

Activities to Improve the Delivery of Primary Health Care Services in the Department of Boaco, Nicaragua

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TABLE OF CONTENTS

	Page
A. Summary.....	1
B. Project Overview.....	4
C. Assessment Methodology.....	7
D. Assessment by Strategic Objectives.....	8
1. Capacity Building.....	8
i. Institutional Strengthening	
ii. Community Mobilization	
2. Health Interventions.....	20
i. Maternal Care and Family Planning	
ii. Diarrhea Case Management	
iii. Nutrition	
iv. Acute Respiratory Infections	
v. Immunizations	
vi. HIV/AIDS/STIs	
E. Project HOPE Boaco Management.....	28
1. Planning	
2. Staff Training	
3. Supervision of Program Staff	
4. Human Resources and Staff Management	
5. Financial Management	
6. Logistics	
7. Information Management	
8. Technical and Administrative Support	
9. Management Lessons Learned	
F. Other Issues Identified by the Team.....	30
G. Conclusions and Recommendations.....	32

ATTACHMENTS

1. FE Team Members and their Titles
2. List of Persons Interviewed and Contacted
3. Final Cross Sectional Survey Report
4. Information package provided to municipal health directors and technical staff
5. Adolescent Focus Group Report and Protocol
6. Data collection and MIS forms

ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
CDS	Comisión Departamental de Salud (Departmental Health Commission)
CHW	Community Health Workers
CMS	Comisión Municipal de Salud (Municipal Health Commission)
CORU	Community Oral Rehydration Unit
COSS	Health Service Management Committee (in Spanish)
CS	Child Survival
DDC	Diarrheal Disease Control
EDM	Equipos de Dirección Municipal (Municipal Direction Teams)
ENDESA/DHS	Encuesta Nacional de Salud/Demographic Health Survey
EPI	Expanded Program of Immunization
ET	Evaluation Team
FE	Final Evaluation
HC	Health Center
HIS	Health Information Systems
HIV	Human Immunodeficiency Virus
HP	Health Post
IEC	Information, Education, Communication
IMCI	Integrated Management of Childhood Illness
MOH	Ministry of Health
MTE	Midterm Evaluation
ORS	Oral Rehydration Something NOT!
RH	Reproductive Health
SILAIS	Sistemas Locales de Atención Integral en Salud (Integrated Local Health System)
STI	Sexually Transmissible Infection
TBA	Traditional Birth Attendant
TNA	Training Needs Assessment
TT	Tetanus Toxoid
USAID	United States Agency for International Development

A. Summary

In 1998, Project HOPE received funds from the United States Agency for International Development/Nicaragua to conduct a four year (1998-2002) project “Improving the Delivery of Primary Health Care Services Project,” in the department of Boaco Nicaragua. The SILAIS Boaco has an area of 4,365 km² and an estimated total population of 123,833. Prior to the implementation of the present project, Project HOPE had two projects in Boaco, a hospital strengthening and a Child Survival. The current project aimed to support both clinical services and community outreach health activities, under an overall strategy to build the managerial capacities of the Boaco SILAIS. The program had two main strategic objectives: 1) human and institutional capacity building, and 2) service delivery improvement.

The Capacity Building strategies were to strengthen the management capacity of the Boaco SILAIS by creating and/or reinforcing health commissions that would support the planning, monitoring and evaluating of activities in the Boaco SILAIS. The activities and approaches for the service delivery improvement were: Training TBAs in prenatal care, safe and clean deliveries and referral, distribution of modern contraceptive methods and assisting the SILAIS in strengthening their training and in developing their supervision system for TBAs; ORS and nutritional management of diarrhea cases at the household level; promoting of exclusive breastfeeding for the first six months and appropriate introduction of complementary foods; improving health worker skills to recognize and manage pneumonia cases; strengthening the quality of EPI to maintain coverage levels; and creating special clinics for adolescents and men to address reproductive health issues, and provide basic diagnosis, treatment, and counseling.

The Core Final Evaluation Team consisted of three Project HOPE field staff members, a headquarters representative and the external evaluator. Project HOPE carried out a cross sectional cluster survey, based on key CS and Nicaraguan MOH indicators. Municipal health directors and technical staff were invited to participate in a two-day meeting to analyze and interpret the survey data and to make conclusions and recommendations by strategic objective. Finally, the external evaluator and headquarters representative visited two health posts and three health centers, interviewing health personnel and CHWs.

The main findings, conclusions, lessons learned, and recommendations are summarized below:

- Project HOPE was involved in almost all aspects of the SILAIS management, including health commission development and service delivery improvement.
- Most of the SILAIS and municipal team members are very well educated in public health and epidemiology, staff turn over is low compared to the rest of the country, and the Boaco SILAIS has a professional team in charge of directing the municipal health level system. Project HOPE worked directly with the health staff of six municipalities and with the SILAIS.

- Project HOPE developed and supported the “*Equipos de Dirección Municipal*” (EDM), whose members participated in one of the three technical commissions. Project HOPE also funded the health centers’ infrastructure and provided some basic medical and training equipment. The EDMs were the programmatic core of the SILAIS and of the project.
- The EDMs carried out a superficial analysis to identify the causes of the health problems in the department. Therefore, it is a recommendation that the EDMs focus on one health problem or barrier at a time, and work out the solutions for the whole SILAIS and in an integrated manner.
- Municipal authorities, community leaders, NGOs working in the area and other groups such as cooperatives, in general participate in the “*Comisiones Municipales de Salud*” (CMS), with the assistance of Project HOPE.
- Project HOPE has successfully worked with the SILAIS and EDMs to develop a comprehensive training plan; to completed baseline, mid-term and final cross-sectional surveys; to develop annual and quarterly work plans; to develop monitoring and supervision instruments; and support the introduction and expansion of key reproductive and child health interventions. Project HOPE has achieved most of its proposed training objectives.
- Given the broad spectrum of training activities, Project HOPE staff did not complete the development and/or adaptation of comprehensive training curricula to institutionalize training.
- Project HOPE has successfully assisted the SILAIS and EDM to form the Health Service Management Commission (COSS), with the participation of PROSALUD. The COSS attempted to standardize all key management, infant and reproductive health indicators. However, this was not fully accomplished due to its complexity, and because the list of key indicators or operational definitions changed several times over the life of the project to respond to MOH and the donors priorities.
- The Nicaraguan Ministry of Health (MOH), has developed and implemented a comprehensive and detailed health information system. The SILAIS, Project HOPE and PROSALUD have developed and field-tested several monitoring and evaluation instruments, referral and counter-referral forms, community health worker (CHW) notebooks; and patient registration forms for community oral rehydration units (CORUs).
- Project Hope designed and carried out baseline, mid-term and final evaluation cross-sectional surveys at both the household and health worker level.

- The Boaco SILAIS has exceeded the reasonable number of data collections instruments for health personnel and CHW to fill out, making systematic and routine analysis not feasible.
- CHWs are playing an important role in the health system. Their functions are mostly health promotion and referral, and community education to a limited extent. CHWs training should depend upon what services are available in the immediate vicinity.
- The project did not complete activities designed to provide “alternative financing approaches,” because Project HOPE staff did not have enough knowledge and experience in the subject.
- Project HOPE followed on the MOH program for the adolescent population, based on the Nicaraguan MOH Adolescent Program. The main strategy of this program is to form adolescent clubs in each municipality.
- The proportion of mothers who possess a prenatal card more than doubled between baseline and the final evaluation. The childbirth indicators show little improvement over the life of the project. The prenatal indicators suggest that the vast majority of women are in contact with the health care system in Boaco prior to giving birth, but about one-third of the women still prefer to have a TBA attend to them during childbirth. Family planning use increased and use of modern methods jumped about 16 percentage points. These data suggest that efforts to increase family planning use were successful.
- The proportion of mothers who know at least one important action to take both during and after an episode of diarrhea to help their child recover is high. In comparison, only 55.6% of mothers could name one or more signs of dehydration. Although relatively low, the proportion of mothers who could name at least one sign of dehydration doubled between baseline and the final evaluation (26% to 55%), suggesting improved health education at the community level.
- The decrease in Vitamin A intake, in the presence of an increased proportion of children having a growth-monitoring card, is most likely related to the unreliable supply of Vitamin A at the health posts. In Nicaragua, Vitamin A is distributed primarily during immunization campaigns.
- Efforts on the part of both Project HOPE and the SILAIS have improved the immunization indicators. The factors that helped achieved the positive results are the positive attitude of the health personnel, regular immunization campaigns, ongoing training of health personnel and CHWs in the EPI, systematic monitoring of EPI, and a yearly reward for community leaders. Among the factors that contributed negatively are in-and-out migration, which makes it difficult to set realistic targets.

