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FINAL EVALUATION REPORT

CS 6 CHILD SURVIVAL GRANT
TO ANDEAN RURAL HEALTH CARE

VOLUME I: EXECUTIVE SUMMARY
MAJOR FINDINGS
AND RECOMMENDATIONS

FINAL EVALUATION REPORT

CHILD SURVIVAL 6 GRANT TO ANDEAN RURAL HEALTH CARE

OCTOBER, 1990 - SEPTEMBER, 1993

COOPERATIVE AGREEMENT NUMBER
OTR-0500-A-00-0088-00

SUBMITTED TO THE PVO CHILD SURVIVAL PROGRAM
OFFICE OF PRIVATE AND VOLUNTARY COOPERATION
BUREAU FOR FOOD AND HUMANITARIAN ASSISTANCE

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

HENRY B. PERRY, III
PROGRAM ADVISOR
ANDEAN RURAL HEALTH CARE

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CS6 CHILD SURVIVAL GRANT FINAL EVALUATION

EXECUTIVE SUMMARY

From October 1, 1990, until September 30, 1993, the PVO Child Survival Program of the Agency for International Development provided Andean Rural Health Care (ARHC) with \$700,000 for the provision of child survival and primary health care activities in four project areas of Bolivia: Carabuco, Ancoraimes, Mallco Rancho, and Sipe Sipe. These four project areas have a combined population of approximately 39,000 persons. ARHC and its collaborators (including the local people themselves and the Ministry of Health) provided \$646,187 in matching funds for project expenses.

During the three years of grant support, these four ARHC child survival projects provided 29,552 vaccinations, 29,069 nutritional monitorings, and 31,013 home visits. One thousand five hundred fifty-nine cases of childhood diarrhea and 1,507 cases of acute childhood respiratory infection were treated by project staff. Furthermore, 42,125 additional primary care patient services were provided.

Project activities in Carabuco and in Mallco Rancho were already underway at the time CS6 support began in October, 1990. In Carabuco, notable reductions in infant and child mortality occurred during the CS6 grant period. High levels of coverage of child survival services were maintained in spite of reductions in field staff which had been carried out as part of a long-term strategy to reduce local project costs and to enhance sustainability. In Mallco Rancho, notable gains were made in the reduction of neonatal and 12-23 month mortality rates. Strong progress was also made in improving the coverage of child survival services in the Mallco Rancho project population.

In Carabuco, the infant mortality rate (measured by means of census enumeration and registration of vital events at the time of routine systematic home visitation) fell by 42% from 110 to 64 deaths per 1,000 live births. This improvement was concentrated entirely among infants during their first 30 days of life, with the neonatal mortality rate falling 68% (from 66 in 1991 to 21 in 1993). The postneonatal mortality rate remained unchanged (44 in 1991 and 43 in 1993). Comparison of mortality rates for Carabuco with those being measured at the beginning of project activities in Ancoraimes, which is adjacent to the Carabuco project area, shows under-five mortality in Carabuco to be approximately half that for Ancoraimes.

Immunization coverage rates (defined as the percentage of children 12-23 months of age with their complete series of measles, DPT, polio, and BCG vaccinations) remained at 85% in

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Carabuco during the period of grant support. We are not aware of any higher coverage rates than this for children in other parts of Bolivia. The immunization coverage rate for Carabuco probably represents one of the best carefully documented immunization coverage levels in the developing world. Improved coverage of nutritional monitoring and of treatment of acute respiratory infection (ARI) were also observed in Carabuco.

In Mallco Rancho, there was a 79% decline in the 12-23 month mortality rate (from 33 to 7 deaths per 1,000 population) along with a 75% decline in the 24-59 month mortality rates (from 8 to 2) during this period of grant support. The infant mortality rate declined by 8%. There was a 50% decline in the neonatal mortality rate (from 36 to 18), but the post-neonatal mortality rate increased 29% (from 42 to 54).

Vaccination coverage rates in Mallco Rancho improved three-fold (from 23% to 75%), and coverage of nutritional monitoring tripled as well, with 77% of the children 12-23 months of age receiving at least four nutritional monitorings during the last year of grant support compared to 22% in 1990. The percentage of mothers in Mallco Rancho seeking treatment for their children with significant ARI doubled from 24% to 46%.

In both Ancoraimes and Sipe Sipe, the duration of project activities has been too short to observe any changes in mortality. Activities had been underway there for only slightly more than one year by the end of grant activities. There were, however, remarkable improvements recorded between 1992 and 1993 in the coverage of child survival services. Childhood vaccination coverage increased from 2% to 34% in Ancoraimes and from 12% to 64% in Sipe Sipe. In both Ancoraimes and Sipe Sipe, remarkable progress was also made in the improvement of coverage levels of nutritional monitoring and in maternal treatment seeking behavior for children with significant ARI.

A number of weaknesses were identified by the evaluation. There has been a lack of clarity with respect to project policies, and there has been inadequate monitoring of compliance with those policies. There has been inadequate improvement in maternal knowledge about warning signs and treatment strategies for diarrhea and pneumonia. The performance of community health volunteers and their turnover has been disappointing. Insufficient attention has been given to identifying high-risk children and specifically to targeting services to these children. There is a need for strengthening the maternal tetanus immunization program, for improving the feedback of health information to individual communities, for strengthening the measurement and monitoring of project costs, as well as for strengthening the measurement and monitoring of sustainability.

Taken as a whole, however, the results of this evaluation

EXECUTIVE SUMMARY

provide further confirmation of the validity of the census-based, impact-oriented (CBIO) approach, developed by ARHC. The CBIO approach has recently received endorsement by an independent Expert Review Panel for wider-spread development, application, and evaluation (Ofosu-Amaah, 1994). The CBIO approach to community-oriented public health and child survival involves the local determination of epidemiologic and community health priorities, the concentration of project resources on these priorities, and the provision in the home, when necessary, of essential services to high-risk children. Routine systematic visitation to all homes in the project area makes it possible to monitor mortality rates. Another important characteristic of the CBIO approach is its integration of child survival and basic primary care services.

The outstanding achievements demonstrated by this evaluation have been possible in large part because of ARHC's capable staff in Bolivia, their commitment to improving the survival of the children in their project areas, and their commitment to the CBIO approach. Strong financial and technical support provided by ARHC's National Office in La Paz and its International Office in North Carolina have contributed greatly to the progress documented herein. The financial support provided by the USAID PVO Child Survival Program and the technical assistance provided by the PVO Child Survival Support Program of the Johns Hopkins University have also been indispensable to this collaborative effort. The Bolivian Ministry of Health has been a partner with ARHC in this endeavor, contributing and assisting to the best of its capability. Finally, and perhaps most importantly, the Bolivian people themselves who live in these project areas have given their best efforts to the improvement of the health of their communities, their families, and themselves.

As the documented achievements of ARHC's programs continue to grow, so do the number of visitors to its projects and the level of general interest in the CBIO approach. ARHC continues to believe that the CBIO approach deserves broader application, both in Bolivia and in other countries.

Reference

Ofosu-Amaah, S. Report of an Expert Review Panel to the United States Agency for International Development Regarding Andean Rural Health Care's Census-Based, Impact-Oriented Approach to Child Survival. January, 1994.

ACKNOWLEDGEMENTS

This evaluation has been an almost herculean effort of many people. It has been a team effort, in true Andean Rural Health Care fashion. I would like to acknowledge here the full collaboration which ARHC's staff in Bolivia provided during the household surveys carried out in October, 1993, and during the field evaluations carried out in November, 1993, and during the write-up of survey results. The collaboration of the Johns Hopkins Child Survival Support Program and its regional staff for Latin America, Dr. Marcelo Castrillo and Dr. Carmen Marín, was most helpful in assisting Mr. David Shanklin and Mr. Nat Robison in designing the initial household survey questionnaires and in providing guidance for conducting the household surveys in each of the four project areas.

Working with Dr. Marín in the design, conduct, data preparation, and analysis of the four household surveys were: Mr. Nat Robison, ARHC's Bolivian National Director; Dr. Maria Elena Ferrel, Director of ARHC's Altiplano projects; Dr. Javier Baldomar, Assistant Director of ARHC's Villa Cochabamba Program; Ms. Adela Asbún, then Field Supervisor of the Mallco Rancho and Sipe Sipe Projects; Ms. Sarah Bott, volunteer from the UCLA School of Public Health; Mr. Adam Kolff, volunteer from the School for International Training; and Mr. Joaquin Flores, health information consultant. This team provided outstanding leadership for what proved to be an enormous field survey effort involving a total of 1,074 household surveys in the four project areas.

Mr. David Shanklin, US ARHC Executive/Program Director, Mr. Nat Robison, and the Project Directors (Dr. Orlando Taja, Dr. Maria Elena Ferrel, and Dr. Carolina Hilari) were all helpful in providing comments on earlier drafts of this report and in providing supplemental information.

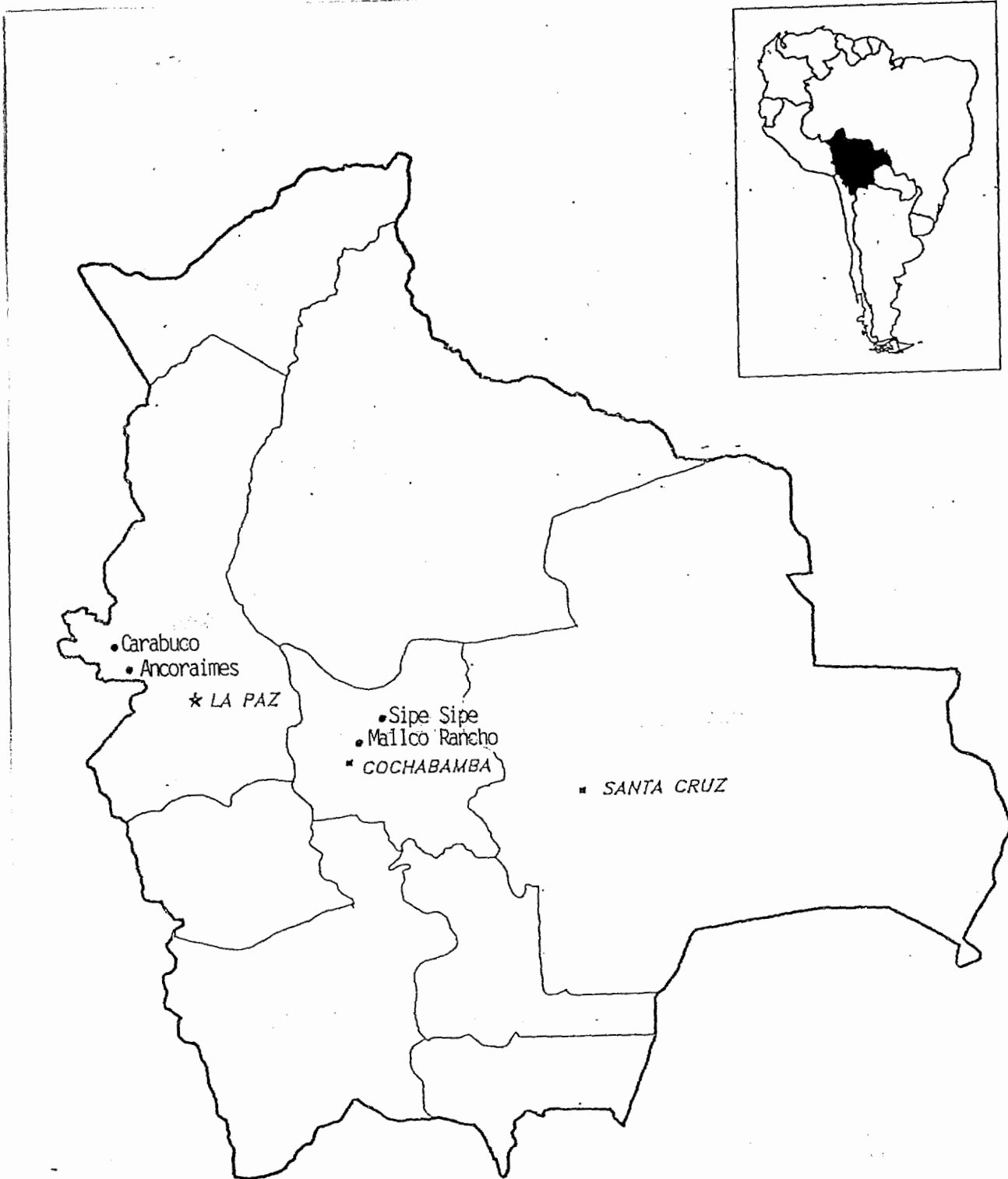
Finally, I would like to express my personal gratitude to Dr. John Wyon, Senior Lecturer Emeritus at the Harvard University School of Public Health, for his longstanding collaboration with ARHC as its friend, colleague, councilor, intellectual architect of the census-based, impact-oriented approach, and now Chairperson of the Program Committee of its Board of Directors. John has provided ongoing encouragement to everyone associated with ARHC, from the project groundskeepers to the Chairperson of the Board of Directors. He has instilled in each of us the idea that we are each pioneers in the emerging field of community-oriented public health and that the results of our efforts have major significance for the development of primary health care programs for economically disadvantaged persons in developing countries. The result of the inspiration which he has given us speaks for itself.

GLOSSARY

APSAR	Asociación de Programas de Salud del Area Rural (Association of Rural Health Programs)
ARHC	Andean Rural Health Care
ASONGS	Asociación de Organizaciones No-Gubernamentales (Association of Non-Governmental Health Organizations)
BCG	Bacillus-Calmette-Guerin vaccine (vaccination against tuberculosis)
CBIO	census-based, impact-oriented
CS6	child survival grant support provided by the AID PVO Child Survival Program beginning its sixth year of funding (October, 1990, through September, 1993)
CS9	child survival grant support provided by the AID PVO Child Survival Program beginning its ninth year of funding (October, 1993, through September, 1996)
DIP	detailed implementation plan
DPT	diphtheria, pertussis, and tetanus vaccination (DPT1 refers to the first DPT immunization; a series of three is required for complete immunization)
FTE	full-time equivalent
FY	fiscal year
IUD	intrauterine device
MTE	mid-term evaluation (carried out at the end of the mid-portion of the three year grant)
NGO	non-governmental organization
OMS	Organización Mundial de Salud (World Health Organization)
OPV	oral polio vaccination (OPV1 refers to the first OPV vaccination, and so forth)
ORT	oral rehydration therapy (for prevention of dehydration caused by diarrhea)

GLOSSARY (continued)

PROCOSI	Programa de Coordinación en Supervivencia Infantil (an AID-supported network of PVOs providing child survival services in Bolivia)
PVO	private voluntary organization
SVEN	sistema de vigilancia epidemiológica nutricional (system of epidemiologic nutritional surveillance), a method of assigning a level of nutrition (A through F) based on the number of standard deviations that height and weight measurements are above or below the National Center for Health Statistics norms
TBA	traditional birth attendant
TT	tetanus toxoid vaccination (TT1 refers to the first TT vaccination, and so forth)
USAID	United States Agency for International Development
VCHE	volunteer community health educator
WHO	World Health Organization



Map of Bolivia Showing ARHC's Four Project Areas Supported by the CS6 Grant (Carabuco, Ancoraimés, Mallco Rancho, and Sipe Sipe)
Photos of the Field Evaluation Exercise
(courtesy of Ms. Sara Bott)



One of the interviewers for the cluster sample survey in Sipe Sipe reviewing her notes following a household interview



Mothers in Chinchaya and Corpa Grande (communities of the Ancoraimas Health Area) at the time of a focus group interview carried out as part of the field evaluation



The field evaluation team in Ancoraimes (including AID-Bolivia representatives Paul Ehmer and Isabel Stout)

I. MAJOR FINDINGS AND RECOMMENDATIONS

From October, 1990, until September, 1993, the PVO Child Survival Program of USAID provided ARHC with \$700,000 for child survival services in four project areas of Bolivia: Carabuco, Ancoraimes, Mallco Rancho, and Sipe Sipe. These four sites have a combined population of 39,000 persons. ARHC coordinated the provision \$646,187 in matching funds (including locally generated income, support from the Bolivia Methodist Church, and support from the Ministry of Health). The Mallco Rancho and Sipe Sipe Projects were directed by APSAR (Asociación de Programas de Salud del Area Rural) under an agreement with ARHC. The Ancoraimes Project was directed by ARHC but with close cooperation and strong support from the Bolivian Methodist Church (Iglesia Evangélica Metodista en Bolivia). All Ministry of Health (MOH) activities were integrated with project activities at each site. This included the incorporation of MOH staff with non-MOH staff into unified health teams.

All four projects provided child survival services as well as basic primary care services using a methodology which ARHC refers to as the census-based, impact-oriented (CBIO) approach. Through this approach, the project area is "defined," which is to say that homes are numbered and a community map is created on which the numbered homes are located. All residents of the project area are identified in a census. While many child survival services such as nutritional monitoring and immunizations are provided to groups of mothers and their children who have come together to receive these services in their villages, the census-based aspect of the approach makes it possible to know which children did not receive these essential services and to actually provide them in their homes.

Since vital events and census information are registered as part of routine visitation to all homes, it is possible to measure mortality rates on the basis of the deaths registered and the updated census. Through an analysis of mortality data, it becomes possible to determine the most frequent preventable or treatable causes of death, to determine who is at greatest risk of death, and to focus program efforts on priority diseases and high-risk persons. The priorities of the community are also included in the formulation of the project work plan. The overall goal of the project is to improve health and in particular to improve child survival as assessed by lowered mortality rates. A detailed description of the CBIO approach and ARHC's application of this approach has been completed recently (Perry, 1993). Although mortality rate measurements are based on small numbers of deaths each year, as the registration of deaths improves and as the rates show consistent trends from year to year, confidence

MAJOR FINDINGS AND RECOMMENDATIONS

in these rates is steadily growing.

The CBIO approach had been underway since 1983 in Carabuco and since 1987 in Mallco Rancho. Since the CBIO approach requires intensive community collaboration and considerable background preparation, and since the new projects in Ancoraimes and Sipe Sipe did not begin until more than halfway through the grant period, it is surprising that the achievements in these two new project areas have been so substantial. Because of the groundwork which has been laid in these two project areas, even stronger progress can be expected there during the CS9 grant period which began on October 1, 1993, and will continue until September 30, 1996.

Although not all Detailed Implementation Plan (DIP) goals were met, strong progress toward these goals was made in virtually all areas. Those DIP goals that were not met were in retrospect overly ambitious and, furthermore, were not critical project priorities. Major project achievements are shown in Table 1.

In Carabuco, infant mortality continued to decline, 12-59 month mortality rates remained quite low, coverage of child survival services remained quite high, and strong progress was shown in maternal knowledge and practice regarding the appropriate responses for childhood diarrheal and respiratory diseases. This progress was made in spite of cutbacks in the Carabuco project's budget and staff as part of ARHC's effort to enhance long-term sustainability. The project there has now completed its sixth year of AID Child Survival support. Comparison of mortality rates for Carabuco with those being measured in the early stages of Ancoraimes, which is adjacent to the Carabuco program area, shows under-five mortality in Carabuco to be approximately half that for Ancoraimes.

In Ancoraimes, strong progress was made in the initiation of the CBIO approach. The project completed censuses and established routine systematic home visitation in 10 of the project's 51 communities. The primary health care program there was revitalized. In slightly more than one year, remarkable progress was made in improving childhood immunization rates and maternal tetanus immunization rates. Coverage of nutritional monitoring and modern medical treatment for pneumonia also improved remarkably during this same short period.

In Mallco Rancho, strong progress was made in reductions in mortality rates for all under-five age groups except for the 1-11 month old group. In this group of children, the mortality rate increased slightly.

(text resumes on page 16)

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Table 1

Major Project Achievements During AID Child Survival Funding,
October 1, 1990 - September 30, 1993

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Carabuco Project

1. The infant mortality rate fell by 42% from 110 to 64 deaths per 1,000 live births between 1991 and 1993. This reduction was concentrated entirely in the neonatal period where the mortality rate fell by 68% (from 66 to 21).
 2. During Year 3 of the grant, under-five mortality rates were less than half of those for nearby Ancoraimes, where project activities were just beginning.
 3. Overall program quality was maintained during the grant period even though the local field budget declined and the number of project staff was reduced by 24% (from 22.5 to 17).
 4. The previously achieved immunization coverage level of 85% among children 12-23 months of age was maintained throughout the grant period.
 5. Maternal knowledge and use of oral rehydration therapy for childhood diarrhea continued to improve. Between 1992 and 1993, the percentage of mothers who had actually used ORT increased from 53% to 73%, and the percentage of mothers who knew how to prepare ORT increased from 53% to 67%.
 6. The average annual number of nutritional monitorings among children 12-23 months of age increased from 3.7 to 5.5, and the percentage of children with at least four monitorings increased from 69% to 79%.
 7. The percentage of mothers seeking modern medical treatment when their children had symptoms of significant ARI rose from 47% to 68%.
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MAJOR FINDINGS AND RECOMMENDATIONS

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Table 1 (continued)

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Ancoraimes Project

1. A strong start was made in the initiation of the CBIO approach in the project area, and progress in initial CBIO implementation was much greater than it was when the CBIO approach was implemented initially in neighboring Carabuco.
2. Primary care services were upgraded and improved substantially.
3. Complete immunization of children 12-23 months of age rose from 2% to 34%, and in the segment of the project area with censuses and ongoing home visitation, it rose to 53%.
4. Maternal immunization coverage (with two documented doses) rose from 2% to 29%.
5. The average annual number of nutritional monitorings among children 12-23 months of age rose from 0.2 to 2.3, and the percentage of children with at least four monitorings increased from 3% to 14%.
6. The percentage of mothers seeking modern medical treatment when their children had symptoms of pneumonia rose from 12% to 28%.

MAJOR FINDINGS AND RECOMMENDATIONS

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Table 1 (continued)
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Mallco Rancho Project:

1. The neonatal mortality rate fell by half (from 36 to 18 deaths per 1,000 live births), the 12-23 month mortality rate fell by 79% (from 33 to 7 deaths per 1,000 population), and the 24-59 month mortality rate fell by 75% (from 8 to 2 deaths per 1,000 population).
2. Complete immunization of children 12-23 months of age rose from 23% to 75%.
3. The percentage of children 12-23 months of age who had had four or more nutritional monitorings during the previous 12 months rose from 21% to 69%.
4. The percentage of mothers seeking modern medical treatment for their child 12-23 months of age with pneumonia increased from 24% to 46%.

Sipe Sipe Project

1. A strong start was made in the initiation of the CBIO approach in the project area, and progress in initial CBIO implementation was much greater than it was when the CBIO approach was implemented initially in neighboring Mallco Rancho.
 2. Primary care services were upgraded and expanded substantially.
 3. Complete immunization of children 12-23 months of age rose from 12% to 64%, and in the segment of the project area with censuses and ongoing home visitation (that is, the entire project area except for the town of Sipe Sipe), it rose to 75%.
 4. The average annual number of nutritional monitorings among children 12-23 months of age rose from 0.9 to 2.2, and the percentage of children with at least four monitorings increased from 2% to 20%.
 5. The percentage of mothers seeking modern medical treatment when their child had symptoms of pneumonia rose from 17% to 51%.
-

MAJOR FINDINGS AND RECOMMENDATIONS

tripled. The percentage of children with four or more nutritional monitorings during the previous year tripled, and there was a doubling of the percentage of mothers seeking modern medical treatment when their children had significant ARI.

Last, but certainly not least, the Sipe Sipe Project made perhaps the most spectacular progress of the four projects. Censuses were completed for almost the entire project area, and ongoing home visitation was established in less than one year for all the project's 18 communities surrounding the small town of Sipe Sipe itself. This is a remarkable transformation, particularly taking into account the fact that many of the staff in Sipe Sipe were long-time MOH personnel used to a very different type and tempo of work. The only community not choosing to participate during the grant period in the census and home visitation program was the small town of Sipe Sipe. Primary health care in the Sipe Sipe project area improved significantly during the period of grant support. The childhood immunization coverage rate increased five-fold for the entire project area. The average number of nutritional monitorings tripled, and the percentage of mothers seeking modern medical treatment when their children had pneumonia tripled.

Numbers of Services Provided

During the three years of AID support, these four projects administered 29,552 vaccination doses to mothers and children, carried out 29,069 height and weight growth measurements among children, and conducted 31,013 home visits. Project medical, nursing and supporting staffs provided 42,125 consultations or treatments to symptomatic patients requesting assistance. One-thousand five hundred fifty-nine cases of childhood diarrhea and 1,507 cases of acute childhood respiratory infection were treated by project staff, and 3,722 obstetrical services were provided. Project staff also provided 3,844 dental services. The total numbers of services provided during each year of the project are shown in Table 2. Tables 11-14 (pages 46 to 49) show the numbers of services given in each project area during each year of the project.

Graphs of Project Achievements

Figures 1-10 demonstrate some of the major evaluation findings in greater detail. The actual data from which the graphs were constructed are contained in Tables 4 to 10 at the end of this section (pages 42 to 45).

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MAJOR FINDINGS AND RECOMMENDATIONS

Table 2

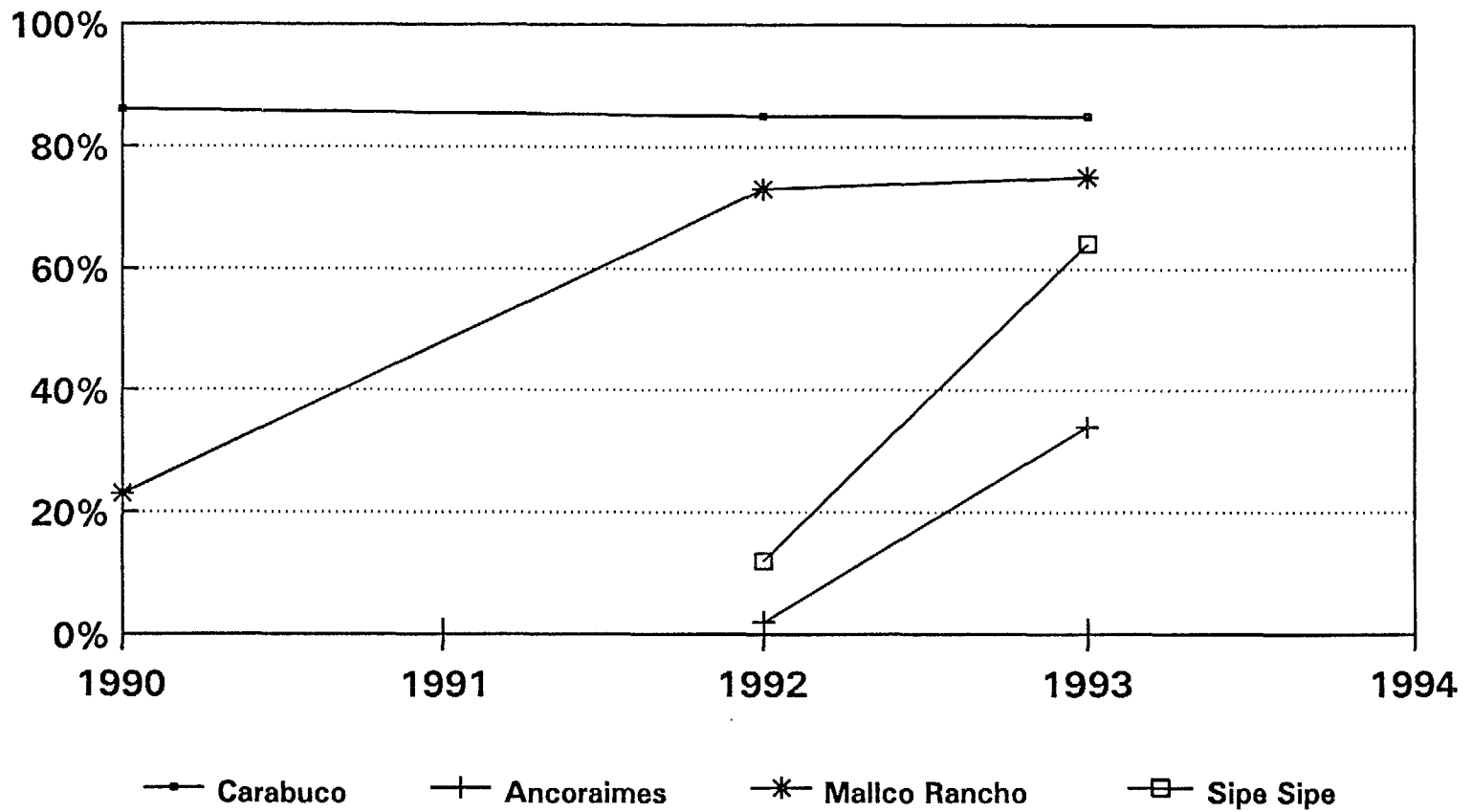
Numbers of Selected Services Provided in All Four Project Areas With CS6 Support

	year 1	year 2	year 3	total
number of patient treatments provided	9,048	12,796	20,281	42,125
number of home visits	5,071	9,362	16,610	31,013
number of vaccination doses	4,603	8,951	15,998	29,552
number of nutritional monitorings	4,955	8,730	15,384	29,069
number of cases of childhood diarrhea treated by staff	249	579	731	1,559
number of cases of acute respiratory infection treated by staff	527	483	497	1,507
number of obstetrical services provided (prenatal, birth, and postnatal care)	1,193	1,201	1,328	3,722
average number of TB patients in treatment	9.4	18.9	28.2	22.3
number of laboratory tests performed	123	380	1,446	1,949
number of dental services provided	333	1,210	2,301	3,844

source: project monthly reports.

Figure 1. Childhood Vaccination Coverage

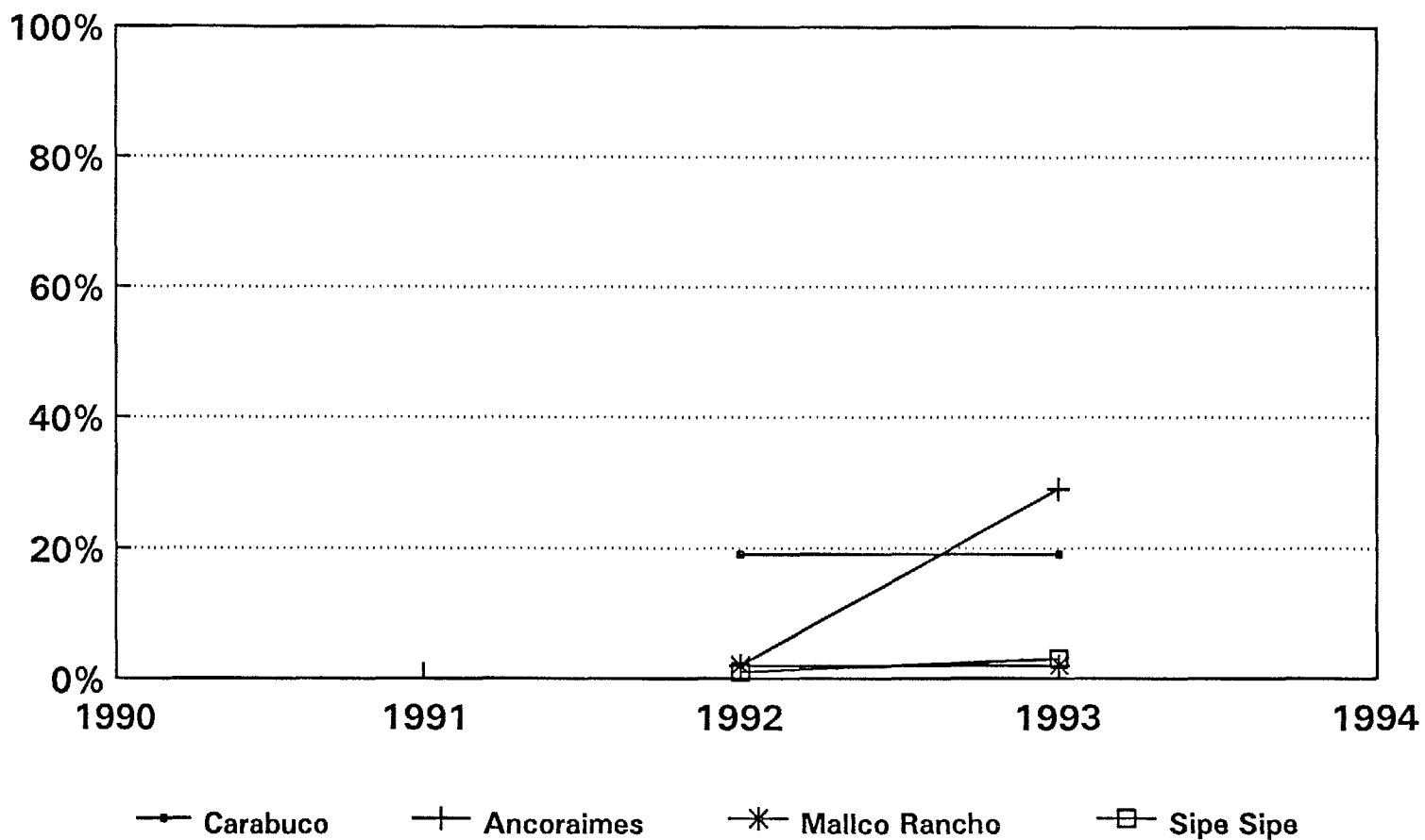
18



Coverage is defined as the percent of children 12-23 months of age with their entire series of vaccinations completed.



Figure 2.
Maternal Tetanus Toxoid Coverage



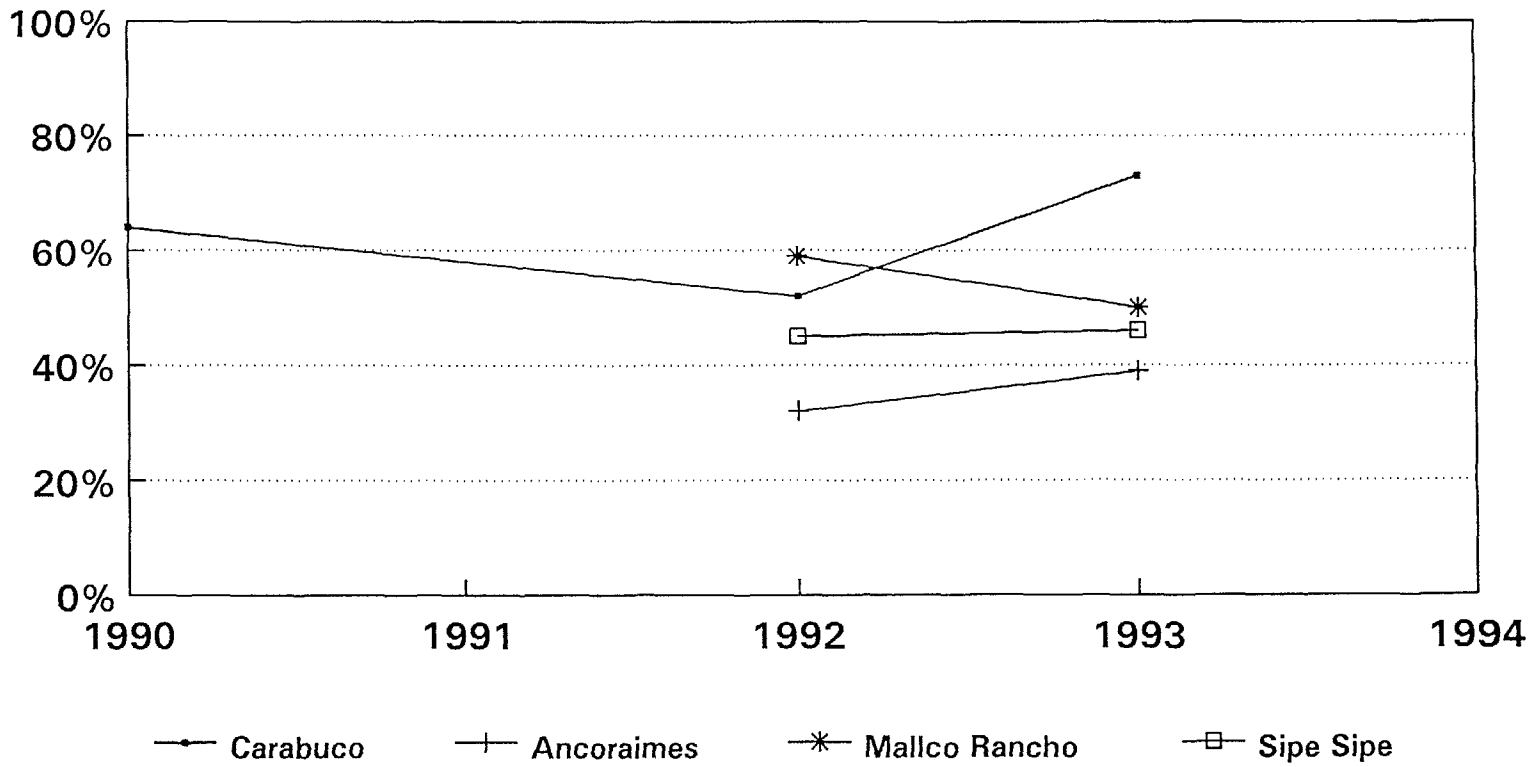
MAJOR FINDINGS AND RECOMMENDATIONS

Coverage is defined as the presence of two documented doses.

Figure 3.
Percentage of Mothers Who Had Actually
Used Some Type of ORT

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20



ORT is use is defined as the
 administration of UNICEF packets or
 home-based ORT for childhood diarrhea



Figure 4.
Percentage of Mothers Who Knew How to
Prepare ORT

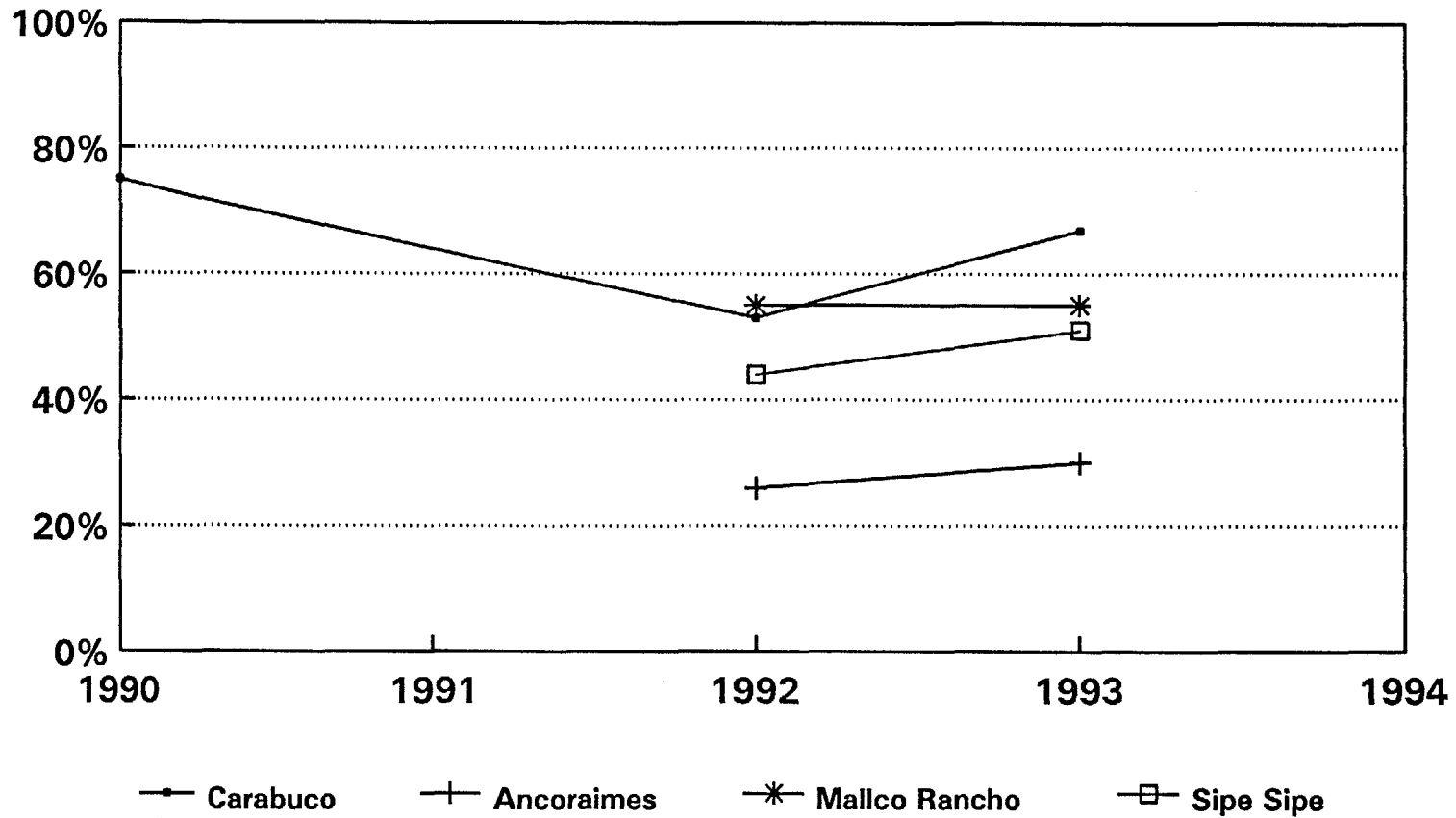
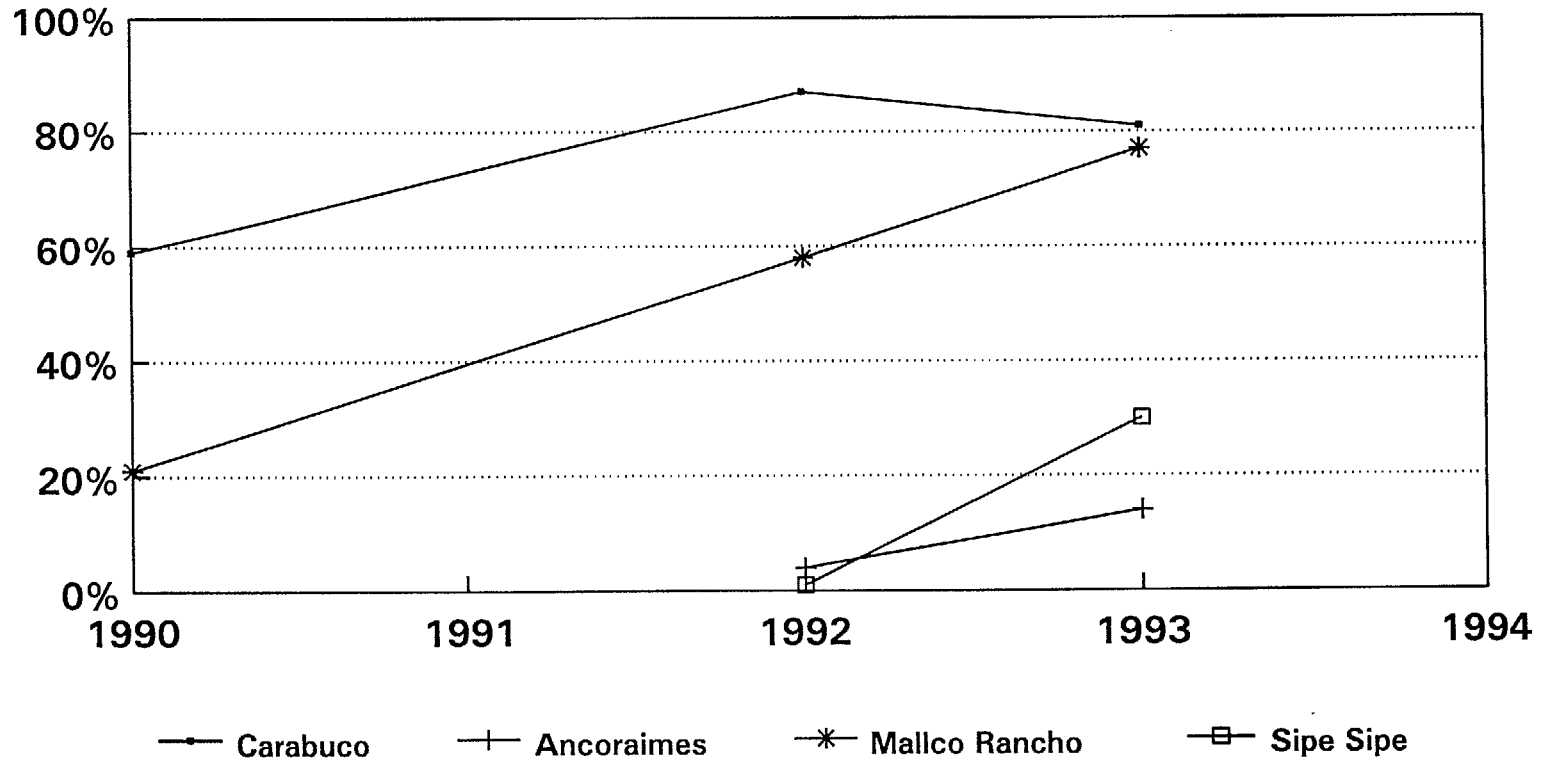


