTIMA FECHA EN QUE SE SUMINISTRÓ LA CAPSULA DE VITAMINA A.	I__I__I__I__I I__I__I I__I__I__I D D M M A A A A	
6 CD6	MIRE TAMBIEN LA TARJETA DE CONTROL DE CRECIMIENTO E INDIQUE SI HAY ESPACIO PARA REGISTRAR LAS DOSIS DE 'HIERRO''	**NO HAY.....0** SI HAY.....1	**→ 8**
7 CD7	SI LA TARJETA TIENE ESPACIO PARA REGISTRAR EL HIERRO, ANOTE LAS FECHAS EN QUE LE SUMINISTRARON LAS DOSIS DE HIERRO EN LOS ULTIMOS 6 MESES	1. I__I__I__I__I I__I__I I__I__I__I D D M M A A A A 2. I__I__I__I__I I__I__I I__I__I__I D D M M A A A A 3. I__I__I__I__I I__I__I I__I__I__I D D M M A A A A	
8 CD8	PARA LOS NIÑOS MAYORES DE 12 MESES: ¿Ha recibido (NOMBRE DEL NIÑO) desparasitante en los últimos seis meses?	NO .....0 SI .....1 NO SABE.....8	

SECCIÓN 4: INMUNIZACIÓN DE NIÑOS/AS

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 IN1	¿Tiene Ud. la tarjeta de vacunas de (NOMBRE DEL NIÑO)? SI LA RESPUETA ES AFIRMATIVA: ¿Puedo verla por favor?	**NO DISPONIBLE/ PERDIDA/ EXTRAVIADA.....0** SI, VISTA POR ENTREVISTADOR.....1 **NUNCA TUVO TARJETA.....2** **NO SABE.....8**	**→NE1** **→ NE1** **→ NE1**

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION										SALTAR
2 IN2	**(1) COPIE LA FECHA DE VACUNACION PARA CADA VACUNA DE LA TARJETA.** (2) ANOTE '88' EN LA COLUMNA ? DIA? SI LA TARJETA MUESTRA QUE SE DIO LA VACUNA, PERO SIN INDICAR FECHA.	(DIA/ MES / ANO) D D M M A A A										
A	BCG	BCG										
B	POLIO 1	P1.....										
C	POLIO 2	P2.....										
D	POLIO 3	P3.....										
E	PENTAVALENTE 1	PENTA 1										
F	PENTAVALENTE 2	PENTA 2										
G	PENTAVALENTE 3	PENTA 3										
H	MMR / Anti-Sarampión	MMR										

SECCIÓN 5: NIÑO/A ENFERMO/A

SECCIÓN 5a : ENFERMEDADES PREVALENTES EN LA INFANCIA Y EN LOS NIÑOS

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACIÓN	SALTAR
1 NE1	A veces los niños se enferman y necesitan atención o tratamiento contra enfermedades. ¿Cuáles son las señales de peligro que pudieran indicar que su niño necesita atención inmediata? ANOTE TODAS LAS QUE SE MENCIONEN	**NO SABE.....A** TIENE MAL ASPECTO O NO JUEGA NORMALMENTE....B NO COME NI BEBE…….....C LETARGICO O DIFICIL DE DESPERTAR.....D FIEBRE ALTA.....E RESPIRACION RAPIDA O DIFICULTOSA.....F VOMITA TODO LO QUE COME O BEBE.....G CONVULSIONES.....H OTROS _____ I (ESPECIFIQUE) OTROS _____J (ESPECIFIQUE)	**→ 2**
2 NE2	¿En las ultimas dos semanas (NOMBRE DEL NIÑ@) tuvo alguno de los siguientes cosas? LEA LAS OPCIONES Y ANOTE TODAS LO QUE SON AFIRMATIVAS ¿Diarrea? ¿Sangre en las heces? ¿Tos? ¿Respiración difícil/ rapida o acererada?	DIARREA.....A SANGRE EN LAS HECES.....B TOS.....C RESPIRACION RAPIDA/ ACERERADA....D FIEBRE.....E	

	¿Respiración rápida o acelerada? ¿Fiebre? ¿Malaria? ¿Convulsiones?	MALARIA.....F CONVULSIONES.....G NINGUNA.....H	

SECCIÓN 5b: DIARREA (MANEJO DE CASOS DE DIARREA)

NO.	PREGUNTAS Y FILTRO	CATEGORIA DE CODIFICACION	SALTAR
1 DM1	¿Ha tenido (NOMBRE DEL NIÑ@) diarrea en las últimas dos semanas?	NO.....0 SI.....1 **NO SABE 8**	**→ 9** **→ 9**
2 DM2	¿Cuándo (NOMBRE DEL NIÑ@) tenia diarrea, recibió algún tratamiento? ¿Algo más? ANOTE TODO LO MENCIONADO.	**NADA .....A** SRO.....B SUERO CASERO.....C SOLUCIONES A BASE DE CEREALES.....D MEDICINAS ANTI-DIARREICAS O ANTIBIOTICOS.....E (IV) INTRAVENOSO.....F REMEDIOS CASEROS.....G OTROS_____ X (ESPECIFIQUE)	**→ 3**
3 DM3	¿Cuándo (NOMBRE DEL NIÑ@) tenia diarrea le dio el pecho, menos que lo normal, aproximadamente lo mismo o más que lo usual?	MENOS.....1 IGUAL .....2 MAS .....3 NO DIO PECHO .....4 NO SABE.....8	
4 DM4	¿Cuándo (NOMBRE DEL NIÑ@) tenia diarrea le dieron además de su pecho, menos que lo usual para beber, aproximadamente lo mismo, o más de lo usual?	MENOS.....1 IGUAL .....2 MAS .....3 NADA DE BEBER.....4 NO SABE.....8	
5 DM5	¿Cuando (NOMBRE DEL NIÑ@) tenia diarrea le dieron menos que lo usual de comer, aproximadamente lo mismo, o más que lo usual?	MENOS.....1 IGUAL .....2 MAS .....3 NADA DE COMER .....4 NO SABE.....8	
6 DM6	¿Cuándo (NOMBRE DEL NIÑ@) tenia diarrea ¿Pidió consejo o ayuda?	**NO .....0** SI.....1	**→ 8**

NO.	PREGUNTAS Y FILTRO	CATEGORIA DE CODIFICACION	SALTAR
7 DM7	¿Dónde pidió el consejo o ayuda para la diarrea de (NOMRE)? ANOTE TODO LO MENCIONADO SI LA FUENTE ES UN HOSPITAL, CENTRO DE SALUD O CLÍNICA, ANOTE EL NOMBRE DEL SITIO: _____ (NOMBRE DEL SITIO)	HOSPITAL.....A CENTRO/PUESTO DE SALUD.....B MÉDICO/CLINICA PARTICULAR.. C FARMACIA.....D TIENDA.....E BRIGADISTA/UROC.....F CURANDERO.....G PARTERA.....H AMIGO/PARIENTE.....I OTROS:_____J (ESPECIFIQUE)	

NO.	PREGUNTAS Y FILTRO	CATEGORIA DE CODIFICACION	SALTAR
8 DM8	¿Durante el período en que (NOMBRE DEL NIÑ@) se recuperaba de la diarrea, le dio menos de lo usual a beber y comer, aproximadamente lo mismo, o más que lo usual?	MENOS.....1 IGUAL .....2 MAS .....3 AUN CON DIARREA.....4 NO SABE.....8	
9 DM9	¿Cuándo un niño esta con diarrea, ¿Cómo se da cuenta que esta grave? ANOTE TODO LO MENCIONADO.	SOMNOLIENTO.....A OJOS HUNDIDOS.....B PLIEGUE/ PIEL.....C BEBE CON SED.....D INQUIETO/ IRRITABLE.....E **NO SABE.....F** OTROS_____K (ESPECIFIQUE) OTROS_____K (ESPECIFIQUE)	**→ IR1**

SECCIÓN 5c: INFECCIONES RESPIRATORIAS AGUDAS

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 IR1	¿Ha estado (NOMBRE DEL NIÑ@) enfermo con tos en las últimas dos semanas?	**NO.....0** SI .....1 **NO SABE.....8**	**→ 9** **→ 9**
2 IR2	¿Ha estado (NOMBRE DEL NIÑ@) con dificultad en respirar, o respiraba como cansado (disnea) o respiraba más rápido que lo usual en forma entrecortada y poco profunda?	**NO.....0** SI .....1 **NO SABE.....8**	**→ 9** **→ 9**
3 IR3	¿Qué cantidad de líquidos le dio a (NOMBRE DEL NIÑ@) durante la enfermedad?	MAS DE LO NORMAL .....1 LA MISMA CANTIDAD.....2 MENOS 3	