- The main recommendations to maintain coverage levels are to continue the training of health personnel and CHWs, revise the population census by province, and continue strengthening and expanding the IMCI strategy at both the health service and community levels.
- The Final Cross-Sectional Survey suggests EPI access is universal in the Boaco SILAIS. The proportion of children who are completely immunized (74%) is high compared with the results from other child survival projects in the region. The EPI drop out rate is very low, at only 7%. These data suggest that Boaco's immunization program is functioning at a high level. During the project, the Boaco SILAIS prioritized and increased efforts in selected areas to increase coverage.
- The present project was extremely dynamic in that it could change from year to year. The proposal was the overall framework for project implementation, and the annual workplans, developed in conjunction with the SILAIS, were the main instrument for monitoring proposes. Project HOPE/Boaco had to be responsive to the Boaco SILAIS' technical needs and to the local USAID Mission, resulting in some challenges and setbacks to the local team; which sometimes was not well understood by HOPE US Headquarters. Project HOPE headquarters had a tendency to manage this project like a regular Child Survival project.
- The Project staff expressed interest in wanting to learn more about capacity building strategies, project management, and information management and analysis.
- Dr. Ivan Tercero, PROSALUD technical staff, reviewed annual workplans and served as a link between Project HOPE and the local USAID Mission. Dr. Tercero also provided technical assistance to the overall project. He visited the project at least quarterly, and provided written reports to both Project HOPE/Boaco staff and to the project's Cognizant Technical Officer at USAID.

B. Project Overview

The Improving the Delivery of Primary Health Care Services Project is located in the Department of Boaco, Nicaragua, 88 kilometers southeast of Managua. The SILAIS Boaco has an area of 4,365 km² and an estimated total population of 123,833. The Municipalities under the project were Boaco, Camoapa, San Lorenzo, Teustepe, San José de los Remates and Santa Lucía. The health system in Nicaragua is being decentralized. The SILAIS is the MOH's Departmental structure, with an overall financial and programmatic management responsibility.

The table below shows the Project's target population by age:

	SILAIS Boaco Population	
	Total	%
Children less than 1	4,524	3.7%
Children bet. 1-5	20,974	16.9%
Adolescents	31,107	25.1%
Women of fertile age	36,533	29.5%

Source: Boaco SILAIS : Estadísticas de Planificación. Nicaragua, 1997

Prior to the implementation of the present project, Project HOPE had a hospital revitalization program from 1990 to 1992, which included the hospital in Boaco. From 1991 to 1997, Project HOPE had a Child Survival (CS) project, and in August 1, 1998, started the present project, which ended activities on July 31, 2002. Since arriving in Nicaragua, Project HOPE has had a wide range of activities in Boaco. The hospital revitalization project was aimed to support the MOH to reconstruct the health system after the civil war. A Child Survival project followed, with mostly outreach activities, and the current project was supporting both clinical services and community outreach health activities, under an overall strategy to build the managerial capacities of the Boaco SILAIS. There were two main strategic objectives: 1) human and institutional capacity building, and 2) service delivery improvement. The local USAID Mission funded the first and third project, and the second was a centrally funded Child Survival project.

Human and Institutional Capacity Building

The Capacity Building strategies of the current project were:

1. To strengthen the management capacity of the Boaco SILAIS by creating and/or reinforcing health commissions that would support the planning, monitoring and evaluating of activities in the Boaco SILAIS. This included activities to:
 - a. Support the formation of a Department Level Health Council
 - b. Promote and support the formation of three Technical Commissions:
 - i. Commission of Training and Education
 - ii. Commission of Administration and Logistics
 - iii. Commission of Health Services Organization
 - c. Support training of the SILAIS technical staff and other partners
2. To strengthen the management capacity of the Municipal level health units to create and/or reinforce commissions that would support the planning, monitoring and evaluating of health activities, by:
 - a. Creating six Municipal Level Health Commissions (one per municipality)
 - b. Strengthening the SILAIS health information system
 - c. Strengthening IEC strategies
 - d. Strengthening the management capacity of the municipal level health teams
 - e. Conducting training needs assessments of the health units (municipal and county levels), and

- f. Exploring alternative ways of funding.
3. To strengthen the organization and participation of community health agents (brigadistas and TBAs) and the population in problem identification and solving, and to improve health service utilization. The main activities included:
 - a. Strengthening community health committees, and
 - b. Increasing community education in the early detection and management of common diseases.

The service delivery improvement activities and approaches were:

Maternal Care: Project HOPE trained TBAs in prenatal care and in safe and clean deliveries, based on assessed needs. TBAs were also trained to distribute iron folate, Vitamin A, TT, and modern contraceptive methods. Project HOPE assisted the SILAIS in strengthening its training and in developing its supervision system for TBAs. Training focused on clean and safe deliveries, and high-risk pregnancy assessment and referral. Supervision tools and checklists were developed to monitor the quality of prenatal care, deliveries, and postnatal services provided by both health facility staff and TBAs. Pregnant adolescents were to be identified and referred to the health services by brigadistas and TBAs. The project aimed to create youth groups to increase knowledge about Child Survival and Reproductive Health. Finally, health and development committees were encouraged to involve youth representatives in their activities and plan recreational activities that also provided information about reproductive health issues and risks.

Reproductive Health Among Adolescents: Project HOPE and the MOH implemented activities to improve reproductive health among adolescents. These activities were implemented in the six municipalities included in the Boaco SILAIS and included organizing youth clubs, providing health education, and offering special clinics for adolescents.

Diarrheal Disease Control: The activities focused on 1) nutritional management of cases at the household level; 2) increasing access to ORS; and 3) improvement in the standardized case management of dehydration at the health facility level.

SILAIS and municipal level staff were trained in participatory adult education methodologies to be applied in the training and supervision of brigadistas, teachers, and other community members. Project HOPE supported the development of new community oral rehydration units (CORUs) in areas of poor access and strengthened the existing CORUs developed by the previous HOPE's CS-X project (91-97). The CORUs provided increased access to ORS, case management, counseling of caretakers, and referral at the community level. Project HOPE assisted in training Brigadistas in the case management of diarrhea and referral, as well as in the education of caretakers in the prevention and nutritional management of children with watery diarrhea. Brigadistas reported to the SILAIS on the number of ORS packets distributed, and number of children treated and/or referred. A supervision plan for health providers and brigadistas

was developed and the Training Commission monitored the implementation. A referral system for brigadistas was developed and implemented.

Health messages and education efforts also promoted exclusive breastfeeding for the first six months and continued breastfeeding to protect young children against diarrhea episodes.

Nutrition: The emphasis of this intervention was the promotion of exclusive breastfeeding for the first six months, the appropriate introduction of complementary foods, and the nutritional management of children during and after illnesses.

The SILAIS staff, trained by Project HOPE, supported brigadistas and TBAs in the management of breastfeeding support groups; the variety, quality, nutrient-dense, and vitamin rich foods were promoted at the feeding centers; health posts and centers were provided with Salter scales and vitamin A capsules; and the project promoted nutritional surveillance and growth monitoring.

Acute Respiratory Infections: The purpose of this intervention was to improve the brigadistas' skills to recognize signs of pneumonia and provide immediate referral to health services; and to standardize the pneumonia case management skills among health providers.

The health workers' skills of pneumonia case management were assessed and a training plan developed, according to MOH/WHO protocols. Project HOPE, in coordination with the SILAIS, conducted regular supervisory follow-up of health providers to monitor practices through direct observations and exit interviews. The project assisted the CHWs' training in the recognition of danger signs and timely referral. Finally, Project HOPE provided basic antibiotics and other essential pharmaceuticals and supplies as a match to USAID funds.

EPI: The purposes of this intervention were to strengthen the quality of the Expanded Program of Immunization, and to assist the SILAIS to maintain coverage levels. Health centers and posts worked with CHWs organizing EPI campaigns. Project HOPE assisted the Boaco SILAIS to train CHWs in basic EPI messages and in participatory methods of adult education.

HIV/AIDS/STDs: Special clinics for adolescents and men were set up in some health facilities to address reproductive health issues in a sensitive and private manner. Basic diagnosis, treatment, counseling, and the promotion of partner referral were introduced at some health units. Health providers, teachers and CHWs were trained in establishing and educating groups of adolescents in reproductive health issues, including STIs/HIV/AIDS – how they are spread and how to prevent infection.

C. Assessment Methodology

The Core Final Evaluation Team consisted of the three Project HOPE staff members (the Project Manager and two Municipal Coordinators), a headquarters representative and the external evaluator (see Attachment 1).

The FE had several sources of information. The Project HOPE staff carried out a cross-sectional cluster survey, based on key Child Survival and Nicaraguan MOH indicators, which included institutional strengthening activities at both levels, at the SILAIS and at the municipal committees. Project HOPE staff developed the baseline and final evaluation cross sectional survey questionnaires. Municipal health directors and technical staff were invited to participate in a two-day meeting to analyze and interpret the survey data and to make conclusions and recommendations by strategic objective.

On first day the second strategic objective, “Service Delivery Improvement” was discussed and analyzed. The ET prepared a background information package (see Attachment 4) that contained: (1) the health project objectives, (2) main strategies and activities, (3) results by intervention presented in tables, with percents achieved at Baseline and FE surveys; and (4) Key 2001 ENDESA/DHS results. The group was then divided in four analysis sub-groups. Sub-group 1 analyzed Immunization and Pneumonia Management indicators; Sub-group 2 analyzed Nutrition indicators; Sub-group 3 analyzed CDD indicators; and Sub-group 4 analyzed Maternal and Newborn Care indicators. In addition and after the groups’ discussion, the headquarters representative carried out a more thorough review of the cross sectional survey data and fine-tuned the conclusions and recommendations. On the second day, the first strategic objective, “Human and Institutional Capacity Building” by municipality was discussed and analyzed. The ET prepared a guide to discuss issues such as project management and municipal activities.