Figure 5.
Coverage of Nutritional Monitoring
Among Children 12-23 Months of Age

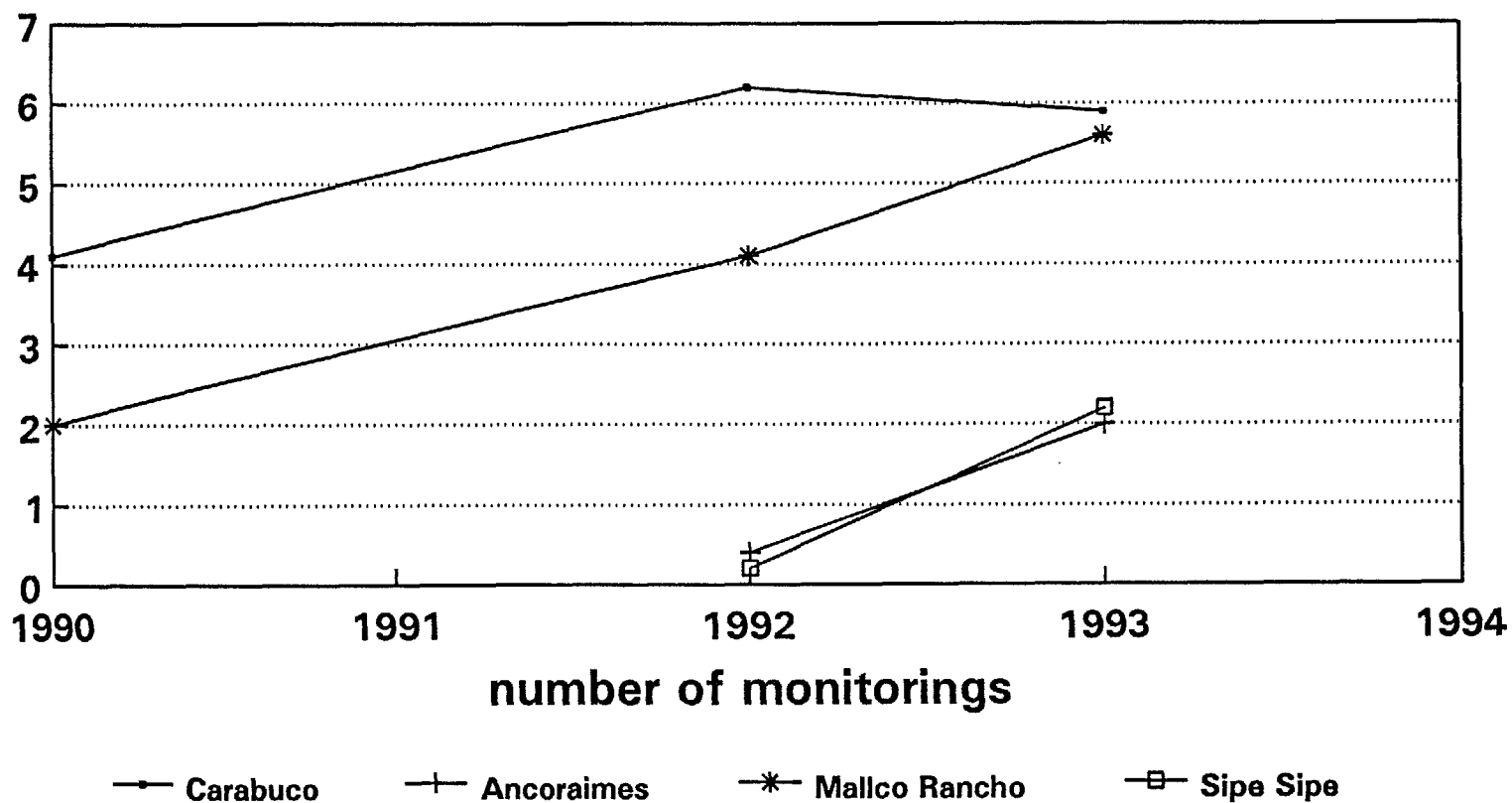


MAJOR FINDINGS AND RECOMMENDATIONS

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Coverage is based on at least four documented height/weight measurements per child during the prior 12 months

Figure 6.
Average Number of Nutritional
Monitorings in the Previous 12 Months

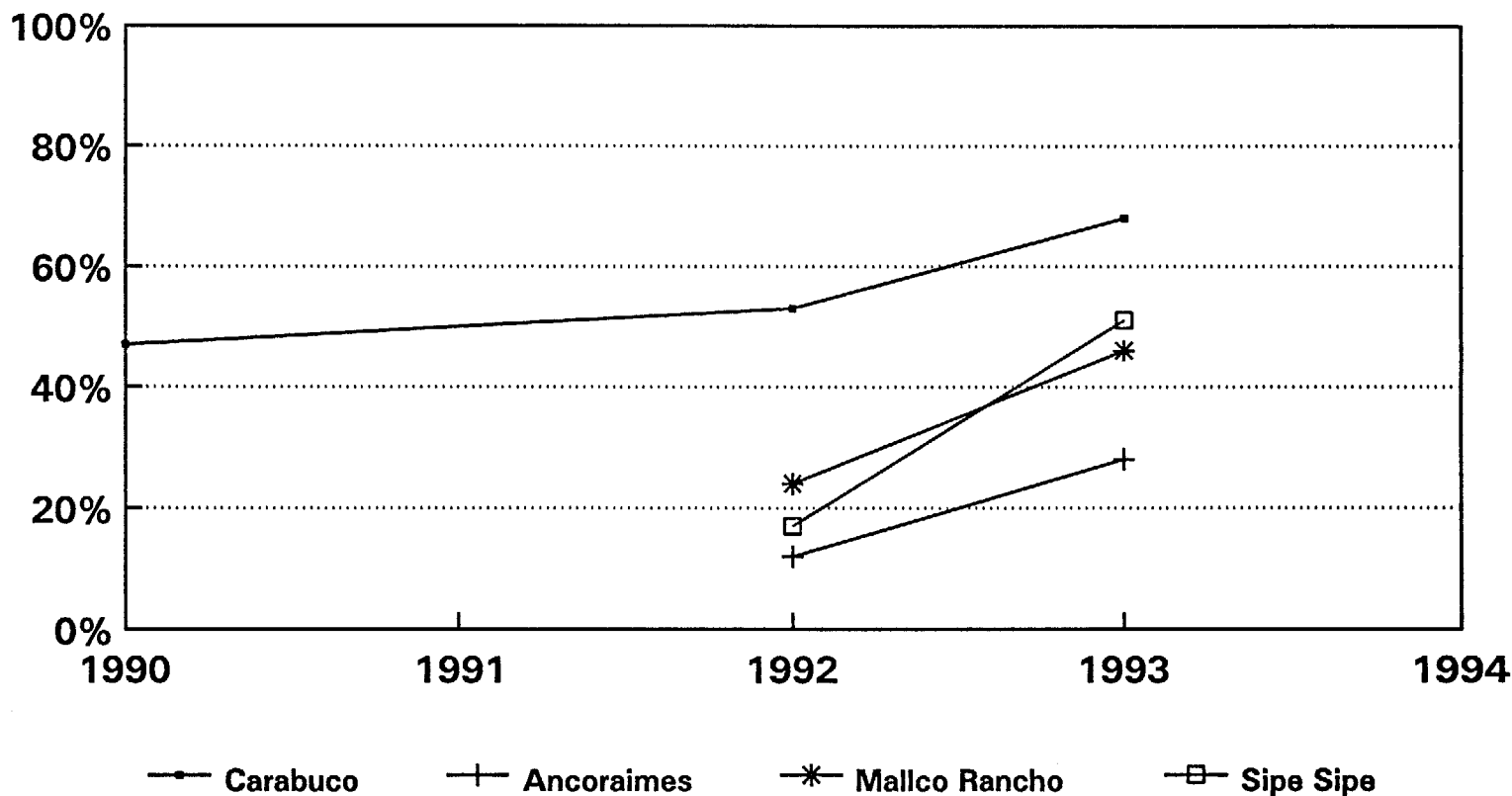


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Height and weight determinations among
children 12-23 months of age

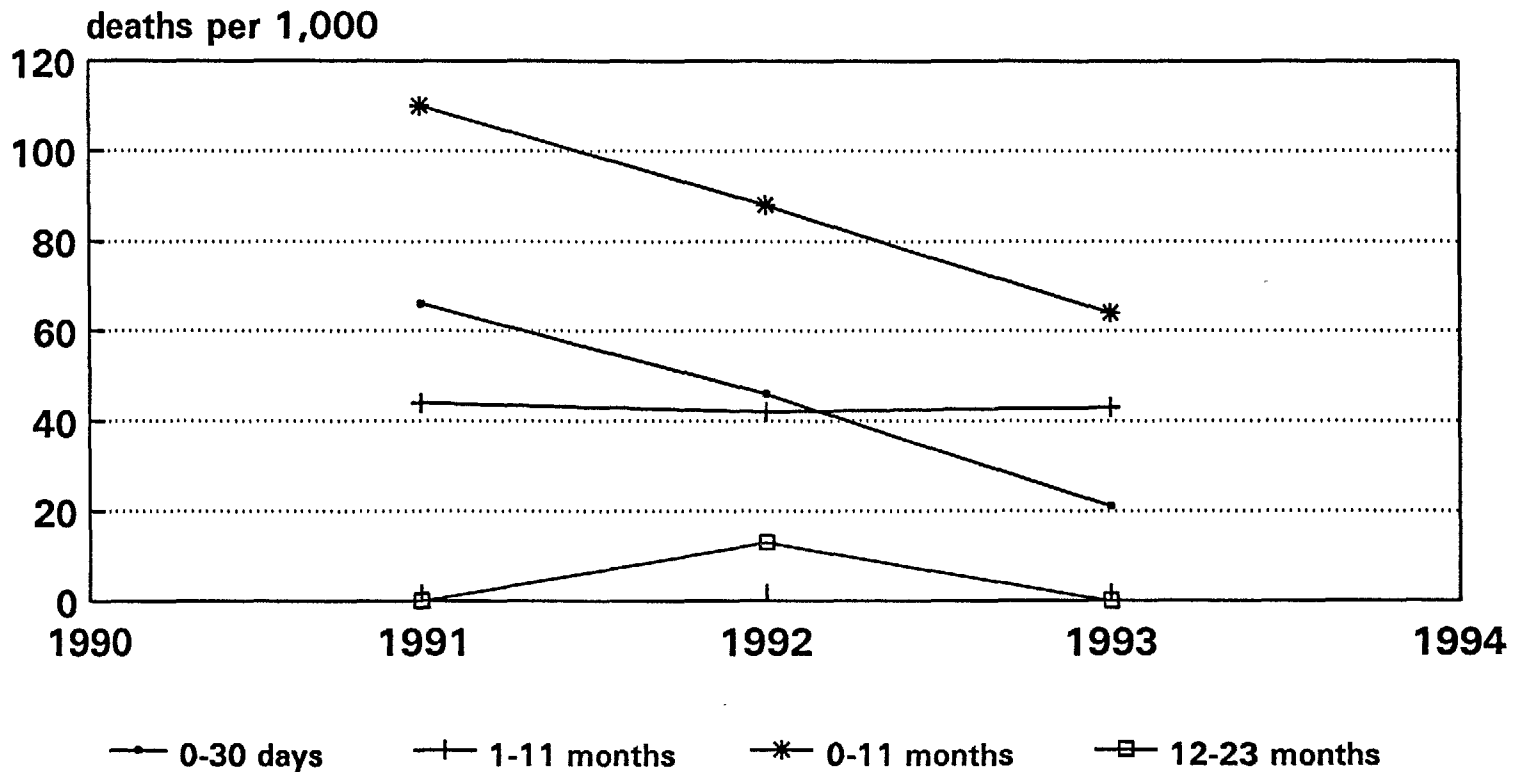
Figure 7.
Percentage of Mothers Seeking Modern Treatment for Significant Childhood ARI



Significant ARI defined as strong cough with difficulty breathing

Figure 8.
Infant and Second Year Mortality Rates:
Carabuco, 1991-1993

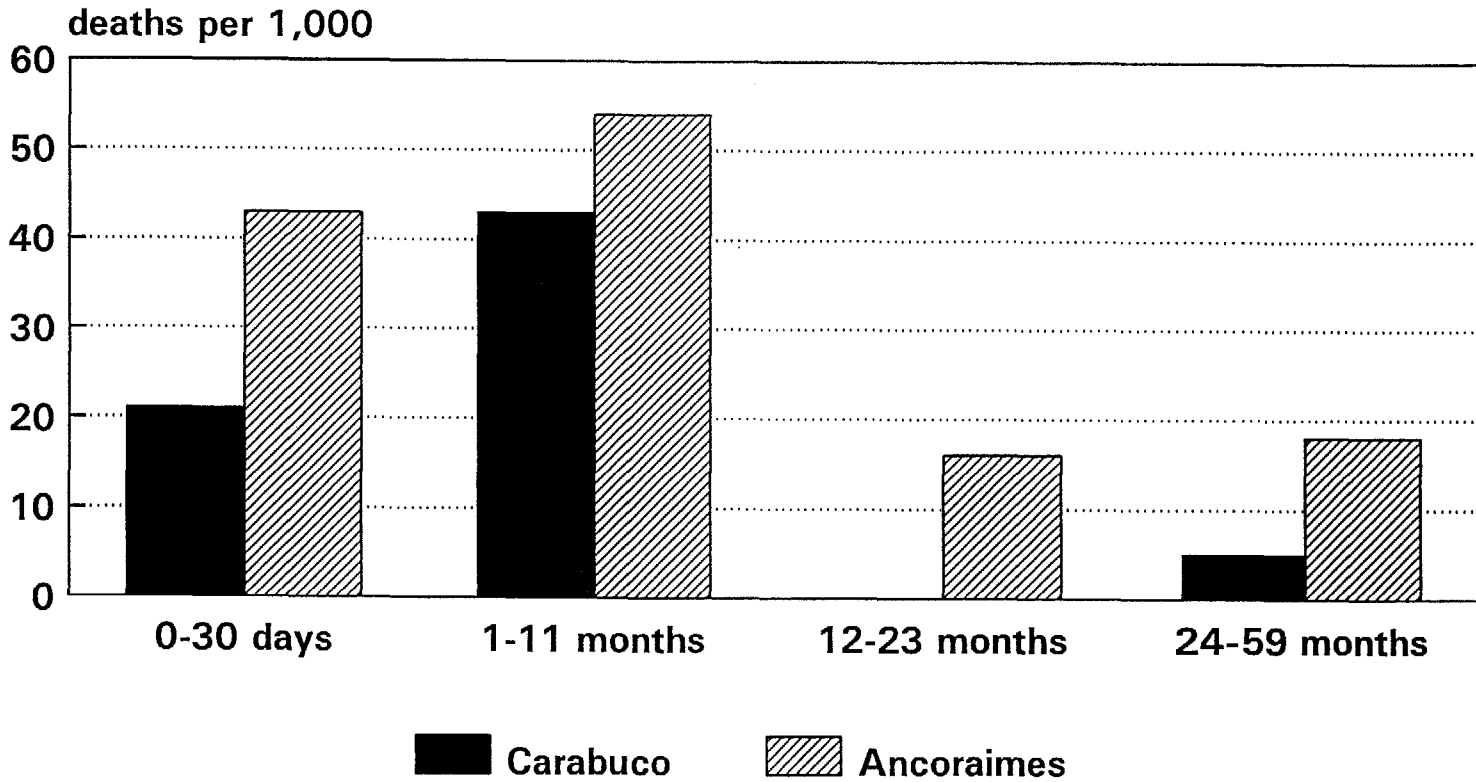
25



Rates during first year are per 1,000
 live births; 12-23 month rate per 1,000
 population

Figure 9.
Infant and Child Mortality Rates for
Carabuco and Ancoraimes, 1993

26

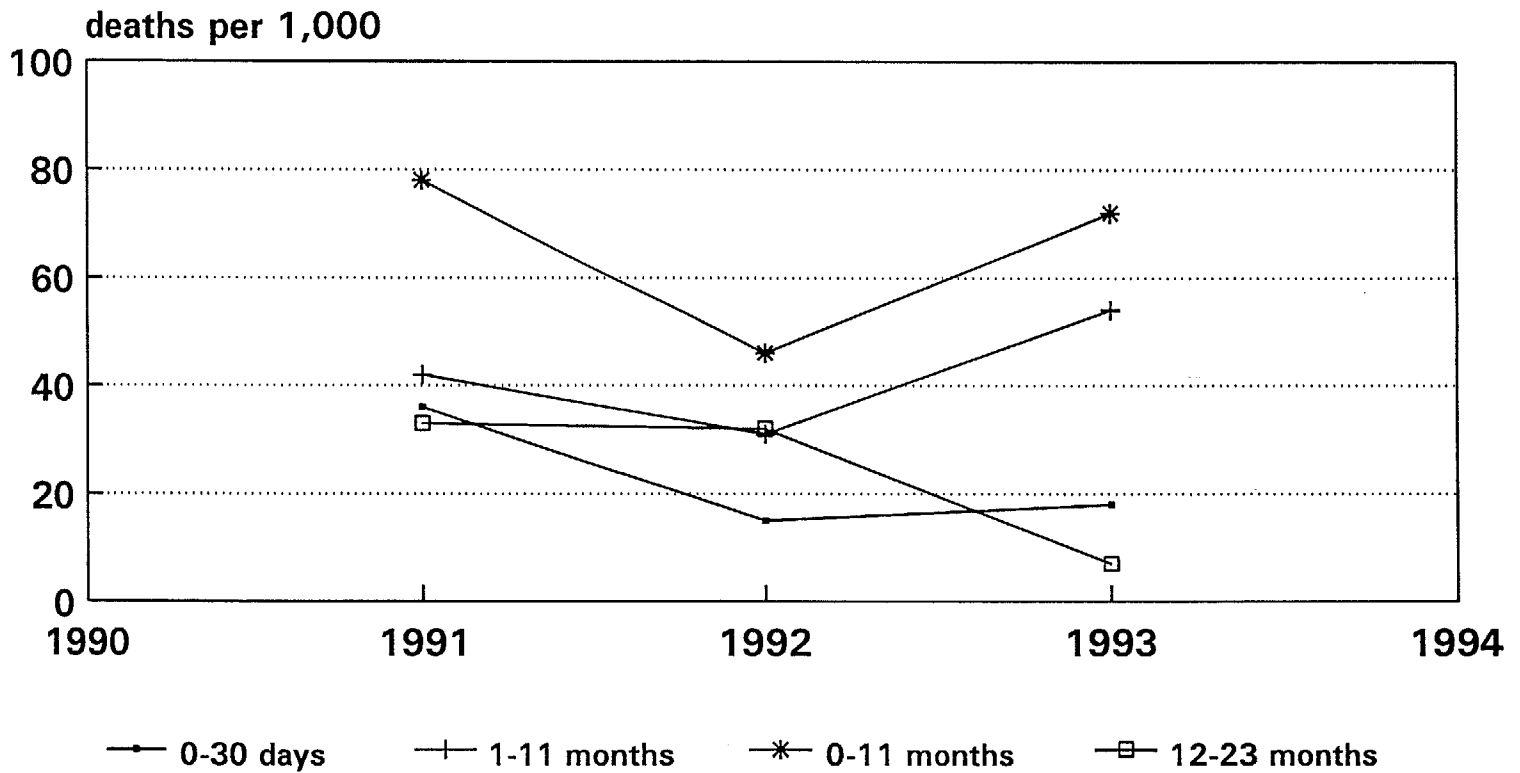


Neonatal and postneonatal rates are deaths per 1,000 live births; other rates are deaths per 1,000 population

MAJOR FINDINGS AND RECOMMENDATIONS



Figure 10.
Infant and Second Year Mortality Rates:
Mallco Rancho, 1991-1993



Rates during first year are per 1,000
 live births; 12-23 months rate per 1,000
 population

MAJOR FINDINGS AND RECOMMENDATIONS

Analysis of Project Expenditures

Project expenditures are shown in Table 3. \$700,000 of USAID funds and \$646,187 matching funds were expended for a total project expense of \$1,346,187. The AID contribution was 52% of the total. The budget was revised during Year 3 of the grant and approved by the Office of Procurement. AID expenditures matched precisely the amounts provided in the revised budget. Matching expenditures were \$146,187 more than was committed by ARHC originally. At the time of the original grant submission, ARHC made a commitment to marshal \$500,000 in matching funds. In actuality, \$646,187 in matching funds were provided for this project, 29% above the initial obligation.

At the time of the mid-term evaluation (MTE), concern was raised about the slow dispersal of AID funds and also about the level of contributed matching funds which at that point in time appeared to be considerably less than originally proposed. These problems have all been resolved. AID expenditures were less than budgeted at the time of the MTE primarily because the field activities in Ancoraimes and Sipe Sipe were somewhat slower in getting underway in Year 2 than had been anticipated. The issue of matching funds was one in which ARHC's accounting system was being computerized, and the matching portion of the grant was not being tracked separately at that time. Once the accounting process had been updated, then the amount of matching funds being provided were able to be accurately quantified and proved to be above the levels which had been originally budgeted.

ARHC and APSAR (ARHC's NGO Bolivian counterpart for Mallco Rancho and Sipe) have strong financial accounting capabilities. ARHC's Bolivian Director, Mr. Nat Robison, is an accountant and economist. He takes a strong interest in and closely supervises the financial aspects of the Bolivia field projects in coordination with the three accountants which are on ARHC's and APSAR's staffs in Bolivia. At the ARHC International Office in North Carolina, financial matters are supervised by Mr. David Shanklin, Executive/Program Director, and Ms. Diane Dolman, ARHC accountant. In summary, an established program of financial accountability is in place, and AID funds are handled in a competent manner.

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Table 3

Comparison of Actual and Budgeted Expenditures of AID and Matching Funds During the CS6 Grant Period (October, 1990 - December, 1993*)

	Actual Expenditures		Budgeted Expenditures		Difference	
	(in thousands of US dollars)					
	AID	PVO	AID	PVO	AID	PVO
I. Procurement	14.6	107.8	14.6	97.0	0.0	10.7
II. Program	592.2	453.3	592.2	333.7	0.0	119.6
III. Evaluation	19.1	16.4	19.1	16.4	0.0	0.0
subtotal	625.9	577.5	625.9	447.1	0.0	130.4
Indirect Costs	74.1	68.7	74.1	52.9	0.0	15.8
TOTAL	700.0	646.2	700.0	500.0	0.0	146.2

* although field activities supported under this grant were from October, 1990, until September, 1993, there were additional grant expenditures between October and December, 1993, which were exclusively for evaluation activities.

source: ARHC financial records

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Project Weaknesses Identified by the Evaluation and Recommendations for Improvement

Not surprisingly, the evaluation did reveal a number of weaknesses which deserve careful attention during the next grant period (October, 1993 - September, 1996). The general areas of weakness identified are listed below together with corresponding recommendations.

(1) There has been a lack of clarity of project policies and goals. There has also been inadequate monitoring of compliance with policies and inadequate monitoring of progress toward the achievement of project goals.

Key child survival policies and goals should be clarified and clearly understood by all project staff. Compliance with project policies and progress toward the achievement of the related project goals and objectives should be carefully monitored at predetermined intervals.

(2) Non-formal education of mothers regarding diarrhea and pneumonia needs strengthening.

The non-formal education of mothers regarding the identification and proper responses to significant diarrheal disease and pneumonia should be strengthened and monitored so that progress can be assured. Similar efforts should be made to improve infant feeding practices.

(3) The ongoing functioning of volunteer community health educators (VCHes) has been inadequate. This problem is particularly acute in Mallico Rancho, where there has been virtually a 100% loss of the trained volunteers without replacements. In Ancoraimes, the turnover has been less. Two-thirds of the volunteers trained there in 1992 are no longer active but they have been replaced.

There is a need to capture the lessons learned from this experience. Project staff members are still debating the root causes of these problems. The relative contributions of problems in selection, supervision, and "incentives" still remain controversial and need to be clarified. The community health volunteer experience needs careful review and analysis so that new policies can be formulated and implemented.

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- (4) There is a need to focus even more closely upon high-risk groups, especially children under two years of age.

Children under two years of age, and those in even more narrowly defined high-risk groups, should receive high priority in project activities. Service delivery norms which express these priorities should be developed, and conformance with these policies should be carefully monitored.

- (5) Maternal tetanus immunization coverage levels have shown no improvement in three of the four project sites and do not exceed 29% in any one site.

The maternal tetanus immunization program needs strengthening so that reasonably high coverage levels can be achieved among all women of reproductive age, thereby protecting newborns against neonatal tetanus.

- (6) There has been a lack of feedback of health information to individual communities.

Policies need to be clarified and documented regarding routine systematic feedback of health information to individual communities, and then monitored annually.

- (7) The measurement of project costs needs greater attention and closer monitoring.

Total local income (including MOH contributions and locally generated income), capital costs, and recurring costs (including depreciation and training expenses) should be determined annually for each local project.

- (8) The measurement of sustainability and the monitoring of progress toward increased sustainability needs greater emphasis.

Measures should be developed for financial and institutional sustainability of each local primary health care/child survival project and progress toward sustainability should be carefully monitored.

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Further Discussion of Weaknesses and Detailed Recommendations

1. Project Policies and Goals

One of the general problems identified by this evaluation was that DIP goals and MTE recommendations were not known and/or remembered by key project leaders and project staff. A second problem was that many of the DIP goals and MTE recommendations were not realistic, given the constraints of limited staff time and budget. Furthermore, certain project policies (such as those pertaining to the criteria for determining the frequency of home visitation) were not clear to project leadership nor to staff, and compliance with those policies was not being monitored. Examples of program policies which were not clearly articulated or understood included the frequency of nutritional monitoring, the frequency of home visitation, and the performance of verbal autopsies. Monitoring of compliance with these policies did not appear to be part of ongoing project supervision.

Compliance of nutritional monitoring and home visitation with existing policies was particularly poor in Mallco Rancho, especially given the length of time that the project has been in operation. Surprisingly, compliance with project policies was better in Sipe Sipe than in Mallco Rancho. Either the policies are unrealistic and should be revised, or priority should be given to improving compliance.

Specific Recommendations:

- a. DIP goals should be developed collaboratively by the US ARHC Executive/Program Director, the Bolivian National Director, and each local project director.
- b. Once DIP goals have been established, they should be clearly communicated to all involved staff.
- c. Staff awareness of these goals should be documented by project leaders and by ARHC program leaders.
- d. Once MTE recommendations have been made, ARHC international and national program leaders together with leaders of specific projects should carefully review them and decide which ones will become new project goals and which ones will not. Reasons for rejection of MTE recommendations should be documented. Measures of progress toward achievement of those MTE recommendations which were adopted should be developed, and progress toward achievement of these MTE recommendations should be carefully monitored.
- e. Policy manuals should be written for each project. These manuals should include supervisory measures for monitoring compliance with each policy. The monitoring of program policies should be realistic and readily achievable with current staff. Policies for nutritional monitoring, home visitation, and verbal autopsies should be given high priority for development and monitoring.

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2. Non-Formal Education of Mothers Regarding Diarrhea and Pneumonia

The household cluster sample surveys in both Carabuco and in Mallco Rancho showed low to moderate levels of maternal knowledge about the important warning signs of childhood pneumonia (i.e., rapid respirations and intercostal retractions) and no improvement in this level of knowledge over the course of the grant. When a child had signs of a clinically significant acute respiratory infection, treatment seeking behavior of mothers did appear to improve in both Carabuco and Mallco Rancho. Perhaps the non-formal education has been more effective than measured, or perhaps the treatment seeking behavior of mothers is more related to availability of services and perception of service quality than to maternal knowledge of warning signs. Nevertheless, it does appear that there is a continued need to strengthen the non-formal education of mothers regarding warning symptoms of childhood pneumonia.

Maternal knowledge and use of ORT in Mallco Rancho actually declined between 1992 and 1993 on three of four measures, and the fourth measure remained unchanged. In Carabuco, on the other hand, these same four measures all showed strong improvements during the same period. Thus, it would appear important to determine what aspects of the two projects accounted for these differences. Perhaps there is an important lesson to be learned here. There is not enough evidence on hand at present to make any judgements regarding the effectiveness of non-formal educational activities in Ancoraimes and in Sipe Sipe since these projects have been in existence for such a brief period of time.

Although this evaluation did not assess maternal knowledge about appropriate infant and childhood nutrition (including breastfeeding), it might be important to include an assessment of non-formal nutrition education as well because of the fundamental importance of nutritional status on the development of diarrheal and respiratory diseases.

Specific Recommendations:

- a. There should be an assessment of the current non-formal education project activities for diarrhea, pneumonia, and possibly nutrition. There should also be recommendations for changes in project policies regarding non-formal education. Progress in this area should be monitored.
- b. Practice (i.e., behavior) should be monitored along with knowledge. Innovative approaches will be needed to enable such monitoring to be helpful, accurate, and not overly burdensome to staff.

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3. Community Health Volunteers

There has been a high rate of turnover of volunteer community health educators (VCHes) in Carabuco, Ancoraimes, and in Mallco Rancho. The Sipe Sipe project wisely avoided this problem altogether by not training VCHes. In Carabuco, three-quarters of the trained VCHes are no longer active. In Ancoraimes, over two-thirds are no longer active, and in Mallco Rancho there are now no active VCHes.

This is a serious problem which now needs careful attention and analysis so that scarce program resources for education and training will be used most effectively. The communities need to be consulted, and new policies need to be established which can be implemented on a small scale and carefully evaluated. Perhaps this would be an opportune time to consider a somewhat larger, but yet closely related, issue. I am referring to an assessment of the optimal number of field staff at each level of training and the development of a "career ladder" for those who prove themselves to be outstanding members of the health team.

The incorporation of more paid "promoters" while at the same time reducing the number of higher paid staff has been discussed for some time now within ARHC as one approach to lowering program costs. It would seem reasonable at this point for each project to try to develop a coherent policy which gives VCHes with superior performance the opportunity to progress to "promotor" and then to auxiliary nurse. Such career opportunities can be powerful staff motivators in the long-run and possibly even in the short-run as well.

Specific Recommendations:

- a. The past experience of ARHC's projects with VCHes should be carefully analyzed, including interviews and/or focus group discussions with active and inactive VCHes and also with community members.
- b. A new vision for selection, training, responsibilities, and incentives should be forged through discussions with project staff and community representatives.
- c. The results of these analyses together with a broader review of the experience with volunteers in other settings outside of ARHC should become the basis for a new policy regarding VCHes.
- d. This new policy should be implemented on a pilot basis in each project site and the results carefully monitored before broadening its implementation.

4. Focusing on High-Risk Groups, Particularly Children Under Two Years of Age

In order to maximize project impact on the reduction of

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child mortality, it is critically necessary to clearly define within each project area which groups of children fall into a high-risk category for death. In all four project areas, the risk of death for children beyond age two is very low compared to the risk of death among children under two. In Carabuco, this risk is concentrated among children under one year of age and, particularly, during the first month of life. This is also true of Ancoraimes and of Mallco Rancho. Mortality data from Sipe Sipe are still not reliable enough to make any judgements about high-risk groups.

On the basis of this information, it makes more sense at this point in the evolution of these projects to monitor nutritional status and to conduct home visits more frequently for the younger children than for the older children. Although this has been project policy, the evaluation indicated that children 24-59 months of age received virtually as much attention as did children under 24 months of age. Furthermore, age is only one attribute of risk. Increased effort needs to go into defining risk factors for childhood death in each project area. Project policies for service delivery should then reflect this increased refinement of risk factors.

Specific Recommendations:

- a. Increased efforts should be undertaken to determine mortality risk factors within each project area and which particular children are at increased risk of death.
- b. Project policies for service delivery should prioritize these high-risk children.
- c. Compliance of key interventions provided to high-risk children should be monitored.

5. Maternal Tetanus Immunization

At the time of the household cluster sample survey, coverage of maternal tetanus toxoid immunization (defined as two documented doses) was found to be low in all project areas. This was especially so in Mallco Rancho and Sipe Sipe. The low levels of coverage in Mallco Rancho and Sipe Sipe may be due in part to the fact that coverage was based on documented evidence from maternal vaccination cards present in the home whereas in Carabuco and Ancoraimes, health post records were consulted as well. The highest coverage rate observed was in Ancoraimes, and this was only 29%.

The vaccination of traditional indigenous rural women such as those in ARHC's project areas continues to incur suspicion in the communities that fertility will be adversely affected. In addition, there are knowledgeable public health professionals who believe that neonatal tetanus does not exist on the Altiplano. Understandably, these factors have diminished staff enthusiasm

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for maternal tetanus immunization.

It is generally recognized that maternal immunization against tetanus is one of the most cost-efficient interventions available for improving child survival. Two recognized authorities with whom I have spoken, Dr. Warren Berggren (formerly Primary Health Care Director for Save the Children) and Dr. John Bennett (of the Carter Center at Emory University) have both said that relatively high neonatal mortality rates in the presence of low maternal tetanus toxoid coverage rates is suspicious for tetanus as one of the important causes of neonatal death.

Because of the efficacy and low cost of this child survival intervention, efforts should be made to strengthen the coverage of women in the reproductive age group until there is definitive evidence that neonatal tetanus is not a significant cause of neonatal death. During this period, a stronger verbal autopsy protocol along with careful assessment of maternal tetanus administration among cases of neonatal death and controls would be helpful in determining if suspicious cases of neonatal tetanus are being encountered and if maternal immunization reduces the risk of neonatal death. Coordination of efforts with the MOH to obtain cultures from suspicious cases of neonatal tetanus would be an important step in clarifying this problem.

There are recent reports of problems in the quality of tetanus toxoid vaccine in many countries. Hence, it also would be necessary ensure that the vaccine being used in Bolivia is of documented appropriate quality before expanding efforts at improving the vaccination coverage level.

Since there is now evidence, according to Dr. John Bennett, that administration of antibiotic ointment to a newborn's umbilical cord at birth is protective for children whose mothers are not immunized, this should be considered as part of the routine newborn care.

Specific Recommendations:

- a. A verbal autopsy protocol for assessing the likelihood of tetanus should be implemented for all neonatal deaths.
- b. Case-control studies should be carried out for all neonatal deaths with specific attention to maternal tetanus immunization.
- c. The adequacy of the quality of tetanus toxoid vaccine currently in use in Bolivia should be confirmed.
- d. Mothers who have not been immunized against tetanus should apply antibiotic ointment on the umbilical cord of their newborn according to a protocol recommended by the Carter Center at Emory University.

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6. Feedback of Health Information to Individual Communities

For some time now, the idea of providing individual communities with health information about that community as well as about the overall project area has been under discussion. In fact, this has been a stated goal for all of the projects. Community-specific information such as numbers of death by cause, mortality rates, numbers of services provided, and coverage of child survival interventions has the potential of motivating the community to participate more actively in improving its health. How this can be done effectively among mostly illiterate people represents a challenge in non-formal education, but it is one which now deserves priority attention. ARHC has had some successes so far with this which need to be documented and expanded.

Specific Recommendations:

- a. Policies should be established which specify what health information should be shared with communities and how.
- b. These policies should be implemented in at least one community per project and evaluated.
- c. As experience increases, a methodology should be developed which is appropriate for each project area.
- d. Systematic feedback of health information should be gradually expanded to all communities in each project area.

7. Measurement of Project Costs

ARHC has been a leader in Bolivia in establishing accounting procedures which make it possible to specify income and costs in detail. The methodology for determining and classifying project costs needs further modification. Once these modifications are made, it is important to assess the local project costs in a detailed fashion on an annual basis.

Included among the modifications which are now needed is a further breakdown of APSAR expenses. APSAR does not distinguish expenditures made for Mallco Rancho from those made for Sipe Sipe. Thus, it is impossible to determine expenses for each individual project. There is also a need to separate APSAR central office expenditures (in Quillacollo) which are not directly related to project support, so that local project costs can be accurately determined. Secondly, there needs to be a renewed effort to classify expenditures by type of project activity so that specific costs can be more accurately determined. For instance, in Mallco Rancho, some costs are for integrated development activities or for the operation of the small hospital there. These should not be included in the calculation of the costs of the primary care/child survival program. Categories of income also need to be more clearly delineated.

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The costs of administration, technical support, and evaluation which are incurred by the ARHC offices in La Paz and at Lake Junaluska, NC (USA) need to be quantified and their relevant portions assigned to specific project sites so that the total cost of project operations can be assessed. Finally, the previously developed methodology for calculating the contributions provided by the MOH should be reassessed. Once this has all been carried out, total local project costs and their specific components should be reviewed on an annual basis.

There is currently a difference of opinion within ARHC regarding the per capita project cost for the combined primary care/child survival activities which ARHC should set as a goal and which will be sustainable in the long-run without external resources. Most of the estimates of ARHC's locally recurring per capita project expenses are in the \$8-9 range. Technical assistance is needed to try to develop a consensus about what level of cost is sustainable in the long-run. Project policies need to be geared towards the goal of achieving sustainability without external financial support.

Specific Recommendations:

- a. An agreed upon methodology for calculating project income and expenses needs to be established.
- b. Local project income and costs should be calculated annually.
- c. Consensus should be achieved in Bolivia regarding sustainability goals.
- d. Project policies should reflect the goal of achieving per capita program costs which can eventually be sustained with the resources available to the local people, the MOH, and ARHC on an ongoing and long-term basis.

8. Measurement of Sustainability and Monitoring Progress Toward Sustainability

ARHC has been challenged, as have all other health programs serving low-income populations, with the issue of sustainability. ARHC's Bolivian National Director (Mr. Nat Robison) has adopted the position that sustainability is not simply a financial issue, but also a political, technical, and staff issue as well. ARHC's US Executive/Program Director (Mr. David Shanklin) thinks that organizational sustainability is a key component of sustainability as well. During the next few months, as ARHC finalizes its comprehensive sustainability strategy, it will be important to develop concrete measures of each type of sustainability-- financial, political, technical, staff, and organizational. It will also be important to improve the monitoring of progress in sustainability and to focus project efforts on ensuring that gradual progress in sustainability is

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being made.

ARHC's efforts at reducing project costs in Carabuco without affecting quality or impact represent a landmark in its sustainability efforts. This experience deserves further study and replication in ARHC's other projects as they mature. In addition, new efforts should be made to establish "profit centers" within each project which are monitored separately. It has frequently been discussed within ARHC that curative services and family planning services have the potential to operate within a given project area as a profit-making activity which can then "subsidize" those preventive services and child-survival interventions which the project population is not motivated to support financially. Measures need to be developed for monitoring the "profits" generated from such activities so that the contribution of these profits to project sustainability can be measured as well as their future potential for enhancing sustainability.

Specific Recommendations:

- a. Specific measures of sustainability should be developed as part of ARHC's new comprehensive sustainability strategy.
- b. These measures of sustainability should be monitored and appropriate actions taken to ensure that projects are steadily making progress.

Additional Comments

The implementation of the above recommendations depends in part upon stronger technical support provided by ARHC's National Office in La Paz to the individual projects. The lack of technical support in the past has hindered progress in these areas. Now that additional staff support is in place, it should be possible to make rapid progress in many of the areas discussed above. Not only should the new technical support staff in La Paz work closely with the projects in implementing the changes recommended above, but the technical support staff should also closely monitor the progress which the projects are making in these areas.

There are several other issues which have arisen from the evaluation which deserve mention here. Although family planning was not included as part of the CS6 child survival grant, family planning activities did begin during the grant period. This was encouraged by the strong interest and formal approval among both men and women in the communities, including community authorities. Furthermore, program staff are aware that a significant percentage of early infant deaths appear to occur among those infants who are not truly desired by their parents. The family planning activities which are now emerging in each of

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these four project areas deserve strong organizational support so that they can become successful in assisting couples to plan their own families, so that early infant mortality can be further reduced, and so that additional income can be generated from family planning activities to support other essential public health efforts.

Another specific issue raised by the evaluation was the problem of staff turnover in Mallco Rancho. During the final year of CS6 support, there was a turnover of several key supervisory positions. Vacancies existed for several months before some of the positions could be filled. This led to a staff shortage at a critical period near the end of the grant. If this problem had not occurred, the Mallco Rancho Project would likely have shown even stronger progress than it did. Since the completion of this grant, there has been further turnover of field staff there.

This problem was discussed at length at the time of the final field evaluation in Mallco Rancho in November, 1993. Project leaders have become more aware of the importance of staff longevity to maintain a high quality of field project operations. Qualified, competent, and committed staff are difficult to locate and vacancies are often difficult to fill. Trust between project staff and community members is critical to project success and takes years to develop. Consequently, the nurturing of reliable and effective staff should be an important project goal.

Another issue in need of special attention is the prevention and treatment of respiratory deaths among children. Pneumonia and asphyxia are important causes of childhood death in all four project areas. The pneumonia control program needs ongoing and periodic careful evaluation in all of its aspects. The evaluation provided by Dr. Nils Daulaire (in May, 1993) was an important first step, but follow-up is needed. Such a critical component of child survival programming should be reassessed at least every 18-24 months. It is now almost time again for a reassessment of the pneumonia control program. The need for improved non-formal education regarding ARI has already been mentioned. But there is also a need to strengthen the verbal autopsy protocol for pneumonia deaths, for carefully reviewing the compliance of pneumonia treatment with established World Health Organization (WHO) protocols, and for close monitoring of the access to and the coverage of ARI treatment with appropriate antibiotics.

Infant asphyxia deaths remain an enigma. These deaths need further intensive study in order to understand what the associated risk factors are so that appropriate preventive and curative measures can be taken. The beginning point would be to design a systematic verbal autopsy protocol for asphyxia deaths and then carry out a case-control study of asphyxia deaths in ARHC's projects. This would be an important project for technical support staff perhaps together with a student from a school of

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public health who could obtain quality epidemiologic guidance.

A further issue in need of clarification is the result of integrated development activities carried out in Mallco Rancho. There is a need in the near future for a careful evaluation of these projects which have been carried out over the past five years at considerable expense of staff effort, volunteer time, and money.

Finally, the issue of the perception of project quality will need additional attention in the coming months. The Carabuco project has shown a slippage in its image in the community, and special attention will be needed in all project areas regarding ways in which project quality (and its perception by beneficiaries) can be enhanced. Staff need guidance in awareness of program quality issues, in concerns about client preferences, and in working with communities to help the communities meet their many needs.

Specific Recommendations:

- a. The newly incorporated technical support staff of the La Paz National Office should participate closely in the analysis of all of the recommendations which have been outlined beginning on page 30. These staff should also participate in the implementation and monitoring of any new policies arising as a result of this review.
- b. ARHC should provide the necessary leadership and organizational support required to develop successful family planning activities. These activities should be integrated into primary care/child survival activities.
- c. The La Paz national office technical staff should provide leadership for intensive and ongoing monitoring of the pneumonia control program including continuing education for staff regarding WHO case management protocols, development of supervisory instruments, and overall assessments at the time of the MTE and final evaluation of the CS9 grant.
- d. The national office technical staff should carry out further studies of risk factors for death from asphyxia after first obtaining outside expert assistance. This could be obtained through either a formal request to ARHC's Program Advisor who could design such a study after obtaining appropriate assistance or it could be obtained through a public health student working with knowledgeable faculty support.
- e. The integrated development projects carried out in Mallco Rancho should be thoroughly evaluated with external assistance.
- f. All projects should become increasingly "client -focused" so that the local populations served by the projects have as high an opinion as possible of the quality of services provided by the projects.