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 IR1	¿Ha estado (NOMBRE DEL NIÑ@) enfermo con tos en las últimas dos semanas?	**NO.....0** SI .....1 **NO SABE.....8**	**→ 9** **→ 9**
		LE DABA SOLO PECHO 4	**→ 5**
4 IR4	¿Qué cantidad de alimentos le dio a (NOMBRE DEL NIÑ@) durante la enfermedad?	MAS DE LO NORMAL .....1 LA MISMA CANTIDAD.....2 MENOS 3	
5 IR5	¿Ha pedido Ud. consejo o tratamiento para (NOMBRE DEL NIÑ@) para la tos/ respiración rápida?	**NO.....0** SI 1	**→ 8**
6 IR6	¿Cuánto tiempo después llevo a (NOMBRE DEL NIÑ@) para consejos o tratamiento contra la tos y respiración rápida?	El MISMO DIA .....1 DIA SIGUIENTE.....2 DOS DIAS .....3 TRES DIAS O MAS.....4	
7 IR7	¿Dónde recibió consejos o tratamiento para (NOMBRE DEL NIÑ@) contra la tos y respiración rápida?[1] ANOTE TODO LO MENCIONADO SI LA FUENTE ES UN HOSPITAL, CENTRO DE SALUD O CLINICA, ANOTE EL NOMBRE DEL SITIO: _____ (NOMBRE DEL SITIO)	HOSPITAL GENERAL .....A CENTRO/ PUESTO DE SALUD .B MEDICO/ CLIN. PARTICULAR.. C FARMACIA..... D BRIGADISTA / URO.....E CURANDERO.....F PARTERA ..... G AMIGO/ PARIENTE ..... H OTROS_____ X (ESPECIFIQUE)	
8 IR8	¿Cuándo (NOMBRE DEL NIÑ@) tenia tos y respiración rápida/ dificultosa, ¿Recibió algún tratamiento? ¿Cual? ANOTE TODO LO MENCIONADO	**NADA.....A** PENICILINA PROCAÍNICA.....B PANADOL ..... C AMOXICILINA ..... D ERITROMICINA .....E TRIMETROPIN SULFA.....F OTROS_____X (ESPECIFIQUE)	**→ 9**
9 IR9	¿Cuándo un nino esta con una enfermedad respiratoria, ¿Cómo se da cuenta que esta grave? ANOTE TODO LO MENCIONADO	NO SABE ..... A RESPIRACIÓN RAPIDA/AGITADA.....B RETRACCIONES INTERCOSTALES.....C PERDIDA DEL APETITO.....D FIEBRE.....E	**→CM1**

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 IR1	¿Ha estado (NOMBRE DEL NIÑ@) enfermo con tos en las últimas dos semanas?	**NO.....0** SI .....1 **NO SABE.....8**	**→ 9** **→ 9**
		TOS.....F OTRO_____ X **(ESPECIFIQUE)**	

SECCIÓN 5d : CONTROL DE MALARIA

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 CM1	Tiene usted algún mosquitero en su casa?	**NO.....0** SI.....1	→ Sec. 6a
2 CM2	Quién usó anoche el mosquitero para dormir?	NIÑO (A) (NOMBRE).....1 ELLA (LA ENTREVISTADA).....2 ESPOSO O COMPAÑERO.....3 OTRO_____96	
3 CM3	Cuánto tiempo hace que usted (es) compraron u obtuvieron ese mosquitero?	MESES _____ _____ NO SABE.....88	
4CM4	Fue el mosquitero remojado en un líquido para ahuyentar los zancudos?	NO.....0 SI .....1 NO SABE.....88	

SECCIÓN 6a: ATENCION PRENATAL

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
1 AP1	¿Consultó a alguien para recibir cuidado prenatal cuando estaba embarazada de (NOMBRE DEL NIÑ@)? EN CASO AFIRMATIVO: ¿A quién consultó? ¿Alguien más? TRATE DE AVERIGUAR EL TIPO DE PERSONA Y ANOTE TODAS LAS PERSONAS MENCIONADAS POR LA MADRE	**NADIE.....A** MEDICO / ENFERMERA.....B PARTERA TRADICIONAL.....C BRIGADISTA.....D OTROS _____ X (ESPECIFIQUE)	**→ RN1**
2 AP2	¿Cuando estuvo embarazada de (NOMBRE DEL NIÑ@) le aplicaron en el brazo la vacuna contra de tétano?	NO.....0 SI.....1 NO SABE.....8	
3 AP3	¿Tiene usted una tarjeta de control del embarazo?	**NO DISPONIBLE .....0** SI, LA VI.....1 **NUNCA TUVO.....2**	**→ RN1** **→ RN1**

NO.	PREGUNTAS Y FILTROS	CATEGORIAS DE CODIFICACION	SALTAR
4 AP4	FIJESE EN LA TARJETA DEL CONTROL PRENATAL DE LA MADRE Y ANOTE CUANTAS ATENCIONES PRENATALES SE REALIZÒ	NINGUNO.....0 UNA .....1 DOS O MAS 2	
5 AP5	REVISE EN LA TARJETAY ESCRIBA EL NÙMERO DE DOSIS DE dT MIENTRAS ESTABA EMBARAZADA DE (NOMBRE)	NINGUNO.....0 UNA .....1 DOS O MAS 2	

SECCIÓN 6b: PARTO Y CUIDADO INMEDIATO DEL RECIEN NACIDO

NO.	PREGUNTAS Y FILTROS	CATEGORIA DE CODIFICACION	SALTAR
1 RN1	¿Dónde dio a luz a (NOMBRE DEL NIÑ@)? SI ES UN HOSPITAL, CENTRO DE SALUD O CLINICA, ANOTE EL NOMBRE DEL SITIO. _____ (NOMBRE DEL SITIO))	EN CASA.....1 HOSPITAL.....2 CLINICA.....3 CENTRO DE SALUD.....4 PUESTO DE SALUD.....5 OTRA_____6 (ESPECIFIQUE)	
2 RN2	¿Quién le atendió el parto de (NOMBRE DEL NIN@)? ANOTE TODOS LOS MENCIONADOS	MEDICO .....A ENFERMERA .....B PARTERA ENTRENADA.....C PARTERA EMPÍRICA TRADICIONAL.....D TRABAJADOR DE SALUD COMUNITARIOE FAMILIAR_____F (ESPECIFIQUE) OTRO _____G (ESPECIFIQUE) ELLA MISMA .....H	

SECCIÓN 7: PLANIFICACIÓN FAMILIAR

NO.	PREGUNTAS Y FILTROS	CATEGORIA DE CODIFICACION	SALTAR
1 PF1	¿Cuántos niños que viven en este hogar son menores de cinco años?	**UN NIÑO.....1** DOS NIÑOS .....2 TRES O MAS 3	**→ 4**
2 PF2	¿Cuántos de esos niños son hijos biológicos suyos?	**UN NIÑO .....1** DOS NIÑOS .....2 TRES O MAS 3	**→ 4**

NO.	PREGUNTAS Y FILTROS	CATEGORIA DE CODIFICACION	SALTAR
3 PF3	¿Cuál es el sexo y fecha de nacimiento de los dos niños más jóvenes?	HIJO/A #1 (NOMBRE DEL NIÑ@) SEXO VARON.....1 HEMBRA.....2 FECHA DE NACIMIENTO DIA ☐☐ MES ☐☐ AÑO ☐☐ HIJO/A #2 (PROX. MAYOR) SEXO VARON.....1 HEMBRA.....2 FECHA DE NACIMIENTO DIA ☐☐ MES ☐☐ AÑO ☐☐	
4 PF4	¿Está embarazada actualmente?	**NO.....0** SI .....1 NO ESTA SEGURA 8	**→ VS1**
5 PF5	¿Quiere tener otro niño?	**NO.....0** SI .....1 **NO SABE.....8**	**→ 7** **→ 7**
6 PF6	¿Cuándo quiere tener su próximo niño?	2 AÑOS O MENOS .....1 MAS DE 2 AÑOS .....2 NO ESTA SEGURA 8	
7 PF7	¿Está haciendo algo actualmente o usando algún método para demorar o evitar el embarazo? SI NO, CIRCULE '01' [NINGUN METODO] EN CASO AFIRMATIVO, pregúntele, "¿Cuál es el método principal que usan usted o su esposo/ pareja para evitar/ aplazar el embarazo?"	NINGUN METODO.....01 NORPLANT..... .....02 INYECCIONES.....03 PÍLDORA .....04 DIU.....05 METODO BARRERA/ DIAFRAGMA.....06 CONDON.....07 ESPUMA / GELATINA..... 08 LIGAMIENTO DE TROMPAS/ ESTERILIZACION..... .09 VASECTOMIA..... ..... 10 AMENORREA DE LACTANCIA/MELA.....11 RITMO.....12 ABSTINENCIA..... 13 COITO INTERRUMPIDO/RETIRO.....14 OTROS_____ 15 (ESPECIFIQUE)	

SECCIÓN 8: VIH/ SIDA

NO	PREGUNTAS Y FILTROS	CATEGORIA DE CODIFICACION	SALTAR
1 VS1	¿Ha oido alguna vez hablar de la enfermedad del SIDA?	NO.....0 SI.....1	→ AS1