Eight focus group discussions were carried out with both male and female adolescents to obtain information on the Adolescent Program (see Attachment 5). The adolescent focus group discussion guide was developed by the headquarters representative and approved by the evaluation team. All group leaders and most participants were notified the week before the interviews.

Finally, the external evaluator and headquarters representative visited two health posts and three health centers, interviewing health personnel and CHWs. The evaluation team developed the field visit guidelines.

In addition to the collection of the cross sectional survey and qualitative information, the external evaluator requested the following documents from Project HOPE: 1) Project Proposal, 2) MTE report, 3) annual work plans, 4) quarterly reports, 5) examples of training plans, 6) training needs assessment, 7) health information system forms, 8) monitoring and evaluation instruments, and 9) referral instruments. In addition, the FE team also obtained data collection and MIS forms in the field at the health centers and

posts. The forms and instruments are included in Attachment 6 of the evaluation, as well as the cross sectional survey report (Attachment 3).

D. Assessment by Strategic Objectives

Following are the main findings, conclusions, lessons learned, and recommendations obtained from the two-day meeting with the SILAIS and municipal teams, and other sources of information.

1. Human and Institutional Capacity Building

(i) Institutional Strengthening

Project HOPE staff was, since the project initiation, based in the Boaco SILAIS, so most of their actions were through or in close collaboration with the Boaco SILAIS. The SILAIS headquarters and its municipal team are located in the town of Boaco. The referral hospital for the entire department is also located in Boaco. The Department is divided into five municipalities, each having a health center and about 3-4 health posts per center. (Health centers are the referral sites for the health posts (HP), which are located at the county level (Comarcas), covering a small number of small villages).

Project HOPE proposed to strengthen the managerial and technical capacity of the Boaco SILAIS health staff, and to form and /or assist the municipal level political authorities so that they could support the health activities in the Department.

Project HOPE proposed to form a “Consejo Departamental de Salud” (CDS - Department Health Council) and three technical commissions-- Training and Education, Management and Logistic, and Service Organization-- as vehicles to support the SILAIS and its municipalities.

At the municipal policy level, Project HOPE aimed to form “Comisiones Municipales de Salud” (CMS).

Results:

	Indicators	Targets set in Proposal	Baseline	Final
1	Number of CMS that meet regularly and have a Book of Minutes.	6 Mun.	0	100%
2	Number of EDM with annual plans.	6 Mun.	0	100%
3	Number of Health Centers that have implemented the IMCI strategy.	7 HC	0	100%
4	Number of Health Posts that have implemented the IMCI strategy.	24 HP	0	100%

Summary of the main points discussed by the Evaluation Team in reviewing the project results as measured by comparison of the Baseline and Final Evaluation, including factors that contributed to its attainments or not:

Project HOPE has a long history of collaboration with the Department of Boaco. Project HOPE initiated activities right after the war, supporting both clinical services and community outreach. This fact alone has given HOPE an unique opportunity to work in close collaboration with the SILAIS and municipal authorities. During the final evaluation process, it was sometimes difficult to pin down exactly what was the work that HOPE had accomplished in capacity building, because HOPE staff was involved in almost all aspects of the SILAIS management, including health commission development and service delivery improvement.

It should be pointed out that most of the SILAIS and municipal team members have masters degrees in public health or epidemiology (see Attachment 2 with the list of participants); staff turn over is extremely low compared to the rest of the country, and about a decade ago, MOH granted the Boaco SILAIS the right not to have medical students (last year of compulsory social service) directing the municipal level health system. These factors gave the Boaco SILAIS stability and a higher level of medical personnel in charge of directing and monitoring of health interventions, and perhaps also provided the SILAIS with relatively better-equipped managers.

Project HOPE worked directly with the health staff of six municipalities and with the SILAIS. Project HOPE staff was intimately involved with planning and capacity building at the local level and worked in collaboration with the SILAIS/MOH.

Project HOPE developed and supported the ***“Equipos de Dirección Municipal”*** (EDM) Municipal Management Teams whose members would also participate in one of the three technical commissions. Members of the EDM were the Municipal Health Director, the Sub-director, the Chief Nurse, a trainer (although, most often the municipal director was also in charge of the training commission), and the health center administrator. Project HOPE and the SILAIS staff trained the EDM to plan, monitor and evaluate health interventions; to carry out training needs assessments and to develop annual training plans that would respond to the identified needs; to design and implement special studies; and to identify population and service barriers to deliver health services. Project HOPE also funded the health centers’ infrastructure and provided some basic medical and training equipment.

The EDMs were the programmatic core of the SILAIS and of the project. At the beginning of the project, EDMs formed the three technical commissions. The health problems they identified, prioritized and found solutions for the year 2001 were as follows: 1) food processing without supervision and overcrowded wards (Santa Lucia), 2) patient complaints of lack of privacy and lack of newborn services (San Lorenzo), 3) personnel complaints of poor communication among themselves (Camoapa), and 4) perinatal mortality (Teustepe and Boaco).

The methodology they used to detect the problems varied, but mostly they used client satisfaction surveys that HOPE had carried out with the SILAIS; direct observation and clinical record reviews were also used. The actions taken also varied, but most of the time, the response was to strengthen community-based health education and improve the health infrastructure and equipment.

The EDMs carried out a superficial analysis to identify the causes of the health problems. The teams made an effort to identify service provision barriers taking into consideration the data available. As it will be described in the HIS and monitoring section, the health centers and posts collected a great amount of data, but it was not analyzed fully nor adequately. Furthermore, as it will be described in the key health indicators section, there has been a considerable improvement in service access and coverage of vertical programs, such as EPI and prenatal examination, but service utilization has had only a slight positive change over the life of the project. In addition, the low service utilization cannot be attributed to economic factors because the MOH does not charge for basic maternal child services.

The IMCI strategy, chosen as a key indicator because it was new for the SILAIS, was introduced successfully.

The institutional strengthening objectives for upgrading the management skills of the EDMs and the formation of technical commissions have been successfully achieved and the strategy had been institutionalized at the time of the final evaluation.

A weakness detected was that the EDMs' analysis and subsequent planning have been too broad and superficial to date. To achieve a sound and sustainable improvement in reproductive and child health, the SILAIS needs to invest more time to determine the service delivery barriers as well as the needs, perceptions, and health-seeking behavior of the population. For instance, prenatal examination services exceed the targets set by the project, but the number of women whose deliveries were attended by a trained health professional, remained almost unchanged. The SILAIS staff aims to set up maternity homes, so women coming from rural areas will have a place to stay. However, there is no evidence that this strategy would improve institutional deliveries. The existing data suggest that there is a problem with the quality of service delivery, mostly related to privacy and the target population's negative perception of the health services. When interviewing the TBAs during the brief field visit, they stated that women and their husbands do not use the health services because they do not like to be seen by many providers. Some of the women elected to go to Managua to deliver, which suggests that transportation and lodging may not be barriers to utilizing health services.

It is a recommendation that the EDMs focus on one health problem or barrier at a time, and work out the solutions for the whole SILAIS and in an integrated manner. Also, the capacity building strategies need to be tied to specific health interventions or issues. For instance, continuing with the problem described above, if institutional delivery is chosen as a problem to be addressed, the program management solutions should address logistics and transportation, training needs of health personnel, introduction of protocols of

attention at various levels, improving the quality of care and privacy, counseling, IEC materials, clinical records review, etc. The Boaco SILAIS had some of the elements required, but they were not implemented equally in all municipalities and at all levels of the health care system.

As a general conclusion and recommendation, the achievements of the EDMs have been remarkable so far, but to maintain them and to improve health indicators that did not change, it would require different efforts from now on; i.e., developing and field testing integrated reproductive health care protocols, job-aids by levels, etc.

Municipal authorities, community leaders, NGOs working in the area and other groups such as cooperatives, in general participate in the “*Comisiones Municipales de Salud*” (CMS). Project HOPE has assisted the CMS to strengthen its organizational structure, clarify its roles and functions, coordinate with the civil society, plan health activities, and to obtain additional resources.

Project HOPE has successfully worked with the six municipalities to strengthen or to form CMSs in each of the six target municipalities. Other activities completed by the program were defining the CMS’ functions and developing annual work plans to address health problems. Participants in the CMSs varied among municipalities, but usually were the major SILAIS representatives, including representatives from the Ministry of Family (MIFAMILIA) and Ministry of Culture and Sports, as well as representatives from national and international NGOs. Their functions and structure varied slightly.

The Evaluation Team asked EDMs what health problems had been addressed during the current year (2002) with the CMSs. Their responses were as follows in order of priority: (1) availability and maintenance of potable water systems; (2) garbage disposal; and (3) mismanagement of pesticides and availability of medicines.