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Data Documenting Project Accomplishments

Tables 4-10 contain the data from which Figures 1-8 (pp. 18-27) were created. These data were obtained from household cluster sample surveys. These surveys were carried out as part of AID supported evaluations.

Table 4

Vaccination Coverage for CS6 Project Areas:
 Percentage of Children 12-23 Months of Age With The Complete
 Series of Vaccinations Obtained at the Time of the Cluster
 Sample Household Survey

	Carabuco	Ancoraimes	Mallco Rancho	Sipe Sipe
1988	48%			
1989	77%			
1990	86%		23%	
1991				
1992	85%	2%	73%	12%
1993	85%	34%	75%	64%

Table 5

Maternal Tetanus Toxoid Coverage for CS6 Project Areas

	Carabuco	Ancoraimes	Mallco Rancho	Sipe Sipe
1992	19%	2%	2%	1%
1993	19%	29%	2%	3%

Coverage defined as at least two documented TT vaccinations

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Table 6

Percentage of Mothers in CS6 Project Areas
Who Knew How to Prepare ORT

	Carabuco	Ancoraimes	Mallco Rancho	Sipe Sipe
1988				
1989	44%			
1990	75%			
1991				
1992	53%	26%	55%	44%
1993	67%	30%	55%	51%

Table 7

Percentage of Mothers in CS6 Project Areas Who Had
Acutally Used Some Type of ORT

	Carabuco	Ancoraimes	Mallco Rancho	Sipe Sipe
1988	28%			
1989	43%			
1990	64%			
1991				
1992	52%	32%	59%	45%
1993	73%	39%	50%	46%

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Table 8

Average Number of Nutritional Monitorings in the Previous
12 Months Among Children 12-23 Months of Age in CS6
Project Areas

	Carabuco	Ancoraimes	Mallco Rancho	Sipe Sipe
1988				
1989				
1990	4.1		2.0	
1991				
1992	6.2	0.4	4.1	0.2
1993	5.9	2.0	5.6	2.2

Table 9

Percentage of Children in CS6 Project Areas Who Are 12-23
Months of Age With at Least Four Nutritional
Monitorings During the Previous 12 Months

	Carabuco	Ancoraimes	Mallco Rancho	Sipe Sipe
1988	11%			
1989	29%			
1990	59%		22%	
1991				
1992	87%	4%	58%	1%
1993	81%	14%	77%	30%

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Table 10

Percentage of Mothers in CS6 Project Areas Seeking Modern Treatment When Their Child Had Symptoms of Significant ARI

	Carabuco	Ancoraimes	Mallco Rancho	Sipe Sipe
1988				
1989				
1990	47%			
1991				
1992	53%	12%	24%	17%
1993	68%	28%	46%	51%

-significant ARI defined as strong cough with difficulty breathing

-modern medical treatment defined as consultation with the physician, health center, or health program worker

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Table 11

Numbers of Selected Services Provided in the Carabuco Health Area During CS6 Support

	year 1	year 2	year 3	total
number of patient treatments provided	4,191	3,126	4,270	11,587
number of home visits	3,960	5,699	6,375	16,004
number of vaccination doses	2,184	2,966	1,843	6,993
number of nutritional monitorings	4,294	6,076	5,537	15,907
number of cases of childhood diarrhea treated by staff	182	153	182	517
number of cases of acute respiratory infection treated by staff	415	248	225	888
number of obstetrical services provided (prenatal, birth, and postnatal care)	248	392	182	822
average number of TB patients in treatment	5.2	3.1	3.8	4.0
number of laboratory tests performed	46	45	72	163
number of dental services provided	141	0	26	167

source: monthly program reports

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Table 12

Numbers of Selected Services Provided in the Ancoraimes Health Area During CS6 Support

	year 1	year 2	year 3	total
number of patient treatments provided	0	1,271	3,477	4,748
number of home visits	0	303	2,507	2,810
number of vaccination doses	0	1,398	4,493	5,891
number of nutritional monitorings	0	828	3,083	3,911
number of cases of childhood diarrhea treated by staff	0	49	115	164
number of cases of acute respiratory infection treated by staff	0	98	159	257
number of obstetrical services provided (prenatal, birth, and postnatal care)	0	66	55	121
average number of TB patients in treatment	0	1.3	2.5	1.6
number of laboratory tests performed	0	11	37	48
number of dental services provided	0	6	41	47

source: monthly program reports

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Table 13

Numbers of Selected Services Provided in the Mallco Rancho Health Area During CS6 Support

	year 1	year 2	year 3	total
number of patient treatments provided	4,857	6,001	7,745	18,603
number of home visits	1,111	3,115	3,293	7,519
number of vaccination doses	2,419	3,488	3,320	9,227
number of nutritional monitorings	661	1,282	3,070	5,013
number of cases of childhood diarrhea treated by staff	67	164	260	491
number of cases of acute respiratory infection treated by staff	112	28	50	190
number of obstetrical services provided (prenatal, birth, and postnatal care)	945	466	600	2,011
average number of TB patients in treatment	4.2	7.7	9.5	7.1
number of laboratory tests performed	77	261	1,149	1,487
number of dental services provided	192	665	1,472	2,329

source: monthly program reports

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Table 14

Numbers of Selected Services Provided in the Sipe Sipe Health Area During CS6 Support

	year 1	year 2	year 3	total
number of patient treatments provided	0	2,398	4,789	7,187
number of home visits	0	245	4,435	4,680
number of vaccination doses	0	1,099	6,342	7,441
number of nutritional monitorings	0	544	3,694	4,238
number of cases of childhood diarrhea treated by staff	0	213	174	387
number of cases of acute respiratory infection treated by staff	0	109	63	172
number of obstetrical services provided (prenatal, birth, and postnatal care)	0	277	491	768
average number of TB patients in treatment	0	6.8	12.4	9.6
number of laboratory tests performed	0	63	188	251
number of dental services provided	0	539	762	1,301

source: monthly program reports

FINAL EVALUATION REPORT
CS 6 CHILD SURVIVAL GRANT
TO ANDEAN RURAL HEALTH CARE
VOLUME II: ANALYSIS OF
INDIVIDUAL PROJECTS

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II. ANALYSIS OF INDIVIDUAL PROJECTS

A. METHODOLOGY

The Household Surveys

Final evaluation activities consisted initially of four separate cluster sample surveys conducted in each of the four project areas: Carabuco, Ancoraimes, Mallco Rancho, and Sipe Sipe. Summary results of these surveys along with a description of the methodology be included in the Appendix.

With the assistance of Dr. Carmen Marín, consultant to the PVO Child Survival Support Program at the Johns Hopkins University School of Hygiene and Public Health's Institute for International Programs, key ARHC staff in Bolivia met in La Paz to finalize the household survey questionnaire and received guidance on the training of supervisors and field workers at each of the project sites. The key ARHC staff participating in this workshop in La Paz were Mr. Nat Robison, ARHC's National Director in Bolivia; Dr. Javier Baldomar, Assistant Director of the Montero/Villa Cochabamba Health Program; Ms. Adela Asbún, ARHC/APSAR Field Supervisor for Mallco Rancho and Sipe Sipe; and Dr. Maria Elena Ferrel, Director of ARHC's Altiplano programs.

Once the training of the trainers had been completed and the questionnaire had been edited by the workshop group, the team split into two groups. Dr. Marín and Ms. Asbún travelled to Cochabamba where they directed the household surveys in Mallco Rancho and Sipe Sipe. Dr. Baldomar and Dr. Ferrel travelled to the Altiplano where they directed the household surveys in Carabuco and Ancoraimes.

The workshop in La Paz was held from October 6-9, 1993. The household surveys in the Cochabamba and in the Altiplano regions were carried out simultaneously in mid-October. The results were tabulated with the assistance of Mr. Joaquin Flores, Ms. Sara Bott, and Mr. Adam Kolff. Mr. Flores is a computer and statistical consultant to ARHC, and Ms. Bott and Mr. Kolff are students from the U.S. who were working in Bolivia as volunteers with ARHC. A total of 1,074 interviews were completed and transcribed for computer analysis using EPI INFO software.

The On-Site Final Evaluation Activities

Dr. Perry was in Bolivia directing the on-site field evaluations from November 7-23, 1993. From November 8 until

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November 13, on-site evaluations were carried out in Mallco Rancho and in Sipe Sipe. The participants included the entire field staffs of the Mallco Rancho and Sipe Sipe Projects along with several external evaluators. Among the external evaluators were Mr. Eduardo Vexina, anthropologist with CIAES (Centro de Investigación, Asesoría, y Educación en Salud), and Ms. Cristina Cardozo, Coordinator for the Cochabamba Association of Non-Governmental Organizations (ASONGS- Asociación de Organizaciones No-Gubernamentales en Salud). Other external participants included Dr. Alfredo Borquez, MOH Epidemiologist for the Quillacollo Health District; Mr. Juan Mamani, health technician for the Quillacollo Health District; and Dr. Juan Carlos Guillén, Assistant-Director of Planning for the Cochabamba MOH Regional Health Department (Unidad Sanitaria).

Two and one-half days were devoted specifically to the Mallco Rancho Project, two and one-half days to the Sipe Sipe Projects, and one day to general wrap up and conclusions.

The following week (November 15-20), on-site field evaluations were carried out on the Northern Altiplano. Two and one-half days were devoted specifically to Carabuco and two and one-half days to Ancoraimés. A final day was devoted to general wrap-up and conclusions.

Along with the entire field staffs for the Carabuco and Ancoraimés Projects, external participants included the following: Dr. Natalio Riveros, Director of Planning for the La Paz MOH Regional Health Office (Unidad Sanitaria); Dr. German Montevilla, MOH Director of the Suches Health District; Father Miguel Angel of the Escoma Catholic Church; Mr. Teodoro Chura, Medical Work Supervisor for the Bolivian Methodist Church; Rev. Filiberto Ramirez, Methodist pastor for the Ancoraimés area; Ms. Lourdes Aquize, Health Facilitator for the PLAN INTERNATIONAL Altiplano Child Survival Project; Dr. John Wyon, Senior Lecturer Emeritus at the Harvard University School of Public Health; and Ms. Isabel Stout and Mr. Paul Ehmer of the Health and Human Resources Division of the USAID Mission in Bolivia.

In addition to the local field staffs and the external participants mentioned above, Mr. David Shanklin, Executive and Program Director of Andean Rural Health Care, and Mr. Nat Robison, Bolivia ARHC National Director, participated in the entire two weeks of field evaluations. Dr. Javier Baldomar, Assistant Director of ARHC's program in Montero, directed the household surveys on the Northern Altiplano and participated in the on-site evaluations for Carabuco and Ancoraimés.

Following the completion of the on-site field evaluations, a verbal report was made to Ms. Sigrid Anderson, Director of the USAID Mission in Bolivia's Office for Health and Human Resources on Monday, November 22, 1993. After Dr. Perry's return to Lake

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Junaluska, NC, he prepared a draft of the final report during the months of December through April. Key ARHC staff then reviewed this draft. Final comments by ARHC staff were incorporated prior to submission of the final report in August.

THE CARABUCO PROJECT EVALUATION

I. Project Accomplishments and Lessons Learned

A. Project Accomplishments

A1. Objectives and Accomplishments Related to Each Objective

The goals for the Carabuco Project as outlined in the Detailed Implementation Plan are presented below together with the results of the final evaluation. In addition to these goals, recommendations arising from the Mid-Term Evaluation (MTE) are also included together with the progress made in implementing these recommendations.

IMMUNIZATIONS

DIP GOAL: 90% of children 12-23 months of age should be completely vaccinated (i.e., they should have received measles, BCG, OPV3, and DPT3 vaccinations).

RESULT:

The household survey carried out in October, 1993, demonstrated that 85% of the children 12-23 months of age had been completely vaccinated at the time of the survey.

MTE RECOMMENDATION: there should be an annual tabulation of the number of vaccinations given by the project and an indirect assessment made of population coverage made.

RESULT:

Each of the 11 Carabuco health posts as well as the central health center all note on a monthly basis the number of vaccinations given for measles, BCG, OPV3, and DPT3 and estimates of vaccination coverage. Information for the entire Carabuco Health Area is graphed at the Carabuco Health Center on a monthly basis to obtain an indirect estimate of coverage using large graphic forms which are placed on the wall. This same methodology was also used initially at each of the 11 local health posts around Carabuco but was discontinued after one year because there was too much instability of numbers for the small populations

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served. Thus, this methodology has now been replaced with a more appropriate system at the health post level. On the wall of each health post is now a list of the children under five in the area served by that health post. This list is readily visible to all who enter the health post. The vaccination status of those children, along with other basic information, is clearly shown.

MTE RECOMMENDATION: consultation should be obtained regarding the importance of neonatal tetanus in the project area before diminishing efforts at maternal tetanus toxoid (TT) immunization.

RESULT:

Efforts have continued to immunize women in the reproductive age group against tetanus. However, in early 1992, a pregnant woman in nearby Ancoraimes being vaccinated by ARHC developed a placental separation several days after the vaccination. This problem was attributed by the local villagers to the vaccination. This complication slowed down considerably the program to immunize women against tetanus. Technical assistance was obtained from the Bolivian MOH as well as from the Centers for Disease Control and Prevention in Atlanta. Placental separation was not found to be a recognized complication of tetanus toxoid administration. This information was helpful in reassuring the local people and getting the maternal immunization effort back on target.

The number of tetanus toxoid vaccinations given to women in Carabuco is shown below in Table 15. The total number of tetanus toxoid vaccinations has grown since 1990 until the current year (1993). The number of doses given in 1993 does not appear to be keeping pace with that achieved in previous years. Formal consultation regarding the importance on neonatal tetanus on the Northern Altiplano still has not been obtained.

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Table 15

Number of Tetanus Toxoid (TT) Vaccinations Administered to
Women of Childbearing Age in Carabuco, 1987-1993

year	dose of TT			TOTAL
	first	second	third or more	
1987-1989	0	0	0	0
1990	32	0	0	32
1991	341	133	12	486
1992	197	228	130	555
1993 (Jan-Oct)	50	50	75	175

source: Carabuco Program monthly reports

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The coverage of tetanus toxoid immunizations among women participating in the 1992 and 1993 household cluster sample surveys is shown in Table 16. Doses were registered as being given only if there was an official record available documenting the administration of the vaccination. Only 19% of women had received two TT doses in both the 1992 and 1993 surveys. There is no information available about prior TT coverage among mothers in Carabuco but it most certainly was less than 19% since no TT immunization was underway in Carabuco prior to 1991. There is no evidence that maternal TT immunization has improved in Carabuco between 1992 and 1993.

Table 16

Coverage of Tetanus Toxoid Among Women of Children 0-24
Months of Age Participating in the Carabuco
Cluster Sample Survey, 1992 and 1993

dose	percentage of women with vaccination	
	1992 survey (n=246)	1993 survey (n=330)
first dose	27%	27%
second dose	19%	19%
third dose	7%	9%
fourth dose	0%	4%
fifth dose	0%	0%
no documented vaccination	73%	73%

source: 1992 and 1993 Carabuco household cluster sample surveys

One important priority for the program would be to compare the neonatal death rate for children born to women immunized against tetanus with that for children of unimmunized women. There is still confusion and uncertainty about the significance of neonatal tetanus in the Carabuco Health Area and in other areas of the Altiplano of Bolivia. If a protective effect of TT immunization could be demonstrated, it would provide a strong rationale to promote TT vaccinations with greater effort.

DIARRHEA

DIP GOAL: increase by 15% the number of mothers who can prepare appropriately oral rehydration fluid from UNICEF packets.

RESULT:

The results of the Carabuco household cluster sample survey are shown in Table 17. The percentage of mothers who could correctly prepare ORT from UNICEF packets was 67% at the time of the 1993 household survey. This represents a 26% relative improvement over the 53% who were able to correctly prepare ORT

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at the time of the previous household survey in 1992, but it is a decline from the 75% recorded in 1990.

The responses to the other questions regarding ORT knowledge and use are also shown in Table 17. With respect to every item listed, there was improvement demonstrated in maternal knowledge and use of ORT between 1992 and 1993. Perhaps the area demonstrating the most striking improvement (and with the least subjective interpretation) is prior ORT use. There was a 40% relative improvement noted between 1992 and 1993. Fifty-two percent of the mothers in 1992 had used ORT previously compared to 73% in 1993.

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 Table 17

Mothers' Knowledge and Use of Oral Rehydration Therapy
 for Childhood Diarrhea in the Carabuco Health Area, 1988-1993
 =====

percentage of mothers who:	date of assessment					relative percent change 1992-1993
	1988	1989	1990	1992	1993	
had heard of ORT	54%	78%	89%	79%	85%	+8%
knew that ORT was used to treat dehydration caused by diarrhea	47%	75%	86%	72%	82%	+14%
actually had used ORT	28%	43%	64%	52%	73%	+40%
knew how to prepare ORT	na	44%	75%	53%	67%	+26%

source: previous AID child survival evaluations, 1993 Carabuco household cluster sample survey.

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DIP GOAL: 50% of the mothers should be able to prepare a locally acceptable "home-based" ORT solution.

RESULT:

Although the Carabuco staff has always encouraged the use of rice-based fluids in addition to the UNICEF ORT packets, there was not an aggressive promotion during the grant period of a home-based ORT solution as had been originally envisioned at the time the DIP was written. This was because reports were received from PVOs working in other areas of Bolivia that homemade sugar and salt solutions for ORT had been inappropriately prepared and had led to serious consequences. The household survey did not evaluate the capacity of the mother to "correctly" prepare home-based ORT. Staff members have, however, provided education to mothers about home-based ORT even though this has not been aggressively promoted.

The preparation of home-based ORT was incorporated into the basic health education messages provided during home visitation and at the time of community meetings. In 1992, for instance, the central educational message employed by the staff for diarrhea was "give a child with diarrhea more to drink." Drinks were supposed to be teas, soups, rice-based fluids, or barley water flavored with cinnamon. It has recently been determined by the field staff that barley tea, made by boiling toasted barley grain, is the most accessible, cheapest, and most acceptable home-made ORT solution currently in widespread use locally. The staff has therefore decided to promote its use exclusively as the "preferred" form of home-based ORT.

DIP GOAL: 70 volunteers will receive five hours of training regarding the detection and treatment of diarrhea.

RESULT:

Since 1990 there have been 126 community health educators trained in the Carabuco Health Area regarding the detection and treatment of diarrhea, among other topics. Of the 126 community health educators trained altogether, 28 are still active.

MTE RECOMMENDATION: obtain technical assistance regarding why the actual use of ORT solutions in the project area has been so low.

RESULT:

This was never accomplished because the Carabuco Project Director concluded that other recommendations were of greater priority and there were not sufficient resources nor

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organizational capacity to carry out all MTE recommendations.

DIP GOAL: study factors associated with the development of diarrhea.

RESULT:

In 1991, a proposal had been developed by ARHC for a longitudinal study of childhood diarrheal and respiratory diseases as part of an assessment of the effects of Vitamin A supplementation on morbidity. This field study was later changed to an assessment of Vitamin A deficiency. As a consequence, the proposed assessment of risk factors associated with the development of diarrhea was never carried out.

NUTRITION

DIP GOAL: reduce by 20% the number of children who are not gaining weight.

RESULT:

Ninety-nine percent of the Carabuco children in the cluster sample household survey had growth charts, and 85% had charts in the home.

As part of the final evaluation exercise in Carabuco, an assessment was carried out using a sample of growth charts. Ten growth charts in each of the 31 Carabuco communities were selected at random among children under five years of age. A random start was selected and then every "nth" family folder was selected in order to obtain at least 10 growth charts of children under five per community. For instance, if a community had 100 families, then every tenth family health folder was selected. If 10 children were not selected at the end of this process, then every tenth record of the folders not included in the study sample was selected until 10 children under five with growth charts were included. An assessment was carried out to determine what the weight change had been between the next-to-the last and the last weighing. These results are shown in Table 18.

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Table 18

Changes in Weight of Children Under Five Years of Age
in the Carabuco Health Area, 1993

weight change	age group			
	0-23 months		24-59 months	
	number	%	number	%
increase	116	94%	153	87%
no change	5	4%	9	5%
decrease	2	2%	14	8%
TOTAL	123	100%	176	100%

source: review of sample of family health folders in Carabuco,
November, 1993

Compared with these data are data from 1990. At the time of the December, 1990, household cluster sample survey for Carabuco, all of the nutritional information from the growth chart for each child in the sample was computerized. These 271 records were reviewed after first dividing the records for those children under 24 months of age and for those 24 or more months of age. Whether or not the child gained weight, had no weight change, or lost weight was then recorded.

The findings from this analysis are shown in Table 19.

Table 19

Changes in Weight of Children Under Five Years of Age
in the Carabuco Health Area, 1990

weight change	age group			
	0-23 months		24-59 months	
	number	%	number	%
increase	55	81%	103	67%
no change	5	7%	7	5%
decrease	8	12%	43	28%
TOTAL	68	100%	153	100%

source: review of growth charts of children included in the Carabuco household cluster sample survey, December, 1990

The findings from Tables 18 and 19 are compared directly for children of similar age groups in Table 20. From a review of the data in Tables 18-20, it is apparent that the percentage of children under five who did not gain weight from the next-to-last to the last weighing has diminished substantially. For the 0-23 month old age group, the percentage fell from 13 to 6%, representing an absolute drop of 7% and a relative percentage decrease of 54%. For the 24-59 month age group, the percentage of children not gaining weight fell from 33 to 13%, representing an absolute drop of 20% and a relative percentage decrease of 61%.

It is not likely that these differences are caused by seasonal variation since the 1990 data were obtained in December and the 1993 data in November. The differences could be due to chance since we have not established their statistical significance. Even if statistically significant, however, they could be due to non-program factors such as general improved nutritional status in the population. Of course, since program staff place great emphasis on nutritional monitoring and nutritional rehabilitation of children with growth faltering, we hope that at least some of the improvement shown is in fact a program effect.

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Table 20

Comparison of Percentage of Children Who Are Not Gaining Weight in the Carabuco Health Area, 1990 and 1993

age group	1990	1993	absolute percentage difference	relative percentage change
0-23 months	13%	6%	-7%	-54%
24-59 months	33%	13%	-20%	-61%

source: data derived from Tables 19 and 20 above.

DIP GOAL: give 10 hours of training to 70 volunteers concerning nutritional monitoring and nutritional practices.

RESULT:

Sixty community health educators were trained in nutritional monitoring, nutritional follow-up, and use of nutritional supplementation for malnutrition and growth faltering. Of the 60 community health educators trained initially, 28 remain active.

DIP GOAL: monitor the growth of children under 24 months of age every two months and that of children 24-59 months of age every four months.

RESULT:

A sample of growth charts was analyzed as part of the field site evaluation. For the same children whose weight gain was assessed as described above for Table 18, the number of nutritional monitorings during the previous 12 months was assessed (for November 1, 1992, until October 31, 1993). A determination was also made to see if the frequency of monitorings was within the goals established in the DIP. For children under 24 months of age, this was at least every two months and for children 24-59 months of age, it was every four

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months. Appropriate adjustments were made, of course, for very young infants. For instance, infants three months of age who had been weighed once would have been counted as within the norms as well as one month old infants who had not yet been weighed.

The findings of this analysis are shown in Table 21. Sixty-nine percent of the children 0-23 months of age were weighed at least every two months between November 1, 1992, and October 31, 1993. Eighty-seven percent of the children 24-59 months of age were weighed at least every four months during the same period.

Table 21

Percentage of Children in the Carabuco Health Area Whose Frequency of Nutritional Monitoring From November, 1992, Until October, 1993, Was Within the Established Program Norms

age group	number of children within the norms	number of children not within the norms	percentage of children within the norms
0-23 months	83	38	69% (83/121)
24-59 months	156	24	87% (156/180)

source: review of sample of family health folders

MTE RECOMMENDATION: decide which nutrition activities deserve priority and evaluate the progress of the nutrition program on a periodic basis.

RESULT:

Following the MTE, the Carabuco staff discussed this recommendation at great length. The Carabuco staff chose to concentrate on the rehabilitation of children with malnutrition or with faltering growth. Children below the curve on the UNICEF growth charts or those who were not gaining weight received more frequent follow-up home visits. The criteria for defining

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malnutrition were: (1) weight loss or lack of weight gain and (2) wasting (i.e., two standard deviations or more below the NCHS norms of height for weight).

Initially, nutrition education was combined with more frequent growth monitoring at the time of follow-up home visits for children with growth faltering or wasting. Educational messages focused on breastfeeding, appropriate weaning foods, and maternal nutrition. These were standardized, discussed at length during group meetings, translated into Aymara, and reinforced weekly by the field physician and field supervisors.

For those children who did not respond, "api nutricional" and cooking oil were given to the mothers for consumption by the children. "Api nutricional" is a highly nutritious combination of locally produced foods and includes high-protein grains such as quinoa. It has a high caloric content when sugar and oil are added. Cinnamon is occasionally added for flavoring. The cooking oil is intended to be used as a high caloric food supplement to be added to the child's serving of family foods such as stews and soups. Some success was observed by simply encouraging the mother to add cooking oil to the child's food.

The staff reported that they felt that the "api nutricional" was successful in about 50% of the cases. Not uncommonly, the mother did not have confidence in the mixture as an effective form of rehabilitation or did not have time to prepare a special food for her malnourished child apart from the meals prepared for the whole family. Staff continue to refine the recipe to increase palatability and to promote its use aggressively among all children who are found to be malnourished.

MTE RECOMMENDATION: review the SVEN nutritional monitoring data every six months and the growth charts themselves every six months.

RESULT:

The SVEN nutritional data is categorized on a monthly basis for submission to the Ministry of Health. However, there has been no analysis of this data on a semiannual basis nor had there been any systematic study of the growth charts themselves prior to the CS6 final evaluation. It would appear that some type of analysis of the findings from growth monitoring should be carried out on at least an annual basis. Since completion of the CS6 grant, "comites de analisis de información" have been established at each of the program sites to analyze this as well as other data to guide programming.

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DIP GOAL: experiment in activities to improve family income and in other activities which might improve family nutrition.

RESULT:

There has been no progress in this area during the grant. ARHC staff had little time or resources to dedicate to this important recommendation. Carabuco field staff have included domestic animal vaccination in their annual work plan for the current year (March 1994-February 1995) as one attempt to improve domestic animal survival and growth as well as to serve as a supplemental source of local program revenue through fees-for-service paid to the community auxiliaries.

MTE RECOMMENDATION: with guidance from previous survey results, develop specific educational messages regarding breast-feeding, weaning, and maternal nutrition.

RESULT:

There has been no progress in this area during the period of the grant. Perhaps technical assistance would be appropriate to help determine where the nutrition program is weakest and what steps would be most effective in strengthening it.

DIP GOAL: determine the prevalence of the deficiency of Vitamin A and assess the impact of Vitamin A supplementation on the incidence of diarrhea and pneumonia.

RESULT:

At the time the DIP was written, ARHC anticipated carrying out a study in which Vitamin A supplementation would be provided to children in ARHC's programs in a double-blind fashion to determine if there was a decrease in the incidence of pneumonia or diarrhea. This study was later modified significantly at the request of technical reviewers. Instead, an assessment of the prevalence of clinical Vitamin A deficiency was conducted with support from PROCOSI. Although this study did not find evidence of serious Vitamin A deficiency, the project is still continuing its administration of Vitamin A capsules (see below). Further analysis of this study is still underway.

DIP GOAL: continue the policies of the Ministry of Health (one capsule of 200,000 IU every six months for children 1-6 years of age).

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RESULT:

This policy has been continued by the Carabuco program, although there has been no formal evaluation of the actual coverage of this service. This should probably be done at the time of the next evaluation since field studies in other areas of the world have shown that Vitamin A supplementation improves child mortality.

ACUTE RESPIRATORY INFECTION

DIP GOAL: increase by 10% per year the percentage of mothers who recognize warning signs of ARI.

RESULT:

The 1990 baseline survey did not include questions about the warning signs of pneumonia, but the 1992 MTE and the 1993 final evaluation household surveys did. Consequently, it is possible to compare the results of these two surveys as shown in Table 22. These surveys were carried out in May, 1992, and October, 1993, respectively.

For the most important warning signs (rapid and agitated respirations, intercostal retractions), there has been no progress in the percentage of mothers reporting these as warning signs. However, the "softer" warning signs such as loss of appetite, fever, cyanosis, and cough all showed substantial increases in the percentage of mothers mentioning these as warning signs. In 1990, 20% of the mothers were unable to mention a single warning sign compared to only 6% in 1993.

Since Carabuco is a cold highland area, observing intercostal retractions may be difficult, if not impossible, since the children are swaddled and mothers are reluctant to undress them.

Although these findings regarding maternal knowledge of warning signs of pneumonia do not demonstrate the progress which had been anticipated, there is evidence that mothers have become more highly motivated to seek medical assistance when their child has a significant cough and difficulty breathing. As Table 23 demonstrates, the percentage of mothers seeking such assistance has risen from 47% in 1990 to 68% in 1993.

Table 22

Recognition of Warning Signs of Pneumonia Among Mothers
in Carabuco, 1992 and 1993

warning sign	percentage of mothers who mentioned the symptom as a warning sign			
	1992 (n=241)		1993 (n=330)	
	number	percent	number	percent
1. did not know of any	48	20%	19	6%
2. rapid and agitated respirations	70	29%	92	28%
3. intercostal retractions	9	4%	12	4%
4. loss of appetite	32	13%	73	22%
5. fever	89	37%	220	67%
6. cyanosis	12	5%	35	11%
7. cough	152	63%	276	84%

source: 1992 and 1993 Carabuco household cluster sample surveys

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Table 23

Modern Treatment-Seeking Behavior of Mothers in Carabuco
for Their Children with Significant ARI, 1990-1993

	1990 (n=55)	1992 (n=79)	1993 (n=75)
percentage of mothers of children with significant cough and difficulty breathing who sought medical treatment from a local health post, from the health center, from a physician, or from another trained health worker when their child had a significant cough and difficulty breathing	47%	53%	68%

source: 1990, 1992, and 1993 Carabuco household cluster sample surveys

DIP GOAL: provide 10 hours of training to 70 volunteers to detect, treat, and to refer cases of ARI.

RESULT:

During the period of the grant, 90 volunteer community health educators were trained regarding the detection, treatment, and referral of cases of ARI. Of these 90, 26 are currently active as volunteers.

MTE RECOMMENDATION: develop educational materials and prioritize educational messages regarding ARI.

RESULT:

It was hoped that technical assistance provided by Dr. Nils Daulaire would help strengthen the educational component of the ARI program along with other ARI program components. Unfortunately, Dr. Daulaire recommended that a specialist in ARI education be contacted in his stead.

The Carabuco Project Director, Dr. Maria Elena Ferrel, did

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attend an ARI workshop sponsored by REACH and PROCOSI which did provide guidance regarding ARI education for mothers. A similar course sponsored by REACH on the World Health Organization's standard case management protocol for the treatment of childhood pneumonia was attended by Dr. Carolina Hilari when she was the Carabuco and Ancoraimes Project Director. This course emphasized non-formal education as well.

MTE RECOMMENDATION: seek technical advice for the strengthening of non-formal educational materials and activities.

RESULT:

The attendance by Dr. Ferrel of a workshop on non-formal education for ARI has been one of the efforts made by the Carabuco Health Project to strengthen its non-formal educational activities, but more efforts are needed in this area as well. The local radio station has now become involved in transmitting the project's basic health education messages. Field staff now see this as having great potential for the future in strengthening non-formal educational efforts in the project area.

MTE RECOMMENDATION: promote the importance of ARI in the communities.

RESULT:

Carabuco staff members have given priority in their home visitation and in their meetings with community members to emphasizing pneumonia as a frequent and preventable cause of childhood death. Staff members also stress in their communications with the local people the importance of recognizing the warning signs of pneumonia in order to obtain the needed antibiotic as soon as possible.

REPRODUCTIVE HEALTH

MTE RECOMMENDATION: carry out verbal autopsies for all the deaths of women in the reproductive age group.

RESULT:

From January 1 until October 30, 1993, there were seven deaths among women of reproductive age (15-44 years). None of these seven women had a completed verbal autopsy. This finding suggests that the verbal autopsy protocols are not receiving the attention which is necessary if new strategies are to be developed which will further reduce mortality rates in the

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Carabuco Health Area.

MTE RECOMMENDATION: develop a strategy to train family members of pregnant women in safe and clean home delivery practices.

RESULT:

There have been no formal educational programs for family members of pregnant women regarding safe and clean home delivery practices. Before developing educational strategies, a formal assessment is needed of what types of obstetrical complications are occurring and who is at greatest risk of developing these complications. A previously conducted case-control study in Carabuco demonstrated that infants who are born to single mothers with no other children are at significantly increased risk of death. The staff have the impression that single women are also at increased risk of obstetrical complications since they frequently give birth alone with no family or friend to help if a problem arises. These findings need to be confirmed and educational strategies based on these findings need to be developed.

MTE RECOMMENDATION: encourage and train the staff to provide family planning services, possibly with the assistance of a national family planning organization

RESULT:

Limited family planning services are now being offered by the Carabuco Health Project. All project staff have received basic education in family planning and the 11 community health posts have educational materials regarding family planning. A female auxiliary health nurse, Ms. Paolina Huarca, is now based at the Carabuco Health Center and is the coordinator for the family planning program. During the 12 month period ending on October 31, 1993, 53 women received formal counseling in the rhythm method, six women received IUD's, and five women received vaginal contraceptive tablets. The provision of family planning services is still in its embryonic stage in Carabuco, and there is a need to provide many additional family planning services. This has been made a priority area for strengthening in the CS9 DIP.

MTE RECOMMENDATION: promote the referral of high-risk pregnancies to a higher level of medical care.

RESULT:

There has been growing success with the referral of women

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experiencing complications of childbirth. In most cases, this results in a Caesarean section. The hospital in Escoma, which is less than an hour away, has this capability. Occasionally, however, it is necessary to transport patients four hours away to the city of La Paz for appropriate care.

Because patients with obstetrical problems who are referred for hospital care have generally had a successful outcome, it is gradually becoming easier to convince women as well as their families that hospital referral is feasible and life-saving.

COMMUNITY PARTICIPATION

DIP GOAL: hold community-wide meetings four times a year in each community to discuss health topics.

RESULT:

There have been occasional community-wide meetings to discuss health topics, but these have not occurred in all communities. In none of the communities were four meetings held during the past year. In many communities there has been at least one meeting during the past year to share information about local illnesses and deaths.

The community auxiliary nurses who conduct these meetings feel that four community meetings a year is too many because it is hard to motivate the community to come to this number of special meetings a year, particularly since health is not a high priority within most communities.

DIP GOAL: distribute an annual report to each community regarding the project achievements during the past year and problems in need of resolution.

RESULT:

This has not been done. The potential of such information to motivate the community to work toward further health progress in their community has not yet begun to be realized within any of ARHC's health areas, including Carabuco. There is an urgent need to try out different approaches of feedback of health information to the community on a pilot basis before attempting any larger-scale efforts.

DIP GOAL: bring together the community leaders twice a year to share ideas, concerns, and suggestions regarding program operations.

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RESULT:

There have been meetings every six to eight months with community leaders from throughout the Carabuco Health Area who are responsible for health. An annual meeting has been held for community leaders from the Carabuco Health Area during the period of grant support.

MTE RECOMMENDATION: the communities should participate in the planning of local program activities, in the supervision of the health posts, in policies regarding the management of the rotating drug fund, and in planning ways in which the community can assume greater responsibility for the operation of the health posts.

RESULT:

Community leaders are now participating in a supervisory capacity in the financial aspects of community health post activities. The drugs at the local health posts are purchased with funds from the self-sustaining rotating drug fund. Most of the financial aspects of the community health posts involve the sale and purchase of drugs. In addition, community leaders are also responsible for an annual inventory of the contents of the health post. The next step being contemplated as part of the process of expanding the community leaders' role in program involvement is to incorporate them into the annual evaluation of their community auxiliary's performance.

MTE RECOMMENDATION: at the time of planned project evaluations, obtain the opinion of the community about the quality of the program, its achievements, and the community's perceived health priorities.

RESULT:

The MTE and the final grant evaluation have included extensive discussions with community members about the project itself as well as about the community's health priorities as they perceive them. Opinions about the quality of the Carabuco Health Project were obtained from mothers at the time of household cluster sample surveys from 1988 to 1993. These findings are shown in Table 24 and raise concern about the image of the program in the eyes of the community. In 1993, for instance, 24% of the respondents rated the program "fair" ("regular" in Spanish). This is a far higher percentage than in 1990 or 1992. Since 1990, the percentage of mothers rating the program "excellent" or "good" has declined steadily from 94% to 88% to 72%.

Table 24

Mothers' Perceptions of the Quality of the Carabuco Health Project, 1988-1993

rating	ratings by mothers			
	1988 (n=258)	1990 (n=262)	1992 (n=243)	1993 (n=329)
excellent	5%	5%	8%	5%
good	42%	89%	80%	67%
fair	--	3%	10%	24%
bad	3%	3%	2%	0%
no opinion	50%	--	--	3%
TOTAL	100%	100%	100%	100%
excellent or good	47%	94%	88%	72%

source: 1988, 1990, 1992, and 1993 Carabuco cluster sample surveys

The apparent decline in the community's image of program quality may very well be due to the reduction in staff which has occurred there. This reduction became particularly pronounced after 1990 and included substantial cutbacks in the numbers of physicians and rural health technicians working in the program.

Opinions of the local community regarding the project's successes were gleaned from group discussions at the time of the final field evaluation in November, 1993. Project achievements mentioned at that time were the following:

- a. immunizations;
- b. growth monitoring;
- c. education and training about ORT;
- d. hygiene education;
- e. low prices for health services;
- f. home visits;
- g. referral of patients for specialized care;

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- h. curative services at the Carabuco Health Center;
- i. the elimination of measles from the area; and,
- j. the reduction in infant and child mortality.

The health priorities mentioned most frequently by mothers at the time of the 1993 Carabuco cluster sample home survey are shown in Table 31 on page 111. They were asked, "What are your suggestions for improving the health of your community?" Twenty-seven percent of the mothers mentioned some type of education or training. Improved local community health services was the second most frequently suggestion. Other suggestions, in order of frequency, were more medicines for the health posts, family planning, permanently available community health care, and more home visits.

Other priorities which were mentioned during focus group discussions with community members at the time of the final field evaluation were:

- a. seeds and technical assistance for family gardens;
- b. literacy training;
- c. help in purchasing cooking oil to improve child nutrition;
- d. more female community health auxiliaries;
- e. improvements in the community health posts; and,
- f. better and more readily available care for emergencies.

HEALTH VOLUNTEERS

DIP GOAL: train 70 volunteer community health volunteers (VCHes)

RESULT:

Seventy VCHes were trained during the grant period, and 18 of these are still active.

MTE RECOMMENDATION: increase the number of volunteer community health educators (VCHes) and reduce their responsibilities to:

- a. detect and record vital events, pregnancies, and illnesses;
- b. provide oral rehydration salts packets and advice regarding their use;
- c. advise mothers regarding when to seek antibiotic treatment for ARI, when to provide ORT treatment for diarrhea, and when to seek referrals for high-risk pregnancies;

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- d. assist the community auxiliary nurses with immunizations and nutritional monitoring; and,
- e. assist the community auxiliary nurses with the annual community census.

RESULT:

The responsibilities of the VCHE have been reduced over the period of support by the grant, but there is still considerable discussion and controversy regarding the selection, training, and utilization of volunteers in the Carabuco Health Area. This is a priority to resolve during the coming year.

The problem of VCHE turnover was discussed at length by the field evaluation team in Carabuco. Reasons given at that time for the turnover of VCHEs were the following:

- a. the VCHEs do not receive any pay or any other type of financial incentive;
- b. the community members do not have confidence in the VCHEs;
- c. the VCHEs become discouraged regarding career advancement and financial remuneration;
- d. the VCHEs are too young;
- e. although the community selects the VCHEs, the most appropriate persons are not always chosen;
- f. mothers of young children do not have the time necessary to serve as VCHEs; and,
- g. women who move about the community, particularly in the evenings, are often viewed as having "loose morals" and, unfortunately, this has led to stigmatization of young women working as VCHEs.

MTE GOAL: analyze the current problems associated with the training and functioning of volunteer community health educators (VCHEs) in local focus group discussions and possibly seek technical support as well.

RESULT:

At the time of the final evaluation, extensive discussions were carried out among the field staff about the issues of selection, training, utilization, and retention of VCHEs. Some of the problems noted at that time have just been described. This matter urgently needs further investigation so that a new program for training and utilizing volunteers can be designed and implemented.

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MTE GOAL: include traditional birth attendants (TBAs) such as midwives and other local traditional healers in the network of volunteers and informants.

RESULT:

The Carabuco project has held two workshops for TBAs, but it is too early to know what effect the workshops have had.

HEALTH EDUCATION

MTE RECOMMENDATION: reduce the number of health education messages and measure the changes in behavior which are being recommended.

RESULT:

There has been a concerted effort to make the health education messages simpler and more effective. This effort has been applied to the messages given by the community auxiliary nurses in group meetings as well as during home visits. There has been no formal objective evaluation of the effectiveness of these activities apart from those carried out at the time of the MTE and final evaluation.

SUSTAINABILITY

MTE RECOMMENDATION: develop a vision and a realistic strategy regarding sustainability.

RESULT:

Over the past several years, several basic concepts regarding the sustainability of ARHC's work in Bolivia have been developed by its National Director there, Mr. Nat Robison. First of all, sustainability is not simply a financial matter, but a much broader one. Technical sustainability, political sustainability, and staff sustainability are all important aspects of sustainability.

The basic principles guiding ARHC's promotion of financial sustainability are as follows:

- a. provide quality primary care with equity;
- b. maximize MOH commitment and contributions;
- c. maximize user fees;
- d. gradually reduce the costs of the CBIO approach so that MOH support along with user fees will

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eventually be able to finance most program operations.

There are definite weaknesses in ARHC's sustainability strategy which are recognized by the Bolivian program leadership. Insufficient attention has been given to the details of the above strategy, to the measurement of progress in achieving sustainability, and to visualization and promotion of community ownership of the projects. These aspects of sustainability will be receiving increasing attention during the coming months.

The non-financial aspects of ARHC's sustainability strategy include the following:

- a. promotion and use of low-level paid community health workers;
- b. use of mid-level health professionals (health technicians) for local program leadership; and,
- c. refining the methodology for defining local health problems so that resources are focused on the most important health problems.

MTE RECOMMENDATION: analyze on an ongoing basis sustainability issues in the communities.

RESULT:

This has not yet been done in a systematic fashion. One of the reasons for this is that neither the staff nor the community members themselves have had the time and energy required to concentrate on this highly complex issue. The National Program Director is now developing a framework for project sustainability which will be completed for each service area during the CS9 grant period (October, 1993 - September, 1996).

MTE RECOMMENDATION: design and carry out a course in leadership and administration for community leaders.

RESULT:

This was not carried out. The meetings with community health "secretaries" (i.e., community leaders chosen to supervise local health activities) has not proven to be a particularly effective use of organizational resources. After giving this matter careful thought, it was decided by project leaders that ARHC does not have the resources for sponsoring such a course. During the early proposal development stage for the CS9 Child Survival Grant, ARHC included funds for such a course but budgetary constraints made it necessary to postpone indefinitely plans for such a course.

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DIP GOAL: develop a sustainable rotating drug fund.

RESULT:

This is now functioning in all of the community-based health posts in the Carabuco Health Area.

DIP GOAL: experiment with payment-in-kind for specific health services.

RESULT:

An effort was made at a payment-in-kind program as one of several approaches to improve sustainability. This particular effort was felt to have been a failure for several reasons. First, the value of the payment-in-kind (usually agricultural products such as eggs or cheese) was rarely more than 10% of the price of the service provided. Second, many of the products which were not immediately usable by the community auxiliary nurse could not be readily converted to cash. Third, patients frequently provided "gifts" of this type to staff members as expressions of gratitude and not as a form of financial payment.

On the basis of this experience, further efforts at payment-in-kind may not be warranted. However, it might be worthwhile to inquire in a systematic fashion from other health programs in Bolivia about successful payment-in-kind activities. Another possibility would be to hold focus group discussions on this subject with the local people.