NO	PREGUNTAS Y FILTROS	CATEGORIA DE CODIFICACION	SALTAR
2 VS2	¿Hay algo que se pueda hacer para evitar que nos de el SIDA?	NO.....0 SI.....1 NO SABE.....8	→ AS1 → AS1
3 VS3	¿Qué se puede hacer? ¿Algo más? ANOTE TODO LO MENCIONADO	NO SABE.....A ABSTENERSE DEL SEXO.....B USAR CONDONES.....C LIMITAR EL SEXO A UNA PAREJA/ SER FIEL A UNA PAREJA.....D LIMITAR EL NUMERO DE PAREJAS SEXUALES.....E EVITAR EL SEXO CON PROSTITUTAS.....F EVITAR EL SEXO CON PERSONAS QUE TIENEN MUCHAS PAREJAS.....G EVITAR RELACIONES CON PERSONAS DEL MISMO SEXO.....H EVITAR EL SEXO CON PERSONAS QUE SE INYECTAN DROGAS INTRAVENOSAS.....I EVITAR TRANSFUSIONES DE SANGRE.....J EVITAR INYECCIONES.....K EVITAR BESOS.....L EVITAR PICADURAS DE MOSQUITO.....M OBTENER PROTECCIÓN DE UN CURANDERO TRADICIONAL.....N EVITAR COMPARTIR NAVAJAS/HOJAS DE AFEITAR.....O OTROS_____W (ESPECIFIQUE) OTROS_____X (ESPECIFIQUE)	→ AS1

Annex D: Results from the 80 Priority Communities

Introduction

This brief introduction is to provide an overview of the survey conducted only in the 80 intervention communities of the project. In order to illustrate the investment the project made in the 80 direct intervention communities, the project decided to conduct a mini KPC in those communities in addition to the overall KPC which covered all 750 communities. This second survey would allow the CS team to see the results of their education and supervision efforts as applied to the 80 communities. The results of that survey (referred to as KPC-80 in the report) are included in this annex to facilitate analysis and discussion. One of the challenges with the current CS project was the ambitious goal of covering all 750 communities within the department of Jinotega. The project team believed that with additional funding, they would be able to provide coverage to these communities, by supplementing the original CS budget. Policy decisions at Project HOPE HQ derailed this plan and the limited additional funding sources that would have facilitated providing services to the 750 communities were unable to be pursued. Faced with this constraint and with the consent of USAID, the project selected 80 direct intervention communities that would receive regular trainings for HF staff, CHWs and TBAs and receive more frequent follow up visits from project staff. It is these 80 communities that were interviewed as part of KPC-80.

The reason the project undertook this exercise was that when the project team approached USAID and requested that the final evaluation only include the 80 direct intervention communities, that request was summarily denied.

The project used the LQAS methodology to administer the baseline, midterm and final evaluations. Local project staff from Project HOPE Nicaragua were trained to administer the survey and mothers of children under 2 years of age were interviewed in the 8 municipalities within the department of Jinotega. Given economic and time constraints, the anemia indicators were not collected in the 80 community survey. The presentation of the results of the 80 community survey are presented below as well as a comparison with all project communities.

KPC Final vs. KPC 80 communities- Results by indicator – Department of Jinotega, Nicaragua

Indicator (for the entire project area)	FE March 2007 All the areas	FE June 2007 80 communities	GOAL
Maternal and Newborn Care Maternal and Newborn Care			
24. % of mothers of children aged 0-23 months who report having had at least one prenatal visit with a doctor or nurse.	95%	95%	**94%**
25. % of mothers of children aged 0-23 months who report having had two or more prenatal visit with a doctor or nurse.	40%	90%	*
26. % of mothers of children aged 0-23 months that report receiving on their arm the dT vaccine during the last pregnancy.	89%	92%	**
27. % of children aged 0-23 months whose birth was attended by a doctor or nurse.	71%	61%	**65%**
28. % of mothers of children aged 0-11 months who report having had at least one postpartum visit.	51%	52%	**45%**
Nutrition and Micronutrients			
29. % of children aged 0-23 months weighed in the last four months according to growth monitoring card.	75%	96%	**90%**
30. % of children aged 0-23 months with low weight (Weight-For-Age) (<2Z).	1%		**8%**
31. % of children aged 0-23 months stunted (Height-For-Age) (<2Z).	%		
32. % of children aged 0-23 months with anemia (hemoglobin level < 11mg/dl).	47%		**30%**
Breastfeeding Promotion			
33. % of mothers of children aged 0-23 months who report having breastfed within the first hour after birth	77%	82%	**80%**
34. % of mothers of children aged 0-23 months who report having breastfed within the first 8 hours after birth.	85%	89%	**
35. % of infants aged 0-5 months who received only breast milk in the past 24 hours.	56%	74%	**70%**
Immunization			
36. % of children aged 12-23 months with all recommended vaccines at the moment of their first birthday according to the growth monitoring card.	78%	87%	**80%**
Control of Diarrheal Diseases			
37. % of mothers of children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more food to their child.	31%	59%	**60%**
38. % of mothers with children aged 0-23 months with a diarrheal episode in the last two weeks who report giving as much or more liquids or breast milk to their child	65%	85%	**80%**
39. % of mothers of children aged 0-23 months who report having sought assistance or counseling from a health unit or CORU during the child's last diarrheal episode.	40%	54%	**50%**
40. % of mothers of children aged 0-23 months who report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation and after tending a child that has defecated	7%	24%	**35%**

41. % of mothers of children aged 0-23 months that know at least two signs of dehydration due to diarrhea.	31%	73%	**40%**

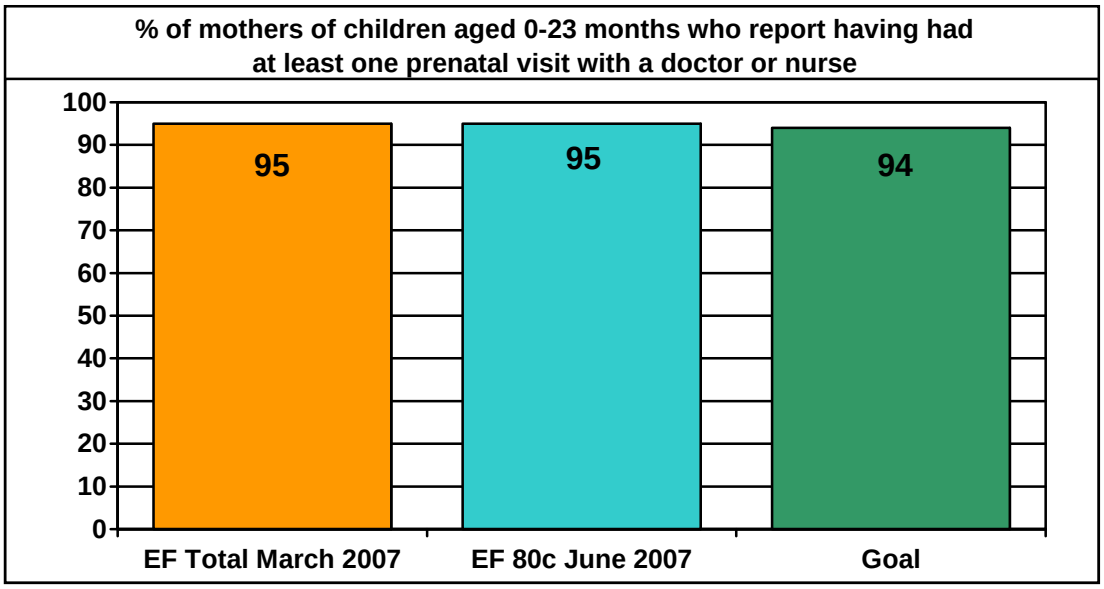
Indicator (for the entire project area)	EF March 2007 All the areas	EF June 2007 80 communities	GOAL
Pneumonia Case Management			
42. % of children aged 0-23 months with cough and fast breathing in the last two weeks taken to a health unit.	53%	30%	**75%**
43. % of mothers of children aged 0-23 months who can identify fast breathing as a danger sign for pneumonia.	83%	90%	**90%**
Child Spacing			
44. % of children aged 0-23 months who were born at least 24 months after the previous surviving child.	77%	90%	**86%**
45. % of mothers of children aged 12-23 months who desire no more children in the next two years, who are using some type of modern child spacing method.	100%	66%	**85%**
HIV/AIDS			
46. % of mothers of children aged 0-23 months who know at least one way to prevent STIs-HIV/AIDS.	20%	62%	**15%**

indicador monitoreado a solicitud de Bonnie Kittle, en consecuencia, no hay meta.