Partially due to culture and as a remnant of the war and former semi-socialist regime, communities and leaders showed cohesiveness and ability to work cooperatively to meet the identified health needs. Communities were well organized to provide services with minimal or with no outside assistance. With Project HOPE and SILAIS assistance, the Municipal Health Commissions carried out a wide variety of activities during the life of the project. Project HOPE has developed an approach that was innovative and could be shared with other PVOs/NGOs to involve municipal authorities in health activities. The Nicaraguan government, as part of the state modernization and administrative decentralization, is developing what is called the “Citizen’s Participation Law,” in which municipalities will be responsible for most of the social sector reform. Therefore, involving municipalities in health activities will become more and more relevant in the future. As social mobilization and municipal involvement increase, more efforts will be needed to educate political authorities in specific health interventions and target groups, so that their participation will be more focused.

Training:

Project HOPE proposed to support and develop a training plan to upgrade the technical skills of the SILAIS personnel. This plan would include the following themes: strategic planning, knowledge and practice of rapid survey methodologies, health information systems (HIS), data processing and analysis for decision-making, development of a network of training facilitators (“red de facilitadores”), use of adult education methodologies, revised and customized training curricula, design and use of supervision tools, monitoring and evaluation of the quality of care to improve service delivery, and management of health services. Assistance to the SILAIS was also to be coordinated with PROSALUD¹, another USAID partner, whose purpose was also to support the Boaco SILAIS.

Results:

	Indicators	Target	Baseline	Final
5	Health personnel trained based on the training needs assessment results	6 Mun.	0	100%
6	Health personnel trained in STIs / HIV / AIDS counseling	45 Health Wrks.	0	100%
7	Health personnel trained in child survival and reproductive health interventions	45 Health Wrks.	0	100%

Summary of the main points discussed by the Evaluation Team in reviewing the project results as measured by comparison of the Baseline and Final Evaluation, including factors that contributed to its attainments or not:

Project HOPE has successfully worked with the SILAIS and EDMs to develop a comprehensive training plan. Specific activities successfully completed by the program include the completion of a training needs assessment (TNA) of health unit personnel by municipality and by health workers at the beginning of the project. The TNA generated a training plan that served to strengthen the network of trainers and facilitators (red de facilitadores).

In collaboration with EDMs, Project HOPE completed baseline, mid-term and final cross-sectional surveys. Project HOPE assisted EDMs to develop annual and quarterly work plans, which were completed regularly and are currently institutionalized throughout the whole Boaco SILAIS. In collaboration with PROSALUD, Project HOPE developed monitoring and supervision instruments (see data monitoring and evaluation section for more details). Project HOPE staff completed joint supervisory visits with SILAIS staff and supported the introduction and expansion of key reproductive and child

¹ PROSALUD, a Management Sciences for Health (MSH) project, has a contract with USAID Nicaragua to support and monitor some key USAID partners. MSH initiated activities with a project called Proyecto de Servicios de Salud Departamental (PSSD – Departmental Health Services Project) in the Boaco department.

health interventions. Project HOPE also supported the SILAIS and municipalities by providing basic equipment and materials for training.

Project HOPE has achieved most of its proposed training objectives. When the SILAIS and EDMs personnel were asked about HOPE’s contribution to the training component, the response was unanimous that HOPE played an important role by assisting the teams to identify the EDM training needs, developing training plans, and funding some of the main activities. Project HOPE also contributed to the introduction and expansion of the IMCI strategy, STI / HIV/AIDS counseling, adolescent programs, and the overall training of CHWs.

Given the broad spectrum of training activities (project management and health interventions), Project HOPE staff did not complete the development and/or adaptation of comprehensive training curricula. The trainers at the municipal level received training on technical topics, but had to develop their own training plans and materials. Therefore, training was not institutionalized in a systematic manner at the municipal or at the SILAIS levels. As a recommendation, Project HOPE could identify pre-existing training curricula from other projects and programs and adapt them onto the Nicaraguan context. MSH has developed/adapted few curricula, but Project HOPE has only used one module.

MIS, Monitoring and Evaluation:

Project HOPE proposed to organize Health Service Management Commission (COSS - Comisión de Organización de los Servicios de Salud) designed to: strengthen the EDMs’ management capacity, assess and monitor the quality of service delivery, develop supervision plans and checklists, develop guidelines for EDMs, prepare annual and quarterly work plans, monitor client satisfaction and service utilization, assistance in improving the demand for services, and to explore alternative means for cost recovery and financial sustainability through one or two pilot projects.

Results:

#	Indicators	Targets	Baseline	Final
8	Number of EDMs with standardized monitoring and evaluation indicators.	6 Munc.	0	100%
9	Number of health centers and post with monitoring and evaluation systems.	32 Health Units	0	100 %
10	Number of maternal mortality cases analyzed to determine possible causes.	100%	0	100%
11	Number of functioning referral and counter-referral commissions	6 Munc.	0	6 Munc. and the referral hospital

Summary of the main points discussed by the Evaluation Team in reviewing the project results as measured by comparison of the Baseline and Final Evaluation, including factors that contributed to its attainments or not:

Project HOPE has successfully assisted the SILAIS and EDM to form the Health Service Management Commission (COSS). PROSALUD technical staff also participated in this commission; most activities related to systems management and information were designed and implemented in collaboration by SILAIS, PROSALUD and Project HOPE. The first activity these organizations targeted was to standardize key management, infant and reproductive health indicators. This was not fully accomplished, partly due to its complexity, and because the list of key indicators or operational definitions changed several times over the life of the project to respond to MOH and donor priorities. These facts affected the design of health information system, study indicators and other information Project HOPE reported to headquarters, to USAID, and the SILAIS

The Nicaraguan Ministry of Health (MOH), has developed and implemented a comprehensive and detailed health information system, which includes a maternal / reproductive health record, a growth monitoring card that contains immunization information, and the regular clinical records for adult and infants. In addition, the SILAIS, Project HOPE and PROSALUD have developed and field-tested several monitoring and evaluation instruments to monitor the quality of reproductive health and IMCI service delivery; referral and counter-referral forms, CHWs notebooks (one for Brigadistas and another one for TBAs) to register cases attended, and Community-based Oral Rehydration Units (CORU) patient registration forms. The three organizations have also developed a supervision checklists and supervision plans to monitor health providers and CHWs.

In terms of special studies, Project Hope designed and carried out baseline, mid-term and final cross-sectional surveys for the household and health workers level. The surveys were based on the KPC cluster sampling methodology developed by the CSSP and CSTS². However, Project HOPE staff members removed some indicators and added new ones to respond to MOH requirements. Project HOPE and the EDMs carried out a study on client satisfaction in 2001. Finally, by request of the municipality of San Jose, Project HOPE and the EDS updated the municipal population census.

One problem is that the Boaco SILAIS has exceeded a number of data collections instruments for health personnel and CHWs to fill out. Health centers and post personnel were able to complete the forms neatly and regularly, while CHWs only used a few or continued to use their old notebooks. When the ET asked one of the health centers chief nurses about the percent time invested to fill out forms, she reported that it was about 50-60% of her time! The amount of information is so much that systematic and routine analysis has become almost impossible—despite the fact that a great deal of data are available--given that the health staff also attend patients and conduct outreach activities. A thorough analysis is needed to determine which instruments are most useful and how to streamline data collection. The SILAIS should also develop an analysis plan and fine-tune the operational definitions of the key indicators before replicating the instruments.

² The PVO Child Survival Program of the Johns Hopkins University designed and field-tested the standard KPC survey and then the follow on Child Survival Technical Support Program expanded and refined the original methodology, instruments and key indicators.

(ii) Community Mobilization

CHWs (Brigadistas and TBAs):

Project HOPE proposed to strengthen community organizations and community health workers (CHWs) to identify main health problems, seek feasible solutions and to improve health services utilization.

Main activities and strategies included strengthening the community-based health committees; identifying potential partners working in community development; carrying out joint meetings to discuss health problems, problem solving of services delivery issues and planning activities such as the formation of infant feeding centers, youth groups, CORUs, etc. Project HOPE sought to encourage communities to provide additional funds to support health activities and to propose funding alternatives. Project HOPE proposed to improve the population's health by means of preventing and managing the most common diseases; to train and supervise brigadistas and TBAs; to train community health committees in community organization; to promote community involvement through meetings and committees; to promote the utilization of referral system; to promote a community-based surveillance system; and to disseminate health messages in schools, especially focusing on reproductive health issues.