DIP GOAL: develop pilot projects in community development which have the potential for partial support of community health workers in the future.

RESULT:

This was not carried out because of a lack of funds and a lack of staff capability. It is unlikely that ARHC will have the institutional resources to do this in the near future. Since ARHC's overarching organizational goal is to improve health in defined communities, it will be necessary to focus on specific community development projects that have a direct health impact. Two such activities of this type which merit further consideration (and which have been expressed by the local people as needs) are literacy training for women and the formation of womens' income-generating groups.

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DIP GOAL: reduce the number of field project staff from 14 to 9.

RESULT:

There were two rural health technicians based in Carabuco until 1993 when they were transferred to Ancoraimes. In addition, one of the community-based auxiliary nurses was chosen to become a field supervisor. The total number of auxiliary nurses has gradually been reduced from 15 to 11. The DIP goal of reducing project staff from 14 to 9 was referring to the number of community-based auxiliary nurses. Although there are still 11 of them, one is now a full-time supervisor of the other 10. Thus, in effect, the proposed staff reduction was nearly achieved.

The total number of staff for the Carabuco Health Project has been reduced from its highest level of 24.5 in 1988 to a level of 17.5 in 1993, representing a reduction of 29% in the total number of staff. Table 25 shows the staffing pattern by category between 1985 and 1993. The numbers of staff in the categories of physician, ancillary staff, and administrative support have remained relatively constant. A half-time dentist began in 1993 and is included in Table 25 with midlevel staff.

The only other staff changes which seem reasonable to contemplate for Carabuco in an attempt to further reduce costs without significantly affecting project quality might be the gradual reduction through attrition of the number of community-based auxiliary nurses and the hiring of lesser-paid female "promotoras" as replacements who are supervised by the remaining auxiliary nurses. This would seem to be a reasonable strategy since the auxiliaries are quite experienced by now (all but one working with the project since 1987) and since they are all male.

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Table 25

Staffing Levels of the Carabuco Health Project, 1985-1993

staff category	number of paid staff								
	year								
	1985	1986	1987	1988	1989	1990	1991	1992	1993
physicians	1	1	1	1	1	1.5	2	1.5	1.5
midlevel health staff (graduate nurses, rural health technicians)	2	2	2	2	2	2	2	1	1.5
lower level health staff (auxiliary nurses)	1	1	2	15	14	14	13	11	10
ancillary support (driver, grounds- keeper, etc.)	2	2	2	2	2	2	2	2	2
administrative support (administrator, other office staff)	3.5	3.5	4.5	4.5	4.5	3.5	3.5	2.5	2.5
TOTAL	9.5	9.5	11.5	24.5	23.5	23.0	22.5	18.0	17.5

source: project records

DIP GOAL: strengthen coordination with and support provided by the MOH.

RESULT:

During the period of support of this Child Survival grant, the MOH has added salary support for one additional field staff position. Coordination with the MOH has been facilitated by a good working relationship with Dr. German Montevilla, MOH

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District Director for the Suches Health District, which includes the Carabuco Health Area. Coordination with the La Paz "Unidad Sanitaria" (regional health office) remains strong. This MOH regional office provides partial salary support for six Carabuco staff members.

CBIO METHODOLOGY

DIP GOAL: visit homes with a child under two years of age every two months; visit homes with a child 24-59 months of age every four months.

RESULT:

For each of the 31 communities in the Carabuco Health Area, 20 family health folders were selected and reviewed. A random start was chosen, and then every "nth" family health folder was selected. For example, if a community had 100 homes, then every fifth folder would be selected.

The number of home visits carried out during the previous 12 months was then ascertained. Families were categorized as: (1) those with at least one child under 24 months of age; (2) those with no children under 24 months of age but at least one child 24-59 months of age; (3) those with no children 0-59 months of age but with a woman of reproductive age (15-44 years); and (4) other families. These categorizations were based on the ages of family members on the date the data were collected. In addition to the DIP goals noted above, the program policy is to visit every six months those homes which do not have any children under five years of age but which do have a woman of reproductive age. All other homes are to be visited once a year.

The results of the analysis are shown in Table 26. Allowance was made for changes of status of the family during the analysis period. For instance, if a child with no siblings reached 24 months of age halfway through the analysis period, conformance with program norms required a visit every two months (instead of every four months) prior to the third birthday. Homes with children under 24 months of age received an average of 5.1 visits during the previous 12 months. Although almost all of the homes with a child 0-23 months of age received four or more visits, only 48 percent received a visit at least every two months. Homes with no children under 24 months of age but with older children 24-59 months of age received an average of 5.2 visits during the previous 12 months.

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Table 26

Frequency of Home Visitation in the Carabuco Health Area,
November, 1992 - October, 1993

family category	average number of visits during the past 12 months	percentage of homes whose frequency of visits was within the policies established by the program	
homes with children 0-23 months of age (policy to visit every two months)	5.1	48%	(59/123)
homes with no children 0-23 months of age but with children 24-59 months of age (policy is to visit every four months)	5.2	88%	(115/131)
homes with no children 0-59 months but with a woman 15-44 years of age (policy is to visit every six months)	2.3	68%	(100/146)
homes with no children 0-59 months or women 15-44 years (policy is to visit every 12 months)	1.7	91%	(219/241)

source: review of family health folders, November, 1993

A2. Circumstances Aiding or Hindering the Achievement of Project Objectives

The Carabuco Health Project is ARHC's oldest, having been in existence since 1983. The program has developed an extraordinary (for rural Altiplano Bolivia) level of trust with the local communities. This long-term presence combined with a highly stable local project staff which is decentralized and readily accessible to the local people has made possible the achievements reported here. It should be noted that a major reduction in financial support and in the numbers field staff has not led to a measurable deterioration in the quality or quantity of child survival services provided even though the local image of the project may have suffered somewhat.

A3. Carabuco Final Evaluation Survey Results

The results of the Carabuco final evaluation household survey conducted in October, 1993, are included in Appendix I. The results of the key indicators of child survival project performance for the Carabuco Health Program are shown in Table 27.

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Table 27

Key Indicators of Child Survival Project Performance (As Defined and Requested by AID) for the Carabuco Health Area

indicator	result
1. initiation of breast-feeding	
percent of children less than 24 months of age who were breastfed during the first eight hours after birth	27% (89/330)
2. exclusive breast-feeding	
percent of infants under four months of age who were given only breast milk	60% (28/46)
3. introduction of foods	
percent of infants between five and nine months who are being given solid or semi-solid foods	75% (46/61)
4. persistence of breast-feeding	
percent of children between 20 and 24 months who are still breast-feeding (and being given solid/semi-solid foods)	78% (43/55)
5. continued breast-feeding	
percent of children (less than 24 months) with diarrhea during the past two weeks who were given the same amount of or more breast milk	73% (66/90)
6. continued fluids	
percent of children (less than 24 months) with diarrhea in the past two weeks who were given the same amount of or more fluids other than breast milk	42% (37/88)

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TABLE 27 (continued)

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7. continued foods

percent of children less than 24 months with diarrhea during the past two weeks who were given the same amount of or more food	43% (37/87)
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8. ORT use

percent of children (less than 24 months) with
diarrhea during the past two weeks who
were treated with ORT:

- | | |
|---|----------------|
| a. ORT defined as packets of ORT salts | 51%
(47/92) |
| b. ORT defined as ORT packets,
home-based ORT, or cereal-based
solutions | 62%
(57/92) |
| c. ORT defined as any oral liquid
(including ORT, other liquids, or
teas) | 86%
(79/92) |

9. medical treatment of pneumonia

percent of mothers who sought any type of medical treatment (both modern and traditional) for child (less than 24 months) with cough and rapid, difficult breathing in the past two weeks	77% (58/75)
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10. EPI access

percent of children 12-23 months of age who received DPT1	95% (174/183)
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11. EPI coverage

percent of children 12-23 months who received OPV3	87% (160/183)
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12. measles coverage

percent of children 12-23 months of age who received measles vaccine	89% (162/183)
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TABLE 27 (continued)

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13. drop out rate

percent change between DPT1 and DPT3 doses
 [(DPT1-DPT3)/DPT1 x 100] for children
 12-23 months 8%
 (14/174)

$(174-160)/174 \times 100 = 8\%$

14. maternal card

percent of mothers with a maternal card for
 the birth of the youngest child less
 than 24 months of age (this percentage
 includes those mothers who said they had
 a card but this could not be verified) 15%
 (51/330)

15. maternal tetanus toxoid coverage

percent of mothers who received two doses of
 tetanus toxoid vaccine (card) before the
 birth of her youngest child less than
 24 months of age (56 of the 330 mothers
 interviewed had received their second
 tetanus toxoid dose within two years
 before the interview) 17%
 (56/330)

16. one or more ante-natal visits (card)

percent of mothers who had at least one
 ante-natal visit (card) prior to the
 birth of her youngest child less than
 24 months of age 8%
 (27/329)

17. modern contraceptive usage

percent of mothers with children less than
 24 months of age who desire no more
 children in the next two years (or who
 are not sure) and are using a modern
 contraceptive method 1%
 (4/330)

source: 1993 Carabuco cluster sample household survey and project
 records.

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B. Lessons Learned

See pages 11 - 27.

II. Carabuco Project Sustainability

A. Sustainability Status

A1. Termination of AID Funding for Child Survival Activities

CS6 funding for field activities terminated for the Carabuco field activities on September 30, 1993. At that time, the Carabuco Health Program had received seven years of continuous funding from the AID PVO Child Survival Program. ARHC's new child survival grant (CS9) also includes some funding for Carabuco which is limited to maternal health activities.

A2. ARHC's Plans for Discontinuation of Child Survival Activities

ARHC has no plans to pull out of Carabuco. ARHC's long-term goal is to make its activities there gradually more self-sustaining.

A3. Phase Over of Responsibility and Control to Local Institutions

With respect to program operations at the national level, ARHC has been in the process of establishing a Bolivian NGO with its own Board of Directors. Although ARHC has had legal recognition in Bolivia since 1983, it has been as a branch of a US-based entity. Papers are now being finalized to establish the "Consejo de Salud Rural Andino" as a free-standing Bolivian institution. The Bolivian Board now exists, is chaired by an outstanding Bolivian public health physician (Dr. Jorge Velasco), and meets regularly. The US Board of ARHC anticipates a growing role of the Bolivian Board in Bolivian ARHC operations.

At the local level, community leaders have gradually moved into a stronger collaborative role than was the case in the beginning. There are now more meetings of community leaders throughout the Carabuco area with health staff to discuss project

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policies. In addition, the communities are slowly assuming an oversight role for the health post and the community-based auxiliary nurse pertaining to their community.

B. Estimated Recurrent Costs and Projected Revenues

B1. Child Survival Activities Seen by Project Management as Most Effective and Worthy of Sustaining

There is a strong sense at the field level in Carabuco and at ARHC's supervisory offices in La Paz and in North Carolina that the census-based, impact-oriented (CBIO) approach is working well and should be maintained. The CBIO approach involves routine systematic home visitation, vaccination in the home if necessary, registration of vital events, nutritional monitoring and nutritional education at the time of home visitation, ORT training and support during home visitation, and treatment of ARI in the home when necessary. High-risk mothers and children receive more frequent home visitation.

The decentralization of the program through the establishment of community health posts staffed by a local community-based auxiliary nurse has worked well also. This has given the local community access to services, an identifiable local health care provider, readily available drugs for common illnesses, and increased access to referral services. The integration of child survival interventions with a more comprehensive primary care program as well as with the MOH's services for the Carabuco area has worked well.

B2. Anticipated Ongoing Expenditures After Termination of Child Survival Support

Once AID Child Survival funding terminates for the Carabuco Health Program, the major challenge for ARHC will be to find funds to continue logistical, technical, and administrative support and to find some additional funding for local field staff salary support. Transportation is a critical need, and well-maintained, reliable four-wheel drive vehicles are a necessity for the continuation of program operations. This has proven to be expensive. Technical and administrative support also will continue to be a critical need.

ARHC is doing all that it can to encourage stronger salary support from the MOH for Carabuco field staff. Currently in Carabuco, the MOH provides partial salary support for six of the 14 local program staff-- the staff physician, four auxiliary nurses, and the groundskeeper for the Carabuco Health Center. All of these salaries, however, are supplemented by ARHC. Drugs are

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now provided on a self-sustaining basis through payments by patients for the medicines they consume.

B3. Estimate of Ongoing External Financial Needs

A conservative guess is that once AID funding terminates, it will be necessary for ARHC to continue to seek, for at least several years, \$40-50,000 annually to maintain project operations there. This represents considerable progress toward sustainability since only a few years ago ARHC was providing (in part, with AID's help) more than \$100,000 per year for project operations.

In 1992, we estimated that 14% of recurrent local primary care program costs (including child survival interventions) were provided by the MOH and by local sources (Perry, 1993, p. 175). We also estimated for Carabuco in 1992 that the total local recurring primary health care cost per capita was \$9.70. If local annual per capita costs can be reduced to \$6-7, and if locally generated income together with MOH support can be increased somewhat, within the next three years or so almost half of ongoing program costs can be provided with MOH and locally generated funds. Because of the extreme poverty of this area, it is unlikely that more than half of the project costs can be sustained without external funding.

B4. Are Costs Reasonable?

The 1992 estimated annual locally recurring cost of \$9.70 per capita is felt by some to be too high for long-term sustainability. ARHC is searching for new strategies which will make it possible to maintain the basic principles of the CBIO approach while reducing costs. A reasonable goal would be to achieve a recurring project cost of \$6-7 per capita without a major reduction in the quality of project operations.

B5. Projected Revenues After AID Funding Ceases

ARHC has no current plan to abandon its long-term commitment to Carabuco. Funding for ARHC activities in Carabuco comes from a variety of sources in addition to AID. Core support from ARHC is anticipated for the indefinite future. As mentioned above, ARHC expects to continue to provide \$40-50,000 annually for the next 4-5 years to maintain the Carabuco Health Project in its current form.

B6. Costs Which Are Not Likely to Be Sustainable

Over time, we anticipate that local salaries and local project expenses will eventually become more sustainable from locally-generated funds and from MOH support. However, the costs

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of logistical, administrative, and technical support for Carabuco operations are not likely for a long time to be met with local revenues and MOH support.

B7. Lessons Learned Regarding Costs and Revenues

In Carabuco, if relatively comprehensive ongoing primary care and referral services were not available, there would be no hope whatsoever of longer-term sustainability for the project. The local population is not willing to pay for child survival interventions such as immunizations and growth monitoring, but they are willing to pay for curative health services. Furthermore, MOH salary support is for local staff to provide the broad array of primary care services including child survival activities.

In order for the MOH to be willing to contribute more of its extremely limited resources to areas such as Carabuco, it is necessary to mobilize strong community political support. Without an effective primary care component for the Carabuco Health Project, for instance, it would be very difficult to mobilize the community to push for a stronger MOH commitment to child survival activities.

Child survival projects which serve extremely poor populations are not likely to become self-sustaining for many years. Thus, it is necessary to be patient but at the same time to insist that steady (if nevertheless slow) progress be made toward the goal of complete sustainability.

C. Sustainability Plan

C1. Project Staff Interviewed

In order to complete the questions for this portion of the evaluation, all Carabuco field staff were interviewed along with the ARHC Bolivian National Director (Mr. Nat Robison) and the US ARHC Executive/Program Director (Mr. David Shanklin). The field staff include the Executive Director for the Carabuco Health Program (Dr. Maria Elena Ferrel), the local staff physician (Dr. William Valencia), the local field supervisor (Mr. Luciano Tintaya), and the 10 community-based auxiliary nurses. The project design for the original CS6 grant proposal as well as the DIP for this grant were developed primarily by the US ARHC Executive/Program Director with the ARHC Bolivian National Director. Implementation was carried out by the project's local Executive Directors and field staff. Monitoring and evaluation have been carried out by all of the above together with ARHC's Program Advisor (Dr. Henry Perry).

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ARHC has developed a participatory style of evaluation that includes all local field staff.

C2. The Project's Plan for Sustainability

Briefly stated, ARHC's plan for sustainability of the Carabuco Health Program has three basic components. The first is to gradually reduce overall project costs by reducing local paid staff to a minimum. The second is to increase locally-generated income, and the third to increase the resources provided by the MOH. Because of the extreme poverty of the area, ARHC's Bolivian National Director feels that it will be 15-25 years before the Carabuco project is fully sustainable. The goal during the next five years is to increase MOH and locally-generated income to cover 50% of program costs and to reduce overall local project costs to \$6-7 per capita.

C3. Sustainability-Promoting Activities Carried Out

In Carabuco, the total number of staff full-time equivalents (FTEs) has been reduced from 24.5 in 1988 to 17.5 at present, a reduction of 29%. Perhaps just as importantly, these staff reductions have been primarily among the more highly paid staff. The Executive Director position was reduced from a full-time to a half-time position. Two supervisory positions previously held by rural health technicians were eliminated and replaced by one supervisory position occupied by an auxiliary health nurse. The total number of community-based auxiliary health nurses has been reduced from 15 to 11 (including their supervisor).

Total local project costs since 1987 are shown in Table 28. Results for the entire FY 1993 are not yet available. Total local project recurring expenses peaked in FY 1991 at \$117,934. Between FY 1991 and FY 1992, ARHC's contributions diminished by 20% from \$106,431 to \$85,361. The current estimate is that in FY 1993, ARHC's contributions declined by another 41% to \$50,774. Locally-generated funds provided for medical services and for the purchase of drugs. This amount remains quite small, but it did increase over six-fold from \$392 in 1985 to \$2,538 in 1992.

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Table 28

Total Local Costs for the Carabuco Health Project,
1987-1993

fiscal year*	capital expenses		recurring expenses	
	total	ARHC's contribution	total	ARHC's contribution
1987	\$ 1,200	\$ 1,200	\$ 96,129	\$ 88,397
1988	\$ 24,682	\$ 24,682	\$ 95,001	\$ 86,837
1989	\$137,443	\$137,443	\$ 95,689	\$ 86,151
1990	\$ 16,037	\$ 16,037	\$111,296	\$101,701
1991	\$ 4,035	\$ 4,035	\$117,934	\$106,431
1992	\$ 21,696	\$ 19,296	\$ 95,906	\$ 85,361
1993**	\$ 0	0	\$ 70,338	\$50,774

note: recurring expenses include all local program expenses, training, and capital depreciation

* fiscal year: March - February

** annualized, based on information for the first six months of the fiscal year

source: Perry (1993, pp. 368-370).

All of the local community health posts are now responsible for covering the costs of the medicines which they use. In order to receive a new supply of medicines, the community-based auxiliary has to buy them at cost value from the Carabuco Health Center. In the past, some of the medicines (such as injectable penicillin for ARI) had been provided for free by the MOH. Other medicines which had been received free as a donation to ARHC were also previously provided free of charge to patients who needed them. This is no longer the case.

There were efforts made to receive payment in-kind for services provided. The most common kinds of payments made were

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agricultural products such as eggs and cheese. The staff found that this system did not work. Generally, the market value of the goods given proved to be less than 10% of the person's bill, and patients generally view this type of donation as an expression of gratitude rather than financial payment. An effort was made to establish a credit system whereby a patient would have a bill to be paid over a period of months. This also has proven to be unsuccessful because once the sick patient became well, he or she quickly lost interest in continuing the financial payments. Efforts made by the community auxiliary nurse to obtain payment resulted in a deterioration in the patient-provider relationship.

C4. Evaluation of Sustainability Plan

As mentioned previously, there has been envisioned at ARHC for some time the elaboration of a detailed document outlining ARHC's sustainability strategy. This document is now being written by ARHC's Bolivian National Director and will become the basis for detailed local sustainability policies which will make it possible to guide and monitor progress more carefully.

The MTE recommended a detailed analysis of how Carabuco community health activities could become more sustainable, but this was never carried out. The MTE also recommended a course for local community leaders in leadership and administration as well as pilot projects to promote income generation and health program support. Limitations on staff time and also budget constraints made it impossible to carry out these recommendations during the period of CS6 support. There was an effort made to include these activities in the CS9 proposal, but funding was so restrictive that they had to be deleted from the proposal. In spite of all of these problems, ARHC is nonetheless seeking collaboration with other organizations which have expertise in these areas.

The reduction of program staff and the establishment of community-based rotating drug funds were part of the original sustainability plan and were carried out.

C5. Contributions From Counterpart Institutions to Project Activities

The agreements with the MOH for support for vaccines, vaccination supplies, TB medicines, and salary support were met as agreed to with the exception that there were from time to time temporary lapses in the availability of some of the vaccines.

CARE has collaborated with ARHC in the Carabuco project by installing community water systems and latrines in five project communities during the period of grant support.

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C6. Reasons for Success or Failure of Counterpart Institutional Support

Although MOH salaries are low, the MOH is fairly in paying them. The donated supplies such as vaccines, vaccination supplies, and TB medicines are provided to the MOH by international donors such as AID, so they are generally available although lapses in availability do occur from time to time. These lapses have interrupted local health project activities on several occasions.

D. Monitoring and Evaluation of Sustainability

D1. Indicators Used to Track Sustainability Outputs and Outcomes

Efforts to date to monitor financial sustainability include the annual measurement of the following indicators:

- a. total recurring local project cost (including capital depreciation expenses and training expenses);
- b. total local project cost per capita;
- c. percent of local project costs met from MOH support as well as from locally generated income; and,
- d. percent of local project costs provided by ARHC's Bolivian NGO counterparts.

Measures of the non-financial aspects of sustainability have not yet been developed.

D2. Do These Indicators Show Any Progress?

Table 29 shows limited but nonetheless steady progress in reducing project costs and increasing MOH and local support. Although per capita expenses are the same in 1992 as in 1987, they did rise to \$11.26 in 1990 before falling to \$9.70 in 1992. MOH contributions have increased from 8% to 11% of total recurring local project costs while locally-generated income has remained in the 1-3% range during the period.

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Table 29

Summary of Financial Sustainability Indicators for Carabuco,
1987-1993

indicators	year					
	1987	1988	1989	1990	1991	1992
total recurring local project cost (in thousands of \$US)	\$ 96	\$ 95	\$ 96	\$ 111	\$ 118	\$ 96
total recurring local project cost per capita (assumes a constant population of 9,887)	\$ 9.72	\$ 9.61	\$ 9.68	\$11.26	\$11.93	\$ 9.70
percent of total recurring project costs met by the MOH	8%	9%	10%	9%	10%	11%
percent of total recurring project costs met with local income	2%	1%	1%	2%	1%	3%

source: Perry (1993), pp. 176, 368-370; Nat Robison, personal communication
see also Table 31 (p. 109) for further income data

D3. Qualitative Data Suggesting Changes in Sustainability

Discussions regarding sustainability were held with community members in the Carabuco Health Area at the time of the final evaluation in November 1993. After several years of communications from the project that external financial resources would not be continued at previous levels, the local people are

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now finally beginning to understand that their own efforts and financial support are essential. This change in attitude is critical if sustainability is to improve.

D4. In-country Agencies Participating in Project Design, Implementation, or Evaluation

The Johns Hopkins PVO Child Survival Support Program Latin American Regional Office provided important assistance with the design of the final evaluation cluster sample survey and with the training of the supervisors of the survey. Representatives of the MOH, CARE, PLAN INTERNATIONAL, and the Catholic Church all participated in the final evaluation for the Carabuco project.

D5. Sustainability Recommendations Made by Technical Reviewers of the Initial Proposal and DIP

In the technical review of the initial proposal, the following recommendations were made:

- a. clarify the MOH's role in the revolving drug fund;
- b. consider more cost-effective approaches to ensure continuation of the project after termination of ARHC funding (such as reducing the level of home visitation, focusing on high-risk infants, and shifting to service delivery at fixed and outreach sites);
- c. give more attention to strengthening MOH capacity, not just supplementing MOH activities; and,
- d. increase training and support of non-professional community health workers since this would decrease reliance on higher salaried staff.

Recommendations made by the technical reviewers of the DIP were the following:

- a. develop a more detailed sustainability plan;
- b. document lessons learned (success and failures) to date in the sustainability of the original child survival project;
- c. review the experience with cost recovery;
- d. test income generation, community financing, fee-for-service, and so forth in new areas;
- e. develop sustainability indicators since none were presented in the DIP;
- f. reduce recurrent costs and raise more local revenues; and,
- g. increase information feedback to the communities so they will be more aware of the services provided by the project and thus more willing to provide continuing financial support.

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Discussion of Technical Comments Made by Reviewers

In Carabuco, the policy for the revolving drug fund has been clarified. The costs of all medications except those used for the treatment of tuberculosis are paid for by the communities. TB medicines are provided at no cost by the MOH. The MOH no longer provides any other medicines free of charge. In the past, the MOH did provide free of charge penicillin injections for infants and children with ARI and did not allow health programs to charge for administering the drug.

More cost-effective approaches are being tried. The frequency of home visitation is being reduced, particularly for homes in which there are no children under two years of age since the mortality of older children in Carabuco is now, after a number of years of child survival efforts, relatively low.

In spite of the obvious cost savings of service delivery at fixed sites, the Carabuco staff have found the home-based delivery of services is more effective. Those who are in most need of services frequently do not seek them out. Thus, providing these services in the home helps to achieve equity as well as makes it possible to reach high-risk children that otherwise might have been missed. In addition, home-based service delivery facilitates the education of families in how to obtain needed services, and it also educates the health staff about the family's social and physical home environment. Since the community-based health posts are easily accessible to a large percentage of the population, a significant number of primary care services continue to be provided at the health post, however.

The incorporation of MOH personnel into the project staff means that all the training provided is received by the MOH staff assigned to the project as well. It is also quite common now for MOH staff from other geographic areas to come and visit the Carabuco project because of its reputation as a high-quality project using a promising new approach to health care.

ARHC staff felt that increasing the program's reliance upon volunteer health staff represented one partial solution to the sustainability problem. Consequently, over the past three years, much staff time was devoted to the selection and training of volunteer community health educators (VCHes). However, the results of these efforts have tarnished that idea. Of 70 VCHes trained during the past three years, only 18 (26%) are still active. Thus, there remains uncertainty about the most appropriate policies for the selection, training, and responsibilities of these CHVEs.

There is a critical need now to focus staff energy on this

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problem, to analyze the past experience, to review the results of discussions already held about this problem, to conduct focus group discussions with VCHES, community members, and community leaders, and to move ahead with a revised and more realistic policy for involvement of volunteers in program operations.

One idea along this line which might be worth pursuing is that of offering to the best volunteers the opportunity of eventually working as paid "promotores." The best of the "promotores" could eventually be formally trained as community-based auxiliary nurses when the opportunity and the need arises.

There has been a long-standing recognition of the need for a comprehensive sustainability plan for ARHC's activities in Bolivia. Finally, plans are underway for this to be completed in 1994. Lessons learned (both positive and negative) with respect to sustainability still have not been carefully analyzed. Nevertheless, we expect that these lessons will be analyzed in a background document as part of ARHC's new comprehensive sustainability strategy.

The experience with cost recovery has been analyzed as part of a more comprehensive financial analysis of ARHC's established programs in Carabuco, Mallco Rancho, and Villa Cochabamba/Montero. This was made possible by a special grant from the AID PVO Child Survival Program to ARHC and is fully described elsewhere (Perry, 1993).

In 1992, only 3% of local recurring program costs in Carabuco were being met with locally-generated income, but in Villa Cochabamba/Montero it was 23%. The differences in percentage of local costs met with locally generated income represent to a large degree differences in levels of poverty between the two areas.

New approaches to community financing, to income generation, and to increasing fee-for-service revenues have not yet been tried because of a lack of organizational and technical competence in this particular area and also because there are as yet in Bolivia no established successful strategies along these lines for impoverished rural areas.

The financial sustainability indicators described previously are now in place. In order to be able to use these, it was necessary to develop a methodology for determining all local project costs and to develop an accounting system for keeping track of all these various costs. This is described elsewhere (Perry, 1993).

The Carabuco staff and ARHC management are acutely aware of the need to reduce project costs and increase local revenue.

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Intense effort is being given to these topics with some success.

Because of the overwhelming number of competing priorities (all of which are important to the project), it has not yet been possible to provide feedback to individual communities about the numbers of health services provided to each community, about the coverage of those services, and about the health improvements observed. It would seem that as the Carabuco project matures, this will become an increasingly important priority given the potential which such feedback has for motivating the community to become a stronger participant in the project's health activities, for promoting a stronger sense of community ownership of the project, and for giving the communities a sense that through their own efforts they can make measurable progress in improving the health of their own community members.

D6. Results of Recommendations for Sustainability Arising from the MTE

The recommendations arising from the MTE regarding sustainability were as follows:

- a. establish realistic objectives for sustainability;
- b. involve community leaders in sustainability issues to a greater degree;
- c. explore the possibility of analyzing sustainability issues of other health programs; and,
- d. consider the provision of a course in leadership and management skills for community leaders.

There has been definite progress in the implementation of these recommendations for Carabuco although there is still a great deal of progress to be made. Realistic sustainability objectives are continuously being reviewed by ARHC's Bolivian Director, Mr. Nat Robison. Involvement of community leaders in discussions regarding sustainability is a challenge since such discussions are not usually viewed by them as a priority, since the local leaders have limited education, and since there is annual turnover of local community leadership positions.

In 1992, ARHC staff visited the PROSALUD program in Santa Cruz to learn more about the successes achieved there with sustainability.

As mentioned earlier, lack of resources have made it impossible for the Carabuco project to implement a course in leadership and management skills for community leaders. Furthermore, there have been genuine disagreements among program directors and staff regarding the utility of some of the sustainability recommendations and therefore there has been no clear direction on how to proceed in trying to resolve these very difficult issues.

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E. Community Participation

E1. Community Members Interviewed

In order to incorporate the views of community members into the Carabuco project evaluation, members of the field evaluation team arranged to go out to two separate communities to talk with women there. In addition, a group of community leaders were interviewed by the field evaluation team. Prior to each interview, a set of questions was agreed upon by the field evaluation team which were thought to be reasonably clear and which addressed the issues of relevance to the evaluation. After the questions for the community members were clarified, a subgroup of the field evaluation team was selected to go out to the community to interview the community members. This subgroup included an Aymara-speaking staff member knowledgeable about the community (but not actually working in that community) as well as several other members of the field evaluation team. After the interview was completed, the interviewing team reported the results to the entire field evaluation team. A focus group format, relatively open-ended, was used during the interview itself.

The following community members were interviewed:

- a. nine women representing the community of Yaricoa Bajo;
- b. 50 women from the community of Quirhuati; and,
- c. six community leaders (all men) representing six different communities.

E2. Child Survival Activities Perceived as Being Effective at Meeting Current Health Needs

The male community leaders mentioned the fact that the number of infants and children dying in Carabuco was not as great as it had been previously. Furthermore, they observed that there is no more measles in the Carabuco Health Area as before. "The community health auxiliaries are protecting us," they said. The community members also mentioned that the most beneficial activities from their standpoint were the home visits (especially to sick persons), nutritional monitoring, vaccinations, the medical care provided at the Carabuco Health Center, and the referrals provided for patients who needed specialized care in a hospital.

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The women interviewed mentioned the following child survival interventions as being effective: vaccinations, nutritional monitoring, and talks regarding diarrhea and ORT use. They also mentioned the importance of education by project staff regarding cleanliness ("higiene") in the home and cleanliness of their children.

E3. Activities Carried Out to Help Communities Meet Their Basic Needs and Sustain Effective Child Survival Activities

The training of volunteer community health educators (VCHES) is one important component of helping communities to meet their own basic needs better and sustaining child survival activities. Although many of the trained VCHES are no longer actively working formally with the project, presumably the training they received will continue to be utilized by them and they will share it with their family and friends.

Community members help out with community health activities, and the community-based auxiliary nurses attend community-wide meetings to share progress with them and to receive comments from the community members about the program.

E4. How Did Communities Participate in the Design, Implementation, and/or Evaluation of the Project?

During the interview with the community leaders, they mentioned that the communities played an important role in the determination of the sites for the community health posts, assisted in the construction of these posts, and participated in the selection of local community members to be trained as auxiliary nurses and volunteer community health educators (VCHES). The community leaders also mentioned that they themselves were actively involved in the supervision of the community health posts (particularly the financial aspects). The community's role in providing volunteers has been described previously. Both the MTE and the final evaluations included discussions with community members regarding their views about the project.

E5. How Many Health Committees Exist and How Do They Function?

In the Aymara tradition, leadership positions are rotated among community leaders. Therefore, elected leaders tend to be truly representative of the communities they represent even though turnover is relatively frequent.

It has long been recognized by some of those knowledgeable about the Aymara culture that it is counterproductive to create new community structures (such as health committees) outside of the traditional community leadership structure. Therefore, ARHC's strategy has been to work within the existing "sindicato"

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(community council) leadership system. The locally elected "sindicato" assigns members to supervise the annual inventory of health post supplies, furniture, and equipment. The "sindicato" decides on the use of health post income as well. If a health worker's activities are deemed unsatisfactory, the "sindicato" can request a change in personnel.

E6. What Issues Are Being Addressed by These Health Committees?

These "sindicatos" are concerned primarily with the functioning of their local community health post along with the performance of the community-based auxiliary nurse assigned to that post. In almost all cases, the auxiliary is originally from one of the communities served by that post.

E7. What Resources Has the Community Contributed to Provide for Sustainability?

The community has been generous in offering its time, manpower, and local materials when these were helpful and appropriate. These include the establishment and participation of local community health committees, the construction of local health posts, and participation in community meetings.

Although the actual amount of funds contributed through fees-for-services is quite small compared to the overall project budget, the funds nevertheless do represent contributions from the community toward sustainability of the project.

E8. What Are the Reasons for the Successes or Failures of Community Support?

There is a strong Aymara cultural tradition of community collaboration. Thus, when the community perceives a potential benefit, it is ready to mobilize itself to work on whatever activity is called for. Because of the extreme limitation of financial resources in the area, the amount of actual cash available to help support the financial costs of project operations is quite limited. There has been for many years in Bolivia a widespread belief that the government should provide free health care services for the economically disadvantaged members of Bolivian society. Consequently, it has not been easy to instill into the local populations a sense of responsibility for sustaining project operations with locally-contributed funds.

F. Ability and Willingness of Counterpart Institutions to Sustain
Activities

F1. Persons Interviewed

Representatives of counterpart institutions who were interviewed included the following people:

- a. Dr. German Montevilla, MOH Director, Suches Health District;
- b. Father Miguel Angel Aymar, Catholic priest for the Carabuco area;
- c. Ms. Patrocinia Maceda, Field Supervisor for CARE; and,
- d. Dr. Natalio Riveros, Director of Rural Programs, the La Paz Regional Office of the MOH (Unidad Sanitaria)

Dr. Montevilla and Father Angel Aymar participated in the entire Carabuco final evaluation. Dr. Montevilla is the newly appointed Director of the Suches Health District, in which the Carabuco Health Area is located.

F2. Linkages Between the Child Survival Project and Health Development Agencies

The Carabuco Health Project is directed by ARHC, but the local staff includes all MOH staff assigned to the area. One physician, four auxiliary nurses, and one groundskeeper are provided by the MOH to work in Carabuco. The MOH also provides all vaccines, vaccine supplies, UNICEF growth charts, ORT packets, and TB medicines. The provision of these resources by the MOH fosters close collaboration of the Carabuco Health Project with all phases of the MOH's activities, both at the district level and at the regional office of the La Paz "Unidad Sanitaria." The MOH staff assigned to the Carabuco Health Project continue to receive their regular salaries from the MOH.

In addition to collaborating closely with the MOH, the Carabuco project has also had a close collaboration with CARE in the project area. During the period of the grant, CARE has been in the process of installing water systems and latrines in five of the 31 Carabuco communities. As a result of major budget cuts which CARE has experienced, it will now be necessary for the ARHC project staff in Carabuco to undertake a major role in the follow-up health activities related to water system installation.

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Included in these activities are health education and growth monitoring along with the evaluation of latrine use in the home.

F3. Key Institutions Expected to Contribute to Sustainability

ARHC hopes that the MOH support for the Carabuco Health Project will increase during the next few years but does not expect this support to increase dramatically. National political debates regarding "privatization" of government services (including health services) and "decentralization" are currently taking place. Exactly what the outcome of the debates (which have been going on for several years) will be for impoverished rural areas is still unclear. Obviously, the outcome will have important implications for the future of ARHC's activities.

One key element in improving sustainability is the stronger incorporation of the community and its leaders into the project. A second key element is the provision of services whose cost is at a level the local people can afford. Another key element in ARHC's vision for sustainability is the development of a strong Bolivian NGO with the capacity to attract its own funding.

F4. Opinions of Collaborating Institutions About the Project's Most Effective Interventions

Ms. Patrocina Maceda, Field Supervisor for CARE, considers home visitation to be the most effective component of the Carabuco Health Project. Dr. German Montevilla, District Director for the Ministry of Health for the district in which Carabuco is located, also considers the home follow-up element to be the program's most effective intervention.

F5. Contributions of the Project to Local Staff Capacity

The Carabuco Health Project empowers local field staff to teach and train others with less training. All levels of staff, from the Project Executive Director to the local volunteer community health educator, receive training in child survival interventions. This training, combined with the experience which the staff receive from implementing this training, is one of ARHC's contributions to the sustainability of child survival activities in Bolivia. This knowledge and training will remain with all staff wherever they might work in the future.

F6. Capacity of the MOH and Other Local Institutions to Sustain Project Activities

In Bolivia, there is a movement toward decentralization of MOH activities from the regional offices to the district level. This could have the effect of providing the districts with more resources than they had previously. If this happens, then possibly the Carabuco Health Project could receive additional

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support from the MOH.

It is also possible, however, that the privatization of health services which the MOH is also promoting could lead to fewer resources from the MOH for an area such as Carabuco. In addition to the communities themselves, there are no other sources of support available to sustain health activities in the area other than ARHC itself.

F7. What Project Activities Do Counterpart Organizations Perceive as Being Effective?

Dr. German Montevilla, MOH Director of the district in which the Carabuco Health Project is located, considers that the home visitation program and the close home follow-up of children at risk is the most effective component of the project. He feels that this approach could be applied on a broader scale within the district without too much additional cost.

Dr. Natalio Riveros, MOH Rural Supervisor of the La Paz "Unidad Sanitaria," considers the immunization coverage in Carabuco to be "spectacular" and attributes this success to the policy of vaccinating in the home when necessary.

G. Project Expenditures

See pages 28 - 29.

H. Attempts to Increase Efficiency

H1. Strategies to Reduce Costs, Increase Productivity, Improve Efficiency

As described previously, between 1988 and 1993 the number of local field staff for the Carabuco Health Program was reduced from 20 to 15. Over this same time period, the numbers of administrative support staff based in La Paz has been reduced from 4.5 to 2.5. Although one would think that the incorporation of volunteer community health educators (VCHes) would make it possible to increase the productivity of field operations, this in fact has not occurred. The turnover and unreliability of VCHes has been such that it has not been possible to delegate critical responsibilities to them. Charging for medicines which were previously free has been one attempt by the project to reduce external costs.

H2. Reasons for Success or Failure in Reducing Costs, Increasing

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Productivity, or Improving Efficiency

It has been possible to reduce the overall number of field staff and in particular to reduce the number of higher level supervisors without any noticeable reduction in project quality. This has been possible because of the notable capacity of the lower level field staff. One of the community health auxiliaries was chosen by his fellow auxiliaries to become their supervisor, thereby replacing two rural health technicians who had previously held that responsibility. This would not have been possible if there had not been well-trained and experienced community health auxiliaries on the staff. Ten of the 11 community health auxiliaries in Carabuco have all been with the project since 1987.

H3. Lessons Learned Regarding Improving Efficiency

If a project has strong stable staff which is well-trained, well-supervised, experienced, and well-supported, then over time the lesser-trained members can accept increasing responsibility for project operations without any diminution (at least in the short run) in the quality of the program. This makes it possible to reduce costs.

I. Cost Recovery Attempts

I1. Cost-Recovery Attempts of the Project

The project charges for all services except child survival interventions and home visits. Patients pay a fee for all curative services and medicines. Those with serious and/or life-threatening illnesses receive care even if they cannot pay for it.

I2. Estimate of Amount of Funds Recovered

Table 30 shows the amount of funds generated since 1985 from services provided. The percent of total recurring local costs met with locally generated funds has not exceeded 3% of local project costs until FY 1993, where current estimates for the first half of the FY suggest that 5% of local costs will be met with locally generated revenue. This progress is due to an absolute increase in local revenue together with a reduction in overall expenses.

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Table 30

Amount of Locally Generated Funds and Total Recurring Local Project Costs, 1987-1993

fiscal year	locally generated income	total recurring local costs	percentage of total local costs met with local income
1987	\$ 1,717	\$ 94,569	2%
1988	\$ 1,349	\$ 94,315	1%
1989	\$ 1,018	\$105,227	1%
1990	\$ 2,276	\$111,296	2%
1991	\$ 1,767	\$117,931	1%
1992	\$ 2,538	\$ 95,906	3%
1993**	\$ 3,540	\$ 71,628	5%

note: recurring expenses include all local program expenses, training, and capital depreciation

* fiscal year: March - February

** annualized, based on information for the first six months of the fiscal year

source: Perry (1993, pp. 368-370), project financial records.

I3. Effect of Cost Recovery Activities on Project Reputation and on Equity of Services Delivered

Increased efforts at local cost recovery have not been enthusiastically received by the communities. For example, they had previously become accustomed to receive some medicines free of charge but this is now no longer the policy.

There is a strong ethic of equity among the staff members of the Carabuco Health Project. The home visitation activity ensures that contact is made with all families in the project area. No family has been denied basic services because of an unwillingness or inability to pay, and no sick child failed to receive treatment because of this either.

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14. Reasons for Success or Failure of Household Income-Generating Activities of the Project

There were no household income-generating activities planned or carried out.

15. Lessons Learned Regarding Cost Recovery for Other Child Survival Projects or for AID

Cost recovery is a very difficult problem for programs which are serving the poorest of the poor. However, programs which serve poor people can achieve exciting results as has been shown with PROSALUD's programs in Bolivia as well as with ARHC's project in the Montero area. In Montero, for instance, one-quarter of total recurring costs are being met from local fee-for-service income. In economically poorer areas such as Carabuco, however, it has been ARHC's experience that there is no quick and easy "fix" to achieve sustainability while at the same time maintaining project quality. Sustainability for these poorer areas is a painfully slow process which cannot be fully achieved unless MOH support increases substantially, unless project costs are reduced significantly, or unless family income improves along with the family's willingness to spend this income on local health care services.

K. Summary of Sustainability

As has been mentioned previously, there have been major efforts made to reduce local project costs for Carabuco. The main thrust of this effort has been directed at reducing the number of paid staff, particularly those at the higher levels of the pay scale. At the same time, there has been a major effort to expand MOH and local support for the project. Evidence for the first half of the 1993 FY, ending in September, 1993, shows continued strong progress in improving sustainability. Table 31 shows that the percentage of non-external support provided by the MOH and from local revenues rose from 10% in 1987 to an estimated 29% for 1993. This is a major achievement for an area as economically deprived as Carabuco. MOH support has made a strong gain during the first half of the 1993 FY as has locally generated support. MOH support is currently almost five times local revenues and currently represents 24% of total recurring project expenses.

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Table 31

Estimate of Percentage of Recurring Total Local Project Costs
Met With MOH Support and Local Revenues, 1987-1993

fiscal year*	MOH contribution to recurring costs (1)	locally generated income (2)	ARHC support (3)	TOTAL (4)	percent of total costs met with MOH and local revenues***
1987	\$ 7,732	\$ 1,717	\$ 86,680	\$ 96,129	10%
1988	\$ 8,164	\$ 1,349	\$ 85,488	\$ 95,001	10%
1989	\$ 9,538	\$ 1,018	\$ 85,133	\$ 95,689	11%
1990	\$ 9,595	\$ 2,276	\$ 99,425	\$111,296	11%
1991	\$11,500	\$ 1,767	\$104,664	\$117,934	11%
1992	\$10,545	\$ 2,538	\$ 82,823	\$ 95,906	14%
1993**	\$17,314	\$ 3,540	\$ 50,774	\$ 71,628	29%

note: recurring expenses include all local program expenses, training, and capital depreciation

* fiscal year: March - February

** annualized, based on information for the first six months of the fiscal year

*** columns [(1 + 2) / (4)] X 100

source: Perry (1993, pp. 176 and 368-370), project financial records.