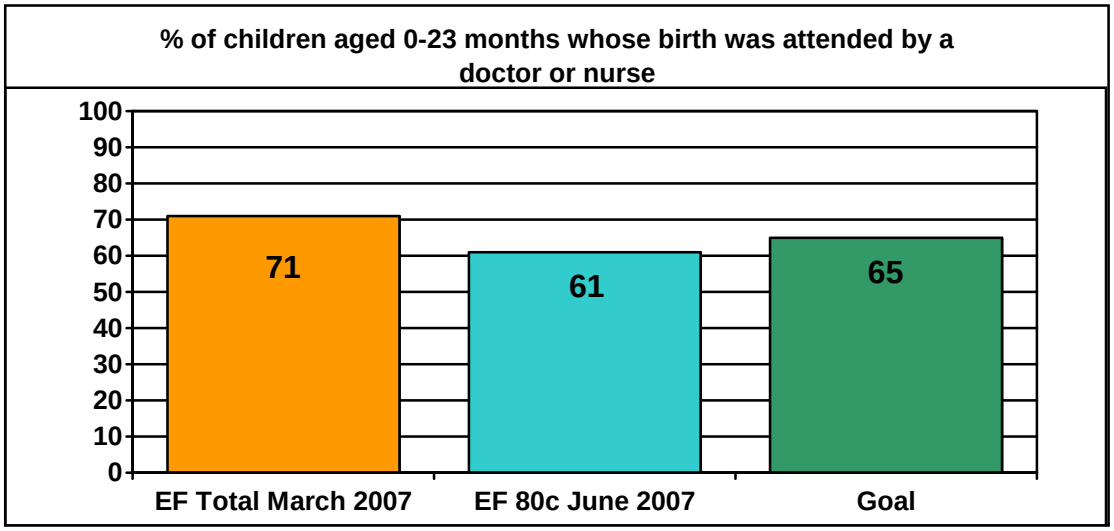
***Indicador no tiene meta, pues solamente se ha dado seguimiento sin ser un objetivo del programa*

Comparison of Results: 80 Priority Communities vs. All Areas

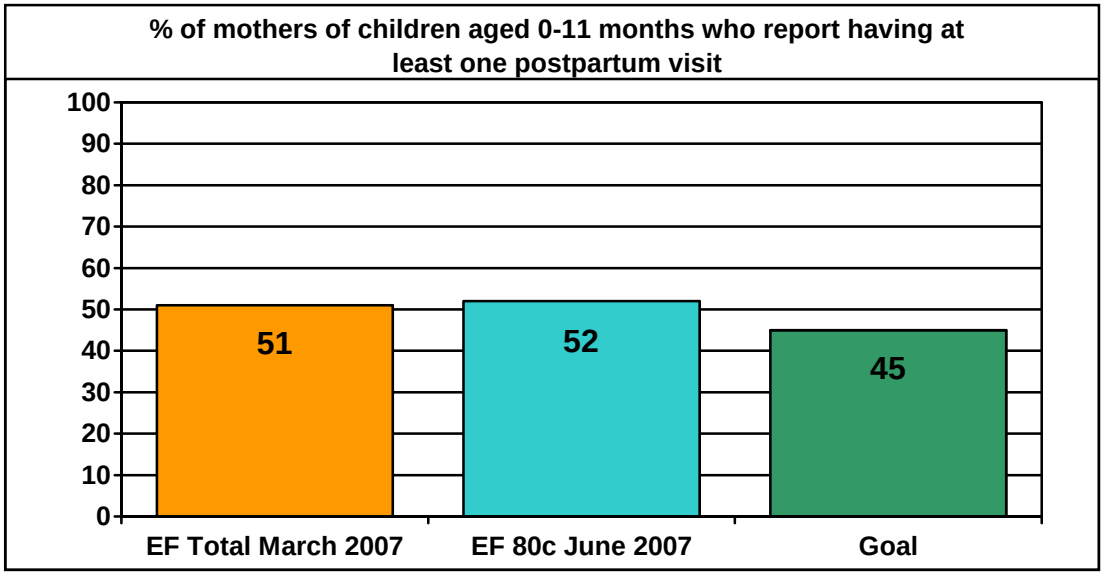
Maternal and Newborn Care



The project surpassed the goal of 94% of mothers with children 0-23 months old having at least one prenatal visit. Overall, 95% of mothers interviewed for the survey had at least one prenatal visit during the current pregnancy. In the KPC- 80 survey, the result was the same.

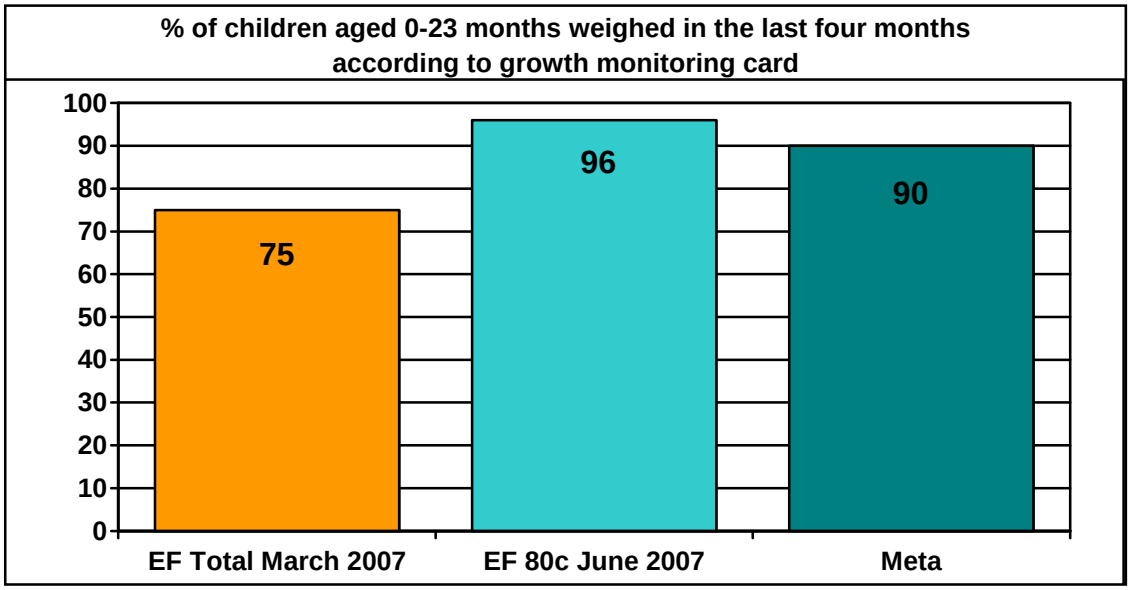


In the overall KPC, 71% of mothers of children 0-23 months old had their birth attended by a doctor or nurse. This indicator, which stresses skilled attendants at birth, is instrumental in reducing maternal and infant mortality, especially during the neonatal period. In the KPC-80, 61% of births of children 0-23 months were attended by a medical professional, which was slightly less than the target of 65%.



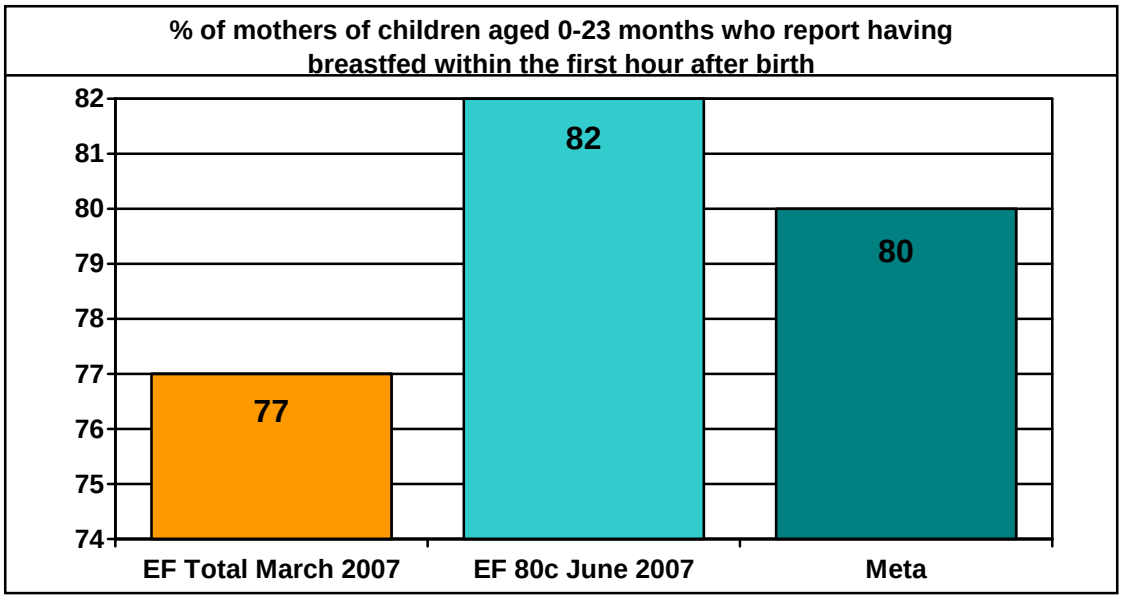
In both the overall KPC and the KPC- 80 survey, the target of 45% of mothers with children aged 0-11 months having at least one postpartum visit, was achieved. The final KPC and KPC- 80 results indicate that 51% and 52% of moms respectively, have had at least one postpartum visit during their most recent pregnancy.