Results:

#	Indicators	Targets	Baseline	Final
12	CHWs trained in reproductive and infant health and information and referral systems	300		100%
13	Number of CHWs who recognized dehydration signs.	90%	81%	Not collected
14	Number of school teachers and brigadistas trained in STIs and HIV/AIDS	150 Brig.		100%
15	Number of CHWs who recognized pneumonia signs.	75%	35%	96%
16	Functional Brigadista: is someone who attends training activities and meetings, has his/her population census up to date, reports regularly.			41.8%
17	Functional TBA: is someone who attends training activities and meetings, performs promotional activities, has his/her population census up to date, reports regularly.			32.7%
18	Brigadista with basic knowledge: is someone with knowledge about exclusive breastfeeding, three signs of dehydration, rapid breathing as a sign of pneumonia and the number of minimum prenatal examinations required.		3.4%	88.9%

19	TBAs with basic knowledge: is someone with knowledge about exclusive breastfeeding, danger signs during pregnancy and post-partum, the importance of TT, when to perform first prenatal examination and the recommendations for high-risk pregnancy.		3.8%	73.8%
20	Brigadistas with adequate information on how HIV/AIDS is transmitted.		96.6%	97.4%
21	TBAs with adequate information on how HIV/AIDS is transmitted.		76.9%	91.0%
22	Brigadistas with adequate information on how to prevent HIV/AIDS transmission.		86.2%	97.4%
23	TBAs with adequate information on how to prevent HIV/AIDS transmission.		50.0%	90.2%
24	Number of CORUs created/strengthened.	300		308

Summary of the main points discussed by the Evaluation Team in reviewing the project results as measured by comparison of the Baseline and Final Evaluation, including factors that contributed to its attainments or not:

Nicaragua has a strong tradition of and has had incentives to bring communities together to solve problems and demand services. In addition, the government is going through an administrative decentralization of health services and reinforcing community participation at all levels. These facts have smoothed the ground for Project HOPE to accomplish the project objectives relating to community mobilization and CHWs service delivery. Participation was not uniform across all project communities, but overall, participation was strong and spontaneous.

The first step Project HOPE had taken was identifying brigadistas and TBAs already working and determining their level of activities and involvement. Active CHWs meant whether they had managed a CORU, distributed FP methods, promoted prenatal examinations and referred cases. Project HOPE assisted the SILAIS Boaco to carry out a rapid survey on knowledge and practices of CHWs, which generated a training plan. Then Project HOPE assisted the SILAIS and EDMs to train CHWs in reproductive and child health interventions, information and referral and counter-referral systems, and a community-based surveillance system.

The general conclusion is that CHWs are playing an important role for the reasons cited above. However, their real functions are mostly health promotion and referral, and community education to a limited extent. The ET visited three brigadistas (two with CORUs) and two TBAs during the final evaluation. Both CORUs visited were across the street from the health center, so they had not seen any patient in the last six months and did not have OR solution sachets. The other brigadista visited was also a leader of a mothers' breastfeeding support group, who was very active in her community and group. This brigadista was also aware of who was pregnant (or with possibilities of becoming pregnant) within the community, and promoted prenatal care and delivery at the health center. Only one of the brigadistas interviewed had a list of women and children under

five, and all had referral forms. The few cases they had seen were registered in their notebooks. None had health education materials or job aids for counseling. Of the two TBAs visited, one was retired and the other was active and had actually attended a delivery two weeks before the interview. When asked about her functions, she said that was mostly referring women to the health center, but some would just not go, so she had to attend the birth. She also assisted the health team with community visits and campaigns. Nevertheless, the TBA interviewed was aware of the risks of attending a delivery in the community. As in the case of the brigadistas, she only had a notebook to register patients and no education materials.

The CHWs interviewed were certainly not representative of the entire CHWs community, but were probably typical. There is no doubt that they are respected in their communities and work in collaboration with the SILAIS/Municipal health teams. A general recommendation for the SILAIS is that the SILAIS needs to redefine the role of CHWs and provide them with adequate materials so that they are able to comply with the performance standards required to effectively communicate health information and participate in promotional activities. Probably only a few CHWs actually attend patients, since health posts are usually within a reasonable distance and communication, and referral functions relatively well within the department. Thus, the training should not be the same for every CHW throughout the Boaco SILAIS, as the need for their services depends upon what services are available in the immediate vicinity. Finally, written communication is not their strength, so filling out forms is something they would not do regularly, nor very efficiently. The reason why they like the referral form was probably because it gives them status. They spoke very proudly that the health center would receive their referred patients and would send them back with a counter-referral form.

The project did not complete the activities design to provide “alternative financing approaches.” The reasons given were lack of knowledge and experience on the part of Project HOPE staff. The mid-term evaluation was designed to provide recommendations on this specific activity, but according to the team, the evaluator in charge, a financial expert, seemed that did not fully understand the overall health project focus, so she could not provide specific recommendations to fulfill this task.

HIV/AIDS and STIs-The Adolescent Program.

Project HOPE and the MOH implemented activities to improve reproductive health among adolescents. These activities were implemented in the six municipalities in the Boaco SILAIS, which included organizing youth clubs, providing health education, and offering special clinics for adolescents. In addition and with the Training Commission’s input, Project HOPE aimed to develop training and education curricula, materials and approaches for health providers, high-risk groups, and the community at large focusing on the prevention of HIV/AIDS/STDs, syndromes and signs; and for providers in basic diagnosis, treatment, counseling, and the promotion of partner referral.

Emphasis would be placed on addressing negative attitudes of providers and developing their counseling and communication skills. The capacity to deliver STI diagnosis and

treatment services would be assessed in the health facility survey and expansion of services discussed with MOH and other appropriate partners.

Finally, Project HOPE proposed to train health providers, teachers and brigadistas in establishing and educating groups of adolescents in reproductive health issues, including STDs/HIV/AIDS – their causes and means of prevention.

Results:

#	Indicators	Targets	Baseline	Final
25	Number of adolescent groups formed and trained	50	0	100%
26	Number of school teachers trained in HIV/AIDS and STIs education	100	0	100%
27	Number of health personnel trained in HIV/AIDS and STIs counseling	45	0	100%

Summary of the main points discussed by the Evaluation Team in reviewing the project results as measured by comparison of the Baseline and Final Evaluation, including factors that contributed to its attainments or not:

Project HOPE followed on the MOH program for the adolescent population. The main strategy of this program was to form adolescent clubs in each municipality. The majority of the youth group members ranged in age from 14 to 19 years. The youth groups were organized at the school level. There are approximately 50-60 school groups with approximately 20-25 students in each group (1000-1500 beneficiaries in total). However, the exact number of members fluctuated as new members enter and others leave at graduation or to find work. The Boaco was the first SILAIS in the country to initiate integrated ‘youth-friendly services’ linked to adolescent clubs. (For more information, see Attachment 5: Adolescent Focus Group Report and Protocol).

The main highlights of the focus group discussion include the following findings:

- Most members learned about the youth clubs from friends or health staff involved with the program, or from youth leaders at school.
- Many stated that they had learned about topics important to youth, including how to avoid becoming pregnant by using family planning and how to avoid STIs, including HIV/AIDS using condoms. Others stated that they benefited from the dispelling of myths. Several indicated that they learned to value themselves more.
- Several students stated that the most aspect of being in the clubs was the opportunity to exchange ideas and share experiences with their peers.
- Several participants expressed disappointment that the clubs are organized at the individual school level. In the past, the clubs were fewer, larger, and members came from several schools, thus facilitating the exchange of information among students.
- In general, the adolescents were happy with the quality of services provided, but they wished to have services available at all times the clinics are open.

The participants were also very positive about the quality of the health talks provided by health staff.

- Most of the participants stated that they had enough information to make decisions about their sexual health, but they wanted to learn more in depth about various topics.

The participants from four municipalities in Boaco provided feedback about the program and offered several suggestions that are adapted here as recommendations:

- Develop a curriculum for the youth clubs that offers more detailed information about family planning methods and STIs.
- Increase the topics offered in health talks to include more about sexuality and relationships.
- Provide a separate space for adolescents within the community that can be used for both social events and health talks.
- Explore the possibility of having a physician or other health care worker dedicated to providing healthcare to adolescents in each municipality in Boaco. Also consider having a 'rotating' psychologist who can offer services once per week in each municipality in Boaco.
- Organize the youth groups so that each club consists of adolescents from several schools within an area.

Identify a coordinator (possibly a student leader) who is able and willing to organize the meetings and social events and act as liaison with the adolescent health staff at the health centers.

2. Service Delivery Improvement

(i) Maternal Care and Family Planning

Main Objective: The quality, access, and utilization of maternal care services and family planning will be improved.

Strategies/Activities:

- Create support groups for expectant and breastfeeding mothers
- Create adolescent clubs facilitated by peer educators trained in RH
- Train TBAs in clean and safe deliveries and in the referral of high risk cases
- Train brigadistas to provide basic health education about maternal health (danger signs during pregnancy, the importance of breastfeeding, etc.) and family planning (different methods and where to obtain them)
- Improve the quality of maternal care and family planning counseling provided by health facility staff and volunteers (education about danger signs, family planning methods and where to obtain them, when to refer clients) and
- Strengthen the capacity of facilities to provide quality care through the construction of birthing rooms within existing health facilities and the provision of basic equipment.