III. The Community's Perceived Health Priorities in Carabuco

Defining the community's perceptions of its health priorities is one important aspect of the census-based, impact-oriented (CBIO) approach. The CBIO approach combines the epidemiologic priorities (that is, the most frequent preventable or treatable causes of death) together with the community's health priorities to make up the program's priorities.

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The community's perceptions of its health priorities were determined at the time of the cluster sample survey of mothers of children 0-23 months of age. They were asked, "What are your suggestions to improve health in your community?" The results were tabulated by hand as part of the field evaluation exercise.

The results of this analysis are shown below in Table 32. A request for more education or training in health was the most frequently mentioned suggestion. The specific areas of interest included orientation about health in general, "family" orientation, as well as orientation in nutrition, hygiene, traditional medicine, diarrhea, and maternal health. Stronger health services at the Carabuco Health Center and/or at the local community health posts was also a high priority for the mothers as were more medicines in the health posts and family planning. The local field staff participating in the interviews felt that most of the mothers who requested "family orientation" were indirectly expressing interest in family planning education.

The areas mentioned by 10 or fewer mothers (listed as "other") include literacy training, nutritional supplementation for children, electricity, assistance with handicraft production, donation of medicines, more supplies for the health center/post, dental care, more punctual care in the home or at the health post, better-trained staff, promotion of cleanliness in the homes, and the continuation of the health project.

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Table 32

Suggestions for Community Health Improvement Made by Mothers of Children 0-23 Months of Age Participating in the Carabuco 1993 Household Cluster Sample Survey

suggestion	number of mothers making suggestion	percentage (n=333)
1. more orientation or training	90	27%
a. orientation about health	37	11%
b. family orientation	25	8%
c. orientation about nutrition	14	4%
d. orientation about other health-related subjects such as hygiene, traditional medicine, ARI, diarrhea, or maternal health	14	4%
2. good, more, or better care in the health center or health post	70	21%
3. more medicines in the health posts	60	18%
4. family planning	58	18%
5. health post and/or auxiliary nurse permanently in the community	44	13%
6. more home visits	26	8%
7. environmental health, potable water, latrines	24	7%
8. greenhouses, assistance with agriculture/animals	13	4%
9. other (each with less than 10 respondents mentioning the area of need)	71	21%

source: 1993 Carabuco household cluster sample survey

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Other priorities mentioned during the course of interviews with mothers and with other community leaders at the time of the field evaluation in November, 1993, were described on page 74.

IV. Carabuco Project Mortality Analysis

The census-based, impact-oriented approach makes it possible to calculate mortality rates in the project population. Censuses of the area are updated annually. Births and deaths are registered at the time of routine systematic visitation of all homes in the project area and also when staff were notified by volunteers, by family members, or by other community members.

This process has been underway in Carabuco since 1988 and has been described in more detail elsewhere (Perry, 1993). There had been an active child survival effort underway there for several years prior to 1988, so the initial rates which were measured in 1988 were not truly baseline. For the first several years, there appears to have been an incomplete registration of neonatal deaths, leading to an underestimation of the infant mortality rate. The data for 1991-1993 appears to be comprehensive and accurate. The 1993 data are for the first 10 months of 1993.

With these caveats in mind, let us examine Table 33 and Figures 11-14. For the first 10 months of 1993, an infant mortality rate of 64 has been observed in Carabuco which is the third consecutive year that a decline has been observed (see Figure 13 also). Prior to 1991, infant mortality rates were in the 36-66 range and then rose to 110 in 1991, most likely as a result of more complete reporting. The neonatal mortality rates have shown striking declines since 1991, from 66 to 21 (see Figure 11), while the postneonatal mortality rates have remained relatively constant, all in the 31-43 range (see Figure 12). Second-year mortality rates have shown an overall decline from 22 in 1988 to 0 in 1993 (see Figure 14). Death rates for children 24 months and older have been under 14 since 1988 and have remained at this level or lower (see Table 33).

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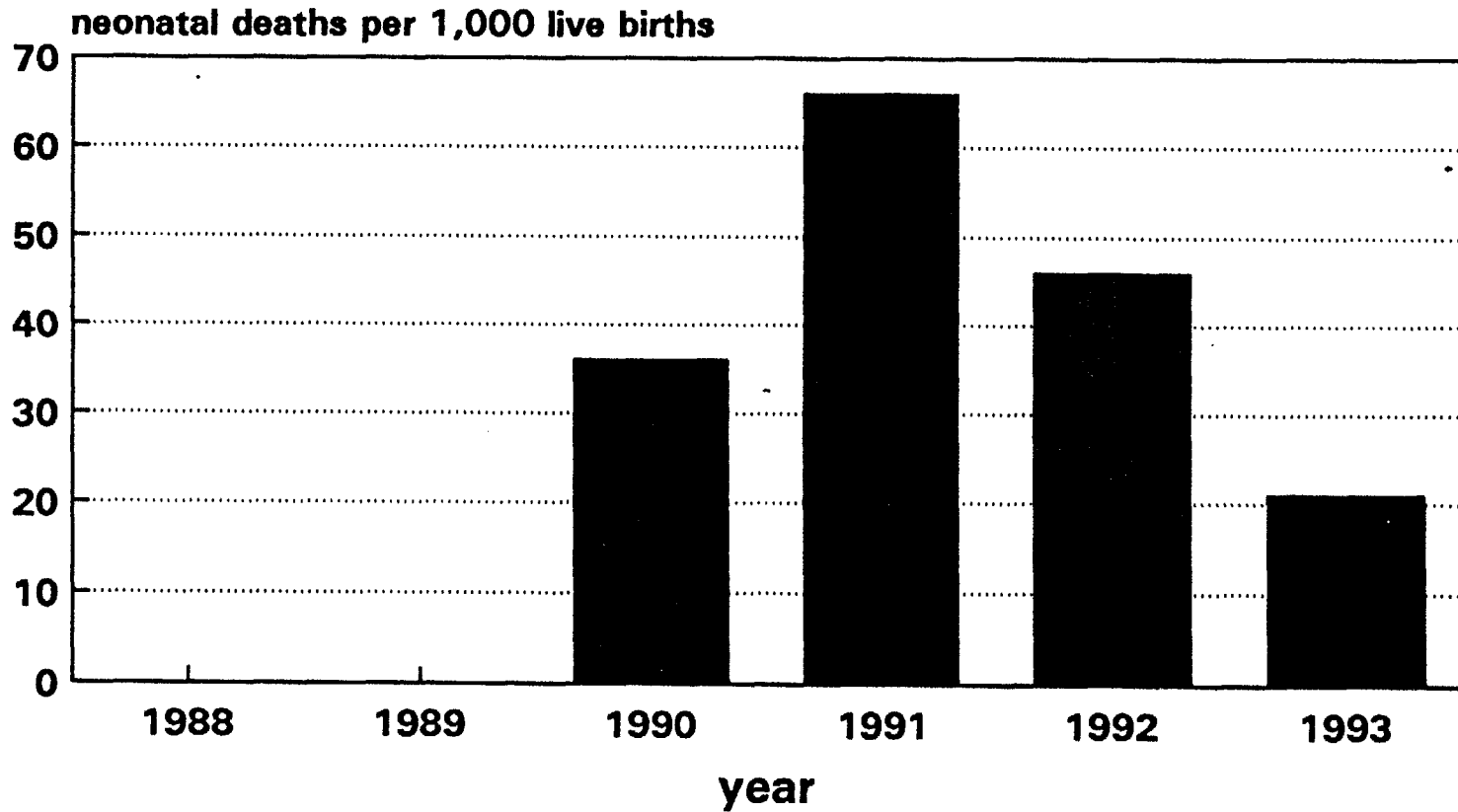
Table 33

Infant and Child Mortality Rates for the Carabuco Health Area,
1988-1993

	1988	1989	1990	1991	1992	1993*
neonatal mortality rate (deaths in the first 30 days of life per 1,000 live births)	--	--	36	66	46	21
postneonatal mortality rate (deaths during the first year of life but after the first 30 days per 1,000 live births)	--	--	31	44	42	43
infant mortality rate (deaths during the first year of life per 1,000 live births)	74	36	67	110	88	64
12-23 month mortality rate (deaths during the second year of life per 1,000 children of this age group)	22	8	17	0	13	0
24-35 month mortality rate (deaths during the third year of life per 1,000 children of this age group)	12	10	14	4	5	10
36-47 month mortality rate (deaths during the fourth year of life per 1,000 children of this age group)	9	4	0	4	9	5
48-59 month mortality rate (deaths during the fifth year of life per 1,000 children of this age group)	0	4	4	0	0	0

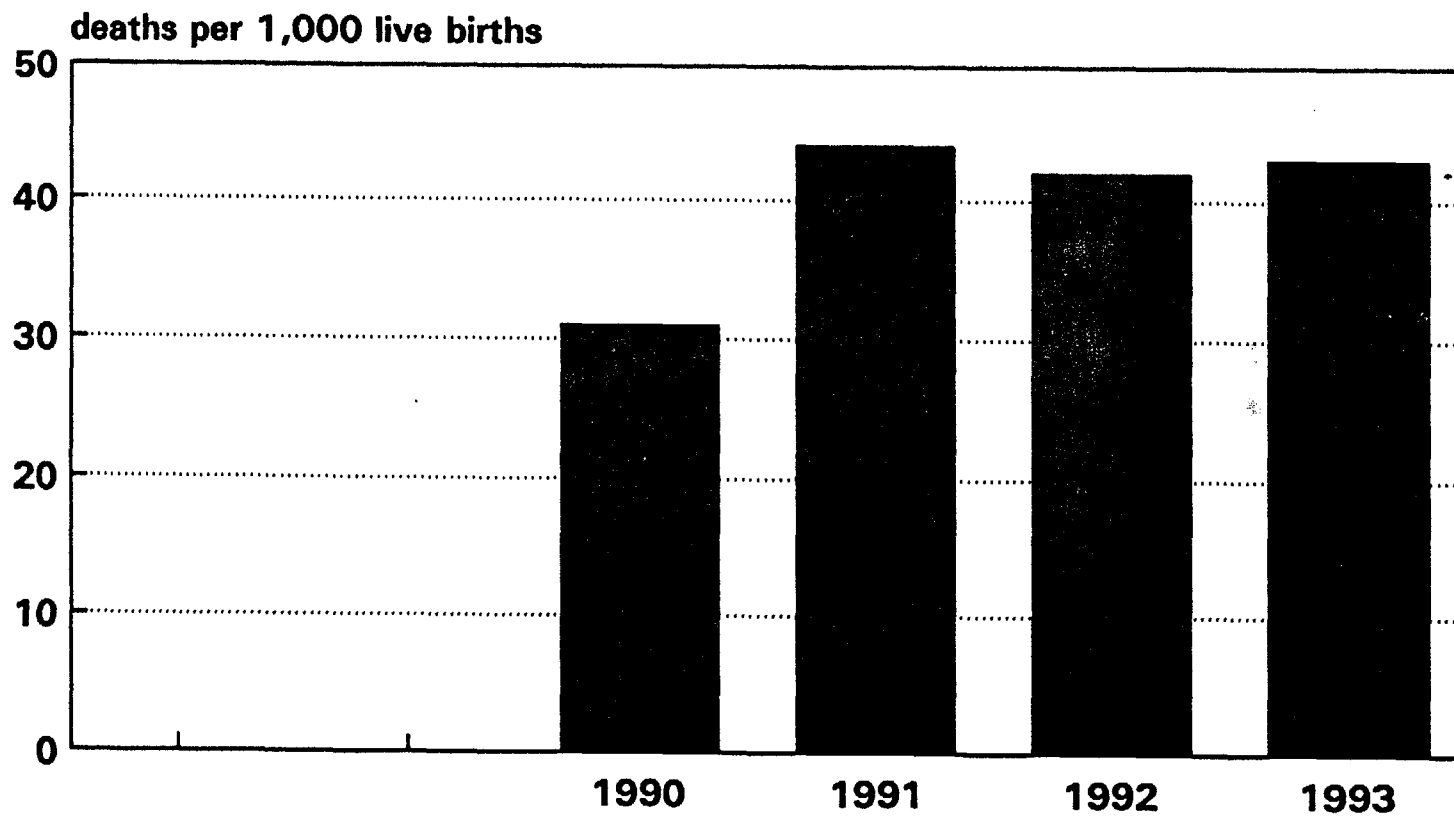
*1993 data for January-October only
source: Carabuco birth and death registry

Figure 11.
Carabuco Neonatal Mortality Rates,
1990-1993



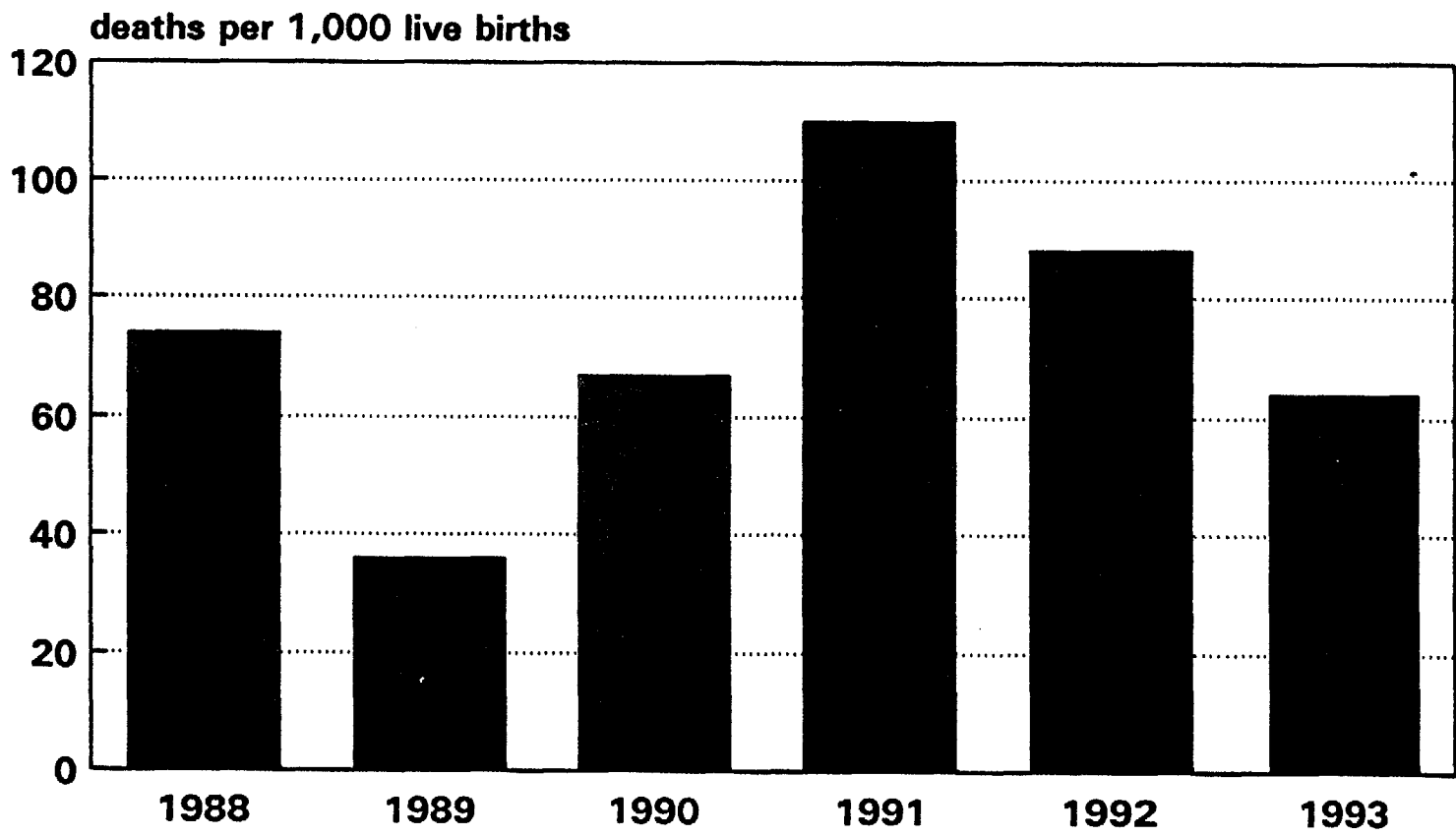
deaths in the first 30 days of life per
1,000 live births; data for 1988 and
1989 not available.

Figure 12.
Carabuco Postneonatal Mortality Rates,
1990-1993



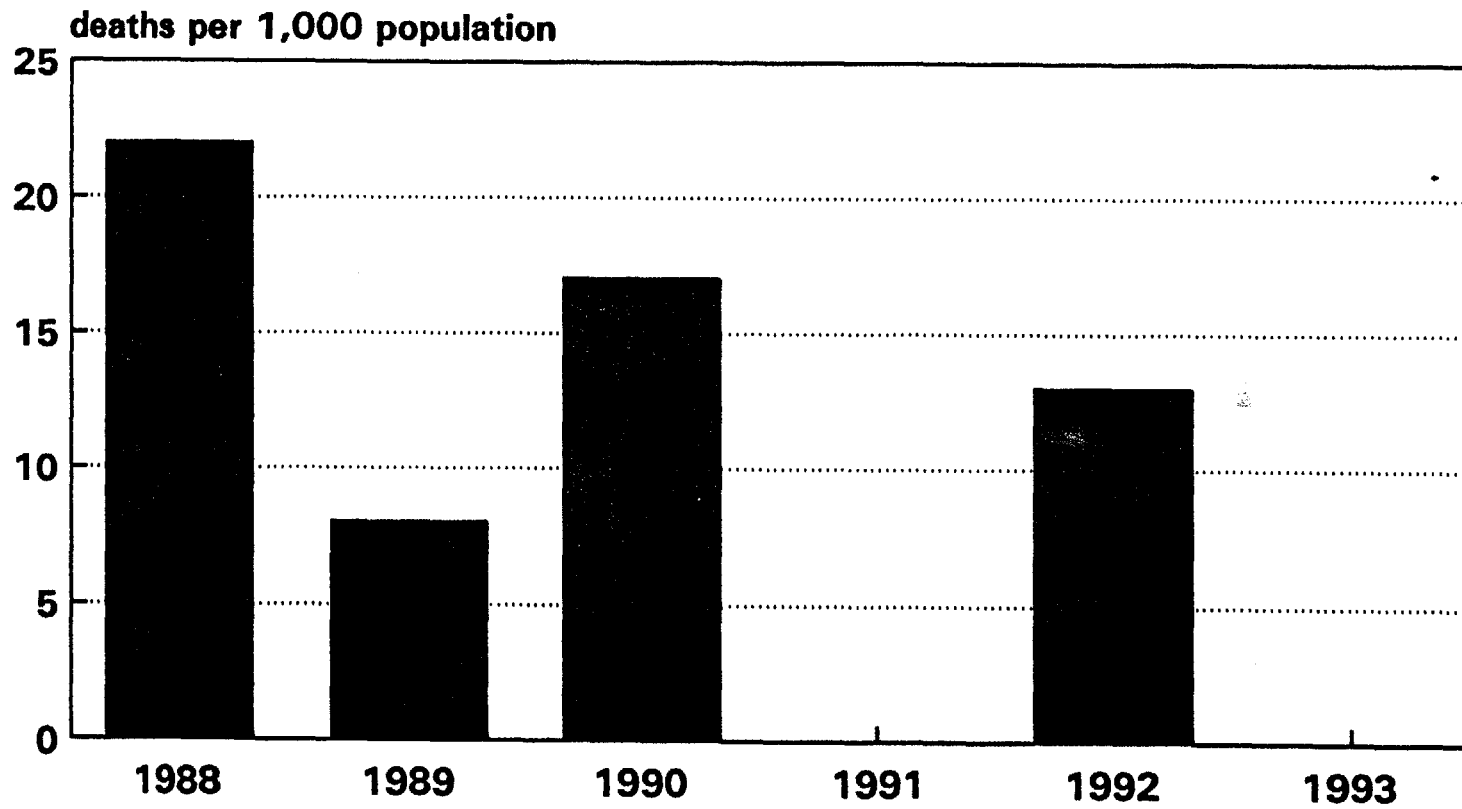
deaths from 1-11 months of age per
1,000 live births; rates for 1988 and
1989 not available

Figure 13.
Carabuco Infant Mortality Rates,
1988-1993



deaths during the first year of life
per 1000 live births

**Figure 14.
Carabuco Second Year Mortality Rates,
1988-1993**



deaths per year during the second year
of life per 1000 population of children
of that age group

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V. Evaluation Team for the Carabuco Health Project

Members of the Carabuco Local Field Staff

Dr. Maria Elena Ferrel,	Executive Director
Dr. William Valencia,	MOH staff physician
Mr. Luciano Tintaya	community field supervisor
Dr. Antaro Beltran	dentist
Mr. Cruz Apaza	community auxiliary, Ollaajsantia
Mr. Justino Condori	community auxiliary, Mollipongo
Mrs. Paulina Huarca	community auxiliary, Carabuco
Mr. Joaquin Pacosillo	community auxiliary, Sayguapampa
Mr. Ubaldo Quelali	community auxiliary, Aguas Calientes
Mr. Fermín Quispe	community auxiliary, Yaricoa Bajo
Mr. Francisco Quispe	community auxiliary, Cojatapampa
Mr. Pablo Siñani	community auxiliary, Santiago de Okola
Mr. Angel Tintaya	community auxiliary, Challapata
Mr. Ismael Yuque	community auxiliary, Chaugaya

Other ARHC Staff Participating

Mr. Nat Robison	National Director, ARHC
Mr. David Shanklin	International Executive and Program Director, ARHC
Dr. John Wyon	Chair, Program Committee, ARHC Board of Directors
Dr. Henry Perry	Program Advisor, ARHC
Dr. Javier Baldomar	Associate Director, Villa Cochabamba Health Program, Montero (ARHC)
Mr. Adam Kolff	ARHC volunteer
Ms. Sarah Bott	ARHC volunteer

External Evaluators

Dr. German Montevilla Vargas	Director, Suches District, MOH
Father Miguel Angel Aymar	Carabuco Catholic Church
Mr. Marcelino Ticona	General Secretary, Carabuco Farmers Union

Author of Evaluation Report: Dr. Henry Perry

THE ANCORAIMES PROJECT EVALUATION

I. Project Accomplishments and Lessons Learned

A. Project Accomplishments

A1. Objectives and Accomplishments Related to Each Objective

The goals for the Ancoraimes Project as outlined in the Detailed Implementation Plan are described below along with the results of the final evaluation. In addition to these goals, recommendations arising from the Mid-Term Evaluation (MTE) are included together with the progress made in implementing these recommendations.

IMMUNIZATIONS

DIP GOAL: 50% of the children 12-23 months of age in communities without censuses should be completely vaccinated (i.e., they should have received measles, BCG, OPV3, and DPT3 vaccinations) as should 70% of the children 12-23 months of age in the communities with a census.

RESULT:

The household cluster sample survey carried out in Ancoraimes in October, 1993, was analyzed by hand as part of the on-site final project evaluation. Questionnaires for children 12-23 months of age were analyzed for vaccination coverage. Children living in communities with a census and ongoing home visitation were compared with children in communities without a census and without ongoing home visitation. These results are shown in Table 34.

The DIP goal was not met. Twenty-eight instead of the anticipated 50 percent of the children in the uncensused communities were completely vaccinated by the time of the final evaluation survey. Fifty-three percent instead of the anticipated 70% of children in the censused communities were fully vaccinated.

It should be noted, however, that the overall immunization coverage levels obtained at the baseline survey was only 1.5%, significantly lower than the 20% baseline coverage level that was anticipated at the time the DIP was written. Thus, given the

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baseline immunizations levels encountered as well as the fact that the beginning of project activities was delayed, major progress was made by the Ancoraimes field staff during a period of only 18 months.

Table 34

Vaccination Coverage of Ancoraimes Children 12-23 Months of Age in Censused and Uncensused Communities

type of vaccination coverage	coverage in uncensused communities (n=104)	coverage in censused communities (n=32)
BCG	69%	91%
measles	61%	84%
DPT3	28%	53%
OPV3	29%	53%
scheme completed at time of survey	28%	53%
scheme completed by the child's first birthday	21%	25%

source: manual analysis of the 1993 Ancoraimes cluster sample household survey

MTE RECOMMENDATION: complete an annual analysis of the number of vaccinations given and the estimated coverage.

RESULT:

The project staff members have been calculating the numbers of vaccination doses given in the Ancoraimes and estimating coverage on the basis of population estimates for the Ancoraimes Health Area. The MOH provides useful charts on which this information is displayed monthly.

MTE RECOMMENDATION: seek technical assistance regarding the importance of neonatal tetanus in the project area before diminishing efforts to vaccinate mothers with tetanus toxoid vaccine.

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RESULT:

Efforts have continued to immunize women in the reproductive age group against tetanus. However, in early 1992, a pregnant woman in Ancoraimes being vaccinated by ARHC developed a placental separation several days after the vaccination. As described earlier in the discussion for Carabuco, it did not appear that this problem was a direct result of the vaccination. TT vaccination efforts were affected nonetheless.

The number of tetanus toxoid vaccinations given to women in Ancoraimes is shown below in Table 35. The total number of tetanus toxoid vaccinations has increased since 1990 until the current year (1993), which on the surface does not appear to be keeping pace with the numbers given in previous years. However, since the data for 1993 are for only 10 months, the expected number of doses for the entire 12 months of 1993 would be 880 instead of 733. This would be almost as many as achieved in 1992. Furthermore, the number of second and third doses of TT is substantially higher than in 1991 and 1992, suggesting possibly that the coverage of the first dose of TT is reaching a relatively high level in the Ancoraimes area. This is not the case, however, since Table 36 below demonstrates that the coverage of the first dose of TT among women participating in the Ancoraimes household survey in 1993 was only 48%.

Table 35

Numbers of Tetanus Toxoid (TT) Vaccinations Administered to Women of Childbearing Age in Ancoraimes, 1991-1993

year	dose of TT			TOTAL
	first	second	third or more	
1991	323	115	42	480
1992	690	163	49	902
1993 (Jan-Oct)	396	226	111	733

source: Ancoraimes Program monthly reports

The coverage of tetanus toxoid immunizations among women participating in the 1992 and 1993 household cluster sample surveys is shown in Table 36. Doses were registered as being

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given only if there was an official vaccination record available documenting the administration of the vaccination.

In 1992, only 5% of women in Ancoraimes had obtained one TT vaccination which could be verified compared to 48% of the mothers in 1993. TT2 coverage increased from 2% to 29%. Thus, even though coverage levels at the end of the CS6 grant were still low, major progress had been achieved over the 18 months of project activity.

Table 36

Coverage of Tetanus Toxoid Among Women of Children 0-23
Months of Age Participating in the Ancoraimes
Cluster Sample Survey

vaccination dose	percentage of with vaccination	
	1992 (n=229)	1993 (n=277)
first dose	5%	48%
second dose	2%	29%
third dose	0%	14%
fourth dose	0%	4%
fifth dose	0%	1%
no documented vaccination	95%	52%

source: 1992 and 1993 Ancoraimes household cluster sample surveys

DIARRHEA

DIP GOAL: achieve a 50% usage rate of UNICEF ORT packets among mothers whose children have diarrhea.

RESULT:

According to the October, 1993, household survey in Ancoraimes, 37% of the children had had diarrhea during the previous two weeks. Only 9% of these 102 children received UNICEF packets of rehydration salts (see Table 37). If one considers home-based ORT and cereal-based fluids as types of ORT, then 14% of the children with diarrhea received some form of ORT during

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their most recent episode of diarrhea at the time of the 1993 survey.

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Table 37

Treatment Given by Ancoraimes Mothers to Their Children
with Diarrhea, 1992 and 1993

treatment given	percentage of children who received this treatment	
	1992 (n=42)	1993 (n=101)
UNICEF packet-based oral rehydration fluid	21% (9/42)	9% (9/101)
home-based oral rehydration fluid	12% (5/42)	4% (4/101)
cereal-based fluid	--	4% (4/101)
herbal teas or similar fluids	57% (24/42)	41% (41/101)
antibiotics or other anti-diarrheal medication	2% (1/42)	11% (11/101)
some other type of treatment	17% (7/42)	35% (35/101)
no treatment	14% (6/42)	24% (24/101)

source: May, 1992, and October, 1993, Ancoraimes household cluster sample surveys

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Further analyses of the data for 1992 shown in Table 37 reveals that 26% of the children (11/42) received some type of ORT fluid (ORT packet, or home-based ORT fluid). Comparing these results with those obtained at the time of the 1993 household survey suggests that the use of ORT has diminished significantly over the 17 month period between the two surveys. These findings, together with the observation that the use of antibiotics or

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other antidiarrheal medicines has increased from 2% to 11% of cases gives cause for serious concern about the knowledge and/or commitment of the Ancoraimes staff to ORT.

There are several important differences to note here. First of all, in 1992, 18% (42/229) of the children included in the survey had diarrhea during the previous two weeks compared to 37% (101/277) in 1993. This could readily be due to a seasonal difference since the 1992 survey was carried out in the early winter (April) and the 1993 survey was carried out in the early spring (October). A second difference which was noted during field discussions was that the 1993 survey was carried out by external non-health local people who were hired specifically to serve as interviewers. Many of the interviewers were local high school students. In 1992, the interviewers were members of the project staff who were trained health workers. This difference in the backgrounds of the interviewers may have affected the interpretation of the question or the answer. It is hard to imagine that the knowledge and use of ORT would have actually worsened after 17 months of vigorous field work.

In addition, there were minor differences in the way the questions were asked. In 1992, for instance, there were six categories of response while in 1993 there were seven. The 1993 list of responses included "cereal-based solutions." This response was not included in 1992. Otherwise the list was virtually the same. However, there were still minor differences. For instance, in 1992 the category for medicines was "purchased medicines," while in 1993 it was "antidiarrheal or antibiotic medicines." These changes could have accounted for some of the differences noted.

One possibility is that the 1993 interviewers, none of whom were health workers, were more likely than the health staff who carried out the 1992 interviews to consider mild cases of diarrhea as worthy of inclusion as a case of diarrhea for the survey. Milder cases presumably would not have merited as intense a use of ORT as more severe cases and therefore this could perhaps be one explanation for the differences observed. Another possibility is that at the time of the 1993 survey, there were actually more mild cases of diarrhea than at the time of the 1992 survey. Earlier analysis have not shown a strong seasonal variation in the incidence of diarrheal cases requiring treatment. Whatever the explanation for these differences, it is still safe to conclude that there is no evidence that maternal use in Ancoraimes of ORT for children with diarrhea increased during the grant period.

Another approach to evaluating this goal is to analyze the results to the questions on the 1992 and 1993 surveys regarding knowledge and use of ORT by all mothers in the survey, not just those whose child recently had had diarrhea. Table 38 compares

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the results of these two surveys. In the 1993 survey, 39% of the mothers indicated that they had used ORT in the past, compared to 32% in 1992. The percentage of mothers who had heard of ORT and who knew what it is used for did not change between 1992 and 1993, but the percentage of mothers who knew how to prepare UNICEF packets of ORT increased from 17% in 1992 to 30% in 1993. These results suggest modest improvements in maternal knowledge of ORT preparation and as well as in the frequency of its use.

Table 38

Mothers' Knowledge and Use of Oral Rehydration Therapy for Their Children With Diarrhea in the Ancoraimes Health Area, 1992 and 1993

	1992 (n=229)	1993 (n=277)
had heard of oral rehydration therapy	66% (151/229)	59% (164/277)
knew that ORT was used to treat dehydration caused by diarrhea	53% (122/229)	53% (148/277)
had used ORT in the past	32% (74/229)	39% (108/277)
knew how to prepare ORT	17% (40/229)	30% (84/277)

source: 1992 and 1993 Ancoraimes household cluster sample surveys

DIP GOAL: achieve among mothers a 25% usage rate of a locally acceptable solution of oral rehydration fluid.

RESULT:

Although the Ancoraimes staff encouraged the use of rice-based fluids in addition to the UNICEF ORT packets, there was not an aggressive promotion of a home-based ORT solution. As we saw earlier in Table 37, only 4% of mothers of children with diarrhea administered "home-based oral rehydration fluid" and only 4% administered "cereal-based fluids." The percentage of mothers giving either of these two types of ORT was only 5%.

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DIP GOAL: train volunteers in 20 communities concerning the use of oral rehydration fluid and the indications for referral

RESULT:

In 1992, there were 58 volunteer community health educators (VCHEs) trained in basic health topics including diarrheal disease management. Thirty-five percent (20/58) of the original 58 are still active. In 1993, 33 new VCHEs began training. The volunteers have come from 37 different communities.

NUTRITION

DIP GOAL: in communities with census-based activities, reduce by 20% the number of children who are not gaining weight.

RESULT:

Sixty-eight percent of the children in the household survey had growth charts, and 57% had growth charts in the house.

There are no adequate survey baseline data for comparison of weight gain. When the baseline survey was carried out in May, 1992, only 4% of the children in the survey had been weighed more than once during the previous 12 months.

Growth charts for children in the 10 communities with census-based activities were analyzed at the time of the field evaluation in November, 1993. Ten growth charts from each of these 10 communities were selected with a random start. The results are shown in Table 39.

Table 40 compares the results of Table 39 with those obtained for Carabuco in 1990 and 1993. It is noteworthy that the percentage of children 0-23 months of age in Ancoraimes who are not gaining weight is almost three times that noted for Carabuco in 1993 (17% versus 6%). Also, the percentage of Ancoraimes children 24-59 months of age not gaining weight is almost twice as great as in Carabuco in 1993 (21% versus 13%). During the next evaluation, we hope to observe a similar reduction as was seen in Carabuco in the percentage of children who are not gaining weight.

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Table 39

Changes in Weight of Children Under Five Years of Age
in the Ancoraimes Health Area, 1993

weight change	age group			
	0-23 months		24-59 months	
	number	%	number	%
increase	34	83%	47	79%
no change	3	7%	4	7%
decrease	4	10%	8	14%
TOTAL	41	100%	59	100%

note: Ancoraimes data are only for the 10 communities with censuses

source: review of sample of family health folders in Ancoraimes, November, 1993

Table 40

Comparison of Percentage of Children Who Are Not Gaining Weight in the Ancoraimes Health Area With Those in the Carabuco Area, 1990 and 1993

age group	Ancoraimes	Carabuco	
	1993	1990	1993
0-23 months	17%	19%	6%
24-59 months	21%	33%	13%

source: data derived from Tables 18 and 19 (pages 60 and 61) and also Table 39.

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DIP GOAL: in the censused communities, weigh children 0-23 months of age every two months and those 24-59 months of age every four months.

RESULT:

For those 10 communities with census-based activities underway, 10 growth charts were selected for each community using a random start. Each growth chart was analyzed to see if the number of monitorings was within the established norms. If a child under 24 months of age was monitored at least every two months, then the norms were considered to have been met. If a child 24-59 months of age was monitored every four months, then the norms were considered to have been met. The findings of this analysis are shown in Table 41.

Fifty-four percent of the children 0-23 months of age were monitored according to the established policy as were 71% of the children 24-59 months of age. Overall, 64% of the children under five were monitored according to the pre-established policy.

Table 41

Percentage of Children in the Ten Censused Communities of the Ancoraimes Health Area Whose Frequency of Nutritional Monitoring From November, 1992, Until October, 1993, Was Within Project Norms

age group	number of children within the norms	number of children not within the norms	percentage of children within the norms
0-23 months	22	19	54% (22/41)
24-59 months	42	17	71% (42/59)
TOTAL	64	36	64% (64/100)

source: review of Ancoraimes family health folders, November, 1993

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DIP GOAL: provide 10 hours of training in nutrition to 60 volunteers.

RESULT:

In 1992, there were 58 volunteer community health educators (VCHES) trained in basic health topics including nutrition and nutritional monitoring. Thirty-five percent (20/58) of the original 58 are still active. In 1993, 33 new VCHES began training. The volunteers came from 37 different communities.

MTE RECOMMENDATION: review the SVEN nutritional monitoring data every six months and the growth charts themselves every six months.

RESULT:

The SVEN nutritional data is categorized on a monthly basis for submission to the MOH. However, there has been no analysis of this data on a semiannual basis nor had there been prior to the final evaluation any systematic study of the growth charts themselves.

Although a systematic review of growth charts had not yet begun by the end of the grant period, it has since been established through a "comite de analisis de informaci3n" (committee for information analysis) made up of local field staff. Progress has been observed in the rehabilitation of children who are not gaining weight. Through a combination of maternal education and the use of "api nutricional" food supplements, 19 out of 37 (51%) of the children with growth faltering were rehabilitated.

ACUTE RESPIRATORY INFECTION

DIP GOAL: increase by 10% the percentage of mothers who recognize danger signs of pneumonia.

RESULT:

Table 42 shows the results regarding mothers' recognition of ARI warning signs in the 1992 and 1993 household cluster sample surveys. These findings suggest improvement in the percentage of mothers recognizing "rapid and agitated respirations" as a warning sign.

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Table 42

Recognition of Warning Signs of Pneumonia Among Mothers
in Ancoraimes, 1992 and 1993

warning sign	percentage of mothers who mentioned this as a warning sign			
	1992 (n=229)		1993 (n=277)	
	number	percent	number	percent
1. did not know of any	37	16%	34	12%
2. rapid and agitated respirations	32	14%	55	20%
3. intercostal retractions	2	1%	1	0%
4. loss of appetite	26	11%	20	7%
5. fever	102	45%	130	47%
6. cyanosis	--	--	12	4%
7. cough	156	68%	232	84%

source: 1992 and 1993 Ancoraimes household cluster sample surveys

As Table 43 shows, the warning sign showing the most notable relative improvement was "rapid and agitated respirations." There are no striking differences apparent in the absolute percentage differences, and one would not expect a major change after only 18 months of education in a relatively large rural area. There was, however, a 43% relative increase (from 14% to 20%) in the percentage of mothers who recognized rapid or agitated respirations as a warning sign. The percentage of mothers recognizing intercostal retractions, however, remained virtually zero.

These data do suggest that there is a clear need for improvement, particularly in educating mothers about rapid respirations as a warning sign of serious pneumonia. As mentioned previously for Carabuco, teaching Altiplano mothers to look for

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intercostal retractions is somewhat controversial because of the reluctance that mothers have to undress their sick children in the cool or cold weather.

Table 43

Absolute and Relative Changes Between 1992 and 1993 in the Percentages of Mothers in Ancoraimes Who Identified Warning Signs of Pneumonia

warning sign	changes in the percentage of mothers who mentioned this as a warning sign	
	absolute percentage difference	percentage change relative to baseline
1. did not know of any	- 4%	-25%
2. rapid and agitated respirations	+ 6%	+43%
3. intercostal retractions	- 1%	--
4. loss of appetite	- 4%	-36%
5. fever	+ 2%	+ 2%
6. cyanosis	--	--
7. cough	+16%	+24%

source: data derived from Table 42

Table 44 describes the results of an analysis of health care-seeking behavior among mothers of children with a strong cough and rapid or difficult respirations. The percentage of mothers who reported that they sought assistance from a non-traditional health care provider when their child had symptoms of a significant respiratory infection rose from 12% in 1992 to 28% in 1993.

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Table 44

Treatment-Seeking Behavior of Mothers in Ancoraimes for Childhood ARI, 1992 and 1993

	1992	1993
percentage of mothers reporting that their child had a strong cough and rapid or difficult respirations during the previous two weeks	14% (33/229)	43% (119/277)
percentage of mothers of children with significant ARI (defined above) who sought assistance from the health center, a physician, or other health worker	12% (4/33)	28% (33/119)

source: 1992 and 1993 Ancoraimes cluster sample household surveys

The marked increase in the percentage of children with significant ARI in October, 1993, compared to May, 1992, is consistent with a previously observed seasonal effect. October is the end of the winter on the Altiplano. In an analysis of the numbers of childhood ARI cases treated by month in Carabuco between 1987 and 1991, September and October had a much higher average number of cases than did April and May (Perry, 1992, p. 73).

DIP GOAL: provide 10 hours of training to 60 volunteers concerning the detection, treatment, and referral of patients with ARI.

RESULT:

In 1992, there were 58 volunteer community health educators (VCHES) trained in basic health topics including ARI detection and management. Thirty five percent (20/58) of those VCHES trained in 1992 were still active at the end of 1993. In 1993, 33 new VCHES began training.

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MTE RECOMMENDATION: promote the importance of ARI in the communities.

RESULT:

The Ancoraimes staff have given priority in their home visitation and in their meetings with community members to emphasize the importance of pneumonia as a cause of death in the project area and to stress the importance of warning signs as indicators of the need for antibiotic treatment.

As described elsewhere (see pp. 68-69), field staff from Ancoraimes as well as from Carabuco, Mallco Rancho, and Sipe Sipe all received training through PROCOSI in participatory styles of nonformal education regarding ARI. The ARHC staff attending this PROCOSI seminar shared their experience with other ARHC local field staffs at the time of their monthly continuing education conferences.

As a result of these experiences, the field staffs are now working together on standardizing health educational messages in Aymara and Quechua regarding ARI. In Carabuco and Ancoraimes, field staff have learned to make home-brewed cough syrups to be used in connection with teaching mothers to recognize danger signs of ARI.

REPRODUCTIVE HEALTH

MTE RECOMMENDATION: carry out verbal autopsies for all the deaths of women in the reproductive age group.

RESULT:

From April 1, 1992, until October, 1993, there were three deaths among women of childbearing age which were registered in Ancoraimes. One was due to retention of the placenta, one to lightning, and one to poisoning. None of these deaths had a verbal autopsy.

The verbal autopsy protocol in Ancoraimes is still not being systematically and comprehensively applied in a timely fashion, especially for adults. This is an area which needs further strengthening since there is a growing recognition among the project leadership in Bolivia that both verbal autopsy analysis and discussion of the autopsy results among field staff is critical for ongoing assessment of program impact as well as valuable for training and motivating the staff.

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MTE RECOMMENDATION: develop a strategy to train family members of pregnant women in safe and clean home delivery practices.

RESULT:

There have been no formal educational programs for family members of pregnant women regarding safe and clean home delivery practices. Nevertheless, there has been substantial informal training during home visits and at the time of community health talks. Health educational materials appropriate to the Altiplano area of Bolivia regarding maternal health have recently been developed by one of ARHC's technical staff, Dr. Carolina Hilari. These educational materials include information about safe and clean home delivery practices.

The delay in instituting formal educational programs for family members of pregnant women has been due to a lack of funding for maternal health activities and the lack (until recently) of appropriate educational materials. Dr. Hilari has worked closely with PROCOSI during the grant period to develop appropriate educational materials for mothers and their families. During 1994, the Ancoraimes project plans to provide training in safe delivery practices for at least one TBA and one other person from each community in the Ancoraimes area.

MTE RECOMMENDATION: encourage and train the staff to provide family planning services, possibly with the assistance of a national family planning organization.

RESULT:

Family planning services are now offered by the Ancoraimes Health Project. One of the rural health technicians there, Ms. Rosa Patiño, has been given supervisory responsibility for family planning activities. She has been assisted by the project's Executive Director, Dr. Maria Elena Ferrel, who is also a woman.

This has all been accomplished even though family planning activities for Ancoraimes were not included in the DIP nor were they supported with AID Child Survival funds. Additional funding to support family planning activities in Ancoraimes as well as in other ARHC sites is now being sought from other funding sources. In addition, coordination with other PVOs in Bolivia which have strong family planning activities is now beginning to occur.

During the 12 month period ending on October 31, 1993, there were 5 women who received birth control pills and 77 men who received condoms. The CS9 grant proposal calls for increasing emphasis on family planning activities in all of ARHC's project areas. This includes promotion of family planning, provision of family planning services, collaboration with family planning

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organizations in Bolivia and in the US, and promotion of prolonged breastfeeding as a means of natural birth spacing.

MTE RECOMMENDATION: promote the referral of high-risk pregnancies to a higher level of medical care.

RESULT:

There has been some progress in referring women in the Ancoraimes area who are experiencing a complication of childbirth. In most cases, this requires a Caesarean section. It is usually necessary to transport patients to La Paz, three hours away, for appropriate care.