Nutrition and Micronutrients

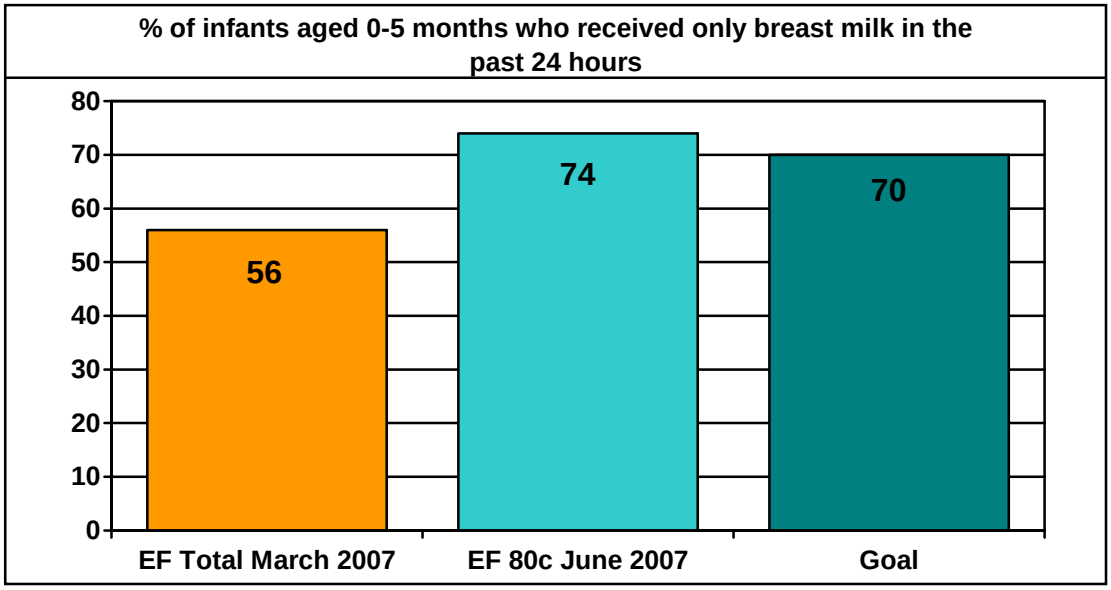


The results varied dramatically for this indicator, as evidenced by the graph above. In the overall KPC, only 75% of children 0-23 months had been weighed in the last 4 months, per the growth monitoring card. In contrast, 96% of children 0-23 months in the KPC-80 communities had been weighed according to the growth monitoring card. It would appear that the frequent follow up by project staff influenced the continued attendance of mothers at growth monitoring sessions.

Breastfeeding Promotion

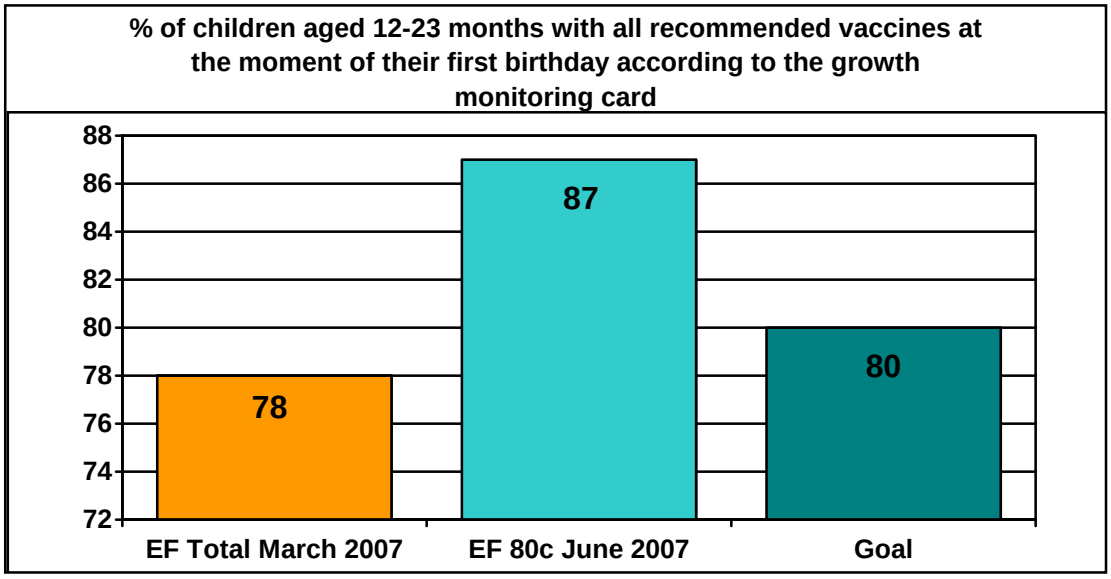


The goal for the breastfeeding indicator was that 80% of mothers of children 0-23 months breastfeed their infants within an hour of birth. In the overall KPC, 77% of mothers reported breastfeeding their infants within the specified time period, while results of the KPC-80 survey reveal that 82% of mothers were able to achieve the objective.



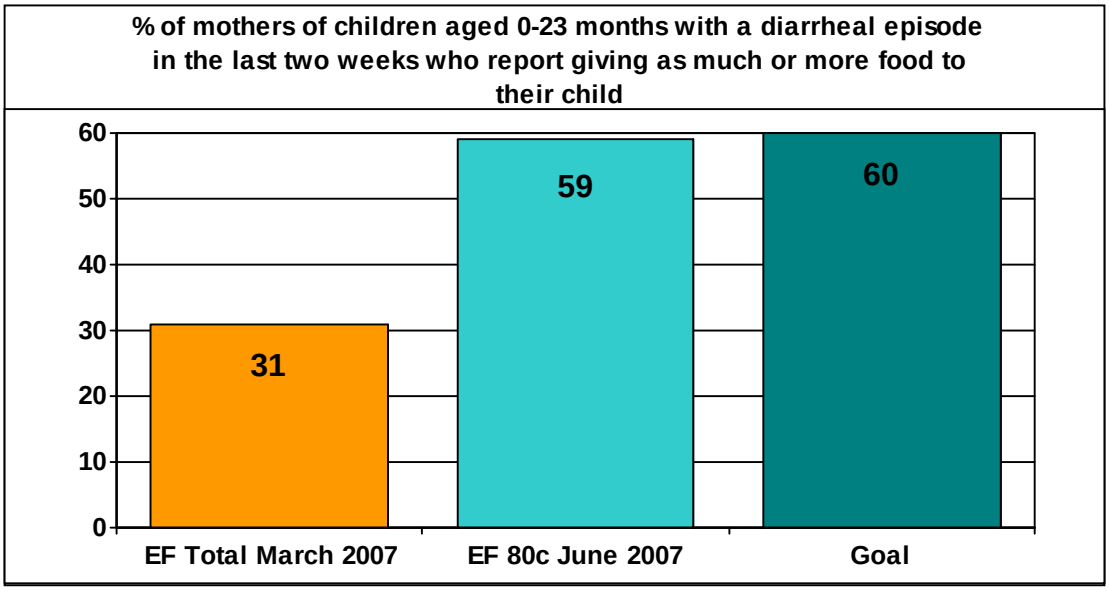
Exclusive breastfeeding is an important indicator for infant health and has been shown to reduce the incidence of diarrhea and ear infections in infants. The two KPCs conducted reveal very different results. In the overall KPC, 56% of infants received only breastmilk in the past 24 hours, while in the KPC-80, 74% of infants were exclusively breastfeed, surpassing the project goal of 70%.

Immunization

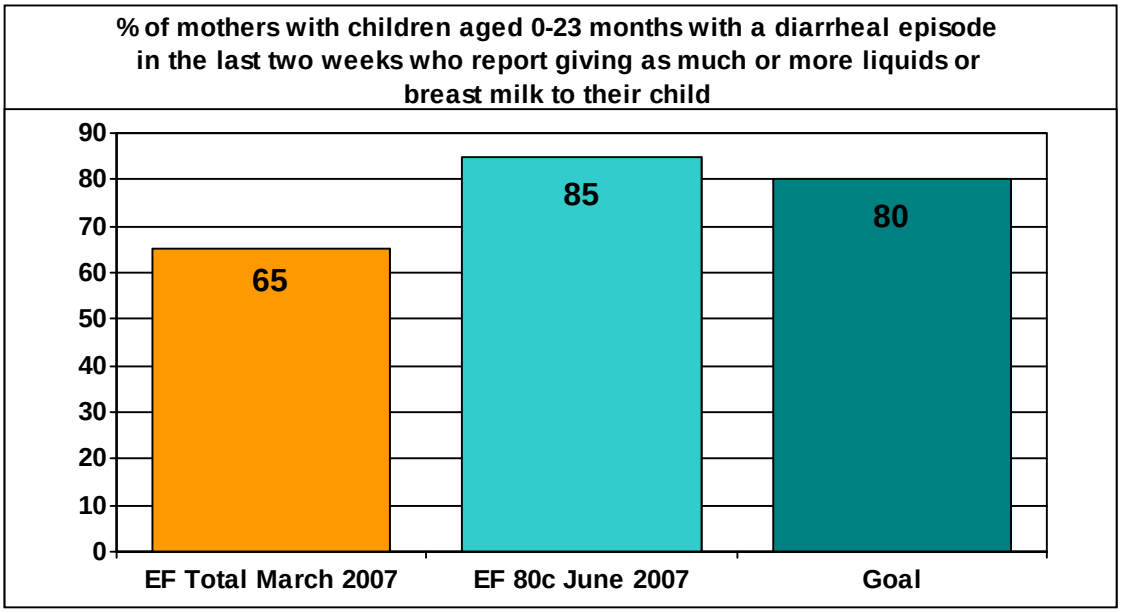


In the overall KPC, seventy eight (78%) percent of children 12-23 months of age received all their recommended vaccinations by their first birthday. This contrasts with the results from the KPC-80 which revealed that 87% of children 12-23 months of age received the necessary vaccinations by age one. This exceeded the project target of 80%.