Results: Among mothers with children less than 2 years old

	Indicators	Baseline 1998	Final 2002	Goal
28	% of mothers with maternal card (n=300)	31	86.3	50
29	Among those women with a maternal card, % with 4 or more prenatal visits	52.1	68.7	62
30	% of mothers who had 4 or more prenatal visits (n=300, total women interviewed)	16.3	59.3	
31	Among those women with a maternal card, % with at least 1 prenatal visit	30.6	86.4	85
32	Last child delivered attended by a trained health professional	59.7	61.3	65
33	% of mothers that recognize at least one danger sign associated with pregnancy	40	74.7	50
34	% of mothers who recognize at least 1 danger sign associated with the time of birth	50.3	77.7	64
35	Among women who do not wish to have within the next two years or are unsure, % that use a modern method of family planning	46	62.1	60
36	Among women who do not wish to have within the next two years or are unsure, % that use a method of family planning	62.5	89	
37	% of mothers that recognize that tetanus toxoid (TT) vaccine protects the health of the mother and the baby during pregnancy	26.7	73.5	40
38	% of mothers less than 20 years old at the time of the survey	21	24	
39	% of mothers that have 2 doses of TT documented on the maternal card	31	65.7	40

Summary of the main points discussed by the Evaluation Team in reviewing the project results as measured by comparison of the Baseline and Final Evaluation, including factors that contributed to its attainments or not:

The EDM concluded that out of the 12 indicators, 8 surpassed the set targets, two did not have targets (but showed a positive trend) and in two cases, the targets were not achieved. The ET recognized that there is problem with institutional care provided at delivery, perhaps due to deficiencies in counseling. They also noted that the target population has a negative perception for delivering at health centers and hospitals, and that health services need to improve the quality of care, particularly in reproductive health.

In terms of adolescent pregnancy, the group agreed that it was a difficult population to reach with messages and interventions. The SILAIS has done little to avoid pregnancies among adolescents. Adolescent pregnancy is not only associated with poor health outcomes for both the mothers and infants, but it is also a social problem; hence, the approach should be integrating other components such as education and income generation activities into an approach for adolescents. The SILAIS, with support from Project HOPE, has formed adolescent clubs, but they need more support and monitoring. The factors that helped to facilitate the attainments are the joint coordination between Project HOPE and SILAIS/EDM teams, in both health personnel classroom training and on-the-job in-service training.

Overall conclusions, recommendations and lessons learned (Final Cross-Sectional Survey Report):

The proportion of mothers who possess a prenatal card more than doubled between baseline (31%) and the final evaluation (86%). The proportion of women who had 4 or more prenatal visits documented on their prenatal card more almost quadrupled (from 16% to 59%). About three-quarters of mothers can name at least one danger sign that can occur during pregnancy. While the threshold for answering the latter question correctly is relatively low (only one sign needed to be named) these data together suggest a rapidly improving prenatal program.

The childbirth indicators (proportion of births attended by a trained health professional (doctor, nurse or auxiliary nurse) and the proportion of women attended at birth by a TBA) show little improvement over the life of the project (both showed a slight increase of less than 3 percentage points). The prenatal indicators suggest that the vast majority of women are in contact with the health care system in Boaco prior to giving birth, but about one-third of the women still prefer to have a TBA attend to them during childbirth.

Overall family planning use increased to 89% (from 63%) and use of modern methods jumped about 16 percentage points. These data suggest that efforts to increase family planning use were successful. The project featured increased logistical support for contraceptives, and increased access to services at the community level. Increased attention was also given to providing quality family planning counseling at health facilities and within communities in Boaco.

(ii) Diarrhea Case Management

Main Objective: Diarrheal disease will be prevented and managed more effectively at the health facility, community, and household level.

Strategies/Activities:

- Create 300 community units that provide oral rehydration therapy
- Provide technical training and create a functioning referral system for Brigadistas
- Supervise 80% of the brigadistas with health facility staff
- Train 45 health facility providers in the appropriate use of antibiotics and antidiarrheal medicines.

Results: Among mothers with children less than 2 years old

	Indicators	Baseline 1998	Final 2002	Goal
40	Number of children with diarrhea in the last two weeks who received the same or more breastmilk (excluding children who do not receive breastmilk)	80	88	
41	Number of children with diarrhea in the last two weeks who received the same or more liquids (excluding children who are exclusive breastfeeding)	67	71.1	80

42	Number of children with diarrhea in the last two weeks who received the same or more food (excluding children who are exclusive breastfeeding)	50	62	60
43	% of children with diarrhea in the past 2 weeks with oral rehydration therapy only	46	47	70
44	% of children (referring to the child less than 2 years with diarrhea in the past 2 weeks) treated exclusively with ORS.	38.8	43.9	60
45	% of mothers who know important things to do when their child has diarrhea	87	95.3	
46	% of mothers who know how to care for their children so that they can recover after episodes of diarrhea	56.7	94.3	
47	% of mothers who recognize danger signs of dehydration associated with diarrhea	25.6	55.6	50

Summary of the main points discussed by the Evaluation Team in reviewing the project results as measured by comparison of the Baseline and Final Evaluation, including factors that contributed to its attainments or not:

All indicators showed a positive trend when comparing baseline with the final evaluation, and all are above the 70% range, however, three did not reach the project targets. Most of the improvements are in the area of mother’s knowledge and to a lesser degree in the area of practices, so it could be inferred that changing practices takes longer than simply transmitting key messages.

There was a problem with the indicator “received oral rehydration therapy only.” Not all children need ORS; it depends on their dehydration status. Some believed the indicator refers to only oral rehydration without unnecessary medicines. In any case, the indicator needs to be redefined.

The group considered that the targets were too high; and therefore difficult to achieve.

The group mentioned the presence of two projects in the area, Project HOPE and PROSALUD, which caused a synergic effect, the fact that the control of diarrheal diseases is a country priority, and the introduction of the IMCI strategy.

As negative factors, the group mentioned that behavioral change requires a much longer intervention, the lack of follow up of some CORUs, the lack of vehicles to supervise and monitor field activities, the poor performance on the part of many CHWs, and the poor sanitary conditions (including the lack of garbage collection) that have not improved very much during the life of the project.

The group recommendations are to maintain the CHWs in educating mothers, to improve counseling, and to involve other partners in the social sector in the same strategies. The group also indicated that more needs to be done to better understand how to best develop strategies designed to change the target group’s behavior regarding diarrhea management. They recommended that the EDM should analyze the existing data available from the

health centers and posts in more depth; i.e., examining the health workers' performance in terms of assessing, classifying, treating and counseling mothers according to the CDD case management protocols; appropriateness and timeliness of case referrals and; use of antibiotics.

Finally, recommendations for sustainability are that communities need to take responsibility to maintain the CORUs, and to link the CHWs more closely to the local health post.

Overall conclusions, recommendations and lessons learned (Final Cross-Sectional Survey Report):

The proportion of mothers who know at least one important action to take both during and after an episode of diarrhea to help their child recover is high (94% or greater). Perhaps the high scores were partially due to the relatively low threshold used to score the responses as 'correct' (a woman only needed to identify one correct action to take to get full credit for the question). In comparison, only 55.6% of mothers could name one or more signs of dehydration. Although relatively low, the proportion of mothers who could name at least one sign of dehydration doubled between baseline and the final evaluation (26% to 55%), suggesting improved health education at the community level.

(iii) Nutrition

Main Objective: Malnutrition and micronutrient deficiencies will decrease due to improved breastfeeding and complementary feeding practices and increased utilization of the services provided by the Growth Monitoring Program (*Vigilancia Promoción del Crecimiento y Desarrollo*).

Strategies/activities:

- Create and promote mother's groups to provide support for exclusive breastfeeding
- Train community agents to manage support groups
- Promote Vitamin A supplementation twice per year to children less than 5 years old
- Ensure that health centers and posts have weight scales and Vitamin A
- Train mothers and care takers in PAININ--the national food program-- in growth monitoring and food preparation.

Results:

	Indicators	Baseline 1998	Final 2002	Goal
48	% children less than 2 years who started breastfeeding in the first hour after birth	62	82	
49	% children less than 2 years who started breastfeeding within 8 hours of birth	77	87.8	
50	% of children less than 6 months that receive breastmilk exclusively	36	47.2	45

51	% of children between 20 and 23 months that continue to receive breastmilk (along with other food)	34.1	45.5	50
52	% of mothers with children less than 2 years who know at least one key message about how to maintain exclusive breastfeeding	72.3	93.3	
53	% of children between 6 and 23 months that had at least one dose of Vitamin A documented on their growth card	53.1	43	53
54	% of children less than 2 years who had a growth monitoring card at the time of the survey	86.3	92.7	90
55	Among those who have a growth monitoring card, % of children less than two years that were weighed in the 4 months preceding the survey	75	91.3	

Summary of the main points discussed by the Evaluation Team in reviewing the project results as measured by comparison of the Baseline and Final Evaluation, including factors that contributed to its attainments or not:

The nutrition indicators, except for Vitamin A increased, and in addition, only persistent BF did not reach the target. Vitamin A distribution was less at the end of the project than the baseline. When comparing the Project HOPE cross sectional survey results with the DHS-01 (ENDESA), they show a similar trend.