MTE RECOMMENDATION: at the time of planned project evaluations, obtain the opinion of the community about the quality of the program, its achievements, and the community's perceived health priorities.

RESULT:

The MTE as well as the final evaluation have both included extensive discussions with community members about the project itself as well as about the community's perceived health priorities. The community perception of the health project was assessed in the 1992 and 1993 household surveys. As shown in Table 45, there has been a notable change in the ratings of the health project by mothers.

At the time the ARHC/IEMB collaboration began in 1992, 66% of the mothers had no opinion about the quality of health care in the Ancoraimes area compared to 26% in 1993. Among all the mothers interviewed in 1992, 21% rated health care services as excellent or good. In 1993, 69% of all the mothers interviewed rated the program as excellent or good. Comparing only those mothers with an opinion, the percentage rating the project as excellent or good rose from 62% in 1992 to 92% in 1993. In almost all cases, these were women who had actually received services from the Ancoraimes Health Program

These findings demonstrate strong progress in the improvement of the image of the program in the eyes of the community.

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Table 45

Opinions of Mothers About the Quality of the Ancoraimes Health Project

How do you rate the care you received from the Ancoraimes Health Project?	1992 (n=229)	1993 (n=277)
among all respondents:		
excellent	0% (1/229)	5% (13/277)
good	21% (47/229)	64% (176/277)
fair	8% (18/229)	4% (11/277)
bad	5% (11/229)	2% (5/277)
no opinion	66% (152/229)	26% (72/277)
TOTAL	100% (229/229)	101% (277/277)
among only those respondents with an opinion:		
excellent	1% (1/77)	6% (13/205)
good	61% (47/77)	86% (176/205)
fair	23% (18/77)	5% (11/205)
bad	14% (11/77)	2% (5/205)
TOTAL	99% (77/77)	99% (205/205)

source: 1992 and 1993 Ancoraimes cluster sample home surveys

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The achievements of the program mentioned by community members during focus group discussions held in November, 1993, as part of the final field evaluation included the following:

- a. provision of nutritional supplements for malnourished children;
- b. health care for our children;
- c. health education for mothers; and,
- d. improvement in the care provided at the Ancoraimes Health Center/Hospital.

The communities' health priorities as described by mothers at the time of the 1993 cluster sample household survey in response to the question "What are your suggestions to improve health in you community?" are listed in Table 49 on page 165. The most frequently expressed need was "more or better health care" (52%) or "medicines" (30%). "Education and training" and "family planning" were mentioned by 13% and 9%, respectively, of the mothers.

Priorities expressed during focus group discussions with community members at the time of the field evaluation in November, 1993, included:

- a. the project should give as much attention to adult health as it does to child health;
- b. we need health posts with their own permanently-based health worker and with basic medicines which are readily accessible to the people of the Ancoraimes Health Area, some of whom now live more than four hours away from any health facility;
- c. we need more training about prevention and treatment of childhood illnesses, preparation of traditional medicines, preparation of nutritious foods, family planning, literacy, home improvements, weaving, and animal health;
- d. the sick people in our communities need assistance; and,
- e. it would be better to carry out the home visits earlier in the morning or later in the afternoon.

HEALTH VOLUNTEERS

DIP GOAL: train 60 health volunteers (community health educators), approximately 15 for each censused community.

RESULT:

There were 58 volunteers trained in 1992 and 58 in 1993. The 58 trained in 1993 included 20 who had been trained in 1992 as well. Of the 58 trained in 1992, 20 remain active. Of the 58

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trained in 1993, 53 remain active.

MTE RECOMMENDATION: increase the number of volunteer community health educators, and reduce their responsibilities to:

1. detect and record vital events, pregnancies, and illnesses;
2. provide oral rehydration salts packets and advice regarding their use;
3. advise mothers regarding when to seek antibiotic treatment for ARI, when to give ORT treatment for diarrhea, and when to seek referrals for high-risk pregnancies;
4. assist the community auxiliary nurses with immunizations and nutritional monitoring; and,
5. assist the community auxiliary nurses with the annual community census.

RESULT:

There is still considerable discussion and controversy regarding the selection, training, and utilization of volunteers in the Ancoraimes Health Area. Training has included such topics as immunizations, ARI, diarrhea, maternal health, scabies, tuberculosis, nutrition, and environmental health.

MTE GOAL: analyze the current problems associated with the training and functioning of volunteer community health educators (VCHes) in local focus group discussions and possibly seek technical support as well.

RESULT:

At the time of the final evaluation, extensive discussions were carried out among the field staff about the issues of selection, training, utilization, and retention of VCHes. There was also discussion of these issues at the time of focus group discussions with local community people as part of the final evaluation exercise. Some of the points brought out in these discussions are described below.

One of the focus groups of mothers from one local community stated that the volunteer community health educators (VCHes) were not respected in their communities and that one of the reasons for this is that they do not have medicines to dispense. The Ancoraimes field evaluation team focused on the lack of "incentives" for VCHes as being a major drawback to their continuation. Ms. Lourdes Aquize, Health Facilitator for the PLAN INTERNATIONAL Altiplano Project, informed the group that their project volunteers receive three "incentives" which have proven to be helpful in reducing volunteer turnover and have a very low

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financial cost. These "incentives" were:

- a. the health volunteer does not have to participate in obligatory community work;
- b. the community improves the volunteer's house; and,
- c. the volunteer does not have to pay a consultation fee to the health project when he or she becomes ill.

There is an urgent need to consolidate the VCHE experience in Ancoraimes, in ARHC's other project areas, as well as in other child survival programs in Bolivia so that new, more realistic, and more appropriate plans for the selection, training, and utilization of VCHEs can be developed and so that implementation of these plans can move ahead.

MTE GOAL: try to include traditional midwives and other local traditional healers in the network of volunteers and informants.

RESULT:

This has not been carried out. Because of the enormous effort involved in beginning project activities in the Ancoraimes area during this grant period, it has not yet been possible to carry out this recommendation. As noted previously, however, progress has been made in Carabuco in establishing contact with traditional birth attendants and also in promoting interchange among themselves and with project staff. This experience will help to guide similar efforts in Ancoraimes in the future.

HEALTH EDUCATION

MTE RECOMMENDATION: reduce the number of health education messages and measure the changes in behavior which are being recommended.

RESULT:

There has been a concerted effort to simplify and to make more effective the health education messages provided by the community auxiliary nurses in group meetings and during home visitation. As our review of the findings for Ancoraimes of maternal knowledge regarding ARI warning signs and maternal knowledge/use of ORT has indicated, there are still major challenges ahead to improve these messages and their impact on related behaviors.

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CBIO METHODOLOGY

DIP GOAL: complete a census and begin routine systematic home visitation in 15 communities.

RESULT:

At the time of the evaluation, censuses had been completed in 10 communities. In all 10 of these, routine systematic home visitation was underway. The policy of the Ancoraimes project is to visit in censused communities those families with a child under 24 months of age every two months and to visit families with children 24-59 months of age every four months. Other families are supposed to be visited every six months.

For each of the 10 communities in the Ancoraimes Health Area with a census, 10 family health folders were reviewed. A random start was chosen, and then every "nth" family health folder was selected. For example, if a community had 100 homes, then every tenth folder would be selected.

Families were categorized as (1) those with at least one child under 24 months of age, (2) those with no children under 24 months of age but at least one child 24-59 months of age, and (3) other families.

The results of the analysis are shown in Table 46. Thirty-nine percent of the homes with children 0-23 months of age in censused communities received home visits at least every two months during the previous twelve months, and 70% of the homes with older children only were visited every four months.

Table 46

Frequency of Home Visitation Among Censused Communities
in the Ancoraimes Health Area, November, 1992 - October, 1993

family category	percentage of homes with the frequency of visits within the policies established by the program	
homes with children 0-23 months of age (policy to visit every two months)	39%	(11/28)
homes with no children 0-23 months of age but with children 24-59 months of age (policy is to visit every four months)	70%	(16/23)
other homes (policy is to visit every six months)	21%	(10/48)

source: review of family health folders, November, 1993

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A2. Circumstances Aiding or Hindering the Achievement of Project Objectives

The Ancoraimes Health Project and the Sipe Sipe Health Project are ARHC's newest, both having been in existence since 1992. The initiation of field activities began later than originally envisioned and this had an effect on the ability of the new projects to achieve their objectives. The major reason for these delays were related to complications of staff deployment and delays in establishing basic project operating systems.

The opinion of the evaluation team was that even though the Ancoraimes project had gotten off to a slow start and many of the DIP goals were not met, the project is now functioning well and should show strong progress over the three years of the CS9 grant (October, 1993 - September, 1996).

A3. Ancoraimes Final Evaluation Survey Results

The results of the final evaluation household survey is included in Appendix II. The results of the key indicators of child survival project performance for the Ancoraimes Health Project are shown in Table 46.

Table 46

Key Indicators of Child Survival Project Performance
in Ancoraimes

indicator	result
1. initiation of breast-feeding	
percent of children less than 24 months of age who were breastfed during the first eight hours after birth	61% (168/277)
2. exclusive breast-feeding	
percent of infants under four months of age who were given only breast milk	68% (42/62)
3. introduction of foods	
percent of infants between five and nine months who are being given solid or semi-solid foods	86% (40/46)
4. persistence of breast-feeding	
percent of children between 20 and 24 months who are still breast-feeding (and being given solid/semi-solid foods)	68% (23/34)
5. continued breast-feeding	
percent of children (less than 24 months) with diarrhea during the past two weeks who were given the same amount or more of breast milk	61% (61/100)
6. continued fluids	
percent of children (less than 24 months) with diarrhea in the past two weeks who were given the same amount or more fluids other than breast milk	53% (35/66)

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 TABLE 46 (continued)
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7. continued foods

percent of children less than 24 months with
 diarrhea during the past two weeks who
 were given the same amount or more food 43% (31/72)

8. ORT use

percent of children (less than 24 months) with
 diarrhea during the past two weeks who
 were treated with ORT:

defined as packets of ORT salts 9% (9/101)
 of ORT salts)

defined as ORT packets or home-based ORT 14% (14/101)
 or cereal-based solutions

defined as any oral liquid (including 50% (50/101)
 ORT, other liquids, or teas)

9. medical treatment of pneumonia

percent of mothers who sought medical treatment
 for child (less than 24 months) with
 cough and rapid, difficult breathing
 in the past two weeks:

medical treatment defined as assistance 28% (33/119)
 from a modern health care provider

medical treatment defined as assistance 31% (37/119)
 from a modern or a traditional health
 care provider

10. EPI access

percent of children 12-23 months of age who 72% (97/134)
 received DPT1

11. EPI coverage

percent of children 12-23 months who received 35% (47/134)
 OPV3

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TABLE 46 (continued)

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12. measles coverage

percent of children 12-23 months of age who received measles vaccine 65%
(87/134)

13. drop out rate

percent change between DPT1 and DPT3 doses [(DPT1-DPT3)/DPT1 x 100] for children 12-23 months 53%

(97-46)/97 x 100 = 53%

14. maternal card

percent of mothers with a maternal card for the birth of the youngest child less than 24 months of age (this percentage includes those mothers who said they had a card but this could not be verified) 3%
(9/277)

15. maternal tetanus toxoid coverage

percent of mothers who received two doses of tetanus toxoid vaccine (card) before the birth of her youngest child less than 24 months of age 29%
(79/277)

16. one or more ante-natal visits (card)

percent of mothers who had at least one ante-natal visit (card) prior to the birth of her youngest child less than 24 months of age 1%
(3/277)

17. modern contraceptive usage

percent of mothers with children less than 24 months of age who desire no more children in the next two years (or who are not sure) and are using a modern contraceptive method 0%
(0/277)

source: 1993 Ancoraimes household cluster sample survey

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B. Lessons Learned

See pages 11 - 27.

II. Ancoraimes Project Sustainability

A. Sustainability Status

A1. Termination of AID Funding for Child Survival Activities

CS6 funding for Ancoraimes did not actually begin until well into 1992, so that the progress reported here represents only about 18 months of project effort. Ancoraimes is included in ARHC's new CS9 grant which will continue through the fall of 1996.

A2. ARHC's Plans for Discontinuation of Child Survival Activities

ARHC anticipates continuing its presence in Ancoraimes for a number of years. ARHC's involvement will be needed in Ancoraimes for an extended period of time, but perhaps with gradually fewer resources being provided by ARHC.

A3. Phase Over of Responsibility and Control to Local Institutions

ARHC has been in the process for several years of establishing a Bolivian Board of Directors. Although ARHC has maintained legal status in Bolivia, it has been as a branch of a US-based entity. Papers are now being finalized to establish the "Consejo de Salud Rural Andino" as a free-standing Bolivian institution with its own Board of Directors. The Board now exists, is chaired by an outstanding Bolivian public health physician, Dr. Jorge Velasco, and meets regularly. The US Board of ARHC anticipates a gradually growing role of the Bolivian board for Bolivian ARHC operations.

The Ancoraimes Health Project is a joint venture of ARHC with the Bolivian Methodist Church and the MOH. The Church has been responsible for health care in the Ancoraimes Health Area for the past 25 years, but in recent years the quality of the

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program has diminished. Consequently, the number of services provided by the program there had declined substantially. The local community leaders requested ARHC's assistance in rejuvenating health care for the area. ARHC expects to assist the Ancoraimes Health Project to achieve results similar to those attained in nearby Carabuco and then gradually reduce its level of support, both technical and financial, so that the local people, the Bolivian Methodist Church, and the MOH can perform a stronger role while at the same time maintaining the quality and quantity of services which have been attained.

Since the beginning of the project in Ancoraimes in 1992, there has been an active collaboration with local community leaders. It appears, because of the substantial size of the Ancoraimes Health Area, that it will be necessary to decentralize the project around a series of community health posts as was achieved in Carabuco. Some of the outlying communities are over four hours away from the Ancoraimes Health Center/Hospital. Strong community involvement will be needed for deciding where these posts should be, for mobilizing community political support to push for assistance from the MOH in obtaining MOH personnel for the community-based health posts, for helping to build the posts themselves, and for participating in the supervision and administration of the health activities at each post.

B. Estimated Recurrent Costs and Projected Revenues

B1. Child Survival Activities Seen by Project Management as Most Effective and Worthy of Sustaining

There is a strong sense on the part of local field management staff in Ancoraimes as well as on the part of ARHC's higher management in La Paz and in the US that the census-based, impact-oriented (CBIO) approach is working well and should be maintained. The CBIO approach involves routine systematic home visitation, vaccination in the home, registration of vital events, nutritional monitoring and nutritional education at the time of home visitation, ORT training and support during home visitation, and treatment of ARI in the home. High-risk mothers and children receive more frequent home visitation. Although this methodology at present is in place in only 10 of the 51 communities in the Ancoraimes Health Area, there is a commitment of the staff there and of the La Paz ARHC staff to continue to expand this approach to cover the entire Ancoraimes Health Area.

The integration of child survival interventions with more comprehensive primary care services and with the MOH's services for the Ancoraimes Health Area has worked well and management staff want to see this continue.

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B2. Anticipated Ongoing Expenditures After Termination of Child Survival Support

Once AID Child Survival funding terminates for the Ancoraimes Health Project, the major challenge for ARHC and the Bolivian Methodist Church will be to find funds to continue logistical, technical, and administrative support and to find additional funding for local field staff salary support. Transportation is a critical need, and well-maintained, reliable four-wheel drive vehicles are a necessity to continue project operations. This has proven to be expensive. Technical and administrative support will continue to be a critical need. Although there will probably be strong political pressure from the communities in the Ancoraimes Health Area for the MOH to support a number of auxiliary nurses at community health posts, it is highly unlikely that the MOH will be able to provide all the support that will be needed. ARHC is committed to reducing recurring costs as one important way of achieving eventual sustainability.

B3. Estimate of Ongoing External Financial Needs

A conservative guess is that, once AID funding terminates, it will be necessary for ARHC to continue to provide at least \$60-80,000 per year in the near future to maintain project operations there. The Ancoraimes Health Area contains 50% again as many people as the Carabuco Health Area (14,000 versus 9,500), and its geographic size is about twice as great.

ARHC's Bolivian counterpart NGO (Consejo de Salud Rural Andino) is having some success in obtaining funds from several other international funding agencies as well as from churches and individuals in Germany to support the Ancoraimes project.

If local annual per capita costs can be reduced to \$6-7, and if locally generated income along with MOH support can be increased somewhat, within the next five to seven years almost half of ongoing project costs would be provided with MOH and locally generated funds. Because of the extreme poverty of this area, it is unlikely that more than half of the project's recurring expenses can be sustained without external ARHC or Bolivian Methodist Church funds unless resources from the MOH increase substantially.

B4. Are Costs Reasonable?

ARHC is searching for new strategies which will make it possible to maintain the basic concepts of the CBIO approach while reducing costs. An annual cost of \$6-7 per capita appears at present the minimum expenditure possible without a major reduction in the quality of project operations. At the present

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time, local field costs for the Ancoraimes Health Project are running about \$80 - \$90,000 per year, which is about \$6 - \$7 per capita. Unfortunately, this level of resources is not sufficient to extend the CBIO approach to the entire Ancoraimes Health Area.

B5. Projected Revenues After AID Funding Ceases

ARHC's goal is to establish a high-quality, sustainable primary health care project which is making a measurable impact on infant and child mortality. Since the Bolivian Methodist Church has been directing health care activities there for many years, ARHC sees its role as strengthening the Church's capacity to maintain a sustainable high-quality health care project in the area. The Church has access to external funds which it can use, if it chooses, to provide support for its health activities in Ancoraimes. Financial support from the Bolivian Methodist Church for the Ancoraimes Health Project is currently approximately \$10-15,000 per year. ARHC hopes that church support will begin to increase in the near future, making it possible for ARHC to begin to gradually diminish its support.

Funding for ARHC's activities in Ancoraimes comes from a variety of sources in addition to AID and ARHC's individual donors. Continued ARHC financial support is anticipated for the indefinite future to continue project operations. As mentioned above, \$60-80,000 in external support will be needed for the next 5-8 years in the Ancoraimes Health Area to support program operations. ARHC hopes that the Bolivian Methodist Church will eventually be able to contribute half of that amount, leaving ARHC with a responsibility for \$30-40,000 per year.

B6. Costs Which Are Not Likely to Be Sustainable

Logistical, administrative, and technical support for Ancoraimes operations will be difficult to maintain over the long-term without some external financial assistance. Eventually, we anticipate that local salaries and local project expenses will become sustainable with locally-generated funds and with MOH salary support. Unfortunately, this is many years away.

B7. Lessons Learned Regarding Costs and Revenues

The Ancoraimes Health Project has not been in existence long enough yet to draw any lessons regarding costs and revenues. However, there is growing consensus within ARHC that clinic-based curative health services which patients perceive to be of good quality will increasingly be able to generate funds that can be used to support preventive services for everyone and to support health care for poorer families. This will require continued attention to the quality of the staff and equipment and to "marketing" curative services to the local community. Field staff have the impression that a significant number of patients

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from the Ancoraimes Health Area are going to La Paz for curative care. Some of this care could be provided locally if there were more confidence in the local health services.

C. Sustainability Plan

C1. Project Staff Interviewed

All Ancoraimes field staff were interviewed along with the ARHC Bolivian National Director (Mr. Nat Robison) and the US ARHC Executive/Program Director (Mr. David Shanklin). The field staff include the Executive Director for the Ancoraimes Health Project (Dr. Maria Elena Ferrel), the local staff physician (Dr. Hernan Castro), the local field supervisor (Mr. Simon Saavedra), two rural health technicians (Mr. Simeon Barrera and Ms. Rosa Patiño), three auxiliary nurses, two paid community health promoters, and four volunteer community health educators. The project design was worked out primarily by the US ARHC Executive/Program Director with the ARHC Bolivian National Director. Implementation was carried out by the project's Executive Director and local field staff. Monitoring and evaluation has been carried out by all of the above together with ARHC's Program Advisor (Dr. Henry Perry). ARHC has developed a participatory style of evaluation that includes all local field staff.

C2. The Project's Plan for Sustainability

Briefly stated, ARHC's plan for sustainability of the Ancoraimes Health Project is to gradually reduce overall project costs by reducing local paid staff to a minimum, increase locally-generated fee-for-service income, and increase the contributions provided by the Bolivian Methodist Church and the MOH. ARHC's Bolivian National Director feels that, because of the extreme poverty of the area, it will be 15-25 years before the Ancoraimes project is fully sustainable. The goal during the next five to eight years is to increase MOH and locally generated income to cover 50% of project costs, to reduce overall local project costs to \$6-7 per capita, and to increase the support from the Bolivia Methodist Church to be at least as great as the support provided by ARHC.

C3. Sustainability-Promoting Activities Carried Out

In Ancoraimes, there has been a strong effort from the beginning to make curative services supportable with local income. This has not been easy because of the extreme poverty of the area. No medicines, for instance, are provided free of charge even if the medicines were donated. There is one exception to

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this: if the patient clearly is unable to pay and the medical condition is serious.

Another sustainability-promoting activity which has been undertaken is the rental of some of the buildings at the Ancoraimes Health Center/Hospital to other groups looking for a place to hold seminars or meetings. There is an underutilized building with a large meeting area and an adjacent kitchen. The building is a useful resource for community groups and other development programs in the area.

C4. Evaluation of Sustainability Plan

As mentioned previously, there has been envisioned at ARHC the elaboration of a detailed document outlining a sustainability strategy. This document is now being written and will serve as the basis for more detailed policies which will enable ARHC to develop and to monitor sustainability more carefully.

C5. Contributions From Counterpart Institutions to Project Activities

The agreements with the MOH for vaccines, vaccination supplies, TB medicines, and salary support were met as agreed to with the exception that there were from time to time temporary lapses in the availability of some of the vaccines.

Prior to the initiation of project activities in Ancoraimes, there were no auxiliary nurses for the 14,000 people residing in this large health area. Since then, however, the MOH has partially supported two of ARHC's staff who are rural technicians. These two people (Simon Saavedra and Rosa Patiño) each receive from the MOH an auxiliary nurse salary which is supplemented by ARHC. The project also supports another auxiliary nurse who does not receive MOH salary support.

The Bolivian Methodist Church expected at the initiation of this joint project to provide approximately \$12,000 a year for expenses. To date, the church has met its obligation.

C6. Reasons for Success or Failure of Counterpart Institutional Support

Although MOH salaries are low, the MOH is reliable in paying them. The donated materials such as vaccines, vaccination supplies, and TB medicines are provided to the MOH by international donors such as AID, so they are generally available as well. Even so, there are occasional interruptions in supplies which have affected project operations during the grant period.

The collaboration with the Bolivian Methodist Church has so far been remarkably productive even though the Church has been

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preoccupied with internal political conflicts at the national level. The strong desire of the communities for an improved health program in the Ancoraimes area together with the Church's inability to respond on its own to this community need has made ARHC's contributions welcome.

D. Monitoring and Evaluation of Sustainability

D1. Indicators Used to Track Sustainability Outputs and Outcomes

Although extensive financial data for the Ancoraimes project are in-hand, it has not yet been possible to thoroughly analyze them and monitor progress toward financial sustainability as ARHC has been able to do in Carabuco.

D2. Do These Indicators Show Any Progress?

See above.

D3. Qualitative Data Suggesting Changes in Sustainability

The discussions held with community members in the Ancoraimes Health Area (both leaders and mothers' clubs) at the time of the final evaluation in November, 1993, suggest that there is a strong interest among the women of the area in becoming involved in income-generating activities which would benefit them and their families individually but which would also provide support for health-related activities.

D4. In-country Agencies Participating in Project Design, Implementation, or Evaluation

Bolivian Methodist Church representatives have participated with ARHC in all aspects of the project including design, implementation, and evaluation. The Johns Hopkins PVO Child Survival Support Program Latin American Regional Office provided important assistance with the design of the final evaluation cluster sample survey and with the training of the supervisors of the survey. CARE and PLAN INTERNATIONAL field staff also participated in the field evaluation activities.

D5. Sustainability Recommendations Made by Technical Reviewers of the Initial Proposal and DIP

In the technical review of the initial proposal, the following recommendations were made:

- a. clarify the MOH's role in the revolving drug fund;
- b. consider more cost-effective approaches to ensure

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continuation of the project after termination of ARHC funding (such as reducing the level of home visitation, focusing on high-risk infants, and shifting to service delivery at fixed and outreach sites);

- c. give more attention to strengthening MOH capacity, not just supplement MOH activities; and,
- d. increase training and support of non-professional community health workers since this would decrease reliance on higher salaried staff.

Concerns raised in the technical review of the DIP were the following:

- a. develop a more detailed sustainability plan;
- b. document lessons learned (success and failures) to date in the sustainability of the original child survival project;
- c. review the experience with cost recovery;
- d. test income generation, community financing, fee-for-service, and so forth in new areas;
- e. develop sustainability indicators since none were presented in the DIP;
- f. reduce recurrent costs and raise more local revenues;
- g. increase information feedback to the communities so they will be more aware of the services provided by the project and thus more willing to provide continuing financial support.

In Ancoraimes, the policy for the revolving drug fund has been clarified. All medications except TB medicines are included. The MOH no longer provides any other medicines free of charge. In the past, the MOH did not allow charges for penicillin injections for infants and children with ARI. This is no longer the case, and ARI medicines must now be obtained from other sources.

In spite of the obvious cost savings of service delivery at fixed sites, the Ancoraimes staff have found the home-based delivery of services to be so effective that they have preferred to rely heavily on this. Furthermore, because of the absence of health posts in the area at present, it is almost impossible to provide services at fixed delivery sites. Thus, a reduction in the numbers of home visits in Ancoraimes will not be indicated for some time.

The current information suggests that the infant and second year death rates in Ancoraimes are substantially higher than those for Carabuco. Once these rates in Ancoraimes decline to a more optimal level and once there are readily accessible health posts, it will become possible to begin to reduce the number of

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home visits through a more precise targeting strategy.

The incorporation of MOH personnel into the project staff means that all the training provided by ARHC staff in Ancoraimes is received by the MOH staff assigned to the project. It is also quite common now for MOH staff from other geographic areas to come and visit all of ARHC's projects, including the Ancoraimes project, because of the projects' growing reputation as promising new approaches to health care delivery. Although there has been over the years at the MOH a lack of understanding of ARHC's CBIO approach, there now appears to be a growing enthusiasm within the MOH for ARHC's work and an eagerness for ARHC to expand its work to the district level and participate in the development of "model health districts" for the country.

There has been a growing recognition that an increased reliance upon volunteer health staff represents one partial solution to the problem of sustainability. Consequently, considerable staff time and energy have gone into the training of volunteer community health educators (VCHes). The results of these efforts in Ancoraimes have been more successful than in ARHC's other AID-supported child survival projects. In 1992, the Ancoraimes Health Project trained 58 VCHes. Thirty-eight did not continue their involvement, resulting in a desertion rate of 66% (38/58). However, with the incorporation of 33 new VCHes in 1993 who completed their training, there were at the time of the final evaluation exercise in November, 1993, 53 VCHes still active in the Ancoraimes Health Area. There is uncertainty at present, nonetheless, about the most appropriate policies for the selection, training, and responsibilities of these VCHes.

There has been a long-standing recognition of the need for a comprehensive sustainability plan for ARHC's activities in Bolivia. Plans are underway for this finally to be completed in 1994. All of the lessons learned (both positive and negative) with respect to sustainability have still not been carefully analyzed. Such an analysis will, however, be carried out and will serve as important background information for ARHC's new comprehensive sustainability strategy.

The pilot testing of new approaches such as community financing schemes, income generation schemes, and increased fee-for-service revenues has not received a high priority in Ancoraimes so far because of the enormous effort required by the local staff to initiate community health activities and to improve curative services.

Since the Ancoraimes project is still in an early phase, feedback to the communities has included only the results of the census work in which the communities themselves participated. Discussions of health problems have been held during community assembly meetings as well, however.

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D6. Results of Recommendations for Sustainability Arising from the MTE

The recommendations arising from the MTE were as follows:

- a. establish realistic objectives for sustainability;
- b. involve community leaders in sustainability issues to a greater degree;
- c. explore the possibility of analyzing the sustainability of similar other health programs in Bolivia; and,
- d. consider the provision of a course in leadership and management skills for community leaders.

Although progress has been slow and a detailed sustainability strategy document will not be available until later in 1994, increased thought and discussion about these issues has been a major characteristic of ARHC during the past three years. For example, there has been since the beginning of the Ancoraimes project a stronger involvement of community leaders than was the case in nearby Carabuco.

The proposed course in leadership and management skills for community leaders was carefully considered for inclusion in the CS9 proposal, but funding constraints made it necessary to delete it from the grant.

E. Community Participation

E1. Community Members Interviewed:

- a. 20 women representing the community of Chuntamarca;
- b. 11 women and three authorities (men) for the communities of Corpa Grande and Chinchaya; and,
- c. eight community leaders (all men) representing eight different communities in the Ancoraimes Health Area;

E2. Child Survival Activities Perceived as Being Effective at Meeting Current Health Needs

The community members interviewed felt that the most beneficial aspects of the project included the provision of "api nutricional" (the local high calorie/high protein food supplement) for malnourished children, the health services provided for the children, and the training of women in ORT use and in improved nutrition. The improvement in the medical care

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provided at the Ancoraimes Hospital/Health Center was also mentioned.

E3. Activities Carried Out to Help Communities Meet Their Basic Needs and Sustain Effective Child Survival Activities

Activities mentioned by the community members who were interviewed included the following:

1. immunization of mothers and children;
2. growth monitoring of children;
3. home visitation; and,
4. provision of medicines for sick children

E4. How Did Communities Participate in the Design, Implementation, and/or Evaluation of the Project?

The Ancoraimes Health Project staff have had extensive discussions with community members and their leaders regarding the new community health initiatives which the project has undertaken during the 18 months prior to the final evaluation. Thus, the communities have been involved in the initiation of child survival activities in their communities.

The first 18 months of project activities have stimulated a strong interest on the part of community leaders throughout the Ancoraimes Health Area, especially among those from the more isolated communities. These leaders are now in active dialogue with ARHC project leadership about how and when project activities will be expanded to their local communities.

There was a strong participation of local community leaders and local VCHEs in the final evaluation carried out in Ancoraimes in November.

E5. How Many Health Committees Exist and How Do They Function?

There are no formal health committees at present in the Ancoraimes Health Area, but each community has a set of leaders elected annually who represent the community in all matters, including health care. In the Aymara tradition, such leadership positions are rotated annually among community leaders. Thus, elected leaders tend to be representative of the community they represent. These committees generally meet every two to three months.

E6. What Issues Are Being Addressed by These Health Committees?

At this time, the major issues being addressed by the community leaders are (1) where it might be possible to establish community health posts throughout the Ancoraimes Health Area, and (2) how it might be possible to obtain the resources needed for

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the functioning of these posts. Since the initiation of project activities in the Ancoraimes Health Area, however, community leaders have played an active role in the community censuses and in the selection of community health volunteers. The local committees are discussing their roles for ongoing management and support of the health posts as well.

E7. What Resources Has the Community Contributed to Provide for Sustainability?

The community has been generous in offering its labor and local materials when these were helpful and appropriate. The community also pays what it can for curative services received.

E8. What Are the Reasons for the Success or Failures of Community Support?

Among the Aymara people, there is a strong cultural tradition of community collaboration. Thus, when an Aymara community perceives a potential benefit, it is ready to mobilize itself to work on whatever activity is needed. Because of the extreme level of poverty of the area, the amount of actual cash available to help support the financial costs of project operations is quite limited.

F. Ability and Willingness of Counterpart Institutions to Sustain Activities

F1. Persons Interviewed

- a. Dr. Natalio Riveros, Director of Rural Programs, the La Paz Regional Office of the MOH (Unidad Sanitaria)
- b. Mr. Teodoro Chura, National Supervisor of Medical Work, the Bolivian Methodist Church
- c. Rev. Filiberto Ramirez, Pastor for the Ancoraimes Area, Bolivian Methodist Church
- d. Ms. Patrocinia Maceda, Field Supervisor for CARE

Dr. Riveros, Mr. Chura and Rev. Ramirez participated in the entire Ancoraimes final evaluation exercise.

F2. Linkages Between the Child Survival Project and Health Development Agencies

The Ancoraimes Health Project is directed by ARHC, but the local staff also includes the MOH staff assigned to the area. The MOH staff in the Ancoraimes Health Area now includes one physician, one graduate nurse, and two auxiliary nurses. Prior to

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the initiation of the project, neither the Bolivian Methodist Church nor the MOH had any auxiliary nurses in the project area. The doubling of MOH personnel in the area from two to four health professionals since the beginning of the project is a major step in achieving longer-term sustainability.

The MOH provides all vaccines, vaccine supplies, UNICEF growth charts, ORT packets, and TB medicines. This provision of resources by the MOH leads to close collaboration by the Ancoraimes Health Project with all phases of the MOH's activities, both at the district level and at the regional office of the La Paz "Unidad Sanitaria." The MOH staff members to the Ancoraimes Health Project continue to receive their regular salaries from the MOH.

In addition to its collaboration with the MOH and with the Bolivian Methodist Church in Ancoraimes, ARHC has been able to collaborate closely with CARE. CARE is now in the process of installing three community water systems and latrines in the Ancoraimes Health Area. Just as in Carabuco, ARHC will be helping CARE in health education, follow-up, and supervision once the water systems and latrines are in use. Since CARE has had to reduce its budget substantially, this collaboration is particularly helpful to CARE.

F3. Key Institutions Expected to Contribute to Sustainability

ARHC hopes that the support of the Bolivian Methodist Church for the Ancoraimes Health Project will increase during the next few years. There is also hope that, with encouragement from the local communities, the MOH will agree to increase the number of salaried positions for auxiliaries health nurses in the area. The MOH during the first 18 months of grant activity has already created two new salaried positions in the Ancoraimes Health Area. The key element in improving sustainability of the Ancoraimes Health Project, however, is the stronger incorporation of the community and its leaders into the project and the provision of quality services whose cost is at a level the local people can afford.

F4. Opinions of Collaborating Institutions About the Project's Most Effective Interventions

Ms. Patrocinia Maceda, Field Supervisor for CARE in the Ancoraimes Health Area, considers home visitations to be the project's most effective intervention. Through this approach, she said, it is possible to reach the entire community. The approaches with which she herself is involved at CARE (working with mothers' clubs and with members of a community water system cooperative) do not afford this same opportunity, she indicated.

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F5. Contributions of the Project to Local Staff Capacity

The Ancoraimes Health Project empowers local field staff to teach and train others with less formal training. All levels of staff, from the Project Executive Director to the local volunteer community health educator, receive training in child survival interventions. This training, combined with their direct work experience, is one of ARHC's contributions to the sustainability of child survival activities in Bolivia. This knowledge and training will remain with all staff wherever they might work in the future.

F6. Capacity of the MOH and Other Local Institutions to Sustain Project Activities

In Bolivia, there is a movement toward decentralization of MOH activities from the regional offices to the district level. This could have the effect of providing the districts with more resources than they had previously. If this happens, then possibly the Ancoraimes Health Project could receive more support from the MOH than it currently receives. As mentioned previously, the Bolivian Methodist Church has access to external resources which it could use to provide increased support for the Ancoraimes Health Project if it so chooses.

F7. What Project Activities Do Counterpart Organizations Perceive as Being Effective?

Dr. Natalio Riveros, Rural Supervisor of the La Paz "Unidad Sanitaria," considers the CBIO approach which has been developed in Carabuco and which is in the process of being developed in Ancoraimes to be an exciting new approach to rural health care delivery. He would like to see this approach tried on a larger scale at the district level, both for the Illimani MOH Health District, which includes Ancoraimes, as well for the Suches MOH Health District, which includes Carabuco. He is impressed with the high levels of immunization coverage achieved through home vaccination and thinks that the registration of vital events at the time of routine systematic home visitation is an exciting concept of great utility for Bolivia. He thinks that if ARHC were willing to take on the implementation of the CBIO approach throughout both of these health districts, these districts could become models for the La Paz region of Bolivia, if not for the entire country.

The Bolivian Methodist Church representatives, Mr. Teodoro Chura and Rev. Filiberto Romero, expressed their satisfaction with the strong community-based nature of the project and with the project's attempt to reach all persons in the Ancoraimes Health Area who are in need.

G. Project Expenditures

See pages 28 - 29.

H. Attempts to Increase Efficiency

H1. Strategies to Reduce Costs, Increase Productivity, Improve Efficiency

The investments made in the Ancoraimes Health Project since the beginning of AID child survival support have made it possible to expand community-based child survival services, to provide available transportation for patients and staff throughout the Ancoraimes Health Area, to improve the drugs and supplies at the Ancoraimes Health Center/Hospital, and to upgrade the quality of medical services throughout the area. An effective referral system for patients needing hospitalization has also been developed. These have all created a substantial increase in the quantity of child survival services and curative services for adults. Thus, with the investments made to expand and improve project services, the staff in Ancoraimes have become much more productive than they were prior to ARHC's collaboration which began in 1992.

H2. Reasons for Success or Failure in Reducing Costs, Increasing Productivity, or Improving Efficiency

There was an enormous unmet demand for health services in the Ancoraimes Health Area prior to 1992. The unmet demand is still substantial, but not as great as it was earlier. In such a situation, the investment of a relatively small amount of funds can have an enormous payoff if a competent and highly motivated staff can be recruited, if there is a commitment to improving the quality of medical care available, and if the staff members are committed to reaching every child in the project area with basic child survival interventions.

H3. Lessons Learned Regarding Improving Efficiency

The first 18 months of operation of the Ancoraimes Health Project has provided an opportunity to observe firsthand some important lessons regarding improved organizational capacity for project implementation. It took ARHC more than three years to accomplish what was accomplished in less than half the time in Ancoraimes. In addition, lessons from the past in Carabuco are now being applied in Ancoraimes. For instance, there will be fewer salaried auxiliary nurses trained and hired in Ancoraimes than occurred in Carabuco, and newly constructed health posts will be fewer and more evenly located throughout the Ancoraimes

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project area than was the case in Carabuco. In Carabuco, 11 health posts were built, some less than one kilometer apart.

Another related lesson learned from the Carabuco experience which is now being applied in Ancoraimes is the inclusion of a lower level of paid health staff without formal professional training. At the present time, the Ancoraimes Health Project has two such community health promoters on its paid health staff.

I. Cost Recovery Attempts

II. Cost-Recovery Attempts of the Project

The project charges for all service provided, except for most child survival interventions and home visits. Patients pay a fee for all curative services and medicines. Those with serious or life-threatening illnesses receive care even if they are unable to pay for it.

I2. Estimate of Amount of Funds Recovered

Table 47 shows the amount of local funds generated from services provided since the project began in FY 1992. In its second year of operations, the Ancoraimes project already has achieved in terms of local support what it took the Carabuco project eight years to achieve, namely 5% of recurring local project costs supported through locally generated income.

Table 47

Amount of Locally Generated Funds and Total Recurring Local Project Costs for the Ancoraimes Health Project, 1992-1993

fiscal year*	locally generated income	total recurring expenses	percent of total expenses met with locally generated income
1992	\$2,515	\$81,309	3%
1993**	\$4,294	\$92,718	5%

note: (1) recurring expenses have not included vehicle depreciation;

(2) 1992 recurring expenses include \$10,079 in MOH salary support, \$1,500 in MOH supplies, \$3,000 in IEMB building depreciation, and \$66,730 in other expenses;

(3) 1993 recurring expenses included an estimated \$14,188 in MOH salary support, \$1,500 in MOH supplies, \$3,000 in IEMB building depreciation, and \$69,736 in other expenses.

* fiscal year is from March 1 to February 28.

** 1993 estimates are based on costs during the first six months of the fiscal year.

13. Effect of Cost Recovery Activities on Project Reputation and on Equity of Services Delivered

Initially, efforts at local cost recovery were not enthusiastically received by the communities. Now, there appears to be a general recognition that the families and the communities will have to provide financial support if the project is to provide quality services.

There is a strong ethic of equity within the Ancoraimes Health Project staff. The home visitation activity ensures that contact is made with all families in the project area. No family has been denied basic services because of an unwillingness or inability to pay, and no sick child failed to receive treatment because of this either. Due to a lack of staff, routine systematic home visitation is currently taking place in only 10 of the 51 communities in the Ancoraimes Health Area for which the project is responsible. However, even though the project's staff members are able to come to the other 41 communities only every

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three months or so, they do carry out home visits at that time in an attempt to provide needed preventive and curative services to as many people as possible.

I4. Reasons for Success or Failure of Household Income-Generating Activities of the Project

There were no household income-generating activities planned or carried out.

I5. Lessons Learned Regarding Cost Recovery for Other Child Survival Projects or for AID

It is too early in the project's experience to draw any specific conclusions regarding cost recovery.

K. Summary of Sustainability

Current estimates for the Ancoraimes project indicate that 17-22% of recurrent expenses are being met by MOH support and locally generated income (see Table 48)

Table 48

Estimate of Percentage of Recurring Ancoraimes Project Costs Met With MOH and Locally Generated Funds, 1992-1993

fiscal year	MOH contribution to recurring costs (1)	locally generated income (2)	ARHC/IEMB contribution (3)	total (a) (4)	percent of total from MOH and local sources*
1992	\$11,579	\$2,515	\$69,730	\$81,309	17%
1993	\$15,688	\$4,294	\$72,736	\$92,718	22%

notes: (a) does not include vehicle depreciation; data taken from Table 46
 * obtained by adding columns (1) + (2) and dividing by column (4)

III. The Community's Perceived Health Priorities in Ancoraimes

Defining the community's perceptions of its health priorities is an important aspect of the census-based, impact-oriented (CBIO) approach. The CBIO approach combines the epidemiologic priorities (that is, the most frequent readily preventable or treatable causes of death) together with the community's health priorities, to make up the project's priorities.

The community's perceptions of its health priorities were determined at the time of the cluster sample survey of mothers of children 0-23 months of age. They were asked, "What are your suggestions to improve health in your community?" The results were tabulated by hand as part of the field evaluation exercise carried out by the field staff and evaluation participants.

The results of this analysis are shown below in Table 49. The most frequently mentioned priorities were "more or better health care" (52% of respondents) and "medicines" (30% of respondents). "Education and training" was mentioned by 13% of the respondents, and "family planning" by 9%.

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Table 49

Suggestions for Community Health Improvement Made by Mothers
of Children 0-23 Months of Age Participating in the
Ancoraimes 1993 Household Cluster Sample Survey

suggestion	number of mothers making suggestion	percentage (n=277)
1. more or better health care	144	52%
a. vaccinate the children	34	12%
b. come to the communities to provide health care	31	11%
c. a health post or health personnel permanently in the community	29	10%
d. home visits	14	5%
e. more care for mothers and children	8	3%
f. more care for older persons	4	1%
g. more care in general	24	9%
2. medicines	83	30%
3. education and training	37	13%
4. family planning	26	9%
5. environmental health/hygiene	20	7%
6. food or better nutrition	16	6%
7. traditional medicine	4	1%

source: 1993 Ancoraimes household cluster sample survey (manual
analysis of original data)

In addition to the hand manual analysis of the original questionnaires carried out by the field evaluation team, the Ancoraimes staff physician, Dr. Hernan Castro, conducted his own analysis of the computerized survey data. The responses of the mothers were supposed to have been transferred into the computer exactly as they were written, but unfortunately there appears to have been some changes in the responses as they were being

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transcribed into the computer. These responses in the computer were then categorized by Dr. Castro somewhat differently from those of the field evaluation team, and his results were somewhat different as well. According to Dr. Castro's analysis, the leading category of need expressed by mothers was "medicines and pharmacies" followed by "assistance for children" (see Table 50 below).

Table 50

Suggestions for Community Health Improvement Made by Mothers of Children 0-23 Months of Age Participating in the Ancoraimes 1993 Household Cluster Sample Survey

suggestion	number of mothers making suggestion	percentage (n=277)
1. medicines and pharmacies	62	22%
2. assistance for children (vaccinations, vitamins, food)	31	11%
3. education in health	24	9%
4. permanent or better care in the communities	24	9%
5. physicians, nurses, or other health personnel in the communities	22	8%
5. family planning, assistance with pregnancy and childbirth	19	7%
6. construction of health posts	13	5%
7. cleanliness, nutrition	8	3%

source: 1993 Ancoraimes household cluster sample survey (categorization of computerized data) and analysis by Dr. Hernan Castro

In the course of focus group interviews with groups of community members, including women and community leaders, a number of health priorities were expressed. These were described on page 137.