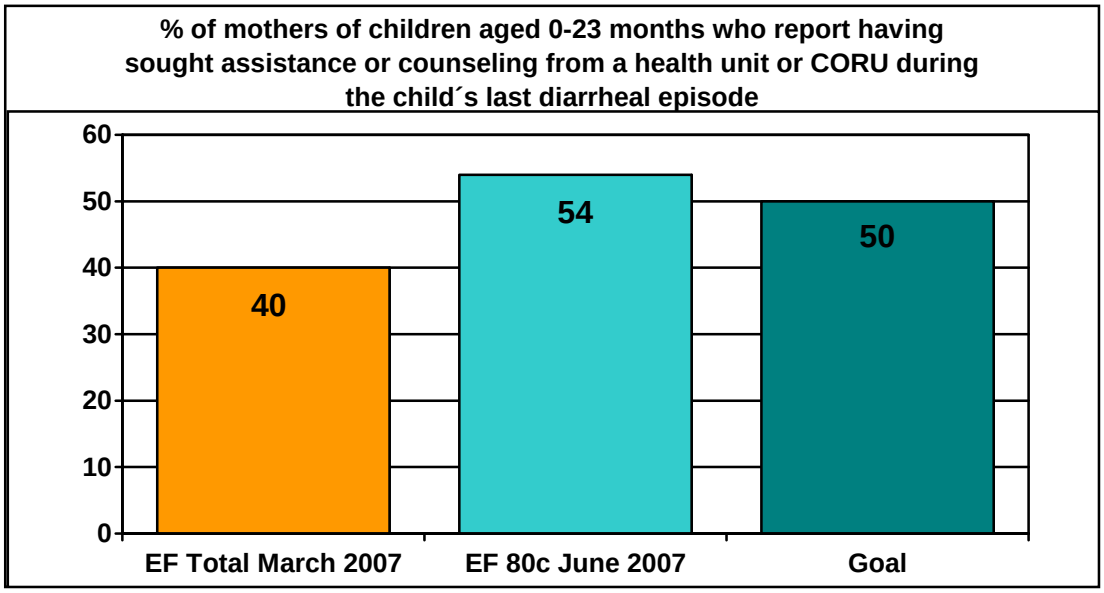
Control of Diarrheal Diseases



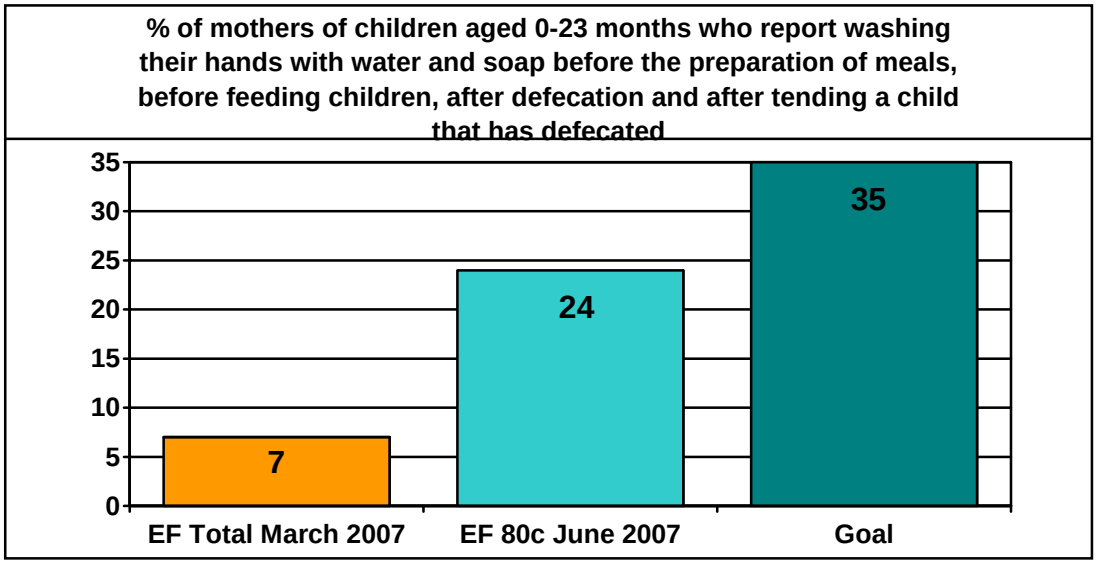
Neither the overall KPC nor the KPC-80 were able to achieve the project goal of 60% of mothers of children 0-23 months providing the same or more food to their child during a bout of diarrhea. In the overall KPC, only 31% of mothers provided the same or more food to their sick child., while in the KPC-80 communities, 59% of mothers gave the same or more food to their child during a recent diarrhea episode.



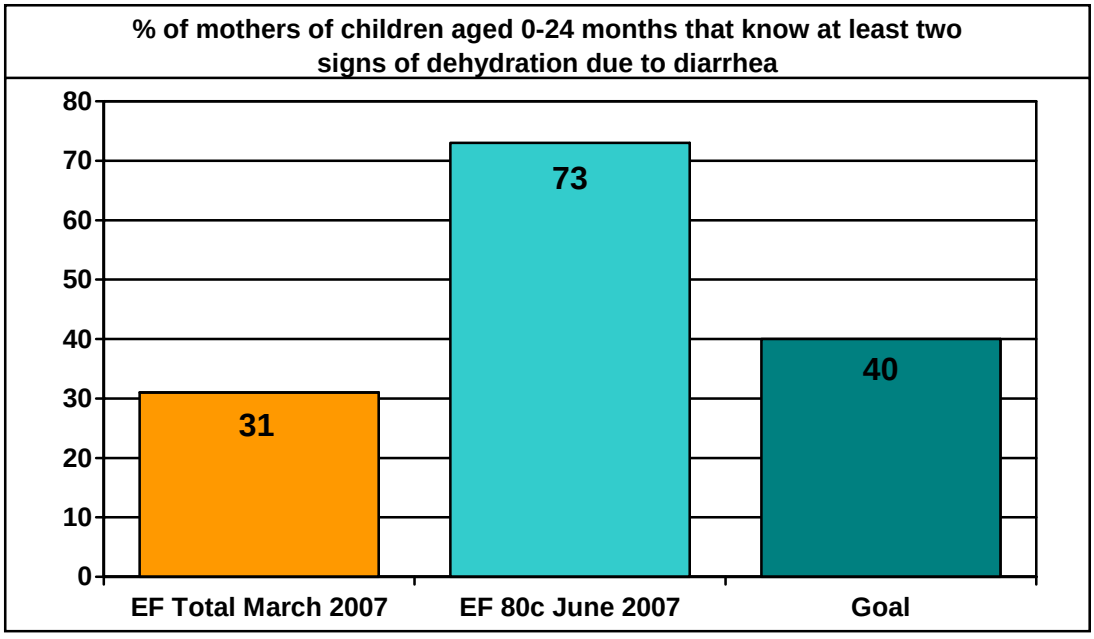
Eighty five (85%) percent of mothers in the 80 direct intervention communities gave more liquids or breastmilk to their children aged 0-23 months during a recent bout of diarrhea. This result exceeded the project goal of 80%. In the overall KPC, only 65% of mothers provided more liquids or breastmilk to their children aged 0-23 months during a recent episode of diarrhea.



The project established Community Oral Rehydration Units or *CORU*'s to promote ORS at the community level. The project goal was that 50% of mothers of children aged 0-23 months seek assistance or counseling from a health unit or CORU during the child's last diarrheal episode. The KPC-80 survey revealed that 54% of mothers sought help at the CORU during their child's last episode of diarrhea, while in the overall KPC, only 40% of mothers sought assistance from the CORU.

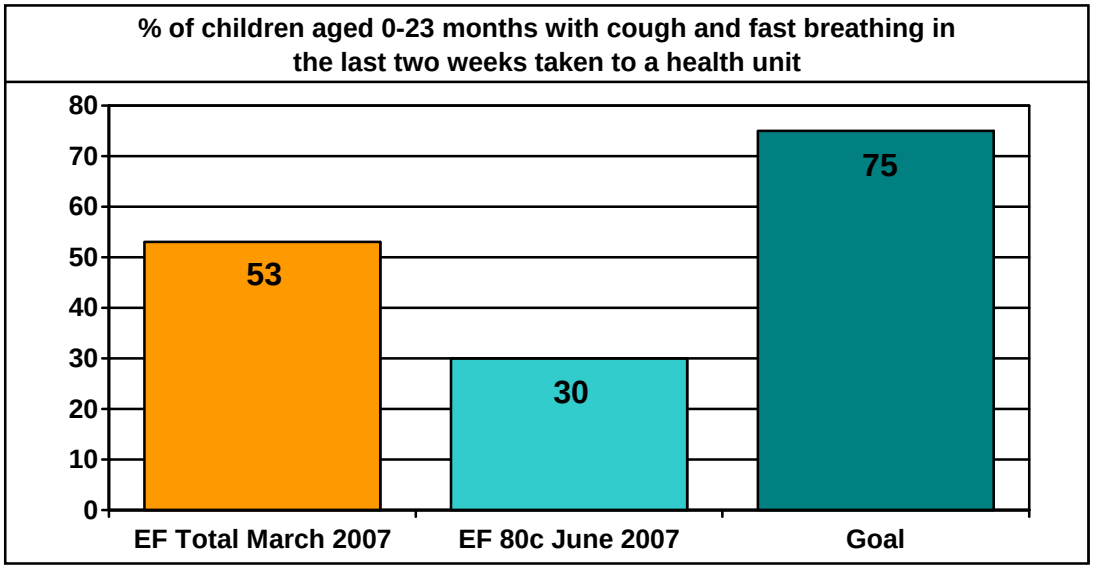


This indicator was a challenge for both the overall KPC and the KPC-80 to achieve. The project goal was that 35% of mothers of children aged 0-23 months who report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation and after tending a child that has defecated. In the overall KPC, only 7% of mothers reported washing their hands in the four instances specified, while in the KPC-80 survey, the results were more than 3 times better: 25% of mothers report washing their hands with water and soap before the preparation of meals, before feeding children, after defecation and after tending a child that has defecated.