Growth monitoring and exclusive breastfeeding practices values are higher than the targets set, possibly because Project HOPE distributed scales in all health centers and posts. The rate of children who were weighed in the last four months is extremely high, indicating that when families are in contact with the health system, their children faithfully receive regular follow-up care. However, it is recommended to reinforce counseling after weighing sessions. Cooking lessons with nutrition counseling appears to be a good strategy, but it was tested only in few communities. No information was collected in this last intervention.

A reason cited why Vitamin A is low is because Vitamin A is distributed only during immunizations campaigns, and if there are only two campaigns per year, coverage would appear to be low – it is estimated that the coverage achieved during immunization campaigns contributes only 10% to the overall coverage rate. Another reason cited is that the growth monitoring cards do not have a specific box to check Vitamin A intake, so there might be an under-registration problem as well.

The group recommendations are to strengthen monitoring activities, to improve nutrition counseling after weighing sessions, to improve IEC strategies on nutritional practices, and to introduce talks in waiting rooms at health centers and posts.

Overall conclusions, recommendations and lessons learned (Final Cross-Sectional Survey Report):

The decrease in Vitamin A intake, in the presence of an increased proportion of children having a growth-monitoring card, is most likely related to the unreliable supply of Vitamin A at the health posts. In Nicaragua, Vitamin A is distributed primarily during immunization campaigns.

(iv) Acute Respiratory Infections

Main Objective: Improve appropriate care-seeking behaviors of caretakers of children with ARI and appropriate community referral by brigadistas by increasing the knowledge of danger signs by caretakers and by improving access to appropriate ARI case management.

Strategy/activities:

- Train health facility staff in the protocols for managing acute respiratory illnesses
- Train the brigadistas to recognize and teach caregivers about the danger signs of an acute respiratory illness, and to know when to make referrals.

Results:

	Indicators	Baseline 1998	Final 2002	Goal
56	% of mothers with children less than 2 years that know that rapid respiration is a sign of pneumonia	52.3	82.6	75
57	% of mothers with children less than 2 years that seek medical treatment for their children with cough and rapid breathing	72.7	72.3	

Summary of the main points discussed by the Evaluation Team in reviewing the project results as measured by comparison of the Baseline and Final Evaluation, including factors that contributed to its attainments or not:

The indicator on the mother’s knowledge on rapid breathing as sign of severity showed improvement compared to baseline data. The indicator on the knowledge of chest indrawings did not show any changes. The single strategy that may have improved pneumonia case management was the introduction of the IMCI strategy at both, the health facility and community levels.

Among negative factors were the lack of basic medicines at health units and the high cost that families must pay for them at private pharmacies.

Overall conclusions, recommendations and lessons learned (Final Cross-Sectional Survey Report):

The proportion of women who could name fast breathing as a danger sign for pneumonia increased by 10 percentage points (to a level of 63% at the final survey) while the proportion of mothers who sought help for their child if they were breathing fast

remained unchanged. It is not known why women are not seeking help for their child if they are able to recognize the danger sign.

The final evaluation did not provide information on the barriers, and probably the health team does not have a thorough understanding as to why mothers and caretakers do not go to the health services when their children had symptoms compatible with pneumonia. Therefore, it would be recommended that either the SILAIS and/or HOPE carry out a study at different levels to determine the causes and define solutions. For instance, the study could aim to identify the terms mothers and child caretakers use to define pneumonia and if they consider a life-threatening condition; where are the most accessible health centers and post; what is their opinion of the services provided there; and finally, if they went and were attended, if they could afford the prescription. Complementary, to the population-based survey, a facility level study would be needed to determine the quality of service delivery in terms of integrated care (IMCI), counseling and availability of medicines. Base on this information, the SILAIS or Project HOPE could strategize how to increase access to quality health services.

(v) Immunizations

Main Objective: Immunization coverage rates will be maintained at high levels; drop out rates and missed opportunities will be reduced, and caretaker knowledge about the number of required and the importance of vaccines will be strengthened

Strategies/activities:

- Train health facility staff in how to monitor and preserve the ‘cold chain’ and decrease the missed opportunities to vaccinate young children
- Train the brigadistas to monitoring vaccine coverage and to make referrals for vaccinations among those “missed”
- Disseminate key messages about immunizations in the community

Results:

	Indicators	Baseline 1998	Final 2002	Goal
58	Access to EPI (% of children 12 to 23 months that received DPT1 or Pentavalente 1)	87	94	
59	Coverage of EPI (% of children between 12 and 23 months that received OPV3).	79	88	
60	Coverage of MMR (% of children between 12 and 23 months that received MMR)	67	74	
61	Immunization schedule complete among children 12 to 23 months.	70.8	74.1	80
62	Drop-out rate of EPI (% of children from 12 to 23 months)	11	7	10

Summary of the main points discussed by the Evaluation Team in reviewing the project results as measured by comparison of the Baseline and Final Evaluation, including factors that contributed to its attainments or not:

Efforts on the part of both Project HOPE and SILAIS have improved the immunization indicators. The factors that helped achieved the positive results are the positive attitude of the health personnel, regular immunization campaigns, ongoing training of health personnel and CHWs in the EPI, systematic monitoring of EPI, and a yearly reward for community leaders.

Among the factors that contributed negatively are in-and-out migration, which makes it difficult to set realistic targets. Some cultural factors include the belief by some mothers that it is dangerous for children to be immunized when they have a cold or fever. In addition, municipalities have shortage of field personnel.

The main recommendations to maintain coverage levels are to continue on going training of health personnel and CHWs, revise the population census by province, and continue strengthening and expanding the IMCI strategy at both the health service and community levels.

Overall conclusions, recommendations and lessons learned (Final Cross-Sectional Survey Report):

The Final Cross-Sectional Survey suggests EPI access is universal in the Boaco SILAIS. The proportion of children who are completely immunized (74%) is high compared with the results from other child survival projects in the region. The EPI drop out rate is very low, at only 7%. These data suggest that Boaco's immunization program is functioning at a high level. During the project, the Boaco SILAIS prioritized and increased efforts in selected areas to increase coverage.

E. PROGRAM MANAGEMENT

Project HOPE initiated activities in the Department of Boaco with mainly USAID funds. The first project focused on hospital improvement, which was followed by a USAID centrally funded Child Survival project, and finally, the current project, designed to "Improve Delivery of Primary Health Care Services" in the Department of Boaco. Dr. Hugo Barquero came on board with the Child Survival project and continued with the current one. Dr. Barquero acted as Country Director until Mr. Francisco Torres came as the official Country Director and opened the headquarters in Managua City.

1. Planning

The present project was a follow-on of two previous projects, and had the specific mandate to strengthen the Boaco SILAIS. Thus, Project HOPE had to follow the strategies mandated by the MOH/SILAIS and national priorities. This generated an extremely dynamic project that could change from year to year. That is why it did not require a three or four years detailed implementation plan, as other Child Survival projects do. The project implementation was based on the proposal as a general framework, and the annual workplans developed in conjunction with the SILAIS were the main instrument for monitoring proposes.

The project administration and decision-making was a responsibility of the Project Manager. Project HOPE/Boaco had to be responsive to the Boaco SILAIS technical needs and to the USAID local Mission. This management arrangement brought many challenges and setbacks to the local team; i.e., since the SILAIS was the main “client,” local planning was a must, which sometimes was not well understood by HOPE US Headquarters. According to Dr. Barquero, Project HOPE headquarters had a tendency to manage it as a regular Child Survival project, by using its standard planning and evaluation guidelines, reporting requirements and health interventions’ strategies, overlooking its real magnitude and context.

What project staff lacked was a well-focused midterm evaluation, and the opportunity to discuss the project strategies and necessary adjustments with HOPE US Headquarters. The midterm evaluation was designed to provide information to design alternative ways of funding through coffee plantations, which was not achieved, but had raised expectation among local producers.

2. Staff Training

The Project Manager expressed that he did not receive enough training and orientation in project management. Support from the home office was mainly focused on project interventions, and what staff really needed was to learn more about capacity building strategies, project management, and information management and analysis.

A local consultant provided technical assistance to the Boaco staff in the design of the project; other instruments were designed in conjunction with SILAIS and PROSALUD, without external technical assistance.

3. Supervision of Program Staff

The Boaco project was mainly monitored and assisted by PROSALUD, a USAID project with the mandate of assisting all USAID partner organizations in Nicaragua. Dr. Ivan Tercero, PROSALUD technical staff, reviewed annual workplans and served as link between Project HOPE and the USAID local Mission. Dr. Tercero also provided technical assistance to the overall project. He visited the project at least quarterly, and provided written reports to both Project HOPE/Boaco staff and to the project’s Cognizant Technical Officer at USAID.

The support and follow up received from the Managua office was in financial management and logistics of the materials received.

4. Human Resources and Staff Management

Project HOPE Nicaragua has an administration manual, which includes a chapter for Human Resources management. This manual is being reviewed by HOPE Headquarters to be standardized with HOPE’s internal procedures and policies before it is

institutionalized in Nicaragua. A general recommendation is that when the manual is ready, it should be available to all personnel at all times, so they would know their functions, have regular and transparent performance evaluations, the opportunity to react or comment to their supervisor's assessment, and a clear and transparent policy of salary increase based on performance and years of service. On the other hand, there could be another mechanism to include the supervisor's opinion, and feedback and recommendations on the supervisor's performance.