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IV. Ancoraimes Project Mortality Analysis

The census-based, impact-oriented (CBIO) approach makes it possible to calculate mortality rates in the population since censuses of the area are updated annually and since births and deaths are registered at the time of routine systematic home visitation.

This process has been underway in Ancoraimes since 1992 in eight communities with a population of 1,795 persons. Two more communities have been included more recently. Routine systematic home visitation began in these eight communities at the time of initiation of project activities. Even though the population is small, the observed mortality rates should nonetheless represent close to baseline rates since no project services were being provided prior to registration of vital events. At the time of the field evaluation in Ancoraimes in November, 1993, mortality rates were calculated for the 12 month period from November, 1992, until the end of October, 1993.

Table 51 demonstrates an overall infant mortality rate of 125, approximately twice that observed for neighboring Carabuco. The second year (12-23 month) year mortality rate is low (16) but still higher than that observed in Carabuco (0). The 24-59 month mortality rate in Ancoraimes (18) is also considerably higher than that for Carabuco (5).

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Table 51

Infant and Child Mortality Rates for the Ancoraimes Health Area,
November, 1992-October, 1993

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	<u>mortality rate</u>
neonatal mortality rate (deaths in the first 30 days of life per 1,000 live births)	54
postneonatal mortality rate (deaths during the first year of life but after the first 30 days per 1,000 live births)	71
infant mortality rate (deaths during the first year of life per 1,000 live births)	125
12-23 month mortality rate (deaths during the second year of life per 1,000 children of this age group)	16
24-59 month mortality rate (deaths during the third to fifth year of life per 1,000 children of this age group)	18

source: Ancoraimes birth and death registry, census data.

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V. Evaluation Team for the Ancoraimes Health Project

Members of the Carabuco Local Field Staff

Dr. Maria Elena Ferrel,	Executive Director
Dr. Hernan Castro,	MOH staff physician
Ms. Maria Marquez,	nursing supervisor
Mr. Simon Saavedra,	community field supervisor
Mr. Simeon Barrera,	community field supervisor
Ms. Rosa Patino,	rural health technician
Mr. Martin Chiri,	community auxiliary
Ms. Sabina Poma,	community auxiliary
Mr. Demetrio Ticona,	community auxiliary
Mr. Gregorio Arequipa,	community health promotor (paid), Cancahuani
Mr. Alberto Quispe	community health promotor (paid), Chinchaya
Mr. Teodoro Arobito,	volunteer community health educator, Ispaya Este
Mr. Isaac Cordero,	volunteer community health educator, Ancoraimes
Mr. Walter Paucara,	volunteer community health educator, Villa Cajjata
Mr. Antonio Quispe,	volunteer community health educator, Villa Cajjata

Other ARHC Staff Participating

Mr. Nat Robison,	National Director, ARHC
Mr. David Shanklin,	International Executive and Program Director, ARHC
Dr. John Wyon,	Chair, Program Committee, ARHC Board of Directors
Dr. Henry Perry,	Program Advisor, ARHC
Dr. Javier Baldomar,	Associate Director, Villa Cochabamba Health Program, Montero (ARHC)
Mr. Adam Kolff,	ARHC volunteer
Ms. Sarah Bott,	ARHC volunteer

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External Evaluators

Dr. Natalio Riveros,	Rural Supervisor, La Paz Regional Health Office ("Unidad Sanitaria"), MOH
Mr. Teodoro Chura,	National Supervisor for Medical Work, Bolivian Methodist Church
Rev. Filiberto Ramirez,	Methodist Pastor, Ancoraimes Area
Ms. Patrocinia Macedo, Ms. Lourdes Aquize,	Field Supervisor, CARE Health Facilitator, PLAN INTERNATIONAL
Mr. Cirilio Mamani,	Chief Provincial Officer of the "Sindicatos" of North Omasuyos
Ms. Isabela Stout,	PROCOSI Coordinator, USAID- Bolivia
Mr. Paul Ehmer,	Child Survival Advisor, USAID-Bolivia

Author of Evaluation Report: Dr. Henry Perry

THE MALLCO RANCHO PROJECT EVALUATION

I. Project Accomplishments and Lessons Learned

A. Project Accomplishments

A1. Objectives and Accomplishments Related to Each Objective

The goals for the Mallco Rancho Project as described in the Detailed Implementation Plan are shown below together with the results of the final evaluation. In addition to these goals, recommendations arising from the Mid-Term Evaluation (MTE) are also outlined along with the progress made in implementing these recommendations.

IMMUNIZATIONS

DIP GOAL: 90% of children 12-23 months of age should be completely vaccinated (i.e., they should have received measles, BCG, OPV3, and DPT3 vaccinations), and 70% of children 12-23 months of age should have been completely vaccinated before completing their first birthday.

RESULT:

The household survey carried out in October, 1993, demonstrated that 75% of the children 12-23 months of age had been completely vaccinated at the time of the survey. Sixty percent of children 12-23 months of age had been completely vaccinated before completing their first birthday. The vaccination coverage rate in Mallco Rancho in 1992 was 73%, with 54% having been completely vaccinated before their first birthday. The major reason for not making stronger progress in improving immunization coverage appears to have been turnover of field staff, field staff vacancies (in part due to lack of funds and in part due to an inability to locate replacements), and the high turnover of community health volunteers.

MTE RECOMMENDATION: there should be an annual tabulation of the number vaccinations given by the project and an indirect assessment made of population coverage.

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RESULT:

The Mallco Rancho Health Project does keep a monthly tally of the numbers of vaccinations given. This information is placed onto graphs provided by the MOH which estimate annualized coverage for measles, BCG, OPV3, and DPT3. These graphs incorporate local census data with the number of vaccinations given to estimate vaccination coverage on a monthly basis.

DIARRHEA

DIP GOAL: increase by 15% the number of mothers who can appropriately prepare oral rehydration fluid from UNICEF packets.

RESULT:

The results of the Mallco Rancho household cluster sample survey are shown in Table 52. Unfortunately, the 1990 baseline survey for the Mallco Rancho project (directed by Dr. Marcelo Castrillo of the Hopkins PVO Child Survival Support Office) did not include any data on ORT knowledge and use. Consequently, it is necessary to compare results from the spring 1992 MTE household survey with those for the fall 1993 final evaluation survey. Fifty-five percent of mothers could correctly prepare ORT from UNICEF packets at the time of the household survey. This is exactly the same percentage of mothers who knew how to prepare ORT at the time of the 1992 survey.

The responses to the other questions regarding ORT knowledge and use are also shown in Table 52. With respect to each of these items listed, there was a decline in maternal knowledge and use of ORT. The declines in terms of absolute percentage points is 10% or less in all cases and may not represent a significant decrease since the confidence intervals for most responses using the cluster sample survey methodology is around 10%. Nevertheless, there does not appear to be any evidence that ORT knowledge and use has actually improved in the project area during the past 18 months.

It is unfortunate that no data regarding ORT knowledge and use was collected for the Mallco Rancho project at the time of the 1990 baseline survey. The findings from more recent surveys, however, suggest that there is a major weakness in the non-formal education of mothers regarding ORT preparation and use which will have to be remedied if further progress is to be made in reducing diarrheal-related childhood deaths.

Table 52

Mothers' Knowledge About and Use of Oral Rehydration Therapy
for Childhood Diarrhea in the Mallco Rancho
Health Area, 1992-1993

percentage of mothers who:	date of assessment		relative % change 92-93
	1992	1993	
had heard of ORT	72%	62%	-14%
knew that ORT was used to treat dehydration caused by diarrhea	67%	59%	-12%
actually had used ORT	59%	50%	-15%
knew how to prepare ORT	55%	55%	0%

source: 1992 and 1993 Mallco Rancho household cluster sample surveys.

DIP GOAL: 50% of the mothers should be able to prepare a locally acceptable "home-based" ORT solution.

RESULT:

The Mallco Rancho staff decided to no longer promote the use of home-based ORT solutions because they found that mothers were unable to remember correctly how to prepare the solution, even after repeated instructions. The mother's capacity to prepare such a fluid was not assessed at the time of the final evaluation survey.

DIP GOAL: 100 volunteers will receive five hours of training regarding the detection and treatment of diarrhea.

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RESULT:

Since 1990 there have been 30 community health educators trained in the Mallco Rancho Health Area regarding the detection and treatment of diarrhea among other topics.

DIP GOAL: study factors associated with the development of diarrhea.

RESULT:

In 1991, a proposal had been developed by ARHC for a longitudinal study of childhood diarrheal and respiratory diseases as part of an assessment of the effects of Vitamin A supplementation on morbidity. This field study was later changed to an assessment of Vitamin A deficiency. As a consequence, the proposed assessment of risk factors associated with the development of diarrhea was never carried out.

NUTRITION

DIP GOAL: reduce by 20% the number of children who are not gaining weight.

RESULT:

Seventy-three percent of the children in the household survey had a growth chart, and 65% had a chart in the home.

As part of the final evaluation exercise in Mallco Rancho, an assessment was carried out of a sample of growth charts. The chart of every tenth child was chosen, using a random start. The number of growth monitorings was recorded as well as the weight change between the next to last and last monitoring. Fifty-eight children were included in this analysis. Nineteen were under two years of age and 39 were 24-59 months of age.

Unfortunately, there are no baseline household survey data with which to compare these results. The data from this analysis, however, will be useful as a baseline for later evaluations.

Table 53 below shows that 85% of the children under two years of age gained weight as did 69% of the children 24-59 months of age. Only 5% of the children under 24 months of age lost weight as compared to 21% of those over 24 months of age.

Table 53

Changes in Weight of Children Under Five Years of Age
in the Mallco Rancho Health Area, 1993

weight change	age group			
	0-23 months		24-59 months	
	number	%	number	%
increase	16	85%	27	69%
no change	2	10%	4	10%
decrease	1	5%	8	21%
TOTAL	19	100%	39	100%

source: review of sample of family health folders in Mallco Rancho, November, 1993

DIP GOAL: give 10 hours of training to 100 volunteers concerning nutritional monitoring and nutritional practices.

RESULT:

Thirty community health educators were trained in nutritional monitoring, nutritional follow-up, and use of nutritional supplementation for malnutrition and growth faltering. Almost all of these 30 trained volunteers had moved on to other educational pursuits by the time the CS6 grant had terminated, although a few of them still were giving some limited time to assist with project activities.

DIP GOAL: monitor the growth of children under 24 months of age every two months and that of children 24-59 months of age every four months.

RESULT:

A sample of growth charts was analyzed as part of the field site evaluation. For the same children whose weight gain was

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assessed as described above in Table 52, the number of nutritional monitorings between January 1, 1993, and September 30, 1993, was assessed. It was also determined if the frequency of monitorings was within the goals established in the DIP. For children under 24 months of age, the goal was every two months. For children 24-59 months of age, it was every four months.

The findings of this analysis are shown in Table 54. Only 19% of the children 0-23 months of age were weighed at least every two months between January 1, 1993, and September 30, 1993. Only 13% of the children 24-59 months of age were weighed at least every four months during the same period. Table 54 also shows, however, that children under two years of age are monitored on average almost three times per year (4.6) and children 24-59 months are monitored on average slightly more than every two months (6.1).

These findings are paradoxical. How could only 13% of the children 24-59 months of age be monitored every four months when the average child is monitored every two months? This issue was addressed by the group evaluating the nutrition program. There were two answers to this. First of all, a small percentage of the children in this age group received a larger proportion of the monitoring. These presumably were the children with malnutrition and growth faltering. Secondly, much of the monitoring was concentrated in certain periods of the year. Thus, a child might receive six monitorings over an eight month period but not receive any during a four month period. Thus, in this case, the growth monitoring policy would not have been met.

Even though the overall conformance with the growth monitoring policy is low, there is, nonetheless, a vigorous growth monitoring program underway. However, it is still important to attempt to assure that all children are within the growth monitoring norms.

Table 54

Nutritional Monitoring of Children in the Mallco Rancho Health Area From January 1, 1993, Until September 30, 1993,

age group	average number of nutritional monitorings (Jan-Sept)	adjusted average annual number	percentage of children within the norms*
0-23 months	3.9	4.6	19% (4/19)
24-59 months	5.2	6.1	13% (5/39)

source: review of Mallco Rancho health records, November, 1993

* norms established in the DIP are every two months for children 0-23 months of age and every four months for children 24-59 months of age.

MTE RECOMMENDATION: decide which nutrition activities deserve priority and evaluate the progress of the nutrition program on an periodic basis.

RESULT:

The Mallco Rancho staff chose to concentrate on the rehabilitation of children with malnutrition or with growth faltering. Those children below the curve on the UNICEF growth charts or those who were not gaining weight received intensive follow-up home visits. Initially, nutrition education was combined with frequent growth monitoring. For those children who did not respond, "api nutricional" (described previously on p. 64) was provided for the children.

MTE RECOMMENDATION: review the SVEN nutritional monitoring data every six months and the growth charts themselves every six months.

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RESULT:

The SVEN nutritional data are categorized on a monthly basis for submission to the Ministry of Health. However, there has been no analysis of this data on a semiannual basis nor had there been, prior to the final evaluation, any systematic study of the growth charts themselves.

There needs to be a semiannual analysis of the coverage of growth monitoring which is assessed according to the established norms for frequency of monitoring. In addition to this, a simply designed analysis of the overall nutritional level of children in the project area is also needed. Perhaps technical assistance is needed to facilitate such efforts of local field staff.

DIP GOAL: experiment in activities to improve family income and in other activities which might improve family nutrition.

RESULT:

There has been no progress in this area during the grant. At this point in time, APSAR staff have had little time and few resources with which to evaluate the results of their efforts to improve local crops through improved irrigation and to improve family nutrition through the promotion of women's income-generating groups and food consumers' cooperatives.

MTE RECOMMENDATION: develop (using previous survey results) specific educational messages regarding breastfeeding, weaning, and maternal nutrition.

RESULT:

There has been no progress in this area during the period of the grant. Perhaps technical assistance would be appropriate to help determine where the nutrition program is weakest and what steps would be most effective in strengthening it.

DIP GOAL: determine the prevalence of the deficiency of Vitamin A and assess the impact of Vitamin A supplementation on the incidence of diarrhea and pneumonia.

RESULT:

At the time the DIP was written, it was envisioned that ARHC would carry out a study in which Vitamin A supplementation would be provided to children in ARHC's programs in a double-blind fashion to determine if there was a decrease in the incidence of pneumonia or diarrhea. This study was later modified

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significantly at the request of technical reviewers. Consequently, an assessment of the prevalence of clinical Vitamin A deficiency was carried out under the terms of a grant from PROCOSI. No conclusive evidence was obtained for the presence of clinical vitamin A deficiency.

DIP GOAL: continue the Vitamin A policies of the Ministry of Health (1 capsule of 200,000 IU every six months for children 1-6 years of age).

RESULT:

This policy has been continued by the Mallco Rancho Health Project, although there has been no formal evaluation of the actual coverage of this service. This will be incorporated into the CS9 grant and has been included in the DIP.

ACUTE RESPIRATORY INFECTION

DIP GOAL: increase by 10% per year the percentage of mothers who recognize warning signs of ARI.

RESULT:

The 1990 baseline survey as well as the 1992 MTE survey included questions about the warning signs of pneumonia as did the final evaluation. Consequently, it is possible to compare in Table 55 the results of these three surveys.

The 1992 survey was carried out in June and the 1993 survey in October. Since ARI incidence is greater during the winter months of June - August, the mothers' responses regarding ARI warning signs perhaps could have been affected by the timing of the questionnaire. This seems even more plausible if one takes into account the fact that educational messages delivered by the field staff regarding ARI are concentrated during the winter months when the incidence is greatest.

The percentage of mothers who mentioned rapid breathing has not shown any overall change between 1991 and 1993. In fact, it declined from 28 to 23%. There was no improvement in the percentage of mothers mentioning intercostal retractions.

There was considerable discussion at the time of the field evaluation regarding these results. Those who participated in the survey interviews had observed that the interpretation of the question was difficult for the mothers and also that the interpretation of the answers by the interviewer was highly subjective. Thus, the field evaluation team found it difficult to

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draw any firm conclusions regarding the findings.

Table 55

Recognition of Warning Signs of Pneumonia Among Mothers
in Mallco Rancho, 1991-1993

warning sign	percentage of mothers who mentioned this as a warning sign		
	1990 percent	1992 percent	1993 percent
1. did not know of any	12% (29/237)	28% (68/246)	27% (58/212)
2. rapid and agitated respirations	28% (66/237)	7% (18/246)	23% (49/212)
3. intercostal retractions	1% (2/237)	0% (0/246)	0% (1/212)
4. loss of appetite	17% (40/237)	3% (7/246)	7% (14/212)
5. fever	33% (78/237)	9% (21/246)	18% (37/212)
6. cyanosis	na	2% (5/246)	2% (5/212)
7. cough	76% (180/237)	65% (161/246)	63% (133/212)

source: 1990, 1992, and 1993 Mallco Rancho household cluster
sample surveys

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DIP GOAL: provide 10 hours of training to 100 volunteers to detect, treat, and to refer cases of ARI.

RESULT:

During the period of the grant, 30 volunteer community health educators were trained regarding the detection, treatment, and referral of cases of ARI. Of these 30, only a few continue to function at all, and these on a limited basis.

MTE RECOMMENDATION: develop and prioritize strategies for ARI non-formal education.

RESULT:

ARHC arranged for Dr. Nils Daulaire, a highly regarded ARI consultant, to provide assistance to its projects in 1993. Unfortunately, Dr. Daulaire did not feel competent to assist the projects with non-formal educational strategies for ARI and he recommended that a specialist in non-formal education be contacted.

Mallco Rancho staff later attended a course sponsored by PROCOSI in which training in non-formal educational methods for ARI was provided. As a result of this course, the staff did try using dolls to give mothers examples of rapid breathing and intercostal retractions. The staff felt embarrassed about this, however, because frequently they perceived the parents to be laughing at them rather than with them.

MTE RECOMMENDATION: seek technical support to improve non-formal educational activities and related educational materials.

RESULT:

One of the supervisors of the ARHC/APSAR project in Sipe Sipe, Ms. Araceli Lazarte, attended a workshop on non-formal education sponsored by PROCOSI. She has been able to share the knowledge she gained with the Mallco Rancho staff.

Improved non-formal health education techniques and materials for maternal and child health in general and for ARI in particular is a growing priority among PVOs working in child survival. The Hopkins PVO Child Survival Support Office can make a strong contribution to the work of the PVOs by serving as a clearinghouse and a resource for such matters.

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MTE RECOMMENDATION: promote the importance of ARI in the communities.

RESULT:

The Mallco Rancho staff have given priority in their home visitation and in their meetings with community members to emphasize the importance of pneumonia as one of the major causes of death in the project area and to stress the maternal recognition of specific warning signs such as intercostal retractions and rapid or agitated breathing in determining the need to seek antibiotic treatment.

REPRODUCTIVE HEALTH

MTE RECOMMENDATION: with the assistance of the communities, carry out verbal autopsies for all the deaths of women in the reproductive age group.

RESULT:

Between January 1, 1991, and October 30, 1993, there were 11 deaths among women of reproductive age group (15-44 years). None of these were from direct obstetrical causes. Six of these deaths were due to suicide. At least several of these were thought to have been as a consequence of unmarried teenagers becoming pregnant. There were also two cases of breast cancer. There were no verbal autopsies carried out.

The verbal autopsy protocol for women of reproductive age (as well as for children) needs to be given a far higher priority by project leadership than it has received in the past.

MTE RECOMMENDATION: develop a strategy to train family members of pregnant women in safe and clean home delivery practices.

RESULT:

There have been no formal educational programs for family members of pregnant women regarding safe and clean home delivery practices. This was a recommendation arising from the MTE with which Dr. Taja, the Executive Director of the Mallco Rancho Health Project, disagreed. Dr. Taja thinks that women should be encouraged to come to the local hospital for a supervised delivery and that home deliveries should not be promoted in any way. In his view, such a training program for a safe and clean home delivery would be seen by the local people as an endorsement of the practice.

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MTE RECOMMENDATION: encourage and train the staff to provide family planning services, possibly with the assistance of a national family planning organization.

RESULT:

Family planning services are now offered by the Mallco Rancho Health Project. There is a gynecologist from the city of Cochabamba who volunteers his time twice a week to provide family planning education and family planning services. Through this service, 67 women now have received IUDs and 29 women have received counseling in natural family planning methods.

MTE RECOMMENDATION: promote the referral of high-risk pregnancies to a higher level of medical care.

RESULT:

There has been good success in referral of women experiencing a complication of childbirth to a hospital facility for more specialized care. In most cases, this results in a Caesarian section. The maternity hospital in Cochabamba is less than an hour away and provides a relatively high quality of service.

Since the results from referral have been quite good, it is gradually becoming easier to refer women with obstructed labor, eclampsia, postpartum hemorrhage, placental retention, or puerperal sepsis for specialized hospital care. There has not been an obstetrical death among in the Mallco Rancho Health Area for several years now.

COMMUNITY PARTICIPATION

DIP GOAL: hold community-wide meetings four times a year in each community to discuss health topics.

RESULT:

There have been occasional community-wide meetings to discuss health topics. These have not occurred in all communities, however, and in none of the communities were four meetings held during the past year. In many communities there has been at least one meeting during the past year to share information with the community about illnesses and deaths during the past year. Dr. Taja occasionally meets with the communities to review progress in program activities. There has been more regular contact between the program and local community leaders

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than in the past. The group of leaders for the Mallco Rancho community is known as the "Comite de Comites" (Committee of Committees). The other communities have their own leadership groups ("sindicatos"). Dr. Taja meets with all of these groups to discuss issues facing the project and to review progress which has been made.

DIP GOAL: distribute an annual report to each community regarding the project achievements during the past year and problems in need of resolution.

RESULT:

This has not been done.

DIP GOAL: bring together the community leaders twice a year to share ideas, concerns, and suggestions regarding program operations.

RESULT:

As described above, this has taken place, usually on a monthly basis.

MTE RECOMMENDATION: the communities should participate in the planning of local project activities, in the supervision of the health posts, in policies regarding the rotating drug fund, and in a search for ways in which the community can assume greater responsibility for the operation of the health posts.

RESULT:

Community leaders are now participating in discussions about project policies including prices for services, but they are not supervising any of the financial aspects of the community health program.

MTE RECOMMENDATION: at the time of planned project evaluations, obtain the opinion of the community about the quality of the program, its achievements, and the community's perceived health priorities.

RESULT:

The MTE as well as the final grant evaluation have both included extensive discussions with community members about the program itself as well as about perceived community health

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priorities. The 1993 Mallco Rancho household survey demonstrated that 81% (173/212) of the mothers considered the health program to be "excellent" or "good." Only 3% considered it be "fair" or "bad," while 16% had no opinion.

The community members' opinion about the most important contributions of the health program are described in Section E.2 (p. 205). The community members' perceived health priorities are described in Section III (p. 214).

HEALTH VOLUNTEERS

DIP GOAL: train 100 health volunteers (community health educators).

RESULT:

30 volunteer community health educators were trained during the grant period. Only a few were still collaborating with the project at the time grant funding terminated, however, and these were on a very limited basis.

MTE RECOMMENDATION: increase the number of volunteer community health educators and reduce their responsibilities to:

1. detect and record vital events, pregnancies, and illnesses;
2. provide oral rehydration salts packets and advice regarding their use;
3. advise mothers regarding when antibiotic treatment for ARI, when ORT treatment for diarrhea, and when referrals for high-risk pregnancies are indicated;
4. assist the community auxiliary nurses with immunizations and nutritional monitoring; and,
5. assist the community auxiliary nurses with the annual community census.

RESULT:

The role of the volunteer community health educator has been reduced over the period of support by the grant, but there is still considerable discussion and controversy regarding the selection, training, and utilization of volunteers in the Mallco Rancho Health Area. This is a priority to resolve during the coming year.

MTE GOAL: analyze the current problems associated with the training and functioning of volunteer community health educators (VCHes) in local focus group discussions and

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possibly seek technical support as well.

RESULT:

At the time of the final evaluation, extensive discussions were carried out among the field staff about the issues of selection, training, utilization, and retention of VCHES. There have been no focus group discussions with community members about these issues, and no technical assistance has been obtained to address the issues.

MTE GOAL: try to include traditional midwives and other local traditional healers in the network of volunteers and informants.

RESULT:

This has not been carried out. See the previous comments regarding this issue on page 182.

HEALTH EDUCATION

MTE RECOMMENDATION: reduce the number of health education messages and measure the changes in behavior which are being recommended.

RESULT:

There has been a concerted effort to simplify and improve the health education messages provided by the community auxiliary nurses at the time of community group meetings and home visits. There has been no formal objective evaluation of the effectiveness of these activities apart from those carried out at the time of the MTE and final evaluation.

SUSTAINABILITY

MTE RECOMMENDATION: develop a vision and a realistic strategy regarding sustainability.

RESULT:

This has not yet been written. There has been major discussion of the various issues of sustainability at all levels of the organization. At the present time, a written document is

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being prepared which sets forth policies and a plan of action.

MTE RECOMMENDATION: analyze on an ongoing basis sustainability issues in the communities.

RESULT:

This has not been done, except as part of the MTE and final evaluation efforts.

MTE RECOMMENDATION: design and carry out a course in leadership and administration for community leaders.

RESULT:

This was not carried out. Given the limitations of organizational resources, this recommendation could not be implemented.

DIP GOAL: have a sustainable rotating drug fund.

RESULT:

There is now functioning a self-sustaining rotating drug fund for the Mallco Rancho Health Area.

DIP GOAL: experiment with payment-in-kind for specific health services.

RESULT:

This was never carried out in Mallco Rancho. Given the limitations of organizational resources, this recommendation could not be implemented. The Mallco Rancho Health Program has had good success with written commitments from the communities to pay later for services provided. Approximately 90% of the communities have followed through on their commitments. Experience with commitments from the communities to provide labor has been less successful.

DIP GOAL: develop pilot projects in community development.

RESULT:

There have been a variety of community development projects in the Mallco Rancho Health Area which have been supported by ARHC and led by Dr. Taja, Executive Director there. These

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projects have never been systematically evaluated, nor have they generated any income that has directly supported the local health project. There have been several loans made by APSAR to the communities which are being paid back on an ongoing basis. Included among these loans are projects to repair pumps for wells to improve drinking water and irrigation as well as projects for school improvement, latrine construction, road and bridge improvements, and startup expenses for womens' cooperatives.

DIP GOAL: strengthen coordination with the Ministry of Health and increase the support provided by the Ministry.

RESULT:

During the period of support of the CS6 Child Survival grant, the MOH did not increase the number of salaried positions in the Mallco Rancho project area. Even so, coordination between the project and the MOH has been strong, and the provision of child survival and other supplies by the MOH to the Mallco Rancho Health Project has been highly satisfactory.

Dr. Taja and other members of the Mallco Rancho Health Project staff have been active in supporting the Quillacollo MOH Health District. The Regional Office of the MOH in Cochabamba ("Unidad Sanitaria") has made formal proposals to APSAR and several other private health care organizations to take responsibility for the administration of the health district, but none of them feel at this point that they have the organizational capacity to take on such a task.

CBIO METHODOLOGY

DIP GOAL: visit every home with a child under two years of age every two months; visit every home with a child 24-59 months of age every four months.

RESULT:

Family folders were reviewed. For each of the 11 communities in the Mallco Rancho Health Area, 10 health folders were selected for families in which there was a child under five years of age. A random start was chosen, and then every "nth" family health folder was selected. For example, if a community had 100 homes, then every tenth folder would be selected. If the tenth folder did not have a child under five, then the next one (the eleventh) would be inspected and so forth until a folder of a family having a child under five was encountered.

The number of home visits carried out between January 1 and September 30, 1993, was ascertained. Families were categorized as

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(1) those with at least one child under 24 months of age, or (2) those with no children under 24 months of age but at least one child 24-59 months of age. Those families not meeting one of these two criteria were not included in the analysis.

The project policy is to visit homes with children under twenty-four months of age every two months and to visit homes with children 24-59 months of age every three months.

The results of the analysis are shown in Table 56. Homes with children under 24 months of age received an average of 4.2 visits during the nine month period of study. Only 17% of these homes, however, were visited at least every two months. Homes with no children under 24 months of age but with older children 24-59 months of age received an average of 4.0 visits during the nine month study period. Only 18% of the homes were visited according to the project policy of one visit at least every three months.

Table 56

Frequency of Home Visitation in the Mallco Rancho Health Area,
November, 1992 - October, 1993

family category	average number of visits during the past 9 months	percentage of homes with the frequency of visits within the policies established by the program
homes with children 0-23 months of age (policy to visit every two months)	4.2	17%
homes with no children 0-23 months of age but with children 24-59 months of age (policy is to visit every three months)	4.0	18%

source: review of Mallco Rancho family health folders, November, 1993

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If the evaluation data are correct, then this issue will need careful monitoring by the Mallco Rancho Health Program leadership. It would appear that the supervision of field staff needs to be strengthened to assure that homes are visited regularly according to established project norms.

Adela Asbún, project Field Supervisor, has expressed the opinion that at the time these data were analyzed, the evaluation team did not clearly understand the criteria for determining if the home visitation policies were met. This does seem plausible in view of the low percentage compliance compared to the average number of visits.

A2. Circumstances Aiding or Hindering the Achievement of Project Objectives

The Mallco Rancho Health Project is ARHC's second oldest, having been in existence since 1987. Perhaps the single most important factor accounting for the somewhat disappointing results of project activities is that during the 6-8 months prior to the final evaluation, there were staff vacancies which left basic services unmet in several of the 11 communities in the project area. This affected home visitation and child survival activities in these communities.

A second significant influence on Mallco Rancho project activities was the beginning of a new ARHC/APSAR project in the adjacent area of Sipe Sipe. The drain on human and financial resources which this produced also affected program performance in Mallco Rancho.

A3. Mallco Rancho Final Evaluation Survey Results

The results of the final evaluation household survey is included in Appendix III. The results of the key indicators of child survival project performance for Mallco Rancho are shown in Table 57.

Table 57

Key Indicators of Child Survival Project Performance
 (Developed by the AID PVO Child Survival Support Program)
 for the Mallco Rancho Health Project

indicator	result
1. initiation of breast-feeding	
percent of children less than 24 months of age who were breastfed during the first eight hours after birth	71% (150/212)
2. exclusive breast-feeding	
percent of infants under four months of age who were given only breast milk	48% (22/46)
3. introduction of foods	
percent of infants between five and nine months who are being given solid or semi-solid foods	98% (40/41)
4. persistence of breast-feeding	
percent of children between 20 and 24 months who are still breast-feeding (and being given solid/semi-solid foods)	25% (5/20)
5. continued breast-feeding	
percent of children (less than 24 months) with diarrhea during the past two weeks who were given the same amount or more of breast milk	91% (50/55)
6. continued fluids	
percent of children (less than 24 months) with diarrhea in the past two weeks who were given the same amount or more fluids other than breast milk:	
not including exclusively breastfed children	79% (48/61)
including exclusively breastfed children	64% (48/75)

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 TABLE 56 (continued)
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7. continued foods

percent of children less than 24 months with diarrhea during the past two weeks who were given the same amount or more food	68% (40/59)
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8. ORT use

percent of children (less than 24 months) with diarrhea during the past two weeks who were treated with ORT:	
defined as packets of ORT salts	14% (10/74)
defined as ORT packets or home-based ORT or cereal-based solutions	30% (22/74)
defined as any oral liquid (including ORT, other liquids, or teas	61% (45/74)

9. medical treatment of pneumonia

percent of mothers who sought any type of medical treatment, both modern and traditional, for child (less than 24 months) with cough and rapid, difficult breathing in the past two weeks	61% (26/43)
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10. EPI access

percent of children 12-23 months of age who received DPT1	85% (80/94)
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11. EPI coverage

percent of children 12-23 months who received OPV3	81% (76/94)
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12. measles coverage

percent of children 12-23 months of age who received measles vaccine	74% (70/94)
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TABLE 56 (continued)

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13. drop out rate	
percent change between DPT1 and DPT3 doses [(DPT1-DPT3)/DPT1 x 100] for children 12-23 months	5%
(80-76)/80 x 100 = 5%	
14. maternal card	
percent of mothers with a maternal card for the birth of the youngest child less than 24 months of age (this percentage includes those mothers who said they had a card but the card itself could not be verified)	50% (106/212)
15. maternal tetanus toxoid coverage	
percent of mothers who received two doses of tetanus toxoid vaccine (card) before the birth of her youngest child less than 24 months of age	2% (4/212)
16. one or more ante-natal visits (card)	
percent of mothers who had at least one ante-natal visit (card) prior to the birth of her youngest child less than 24 months of age	15% (32/212)
17. modern contraceptive usage	
percent of mothers with children less than 24 months of age who desire no more children in the next two years (or who are not sure) and are using a modern contraceptive method	14% (30/212)

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B. LESSONS LEARNED

See pages 11 - 27.

II. MALLCO RANCHO PROJECT SUSTAINABILITY

A. Sustainability Status

A1. Termination of AID Funding for Child Survival Activities

CS6 funding formally terminated for the Mallco Rancho field activities on October 1, 1993. This represents three years of continuous funding from the AID PVO Child Survival Program for Mallco Rancho. ARHC's new child survival grant (CS9) does include continued funding for child survival activities in Mallco Rancho.

A2. ARHC's Plans for Discontinuation of Child Survival Activities

Since ARHC's initiation of health activities in Mallco Rancho in 1987, it has carried out all of its work under the auspices of APSAR (Asociación de Programas de Salud del Area Rural) and its Executive Director, Dr. Orlando Taja. Although to date ARHC has been the only source of financial support to APSAR outside of some financial support through PROCOSI (which was obtained with ARHC's help), APSAR has recently decided to make a serious effort to diversify its funding base.

APSAR anticipates a permanent presence in Mallco Rancho. It is ARHC's hope that, as APSAR begins to obtain funds from other sources, ARHC will be able to make a smaller contribution to APSAR's budget without diminishing the quality of the health services which have developed.

A3. Phase Over of Responsibility and Control to Local Institutions

As mentioned immediately above, APSAR now has full responsibility for managing all health activities in Mallco Rancho. APSAR has its own Board of Directors. With APSAR's recent decision to diversify its funding base, it appears likely that the close working relationship which has developed between ARHC and APSAR over the past six years will diminish somewhat, but ARHC sees this as healthy progress due to the greater

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organizational strength of APSAR.

The Mallco Rancho Health Project has had from the beginning a strong collaboration with the community. Unfortunately, there has not been the sense of community ownership that there might have been, and the community has not provided as much financial support as it might have. The community leaders are now beginning to realize that a significant portion of the funds for the Mallco Rancho Health Project are obtained from external sources and may diminish significantly in the near future.

B. Estimated Recurrent Costs and Projected Revenues

B1. Child Survival Activities Seen by Project Management as Most Effective and Worthy of Sustaining

There is a strong sense on the part of the APSAR local field management staff in Cochabamba as well as on the part of ARHC's higher management in La Paz and in the US that the census-based, impact-oriented (CBIO) approach is working well and should be maintained. This approach involves routine systematic home visitation, vaccination in the home, registration of vital events, nutritional monitoring and nutritional education at the time of home visitation, ORT training and support during home visitation, and at-home identification of children needing ARI treatment. Both high-risk mothers and high-risk children receive more frequent home visitation.

The integration of child survival interventions with relatively comprehensive primary care services and with the MOH's services for the Mallco Rancho Health Area has worked well and management staff want to see this continue.

B2. Anticipated Ongoing Expenditures After Termination of Child Survival Support

Once AID Child Survival funding terminates for the Mallco Rancho Health Project, the major challenge for APSAR will be to find funds to continue logistical, technical, and administrative support and to find some additional funding for local field staff salary support. If AID Child Survival support for the Mallco Rancho Health Project terminates at the end of CS9 (in September, 1996), then it is quite likely that ARHC will significantly reduce its overall contribution to local project expenses. If APSAR is able to increase local financial support and also able to diversify its funding base, project operations should continue without any significant diminution in quantity or quality.

B3. Estimate of Ongoing External Financial Needs

A recent financial analysis of the Mallco Rancho Health Project concluded that about 55% of overall program effort was devoted to child survival activities, 20% to other primary care activities, 13% to local hospital activities, and 12% to water and sanitation (Perry, 1993). The total estimated local recurring costs for the project for FY 1992 were about \$75,000. This does not include costs for the operation of the APSAR administrative support office in nearby Quillacollo. Ten percent of local recurring project costs were met by the MOH through salary support and through the provision of supplies and medicines.

For FY 1992, it was estimated that the per capita annual recurring local field cost in the Mallco Rancho Health Project for primary care services (including child survival interventions) was \$9.66. If local annual per capita costs can be reduced to \$6-7, and if locally-generated income along with MOH support can be increased somewhat, within the next three to five years approximately half of the local program costs could be met with MOH and locally-generated funds. If this were to occur, the total local project costs would be \$35-40,000, with \$17-20,000 met from MOH and local sources. This would leave \$17-20,000 to be met from external sources along with support for the APSAR Quillacollo administrative support office (\$15-20,000 per year).

Assuming APSAR is able over the next few years to obtain support from non-ARHC sources for half of its external needs, this would leave a need for approximately \$20,000 per year from ARHC for local field costs. These costs would include \$10,000 per year for the Mallco Rancho project's local field costs and a similar amount for APSAR's administrative/supervisory office in Quillacollo. Given the poverty of the Mallco Rancho project area, it is unlikely that more than half of project costs can be met from local funds unless resources from the MOH increase substantially. The project area is improving economically because of improved agricultural productivity, so the capacity for local project support may improve in the future.

B4. Are Costs Reasonable?

The 1992 estimated annual locally recurring cost of \$9.66 per capita is felt by some to be too high for long-term sustainability. ARHC is searching for new strategies which will make it possible to maintain the basic concepts of the CBIO approach while reducing costs. Six to 7 dollars per capita appears at present the minimum expenditure possible without a major reduction in the quality of project operations.

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B5. Projected Revenues After AID Funding Ceases

APSAR has no plans to abandon its long-term commitment to Mallco Rancho and is now beginning to seriously look for other sources of funds beyond ARHC. It is unlikely that ARHC will terminate its support for APSAR in the near future although the level of support is gradually being reduced over time.

B6. Costs Which Are Not Likely to Be Sustainable

Logistical, administrative, and technical support for Mallco Rancho operations are not likely to be sustainable without ongoing external support. Over time, it is anticipated that local salaries and local project expenses will eventually become sustainable with locally-generated funds and with MOH salary support.

B7. Lessons Learned Regarding Costs and Revenues

In Mallco Rancho, if relatively comprehensive ongoing primary care and referral services were not available, there would be no hope whatsoever of longer-term sustainability for the project. The local population is not willing to pay for child survival interventions such as immunizations and growth monitoring, and MOH staff themselves are not able to maintain the primary care and child survival activities which have been developed.

Child survival projects which serve extremely poor populations are not likely to become self-sustaining for many years. Thus, it is necessary to be patient and at the same time expect that steady (if nevertheless slow) progress be made toward the goal of complete sustainability without external financial support. It is ARHC's belief that a strong linkage of child survival activities to more comprehensive primary health care services will enhance the possibilities for sustainability.

C. Sustainability Plan

C1. Project Staff Interviewed

Most Mallco Rancho field staff were interviewed along with the ARHC Bolivian National Director (Mr. Nat Robison) and the ARHC/US Program Director (Mr. David Shanklin). The field staff include the Executive Director for the Mallco Rancho Health Project (Dr. Orlando Taja), the local staff physician (Dr. Roberto Flores), the local field supervisor (Ms. Adela Asbun), and two community-based auxiliary nurses. The project design was worked out primarily by the ARHC/US Program Director with the

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ARHC Bolivian National Director and the APSAR Executive Director. Implementation was carried out by the project's Executive Director and local field staff. Monitoring and evaluation have been carried out by all of the above together with ARHC's Program Advisor (Dr. Henry Perry). ARHC has developed a participatory style of evaluation that includes all local field staff.

C2. The Project's Plan for Sustainability

Briefly stated, ARHC's plan for sustainability of the Mallco Rancho Health Project is to gradually decrease its support to APSAR and to promote support of project operations from other sources. Other sources include locally generated fee-for-service revenues, MOH support, and support from external sources aside from ARHC. This strategy also involves reducing program costs by reducing the number of paid staff to a minimum, increasing locally-generated income, and increasing the contribution provided by the MOH. It also involves using the lowest paid worker appropriate for any given task or responsibility for which a paid worker is deemed to be necessary.

The goal during the next five years is to increase MOH and locally-generated income to cover 50% of project costs and to reduce overall local project costs to \$6-7 per capita. In addition, it is ARHC's goal to assist APSAR in obtaining external funding from other sources such that in five years no more than a small percentage of APSAR's externally-derived funds are provided by ARHC.

C3. Sustainability-Promoting Activities Carried Out

Dr. Taja, Executive Director of APSAR, has sought to develop a strong curative health service which is trusted and utilized by the local people and which is also supported financially by them. The confidence in the health project which has emerged among the local people over the past six years represents one major step forward toward sustainability. The growth in curative services in the Mallco Rancho Health Area is a sign of this confidence.

Total local project costs during ARHC's FY 1991 and 1992 (March-February) are shown in Table 58. Recurring local program expenses fell by 23% between 1991 and 1992 (\$97,877 to \$75,110).

There were efforts made to receive payment in-kind for services provided, such as payment with agricultural products such as eggs or cheese. The staff found that this system did not work. Generally, the market value of the goods given was less than 10% of the person's bill, and patients generally view this type of donation as an expression of gratitude rather than financial payment. An effort was made to establish a credit system whereby a patient would have a bill to be paid over a

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period of months. This proved to be unsuccessful as well because of poor administration of the accounts.

Table 58

Total Local Recurring Costs for the Mallco Rancho Health Project, 1991-1992

year	capital expenses		recurring expenses	
	total	ARHC's contribution	total	ARHC's contribution
1991*	\$ 6,099	\$ 6,099	\$ 97,877	\$ 91,754
1992*	\$ 22,140	\$ 22,140	\$ 75,110	\$ 68,477

note: recurring expenses include all local program expenses, training, and capital depreciation

* FY is March - February

source: Perry (1993, pp. 371).

During the past three years, the pharmacy for the Mallco Rancho Health Program has become self-sustaining. In the past, the program did provide financial support to the dentist working in Mallco Rancho, but now this aspect of the program is totally self-sustaining.

In FY 1991, \$6,682 in local revenues were generated, and in FY \$6,898 were generated. In FY 1993 which began in March, \$7,373 were generated in the first seven months. If income continues at that level, then \$12,639 could be anticipated during the current FY.

Since the Mallco Rancho Health Project is now treating an increasing number of patients who live outside of the Mallco Rancho Health Area and who come to the area seeking curative services, a policy has recently been instituted to charge 30-100% more for patients who do not reside within the project area.

The Mallco Rancho Health Project has invested considerable effort towards community development activities. Although none of these have directly generated local income for the health project, the projects have attempted to improve income in the local area. These community development activities include

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forming a cooperative which purchases basic household necessities at a lower price as well as improving irrigation of farmlands to promote improved agricultural production.

C4. Evaluation of Sustainability Plan

As mentioned previously, there has been envisioned at ARHC now for some time the elaboration of a detailed document outlining a sustainability strategy. This document is now being written by ARHC's Bolivian National Director and will become the basis for detailed policies which will enable ARHC to give more emphasis to sustainability issues and monitor progress more carefully.

The relationship between ARHC and APSAR at the moment is somewhat uncertain since it is not clear how successful APSAR will be in obtaining funding from sources beyond ARHC. APSAR's longer-range vision also is not entirely clear. All of these issues will need to be settled before a detailed sustainability plan for Mallco Rancho can be developed.

C5. Contributions From Counterpart Institutions to Project Activities

The agreements with the MOH to provide vaccines, vaccination supplies, TB medicines, and salary support were met as agreed to with the exception of periodic and temporary lapses in the availability of some of the vaccines.

C6. Reasons for Success or Failure of Counterpart Institutional Support

Although MOH salaries are low, the MOH is reliable in paying them. The donated materials such as vaccines, vaccination supplies, and TB medicines are provided to the MOH by international donors such as AID, so they are generally available as well.