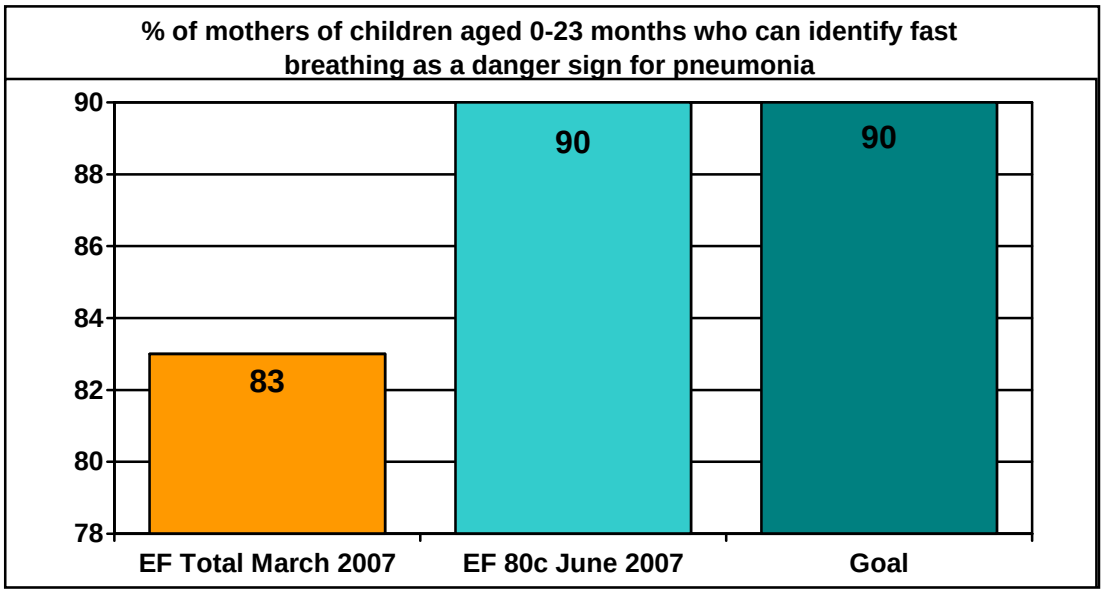


The project goal was that 40% of mothers of children aged 0-24 months know at least two signs of dehydration due to diarrhea. In the overall KPC, 31% of mothers were able to identify at least two signs of dehydration, while in the KPC-80, 73% of mothers interviewed could name at least two signs of dehydration due to diarrhea.

Pneumonia Case Management

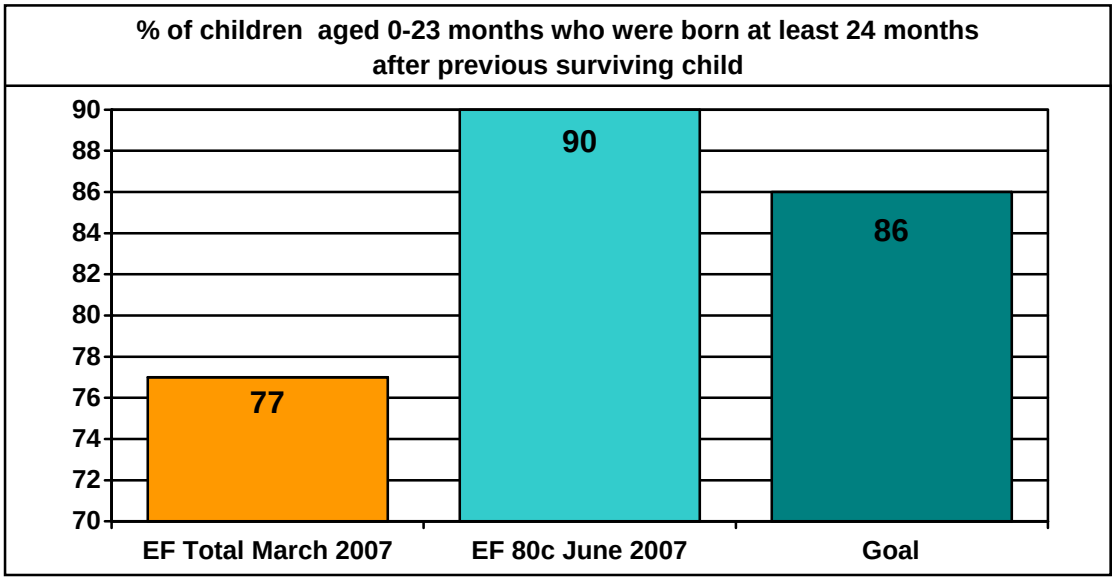


Overall, mothers of children 0-23 months who have had coughing and fast breathing in the last two weeks have not adopted the behavior of taking their child to a health unit. The project goal was 75%, but only 53% of mothers in the overall KPC brought their child to a health facility when s/he presented cough and/or fast breathing. Even more alarming was that in the KPC-80 community survey, only 30% of mothers of children 0-23 months brought their child in for medical attention as indicated. All of this is more troubling when the indicator on knowledge (below) is analyzed. Future projects should conduct qualitative studies to determine the barriers that prevent mothers from taking their children to health facilities at the first sign of rapid breathing.

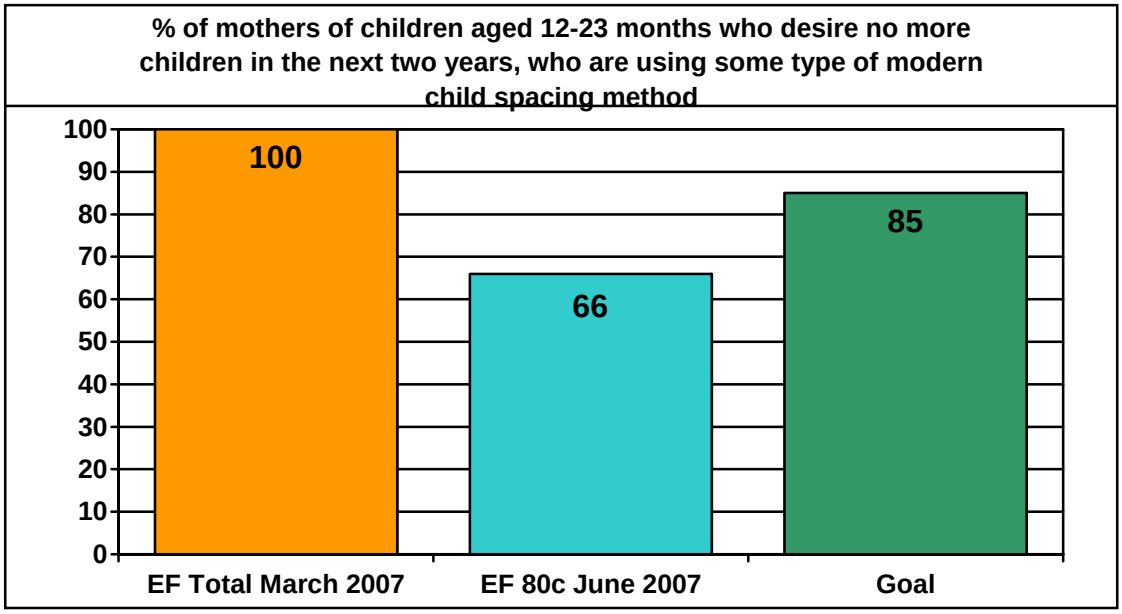


It is encouraging to see that the vast majority of mothers can identify fast breathing as a sign of pneumonia. In the overall KPC, 83% of moms identified this danger sign, while 90% of mothers in the KPC-80 survey did as well. The challenge is to translate knowledge into practice (see above indicator).