The evaluator saw a clear commitment to the project. However, the evaluator felt a high level of anxiety regarding their future. The Project HOPE's Country Director said would try to keep as many of these well trained and experienced staff on board for other projects, such as the new Child Survival Project for Jinotega starting October 2002. Project HOPE has also another initiatives in development where staff could be relocated; i.e., FONMAT, a World Bank Program in Jinotega; the IADB (PAININ II) in five Departments, Boaco, Chontales, Matagalpa, Jinotega, and RAAS; and a maternal health project with the Finnish embassy in Chontales, be favored with funding expected during the last quarter of 2002 and beginning of 2003.

5. Financial Management

The Boaco Project had an administrator to monitor expenditures. The Project has a permanent advance of 120,000 Cordobas per month. However, by the time of the evaluation, they did not know the overall expenditures to date, because they were waiting for HOPE HQ to balance expenditures from the field, Managua and USA Headquarters.

F. OTHER ISSUES IDENTIFIED BY THE TEAM

Project HOPE has currently three field offices, Chontales, Boaco and Jinotega. The Chontales and Boaco FEs were carried out back-to-back, so it was a good opportunity to discuss cross cutting issues and lessons learned between the two projects. In addition, Project HOPE is beginning a new CS project in Jinotega, which could use successful experiences and avoid common errors. Following are some general conclusions, recommendations and lessons learned reached in a meeting among the three field teams and facilitated by the Country Director on the last day of the second FE.

The Chontales and Boaco projects had very different purposes. The Chontales one, was a typical centrally funded CS project with the main purpose of introducing and expanding Child Survival interventions and to a lesser extent, building the management capacities of the SILAIS, while Boaco was a locally funded project with a strong capacity building component and integrating Child Survival and Reproductive Health interventions. In addition, Boaco was a follow on of a centrally funded CS Project. Therefore, it is less relevant to compare both projects, than to discuss the implementation processes of both.

Project Design

Project HOPE should develop a country strategy for Nicaragua, a logical step considering its twelve years of operations in the country. A country strategy would also help maintain Project HOPE's continuity and presence at the department and central levels. So far, Project HOPE had implemented three kinds of projects; strengthening clinical services (hospital level), improving access to maternal-child health services (mainly through Child Survival), and capacity building. Probably the best example of the overall HOPE's agenda is Boaco, where Project HOPE started strengthening the hospital, then it had a Child Survival project expanding PHC and outreach activities, and ended with a project aimed at building the technical capacities of the SILAIS. All HOPE's activities focused on strengthen the Nicaraguan national health system.

A key issue of the Boaco project was working in close collaboration and being responsive to the ongoing technical and managerial needs of the SILAIS, which generated a very dynamic and changing process. The Boaco project also had to respond to the USAID Nicaragua Mission that aimed to strengthen a decentralized model. Only two organizations supported the SILAIS Boaco, Project HOPE and PROSALUD, both funded by USAID. In this context, the project did not fit exactly into the regular planning and reporting requirements of centrally funded Child Survival projects. The Boaco Project did not develop a Detailed Implementation Plan (DIP) at the beginning of the project; therefore, annual plans were the main implementation instruments for monitoring and evaluation. On the same lines, Baseline and Final Evaluation surveys and health information systems were designed to respond specific SILAIS/MOH indicators, which were not necessarily compatible with the CS Projects' standard indicators.

The Chontales Project also aimed to strengthen the SILAIS to improve access to maternal-child health services. However, it had a different set of challenges. The SILAIS Chontales covers a greater number of municipalities, communications are weaker, and the overall health status of the population is lower than the rest of the country. For these reasons, the SILAIS Chontales has incorporated Child Survival in less extent than other Departments, and would probably need further efforts to fully institutionalize key CS interventions.

Data Management

Both projects have introduced several data management resources into the SILAIS programming. The KPC survey methodology is widely used for diagnosis and decision-making; LQAS was introduced as an alternative sampling methodology in Chontales; and some operations research were carried out in both projects as a diagnostic tool.

The Boaco project, in collaboration with PROSALUD, has assisted the SILAIS to refine its reproductive and child health monitoring and evaluation indicators, it has developed and field-tested monitoring forms and referral and counter-referral systems and forms. In addition, the SILAIS has a very complete health information system in place. The result is an excessive number of forms and instruments, which makes data analysis complex and impractical.

A good use of the existing expertise and practical experience would be a combination of LQAS at both levels. To implement the KPC survey at the household level using the LQA sampling frame, and to take a sample of the SILAIS/MOH health information system forms (facility level) of the same lot to complement the information. This way, with one standard methodology, the technical teams could obtain information with minimum addition of instruments and indicators, and to carry out a comprehensive analysis.

Technical Backstopping

Both project staff coincided that they were fairly well acquainted with Child Survival and Reproductive Health intervention strategies, but suggested that did not have enough experience nor technical support in project management and capacity building strategies. Project staff of both offices agreed that there were three crucial moments for receiving external technical support; 1) to interpret and incorporate baseline information results into implementation plans; 2) to incorporate Mid Term Evaluation findings and make project adjustments for the remaining time of the project; and 3) to design a phase out plan, in order to institutionalize project interventions and strategies with counterpart organization(s). Projects staff recommended that both, Project HOPE's USA headquarters and the Managua country office develop a pool of, mainly local resources to fulfill these needs. In addition, project staff recommended that HOPE should have a human resources development strategy in specific technical and managerial areas, at the beginning and during the life of the projects. All of these issues could be incorporated into project proposals' budgets.

G. CONCLUSIONS AND RECOMMENDATIONS

The Boaco project is the results of several years of work in the Department and with the SILAIS. Project HOPE has had the opportunity to be part of the development of a successful local health system. To date, the Department of Boaco has one the best health statistics in the country. The questions are what were the key factors of its success and whether this model can be replicated in other SILAIS. Following are some of the elements identified in the FE that could partially respond to these questions.

The Department itself is small in terms of area and population (4,365 km² and an estimated total population of 123,833), and communications within the province are better compared to the rest of the country. It is relatively close to the capital city (88 km) and the main road, with the exception of few kilometers, it is paved, making geographical access feasible. The health infrastructure covers almost all towns and villages through health centers and posts. The health centers and posts visited by the FE team were well equipped. All HCs and HPs had short-wave radio transmitter-receivers, and communications were continuous with the referral hospital and other health services. All had good IEC materials, especially those relating to maternal and reproductive health. The health centers and posts visited had flipcharts on FP, reproductive health, and domestic violence, although there was markedly less on HIV/AIDS and other interventions, such as nutrition.

The health staff is very well trained in public health and epidemiology, and staff turn over is low. The majority of the municipal directors have been in these positions more than eight years. Usually, the directorship of the SILAIS (department level) has rotated among municipal directors. Thus, the SILAIS has had a high level of staff stability and program continuation, quite unusual compared to the rest of the country.

The Nicaragua MOH has a very complete data collection forms at the health facilities throughout the country. The project has produced and field-test some additional data collection instruments for the SILAIS. Although the current set of data collection instruments (including monitoring and supervision tools) are extensive, it could be reviewed and streamlined to create an excellent set of forms for a model health information system.

In addition, there was a relatively high level of health knowledge among the people interviewed. The breastfeeding mothers appeared to know a lot about the benefits of BF and the importance of exclusive breastfeeding (although the ET had some doubts whether mothers really understand that EBF includes BF throughout the night), and one of the adolescents (focus groups) mentioned that Depo-Provera can protect from getting pregnant, but not from getting HIV/AIDS.

Finally, Nicaragua has a long tradition of community participation and integrating CHWs into the system, although, the role of the brigadistas could be reexamined, so it would depend upon access to health services, and the level of their knowledge, skills, and abilities to adapt to the needs of their communities.

Going back to the original questions. The geographical access will certainly vary among the different departments in Nicaragua, but the government could replicate the same health infrastructure and equipment with the assistance of foreign donors.

Politicians and decision makers need to know the Boaco experience to endorse health staff stability and professionalism, and the need of program continuation.

The SILAIS Boaco has successfully accomplished the initial phase of a primary health care program, which is improving access for basic health interventions. Therefore, the Boaco SILAIS is ready to leap to the next phase, which is to improve the quality of health care and counseling, to integrate health services and to reduce the medical barriers, specially in reproductive health. In order to do that, the SILAIS, would have to refine the information and referral systems, to institutionalize decision-making based on quality data, and to introduce a human resources development strategy, to mention some.

The SILAIS staff sadly mentioned that foreign agencies were leaving the BOACO SILAIS because their health statistics were good. To prioritize other SILAIS because health indicators are low is a good decision, but the country also needs good examples, areas to develop and field-test instruments, and to train health personnel. The Boaco SILAIS could aim to become a model health system, as a long-term goal.



Attachments 1-2
Boaco.doc (176...



Attachment 3 Final
Version Cro...



Attachment 5 Final
Adolescent ...