Child Spacing

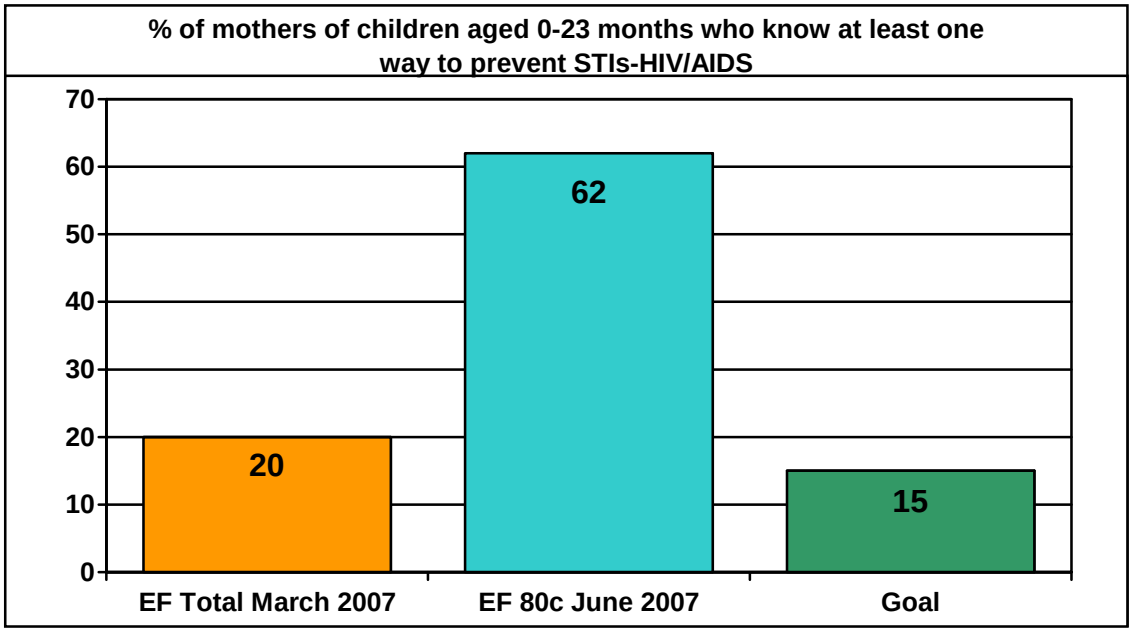


The messages regarding child spacing have begun to bear fruit in some communities of the project. The overall KPC revealed that 77% of children 0-23 months were born at least 24 months after previous surviving child, while 90% of children 0-23 months in the 80 direct intervention communities were born 2 years after a prior sibling. The project goal for this indicator was 86%.



This indicator revealed very surprising results. The goal was that 85% of mothers of children aged 12-23 months who desire no more children in the next two years, use using some type of family planning method. In the overall KPC, 100% of the mothers interviewed indicated that they were using a modern child spacing method, while in the 80 intervention communities, only 66% of mothers interviewed indicated that they were using a modern method to space pregnancies.

HIV/AIDS



Both in the overall KPC and in the KPC-80, the target of 15% of mothers of children aged 0-23 months who know at least one way to prevent STIs-HIV/AIDS was reach. In the overall KPC, 20% of mothers knew at least one way to prevent HI/AIDS and STIs, while a whopping 62% of mothers in the 80 intervention communities were able to name at least one way to avoid sexually transmitted diseases, including HIV/AIDS.

■

Child Survival and Health Grants Program Project Summary

Dec-27-2007

Project HOPE
(Nicaragua)

General Project Information:

Cooperative Agreement Number:	**HFA-A-00-02-00026-00**
Project Grant Cycle:	**18**
Project Dates:	**(9/30/2002 - 9/29/2007)**
Project Type:	**Standard**
PROJECT HOPE Headquarters Technical Backstop:	**Bonnie Kittle**
Field Program Manager:	**Francisco Torres**
Midterm Evaluator:	
Final Evaluator:	**Marguerite Joseph**
USAID Mission Contact:	**Dr. Ivan Tercero**

Field Program Manager Information:

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Funding Information:

USAID Funding:(US $): $1,300,000 **PVO match:(US $)** $1,300,000

Project Information:

Description:

The goal of this program is to reduce morbidity and mortality rates of children under five and women of reproductive age in the Department of Jinotega's primarily rural communities. Specific program health interventions and level of effort include maternal and newborn care, nutrition/micronutrient deficiencies, breastfeeding promotion, control of diarrheal disease, pneumonia case management, immunization, child spacing, and HIV/AIDS/STIs. The program builds upon HOPE's experience implementing strong public health education programs in Boaco, Chontales, and three municipalities of Jinotega. It benefits from lessons learned in HOPE's innovative and highly successful child survival program on the coffee plantations of Guatemala's Boca Costa region. The proposed interventions are implemented in accordance with Nicaragua's "Integrated Services to the Child" (AIN) approach, Central America's version of IMCI. Other strategies employed are: building the service-delivery capacity of local health facilities and organizations; increasing the skills and elevating the morale of health care providers; strengthening cooperation among public, private and community stakeholders; and empowering consumers, particularly women.

Location:

Located along Nicaragua's northern border with Honduras, Jinotega is mainly rural and mountainous, and is among the country's poorest departments. Coffee production is the main economic activity, with an estimated 12,000 plantations in the region. Severely affected by Hurricane Mitch in late 1998, the plantations in Jinotega have suffered further economic losses due to the recent sharp downturn in coffee prices. As a result, the size of the labor force has been significantly reduced, with an attendant impact on household income and health status.

Project Partners	Partner Type	Subgrant Amount
SILAIS Jinotega	Collaborating Partner	

General Strategies Planned:

Private Sector Involvement
Strengthen Decentralized Health System
Information System Technologies

M&E Assessment Strategies:

KPC Survey
Health Facility Assessment
Organizational Capacity Assessment with Local Partners
Organizational Capacity Assessment for your own PVO
Lot Quality Assurance Sampling
Participatory Evaluation Techniques (for mid-term or final evaluation)

Behavior Change & Communication (BCC) Strategies:

Interpersonal Communication
Peer Communication
Support Groups

Groups targeted for Capacity Building:

PVO	Non-Govt Partners	Other Private Sector	Govt	Community
Field Office HQ CS Project Team	(None Selected)	Business	Dist. Health System Health Facility Staff	CHWs

Interventions/Program Components:

Immunizations (7 %)
(IMCI Integration)

Nutrition (13 %)
(IMCI Integration)
(CHW Training)
- Comp. Feed. from 6 mos.
- Growth Monitoring
- Maternal Nutrition

Pneumonia Case Management (10 %)
(IMCI Integration)
(CHW Training)
- Pneum. Case Mngmnt.
- Access to Providers Antibiotics
- Recognition of Pneumonia Danger Signs

Control of Diarrheal Diseases (15 %)
(IMCI Integration)
(CHW Training)
- Hand Washing
- ORS/Home Fluids
- Feeding/Breastfeeding
- Care Seeking
- Case Mngmnt./Counseling

Maternal & Newborn Care (30 %)
(IMCI Integration)
(CHW Training)
- Recog. of Danger signs
- Newborn Care
- Post partum Care
- Delay 1st preg Child Spacing
- Normal Delivery Care
- Birth Plans
- Emergency Transport

Child Spacing (10 %)
(IMCI Integration)
(CHW Training)
- Child Spacing Promotion

Breastfeeding (10 %)
(IMCI Integration)
(CHW Training)
- Promote Excl. BF to 6 Months
- Intro. or promotion of LAM

HIV/AIDS (5 %)
(CHW Training)

Target Beneficiaries:

Infants < 12 months:	**8,101**
Children 12-23 months:	**8,149**
Children 0-23 months:	**16,250**
Children 24-59 months:	**43,781**
Children 0-59 Months	**60,031**
Women 15-49 years:	**70,827**
Population of Target Area:	**254,192**

Rapid Catch Indicators:

	Numerator	Denominator	Percentage	Confidence Interval
Percentage of children age 0-23 months who are underweight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population)	**3**	**304**	**1.0%**	**1.1**
Percentage of children age 0-23 months who were born at least 24 months after the previous surviving child	**237**	**304**	**78.0%**	**4.7**
Percentage of children age 0-23 months whose births were attended by skilled health personnel	**223**	**304**	**73.4%**	**5.0**
Percentage of mothers of children age 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child	**112**	**117**	**95.7%**	**3.7**
Percentage of infants age 0-5 months who were exclusively breastfed in the last 24 hours	**50**	**89**	**56.2%**	**10.3**
Percentage of infants age 6-9 months receiving breastmilk and complementary foods	**38**	**48**	**79.2%**	**11.5**
Percentage of children age 12-23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	**114**	**139**	**82.0%**	**6.4**
Percentage of children age 12-23 months who received a measles vaccine	**119**	**139**	**85.6%**	**5.8**
Percentage of children age 0-23 months who slept under an insecticide-treated bednet the previous night (in malaria-risk areas only)	**101**	**304**	**33.2%**	**5.3**
Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment	**277**	**304**	**91.1%**	**3.2**
Percentage of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	**12**	**150**	**8.0%**	**4.3**
Percentage of mothers of children age 0-23 months who cite at least two known ways of reducing the risk of HIV infection	**67**	**304**	**22.0%**	**4.7**

Percentage of mothers of children age 0-23 months who wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated	**23**	**304**	**7.6%**	**3.0**

Comments for Rapid Catch Indicators

In the Midterm KPC Report, all the 95% Confidence Intervals have been calculated adjusted to population of supervision areas. Therefore, there are slight differences between the 95% C.I. in the report against the ones in this Project Data Sheet form.