D. Monitoring and Evaluation of Sustainability

D1. Indicators Used to Track Sustainability Outputs and Outcomes

Efforts to date to monitor sustainability include the annual measurement of the following indicators:

- a. total recurring local project cost (including capital depreciation expenses and training expenses);
- b. total local project cost per capita;

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- c. percent of local project costs met by the MOH as well as with locally-generated income; and
- d. percent of local project costs provided by ARHC's Bolivian NGO counterparts.

D2. Do These Indicators Show Any Progress?

Based on the findings shown in Table 59, there is not yet any clear progress apparent. Data for FY 1993 are not yet available for comparison.

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Table 59

Summary of Sustainability Indicators for
Mallco Rancho, 1991-2

indicator	fiscal year	
	1991	1992
total recurring local project cost*	\$73,000	\$56,000
total recurring local project cost per capita (assumes a population of 5,829)	\$12.52	\$ 9.61
percent of total recurring local project costs met by the MOH	8%	10%
percent of total recurring local project costs met with local income	9%	11%
percent of total recurring local project costs provided by ARHC's Bolivian NGO counterparts	0%	0%

source: Perry (1993), pp. 176, 368-370.

* The \$73,000 for 1991 was derived by estimating that 75% of the total recurring program costs of \$97,887 was for primary care programs.

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D3. Qualitative Data Suggesting Changes in Sustainability

The discussions held with community members in the Mallco Rancho Health Area at the time of the final evaluation in November, 1993, suggests that they had not been aware of the fact that most of the financial support for the health project arose from external sources which will not continue indefinitely. The community members are now more aware of the situation and of their need to make a stronger contribution to the financial support of the project.

At the same time, there are other important changes which appear to be taking place and which bode well for the future sustainability of the project. Perhaps most importantly, it was noted by several community members that there is now beginning to be a reverse migration (in-migration) into the project area as a result of the growing recognition that the condition of life is improving within the project area. The local people perceive that the schools are better, health care is better, the health of the people is better, and the crops are better. APSAR and the Mallco Rancho Health Project have helped to make all of this possible.

The fact that the general economic condition of the area is improving also bodes well for the future sustainability and for the ability of the communities to take on an increasing financial responsibility for health activities.

The general trend now in the MOH is toward decentralization which, it is hoped, will lead to more resources available in rural areas such as Mallco Rancho for provision of primary health care services.

D4. In-country Agencies Participating in Project Design, Implementation, or Evaluation

The Johns Hopkins PVO Child Survival Support Program Latin American Regional Office provided important assistance with the design of the final evaluation cluster sample survey and with the training of the supervisors for the survey. The household survey in the Mallco Rancho Health Area was directed by Dr. Carmen Marín, Hopkins consultant from Lima, Peru. Dr. Marín helped lead the training module for the survey supervisors in all four project sites and directed personally the survey and data analysis for the Mallco Rancho and Sipe Sipe surveys.

D5. Sustainability Recommendations Made by Technical Reviewers of the Initial Proposal and DIP

In the technical review of the initial proposal, the following recommendations were made:

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- a. clarify the MOH's role in the revolving drug fund;
- b. consider more cost-effective approaches to ensure continuation of the project after termination of ARHC funding (such as reducing the level of home visitation, focusing on high-risk infants, and shifting to service delivery at fixed and outreach sites);
- c. give more attention to strengthening MOH capacity, not just supplement MOH activities; and,
- d. increase training and support of non-professional community health workers since this would decrease reliance on higher-salaried staff.

Recommendations made at the time of the technical review of the DIP were the following:

- a. develop a more detailed sustainability plan;
- b. document lessons learned (including successes and failures) to date in the sustainability of the original child survival project;
- c. review the experience with cost recovery;
- d. test income generation, community financing, fee-for-service, and so forth in new areas;
- e. develop sustainability indicators since none were presented in the DIP;
- f. reduce recurrent costs and raise more local revenues; and,
- g. increase information feedback to the communities so they will be more aware of the services provided by the project and thus more willing to provide continuing financial support.

Discussion of Technical Comments Made by Reviewers

In Mallco Rancho, the policy for the revolving drug fund has been clarified. All medications except TB medicines are included. The MOH no longer provides any other medicines free of charge. In the past, the MOH did not allow charges for penicillin injections for children with ARI. This is no longer the case, and ARI medicines must be obtained from other sources.

More cost-effective approaches are being tried. The frequency of home visitation is being reduced, particularly for homes in which there are no children under two years of age. This reduction is possible because the mortality of these older children in Mallco Rancho is now so low. There has been an attempt to reduce the dependency of the families on home-delivered services. For instance, women have to come to the hospital clinic to receive prenatal services rather than receive them at home. If a child with ARI who needs antibiotics is identified at the time of a home visit, that child is referred to

the physician at the health center.

The incorporation of MOH personnel into the project staff means that all the training provided is also received by the MOH staff assigned to the project. It is also quite common now for MOH staff from other geographic areas to come and visit the Mallco Rancho project because of its growing reputation as a new and promising approach to health care delivery.

There had been a belief that an increased reliance upon volunteer health staff represented one partial solution to the sustainability problem. Consequently, over the past three years, considerable staff time and energy have gone into the training of volunteer community health educators (VCHES). However, virtually none of these VCHES trained are now actively participating in project activities.

There has been a long-standing recognition of the need for a comprehensive sustainability plan for ARHC's activities in Bolivia. This is now nearing completion. Lessons learned (both positive and negative) with respect to sustainability have still not been sufficiently analyzed, but they will be written down as part of a background document to a new comprehensive ARHC sustainability strategy.

The experience with cost recovery has been analyzed as part of a more comprehensive financial analysis of ARHC's three oldest projects in Bolivia: Carabuco, Mallco Rancho, and Villa Cochabamba/Montero. This was made possible by a special grant from AID to ARHC and is fully described elsewhere (Perry, 1993).

The testing of new approaches to improve financial sustainability through community financing schemes, income-generation schemes, and increased fee-for-service revenues has not been carried out because of a lack of organizational resources needed to get such efforts underway.

The sustainability indicators described previously are now in place. In order to be able to use these, it was necessary to develop a methodology for determining all local project costs and to develop an accounting system for keeping track of all these various costs. This has now been done.

The Mallco Rancho staff and APSAR/ARHC management are acutely aware of the critical need to reduce project costs and to increase local revenue. Intense effort is being given to these topics with some success.

There has been relatively little effort so far to systematically provide feedback to individual communities about the numbers of health services provided to each community, about the coverage of those services in the community, and about the

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health improvements noted in each community. Progress in this area will require that basic health data be analyzed for each community and the results of this analysis be shared in simple and readily understandable ways. This will not be an easy task, and reliance upon non-formal educational techniques will be necessary.

D6. Results of Recommendations for Sustainability Arising from the MTE

The recommendations arising from the MTE were as follows:

- a. establish realistic objectives for sustainability;
- b. involve community leaders in sustainability issues to a greater degree;
- c. explore the possibility of analyzing the experience of other health programs in Bolivia regarding sustainability; and,
- d. consider the provision of a course in leadership and management skills for community leaders.

These particular recommendations by and large have not been implemented yet in Mallco Rancho because of a lack of specific technical expertise and organizational resources. Furthermore, the uncertainty regarding the future of the relationship between ARHC and APSAR has hindered progress in this area.

E. Community Participation

E1. Community Members Interviewed

The following community members were interviewed:

- a. 10 women representing the community of Payacollo;
- b. six women and three men of the community of Vilomilla; and,
- c. eight community leaders (all men) representing eight different communities, members of the "Committee of Committees")

E2. Child Survival Activities Perceived as Being Effective at Meeting Current Health Needs

All three community groups interviewed considered the home visitation activity to be one of the most effective aspects of the health project. Other aspects seen as important include the high quality of medical services and their low price (compared to similar services in adjacent areas). Appreciation was expressed for the preventive health care provided to the well children and the curative services provided to the sick children. There was a general impression among the community members interviewed that

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infant and child mortality had declined in recent years since the advent of the health project. The prenatal care services were also mentioned as being effective.

E3. Activities Carried Out to Help Communities Meet Their Basic Needs and Sustain Effective Child Survival Activities

The training of volunteer community health educators (VCHes) is one important component of helping communities to better meet their own basic needs and to sustain child survival activities. Although none of the trained VCHes are still actively working formally with the project, presumably the training they received will continue to be utilized by them and perhaps shared with their family and friends.

Community members help out with community health activities, and the community-based auxiliary nurses attend community-wide meetings. These meetings give the auxiliary nurses an opportunity to inform the community about his or her work and to hear comments from community members about the project.

The Mallco Rancho Health Project has made a genuine and, in fact, a remarkable effort to respond to the needs which have been identified by the community, even those that are not directly related to health. For instance, the project has made contributions to the improvement of local school buildings and to the community sports program. As mentioned earlier, the project has also helped with improving crop irrigation, and latrine construction. It has also established a consumer's food cooperative, a handicrafts income-generating cooperative for women, and the project has assisted with road and bridge improvements. No AID funds have been used for these activities. Approximately 80% of the funds which have been loaned to the communities has been repaid, according to Dr. Taja.

E4. How Did Communities Participate in the Design, Implementation, and/or Evaluation of the Project?

Dr. Taja has been effective in maintaining close contact with local community leaders regarding issues in project implementation. The communities were consulted during the early stages of project planning. Through the interviews described above, community members did participate in the mid-term and final project evaluations.

E5. How Many Health Committees Exist and How Do They Function?

There are no formal health committee as such in the Mallco Rancho Health Area. However, in each of the communities the elected leaders ("sindicatos") concern themselves with health care as well as with many other issues. These leaders meet regularly. Dr. Taja is "always there," as one of the committee

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members said. All important issues facing the project are discussed with this group.

At this point, there is no local community group which has a supervisory responsibility for the use of funds.

E6. What Issues Are Being Addressed by These Health Committees?

The community leaders are concerned about the prices for various services, about community needs which the health project could possibly meet, and about the availability of specific services within their respective communities. During the last 24 months there has been a cholera epidemic in the area. Community leaders were active in helping the project promote preventive behaviors as well as in identifying patients in need of treatment.

E7. What Resources Has the Community Contributed to Provide for Sustainability?

The community has been generous in offering its time, manpower, and local materials when these were helpful and appropriate. In addition, community members have paid for health services provided by the project.

E8. What Are the Reasons for the Success or Failures of Community Support?

For several years now, the Mallco Rancho Health Project has tried to develop a strong curative health service for all project inhabitants regardless of their ability to pay. Parents of a sick child not uncommonly say to the staff that they are not willing to pay for the care of the child but if the staff wants to provide treatment, they will consent as long as it does not cost them (the parents) anything. This situation characterizes the strength and the weakness of the community's support. The community has confidence in the health services provided, but the community members are frequently unable or unwilling to pay for the cost of such services.

F. Ability and Willingness of Counterpart Institutions to Sustain
Activities

F1. Persons Interviewed

The following persons were interviewed:

- a. Dr. Carlos Iriarte Saavedra, Director, the Cochabamba Regional Health Office (Unidad Sanitaria) of the MOH;

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- b. Dr. Juan Carlos Guillén, Associate Director for Planning, Cochabamba Regional Health Office;
- c. Ms. Cristina Cardoza, Coordinator of ASONGS/Cochabamba (Asociación de Organizaciones No-Gubernamentales en Salud), the Regional Office of the Association of Non-Governmental Health Programs; and,
- d. Mr. Eduardo Vexina, CIAES (Centro de Investigación, Asesoría y Educación en Salud), Center for Research, Consultation, and Education in Health.

Ms. Cardoza and Mr. Vexina participated in the entire week-long evaluation activity for the Cochabamba projects in Mallco Rancho and in Sipe Sipe. Dr. Guillén participated for two days of the evaluation.

F2. Linkages Between the Child Survival Project and Health Development Agencies

The Mallco Rancho Health Project is directed by APSAR with financial support provided by ARHC. All MOH staff assigned to the area are part of the local field staff. For Mallco Rancho, this includes one MOH physician and one auxiliary nurse. The MOH supplies all vaccines, vaccine supplies, UNICEF growth charts, ORT packets, and TB medicines. This provision of resources by the MOH leads to close collaboration of the Mallco Rancho Health Project with all phases of the MOH's activities, both at the district level and at the regional office of the Cochabamba "Unidad Sanitaria." The MOH staff members assigned to the Mallco Rancho Health Project continue to receive their regular salaries from the MOH.

F3. Key Institutions Expected to Contribute to Sustainability

ARHC hopes that APSAR will be successful in the not-too-distant future in obtaining its own resources to continue its activities. Since the founding of APSAR in 1987, ARHC has been the sole source of funds for APSAR operations. As an indigenous NGO with a strong track record, APSAR should be able to attract increasing support to expand its operations. Therefore, ARHC is looking to APSAR to play an increasingly stronger role in project sustainability.

Dr. Iriarte, the newly appointed Director of the Cochabamba Regional Health Office for the MOH, has indicated that the MOH will not be able in the near future to provide any additional resources to the Mallco Rancho Health Area beyond what is currently being provided. Perhaps in several years, if the decentralization process moves along as proposed, the MOH will have some additional resources with which to sustain on a longer-term basis the health activities in Mallco Rancho which have been developed.

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Perhaps the most important elements in improving local sustainability are (1) the stronger incorporation of the community and its leaders into the project and (2) the provision of services whose cost is at a level the local people can afford.

F4. Opinions of Collaborating Institutions About the Project's Most Effective Interventions

Representatives of the MOH and private organizations knowledgeable about project activities in Mallco Rancho and in Sipe Sipe commented at the time of the final field evaluation in November that APSAR's programs and staff have an excellent reputation in the Cochabamba valley region of Bolivia. Specific reasons for this were as follows:

- a. the project staffs are highly competent and dedicated to their work;
- b. the projects are able to achieve a great deal for the limited amount of available funds; and,
- c. routine systematic home visitation and vital events registration are extremely useful in helping the projects achieve their goals of improving child survival.

F5. Contributions of the Project to Local Staff Capacity

The Mallco Rancho Health Project empowers local field staff to teach and train lower level staff. All levels of staff, from the Project Executive Director to the local volunteer community health educator, receive training in child survival interventions. This training, combined with the experience which the staff receive from implementing this training, is one of ARHC's contributions to the sustainability of child survival activities in Bolivia. The knowledge imparted through this training will remain with all staff wherever they might work in the future.

F6. Capacity of the MOH and Other Local Institutions to Sustain Project Activities

In Bolivia, there is a movement toward decentralization of MOH activities from the regional offices to the district level. This could have the effect of providing the districts with more resources than they had previously. If this happens, then possibly the Mallco Rancho Health Project could receive more support from the MOH than it currently receives. Beyond the MOH and the communities themselves, there are no other sources of support available to sustain health activities in the area other than what ARHC and APSAR are able to provide.

F7. What Project Activities Do Counterpart Organizations Perceive as Being Effective?

Mr. Vexina of CIAES noted that the home visitation activity and the registration of vital events are, in his opinion, highly useful activities.

G. Project Expenditures

See pages 28-29.

H. Attempts to Increase Efficiency

H1. Strategies to Reduce Costs, Increase Productivity, and Improve Efficiency

The training of volunteer community health educators (VCHES) has been one attempt to reduce the cost of field operations. Charging for medicines which were previously free has been another attempt to reduce costs. There has also been an attempt to reduce the dependency of families on care provided in the home. For example, prenatal care and antibiotic treatment for ARI are no longer provided as part of the home visit except under very special circumstances.

H2. Reasons for Success or Failure in Reducing Costs, Increasing Productivity, or Improving Efficiency

A major loss in project efficiency occurs when there is staff turnover, especially when the staff member leaving has considerable experience with the CBIO methodology and with the communities. During the last 12 months of project operations prior to the final evaluation, there was a significant turnover of personnel, resulting in a significant loss in project productivity and efficiency.

At the time of the final field evaluation in November, 1993, two of the project's three rural health technicians were no longer working with the project and had not been replaced. One of the three auxiliary nurses was also no longer working with the project and had also not been replaced at that time. One month later, the Field Coordinator also resigned. Together, these absences represented almost half (4/9) of the health professionals who were working in the project.

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H3. Lessons Learned Regarding Improving Efficiency

If a project has an unstable staff, then it becomes very difficult to improve efficiency, productivity, and financial sustainability.

I. Cost Recovery Attempts

I1. Cost-Recovery Attempts of the Project

The project charges for all services provided except for most child survival interventions and home visits. Patients pay a fee for all curative services and medicines. Those with serious or life-threatening illnesses receive care even if they cannot pay.

I2. Estimate of Amount of Funds Recovered

Table 59 indicates that the amount of locally generated funds rose substantially during the first six months of FY 1993. Prior to that time (in FYs 1991 and 1992) locally generated income amounted to 8-12% of total local project recurring costs. FY 1993 total recurring costs have not yet been determined for Mallco Rancho since they were comingled with Sipe Sipe costs and have not yet been disentangled.

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 Table 60
 Amount of Locally Generated Funds and Total Local Project
 Recurring Costs in Mallco Rancho, 1991-1993
 =====

fiscal year	locally generated income	total recurring cost	percent of total recurring expenses met with local income
1991	\$ 6,682	\$80,098**	8%
1992	\$ 6,890	\$56,333	12%
1993*	\$14,768	NA	NA

* estimate based on revenues for the first six months of the FY.
 ** assumes that the total recurring project cost was \$97,887, with 10% devoted to hospital, water, and sanitation activities.

I2. Effect of Cost Recovery Activities on Project Reputation and on Equity of Services Delivered

Increased efforts at local cost recovery were not enthusiastically received by the communities. The communities had, for example, become accustomed to receive some medicines free of charge. This is now no longer the policy.

There exists a strong ethic of equity among the Mallco Rancho Health Project staff members. Routine systematic home visitation ensures that contact is made with all families in the project area. No family has been denied basic services because of the family's unwillingness or inability to pay, nor has any sick child failed to receive treatment because of financial considerations.

I4. Reasons for Success or Failure of Household Income-Generating Activities of the Project

The household income-generating activities supported by the Mallco Rancho Health Project have not been objectively evaluated. There is, however, an impression that household income in the area has improved, partly as a result of better crop yields arising from improved irrigation.

I5. Lessons Learned Regarding Cost Recovery for Other Child Survival Projects or for AID

Local communities will not squarely face the issue of cost recovery until they are convinced that external funding will terminate in the near future.

J. Household Income Generation

J1. Household Income-Generating Activities Implemented

The project assisted with the development of a consumer's cooperative that purchases basic household necessities in bulk at a lower price than that available to individuals. The project also assisted with the improvement in crop irrigation in the hope that this would increase crop yields and thereby improve household income.

J2. Estimate Dollar Amount of Household Income Generated

No estimates are available.

J3. Contribution of Household Income Generated to Project Costs

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No estimates are available.

J4. Lessons Learned Regarding Household Income Generation

None.

K. Summary of Sustainability

Estimates of support of local project costs in Mallco Rancho from MOH resources and with locally generated funds are shown in Table 61. Approximately 7-12% of local recurring costs have been met with MOH support and 8-10% from locally generated income. Thus, 15-22% of local recurring expenses were met with sustainable sources of income. The total local recurring project expenses have not yet been determined for FY 1993, but based on data for the first six months of FY 1993, both the MOH support and local income appear to be double that for the previous year. Therefore, it seems safe to assume that there were major gains during FY 1993 in sustainability since project costs did not go up.

Table 61

Estimate of Percentage of Recurring Local Project Costs Met With MOH Support and Locally Generated Funds in Mallco Rancho, 1991-1993

fiscal year*	MOH support (1)	local income (2)	ARHC/ APSAR support (3)	total (4)	percent of total recurring costs met with MOH support local income**
1991	\$ 6,133	\$ 6,682	\$82,579	\$88,698	15%
1992	\$ 6,633	\$ 5,633	\$44,067	\$56,333	22%
1993	\$12,434	\$14,768	NA	NA	

* FY March-October

** percentage calculated by adding columns (1) and (2) and dividing by (4)

III. The Community's Perceived Health Priorities in Mallco Rancho

Determining the community's perceptions of its health priorities is an important aspect of the census-based, impact-oriented (CBIO) approach. The CBIO approach combines the epidemiologic priorities (that is, the most frequent readily preventable or treatable causes of death) together with the community's health priorities, to make up the project's priorities.

The community's perceptions of its health priorities were determined at the time of the cluster sample survey of mothers of children 0-23 months of age. They were asked, "What are your suggestions to improve health in your community?" The results were tabulated manually as part of the field evaluation in November, 1993.

The results of this analysis are shown below in Table 62. The leading suggestion is for more home visits, mentioned by 21% of the mothers. The other most frequently mentioned suggestions are for more readily accessible or improved health care services.
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Table 62

Suggestions for Community Health Improvement Made by Mothers of Children 0-24 Months of Age Participating in the Mallco Rancho 1993 Household Cluster Sample Survey

suggestion	number of mothers making suggestion	percentage (n=212)
1. more frequent home visits	44	21%
2. closer health posts	36	17%
3. good, better, or more health care	25	12%
4. community-based pharmacy, donation of medicines	16	8%
5. more health personnel or expansion of the ARHC/APSAR project	14	7%
6. nutritional supplements	14	7%
7. more specialists at the Mallco Rancho Health Center/Hospital	10	5%

source: 1993 Mallco Rancho household cluster sample survey
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IV. Mallco Rancho Project Mortality Analysis

The census-based, impact-oriented (CBIO) approach makes it possible to calculate mortality rates in the population since censuses of the area are updated annually and since births and deaths are registered at the time of routine systematic visitation of all homes in the project area. This process has been underway in Mallco Rancho since 1991 and has been described in more detail elsewhere (Perry, 1993).

The mortality data shown in Table 63 were presented earlier in graphic form in Figure 10, page 27. The data for 1993 are for the first nine months of the year (January 1 to September 30). During this period, an infant mortality rate of 72 was measured, representing an increase from 46 during the previous year. Most of this increase is due to an increase in the post-neonatal mortality rate (from 31 to 54). The 12-23 months mortality rate fell from 33 in 1991 to 7 in 1993.

There are two issues which must be raised in the interpretation of these mortality data. First of all, it was not possible to begin measuring mortality rates in Mallco Rancho until 1991. There had been an active child survival effort underway there for several years prior to 1991, so the initial mortality rates which were measured in 1991 were not truly baseline.

The second issue concerns the interpretation of the increase in the infant mortality rate between 1992 and 1993. It is quite possible that there was in 1992 an incomplete registration of infant deaths. There are two other possibilities. One is that there has been complete registration of vital events and the changes observed are random fluctuations since the population is small and the number of vital events is small. There were 13, 9 and 8 infant deaths registered during 1991-1993, respectively. A third possibility is that the infant mortality actually rose during 1993 as a result of a deterioration of services.

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Table 63

Infant and Child Mortality Rates for the Mallco Rancho Health Area, 1991-1993

	1991	1992	1993
neonatal mortality rate (deaths in the first 30 days of life per 1,000 live births)	36	15	18
postneonatal mortality rate (deaths during the first year of life but after the first 30 days per 1,000 live births)	42	31	54
infant mortality rate (deaths during the first year of life per 1,000 live births)	78	46	72
12-23 month mortality rate (deaths during the second year of life per 1,000 children of this age group)	33	32	7
24-59 month mortality rate (deaths during the third to fifth years of life per 1,000 children of this age group)	8	2	2

source: Mallco Rancho birth and death registry, census data

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V. Evaluation Team for the Mallco Rancho Health Project

A1. Members of the Final Evaluation Team

Members of the Mallco Rancho Local Field Staff

Dr. Orlando Taja,	Executive Director
Ms. Adela Asbún,	Field Supervisor
Dr. Roberto Flores,	MOH staff physician
Ms. Marta Escobar,	rural health technician
Ms. Nelly Coronado,	community auxiliary
Ms. Catalina Ventura,	community auxiliary

Other ARHC Staff Participating

Mr. Nat Robison	National Director, ARHC
Mr. David Shanklin	International Executive and Program Director, ARHC
Dr. Henry Perry	Program Advisor, ARHC
Mr. Adam Kolff	ARHC volunteer
Ms. Sarah Bott	ARHC volunteer

External Evaluators

Dr. Juan Carlos Guillén	Associate Director of Planning, Cochabamba Regional Health Department, MOH
Ms. Cristina Cardoza	Coordinator, ASONGS/ Cochabamba
Mr. Eduardo Vexina	anthropologist, CIAES
Mr. Juan Mamani	laboratory and x-ray technologist, Quillacollo District Hospital, MOH

A2. Author of Evaluation Report

Author of Evaluation Report: Dr. Henry Perry

THE SIPE SIPE PROJECT EVALUATION

I. Project Accomplishments and Lessons Learned

A. Project Accomplishments

A1. Objectives and Accomplishments Related to Each Objective

The goals for the Sipe Sipe Project as outlined in the Detailed Implementation Plan are reviewed below along with the results of the final evaluation. In addition to these goals, recommendations arising from the MTE are also described, together with the progress made in implementing these recommendations.

IMMUNIZATIONS

DIP GOAL: 50% of children 12-23 months of age should be completely vaccinated (i.e., they should have received measles, BCG, OPV3, and DPT3 vaccinations).

RESULT:

The household survey carried out in October, 1993, demonstrated that 64% of the children 12-23 months of age had been completely vaccinated at the time of the survey. Because home visitation (and home vaccination) had not yet begun in the town of Sipe Sipe by the time of the October, 1993, household survey, a separate analysis of the survey data was undertaken to assess the vaccination coverage leaving out the families living in the town of Sipe Sipe. This revealed that for all the communities in the Sipe Sipe Health Area except for the town of Sipe Sipe, the coverage of children 12-23 months of age with the complete scheme of vaccinations was 75%.

MTE RECOMMENDATION: there should be an annual tabulation of the number vaccinations given by the project and an indirect assessment made of population coverage made.

RESULT:

The Sipe Sipe Health Project does tabulate on an ongoing monthly basis, using wall charts provided by the MOH, the number of vaccinations given for measles, BCG, OPV3, and DPT3. The resulting graphs estimate vaccination coverage using local census

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data for the number of children.

DIARRHEA

DIP GOAL: increase by 15% the number of mothers who can prepare appropriately oral rehydration fluid from UNICEF packets.

RESULT:

The results of the Sipe Sipe household cluster sample survey are shown in Table 64 along with the results of the initial baseline household survey for the Sipe Sipe project carried out in the Spring of 1992. The percentage of mothers who could correctly prepare ORT from UNICEF packets was 51% at the time of the 1993 household survey. This represents an absolute improvement of 7% over the 44% of mothers in the 1992 household survey who were able to correctly prepare ORT. The relative percentage improvement in ability to prepare ORT solution is 16% ($7/44 \times 100 = 16\%$).

The responses to the other questions regarding ORT knowledge and use are also shown in Table 64. With respect to every item listed, there was modest improvement recorded in maternal knowledge and use of ORT.

Table 64

Mothers' Knowledge About and Use of Oral Rehydration Therapy
for Childhood Diarrhea in the Sipe Sipe
Health Area, 1992-1993

percentage of mothers who:	date of assessment		difference 1992-1993	
	1992	1993	absolute	relative
had heard of ORT	59% (158/267)	61% (153/253)	+ 2%	+ 3%
knew that ORT was used to treat dehydration caused by diarrhea	52% (141/272)	56% (142/252)	+ 4%	+ 8%
actually had used ORT	45% (123/272)	46% (117/252)	+ 1%	+ 2%
knew how to prepare ORT	44% (119/272)	51% (128/252)	+ 7%	+16%

source: 1992 and 1993 Sipe Sipe household cluster sample surveys

DIP GOAL: 50% of the mothers should be able to prepare a locally acceptable "home-based" ORT solution.

RESULT:

Although the Sipe Sipe staff encourage the use of rice-based fluids in addition to the UNICEF ORT packets, there was not an aggressive development of a uniform home-based ORT solution. The mother's capacity to prepare such a fluid was not assessed at the time of the final evaluation survey.

DIP GOAL: 100 volunteers will receive five hours of training regarding the detection and treatment of diarrhea.

RESULT:

Because of the high turnover experienced among the VCHES

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trained in neighboring Mallco Rancho, no formal training for volunteers for the Sipe Sipe Health Project was undertaken. There are approximately 10 young people in the project area who are collaborating with the community health work but they have received no formal training as VCHes.

DIP GOAL: study factors associated with the development of diarrhea.

RESULT:

In 1991, a detailed study to determine risk factors associated with the development of diarrhea was in the planning stages as part of a proposed study to assess the effects of Vitamin A supplementation on diarrheal and ARI morbidity. The proposed study was modified substantially at the request of technical reviewers prior to funding and consequently the assessment of risk factors associated with the development of diarrhea was never carried out.

NUTRITION

DIP GOAL: reduce by 20% the number of children who are not gaining weight (this pertains only to those children who are in communities in which censuses have been completed and in which routine home visitation is underway).

RESULT:

Sixty-four percent of the children in the household survey had growth charts, and 56% had growth charts in the home.

As part of the final evaluation exercise in Sipe Sipe, an assessment was carried out of a sample of growth charts. Every tenth child was chosen (using a random start) and the number of growth monitorings was recorded as well as the weight change between the next-to-last and last monitoring. Fourteen of the 18 communities in the Sipe Sipe Health Area were included in this analysis.

Table 65 below shows that 75% of the children under two years of age gained weight as did 60% of the children 24-59 months of age. Sixteen percent of the children under 24 months of age and 28% of those over 24 months of age lost weight.

Table 65

Changes in Weight of Children Under Five Years of Age
in the Sipe Sipe Health Area, 1993

weight change	age group	
	0-23 months (%)	24-59 months (%)
increase	75%	60%
no change	9%	12%
decrease	16%	28%
TOTAL	100%	100%

source: review of sample of family health folders in Sipe Sipe, November, 1993

Unfortunately, there are no baseline data with which to compare these results. These results will serve, however, as a baseline for comparison for future surveys.

DIP GOAL: give 10 hours of training to 125 volunteers concerning nutritional monitoring and nutritional practices.

RESULT:

Because of the negative experience in Mallco Rancho with volunteers, the Sipe Sipe staff decided to postpone the training of volunteers until a new policy for selecting, training, and utilizing volunteers is developed. Consequently, no formal training of volunteers was carried out in Sipe Sipe during the grant period.

DIP GOAL: monitor the growth of children under 24 months of age every two months and that of children 24-59 months of age every four months.

RESULT:

A sample of growth charts was analyzed as part of the field site evaluation. For the same children whose weight gain was

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assessed as described in Table 65, the number of nutritional monitorings between January 1, 1993, and September 30, 1993, was assessed. A determination was also made of whether the frequency of monitorings was within the goals established in the DIP. For children under 24 months of age, this was at least every two months and for children 24-59 months of age, every four months.

The findings of this analysis are shown in Table 66. Eighty-six percent of the children 0-23 months of age were weighed at least every two months between January 1, 1993, and September 30, 1993. Eighty percent of the children 24-59 months of age were weighed at least every four months during the same period. Table 66 also shows that both groups of children were monitored on average almost every two months. On the basis of the number of weighings recorded for the first nine months of 1993, children under 24 months of age were weighed an average of 5.7 times a year and children 24-59 months of age, 5.3 times a year.

Table 66

Nutritional Monitoring of Children in the Sipe Sipe Health Area From January 1, 1993, Until September 30, 1993,

age group	average number of nutritional monitorings (Jan-Sept)	adjusted average annual number	percentage of children within the norms*
0-23 months	4.3	5.7	86%
24-59 months	4.0	5.3	80%

source: review of Sipe Sipe health records, November, 1993

* norms established in the DIP are every two months for children 0-23 months of age and every four months for children 24-59 months of age.

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MTE RECOMMENDATION: decide which nutrition activities deserve priority and evaluate the progress of the nutrition program on a periodic basis.

RESULT:

The Sipe Sipe staff chose to concentrate on the rehabilitation of children with malnutrition or with growth faltering. Those children below the curve on the UNICEF growth charts or those who were not gaining weight received intensive follow-up home visits. Nutrition education was combined with frequent growth monitoring. "Api nutricional" had not yet been introduced into the Sipe Sipe project as it had in ARHC's other projects. This is a packet of highly nutritious foodstuffs prepared in Bolivia which includes high-protein grains such as quinoa and also has a high-caloric content.

MTE RECOMMENDATION: review the SVEN nutritional monitoring data every six months and the growth charts themselves every six months.

RESULT:

The SVEN nutritional data is categorized on a monthly basis for submission to the MOH. However, there has been no analysis of this data on a semiannual basis nor had there been prior to the final evaluation any systematic study of the growth charts themselves.

DIP GOAL: experiment in activities to improve family income and in other activities which might improve family nutrition.

RESULT:

There were no activities carried out in Sipe Sipe during the CS6 grant related to improvement in family income nor were there other similar activities which might improve family nutrition. The enormous effort involved in establishing project operations in Sipe Sipe and in initiating the CBIO approach there made it impossible to carry out additional activities.

MTE RECOMMENDATION: develop, using previous survey results, specific educational messages regarding breast-feeding, weaning, and maternal nutrition.

RESULT:

There has been no progress in this recommendation during the grant. As noted above, the effort required to establish

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project operations in Sipe Sipe proved to be so demanding that other desirable but less important objectives had to be abandoned.

DIP GOAL: determine the prevalence of the deficiency of Vitamin A and assess the impact of Vitamin A supplementation on the incidence of diarrhea and pneumonia.

RESULT:

At the time the DIP was written, it was envisioned that ARHC would carry out a study in which Vitamin A supplementation would be provided to children in ARHC's programs in a double-blind fashion to determine if there was a decrease in the incidence of pneumonia or diarrhea. This study was later modified significantly at the request of technical reviewers. Instead, an assessment of the prevalence of clinical Vitamin A deficiency was carried out under the terms of a grant from PROCOSI.

DIP GOAL: continue the policies of the Ministry of Health (1 capsule of 200,000 IU every six months for children 1-6 years of age).

RESULT:

This policy has been continued by the Sipe Sipe project, although there has been no formal evaluation of the coverage of this service.

ACUTE RESPIRATORY INFECTION

DIP GOAL: increase by 10% per year the percentage of mothers who recognize warning signs of ARI.

RESULT:

The 1992 Sipe Sipe household survey as well as the final evaluation survey assessed mothers' knowledge of the warning signs of pneumonia. Consequently, it is possible, as shown in Table 67, to compare the results of these surveys.

The 1992 survey was carried out in June and the 1993 survey in October. The percentage of mothers who mentioned rapid breathing has not shown significant progress between 1992 and 1993. There was an absolute increase of 12% and a relative increase of 133% in the percentage of mothers who mentioned rapid and agitated respirations as a warning sign for ARI. There was minimal change in the percentage of mothers mentioning

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intercostal retractions (from 0% in 1992 to 2% in 1993). The percentage of mothers mentioning cough as a warning sign increased from 48% to 66%.

There was considerable discussion among the evaluation team regarding the interpretation of these results. There is evidence of improvement in maternal knowledge about the warning sign for pneumonia. However, the survey interviewers expressed the opinion that the mothers being interviewed had difficulty in understanding the question. It also appeared to the evaluation team that the interpretation of the answers by the interviewers was rather subjective. Thus, it is hard to draw firm conclusions regarding these findings. The evaluation team did agree, however, that the staff need somehow to improve their communication to mothers of warning signs for pneumonia.

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Table 66
Recognition of Warning Signs of Pneumonia Among Mothers
in Sipe Sipe, 1992-1993

warning sign	percentage of mothers who mentioned this as a warning sign			
	1992 percent	1993 percent	difference, 92-93 absolute relative	
1. did not know of any	40% (106/267)	26% (65/253)	-14%	- 35%
2. rapid and agitated respirations	9% (24/267)	23% (57/253)	+12%	+133%
3. intercostal retractions	0% (0/267)	2% (5/253)	+ 2%	+200%
4. loss of appetite	1% (3/267)	9% (23/253)	+ 8%	+800%
5. fever	10% (27/266)	20% (51/253)	+10%	+100%
6. cyanosis	3% (7/267)	2% (5/253)	- 1%	- 33%
7. cough	48% (128/267)	66% (106/253)	+18%	+ 38%

source: 1992 and 1993 Sipe Sipe household cluster sample surveys
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DIP GOAL: provide 10 hours of training to 100 volunteers to detect, treat, and to refer cases of ARI.

RESULT:

As described previously, no volunteers were formally trained during the period of grant support.

MTE RECOMMENDATION: develop educational materials for ARI and prioritize educational messages regarding IRA.

RESULT:

It was hoped that technical assistance for the ARI program provided by Dr. Nils Daulaire would be helpful with respect to improving the educational component of the ARI program. Unfortunately, Dr. Daulaire did not feel competent to assist ARHC's projects with this particular issue and recommended that a specialist in ARI education be contacted. As mentioned previously, one Sipe Sipe staff member did attend a PROCOSI workshop on non-formal education. The information obtained proved to be quite helpful to the staffs in both Sipe Sipe and in Mallico Rancho for improving ARI educational messages to local mothers.

MTE RECOMMENDATION: seek technical support to improve non-formal educational activities and related into educational materials.

RESULT:

Several Sipe Sipe staff members attended a PROCOSI workshop on precisely this theme.

MTE RECOMMENDATION: promote the importance of ARI in the communities.

RESULT:

In community meetings and at the time of home visits, the Sipe Sipe staff have emphasized that pneumonia is one of the leading causes of death in the project area and that intercostal retractions and rapid/agitated breathing are warning signs indicating the need for antibiotic treatment.

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REPRODUCTIVE HEALTH

MTE RECOMMENDATION: carry out verbal autopsies with the assistance of the communities for all the deaths of women in the reproductive age group.

RESULT:

There have not been any deaths registered yet in Sipe Sipe among women in the reproductive age group (15-44 years).

MTE RECOMMENDATION: develop a strategy to train family members of pregnant women in safe and clean home delivery practices.

RESULT:

There has been no formal educational program for family members of pregnant women regarding safe and clean home delivery practices. The Executive Director of the Sipe Sipe Health Project, Dr. Orlando Taja, did not agree with this particular MTE recommendation. He feels that women should be encouraged to come to the local hospital for a supervised delivery since accessibility is not a serious problem in the project area.

MTE RECOMMENDATION: encourage and train the staff to provide family planning services, possibly with the assistance of a national family planning organization.

RESULT:

When couples in the Sipe Sipe Health Area request family planning services, they are referred to the Reproductive Health Clinic at the Mallco Rancho Health Center/Hospital. No staff members from Sipe Sipe have yet received training in the provision of family planning services and no family planning services are currently offered by the Sipe Sipe Health Project.

MTE RECOMMENDATION: promote the referral of high-risk pregnancies to a higher level of medical care.

RESULT:

Women experiencing a complication of childbirth have in most cases been referred to a hospital facility for more specialized care. In most cases, this results in a Caesarian section. The maternity hospital in Cochabamba is less than an hour away and provides relatively high quality services. Most women are referred there.

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Since the results have been quite good, it is gradually becoming easier to refer women with obstructed labor, eclampsia, postpartum hemorrhage, placental retention, or puerperal sepsis to the Cochabamba Maternity Hospital for specialized care. There has not yet been an obstetrical death recorded among residents of the Sipe Sipe Health Area since APSAR/ARHC established activities there in 1992.

COMMUNITY PARTICIPATION

DIP GOAL: hold community-wide meetings four times a year in each community to discuss health topics.

RESULT:

There have been a number of community-wide meetings held in the Sipe Sipe Health Area since 1992 when APSAR began efforts to establish a health project there. These meetings have not been regular, however.

DIP GOAL: distribute an annual report to each community regarding the project achievements during the past year and problems in need of resolution.

RESULT:

This has not been done. The enormous effort of getting project operations underway delayed the completion of this goal.

DIP GOAL: bring together the community leaders twice a year to share ideas, concerns, and suggestions regarding program operations.

RESULT:

This has taken place, usually on a monthly basis.

MTE RECOMMENDATION: the communities should participate in the planning of local project activities, in the supervision of the health posts, in the development of policies regarding the rotating drug fund, and in the search for ways in which the community can assume greater responsibility for the operation of the health posts.

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RESULT:

Community leaders are now participating in discussions about project policies. They are not yet supervising any of the financial aspects of the community health activities, however. With further involvement and experience, this next step of responsibility should evolve with little difficulty.

MTE RECOMMENDATION: at the time of planned evaluations, obtain the opinion of the community about the quality of the project, its achievements, and the community's perceived health priorities.

RESULT:

The final grant field evaluation included extensive discussions with community members about the project itself as well as about perceived community health priorities. At the time of the October, 1993, household survey in Sipe Sipe, 71% (184/253) of the mothers rated the health project as "excellent" or "good." Only 6% (15/254) rated it "fair" or "bad," but 23% (53/253) had no opinion.

At the time of the baseline survey in the Spring of 1992, mothers were asked the same question. Only 34% (93/272) of the mothers rated the health services in the Sipe Sipe area to be excellent or good, 21% (58/272) rated it as fair or bad, and 44% (151/272) had no opinion. These findings indicate that the image of health services in Sipe Sipe has improved considerably since the project began.

The major achievements mentioned in focus group discussions with community members were the improvement of curative and preventive health services for the project area, particularly as a result of delivery of services to the home. Community members mentioned most frequently as health needs (1) improving and making more accessible local curative health services and (2) expanding the home visitation program.

HEALTH VOLUNTEERS

DIP GOAL: train 100 volunteer community health educators (VCHEs).

RESULT:

Because of the negative experience in Mallco Rancho with volunteers, the Sipe Sipe staff decided to postpone the training of volunteers until a new policy for selecting, training, and utilizing volunteers is developed.

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MTE RECOMMENDATION: increase the number of volunteer community health educators and reduce their responsibilities to:

1. detect and record vital events, pregnancies, and illnesses;
2. provide mothers with packets of oral rehydration salts and advise them regarding their use;
3. advise mothers regarding when antibiotic treatment for ARI, when ORT treatment for diarrhea, and when referrals for high-risk pregnancies are necessary;
4. assist the community auxiliary nurses with immunizations and nutritional monitoring; and,
5. assist the community auxiliary nurses with the annual community census.

RESULT:

The role of the volunteer community health educator (VCHE) in the Sipe Sipe Health Project is still under discussion and no decisions have yet been made on the selection, training, and responsibilities of these persons.

MTE GOAL: analyze in focus group discussions the current problems associated with the training and functioning of volunteer community health educators (VCHEs); possibly seek technical consultation regarding VCHEs.

RESULT:

At the time of the field evaluation in Sipe Sipe in November, 1993, the issue of the selection, training, and utilization of VCHEs was discussed at length by the entire group. The group's observations during this discussion were as follows:

- a. persons with roots in the community should be chosen, not persons interested in leaving the community;
- b. perhaps it would be better not to include community authorities as members of the selection committee since they frequently favor persons who later prove to be ill-suited for the role;
- c. it is better to seek out and train natural leaders (those to whom villagers turn for advice);
- d. it might be preferable to provide a more limited training to more people, possibly one woman in every household; and,
- e. incentives other than actual pay should be sought to motivate VCHEs to continue their collaboration with the program.

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MTE GOAL: try to include traditional midwives and other local traditional healers in the network of volunteers and informants.

RESULT:

It has not yet been possible to carry this out.

HEALTH EDUCATION

MTE RECOMMENDATION: reduce the number of health education messages and measure the changes in behavior which are being recommended.

RESULT:

There has been a concerted effort to improve the health education messages provided by community auxiliary nurses in group meetings and during home visitation. There has been no formal objective evaluation of the effectiveness of these activities apart from those carried out at the time of the MTE and final evaluation.

SUSTAINABILITY

MTE RECOMMENDATION: develop a vision and a realistic strategy regarding sustainability.

RESULT:

This has now in the process of being written and discussions of sustainability issues are ongoing at all levels of the organization. A comprehensive sustainability strategy for all of ARHC's projects is being consolidated into a single document.

MTE RECOMMENDATION: analyze on an ongoing basis sustainability issues in the communities.

RESULT:

This has not been systematically done, except as part of the final evaluation effort.

MTE RECOMMENDATION: design and carry out a course in leadership and in administration for community leaders.

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RESULT:

It has not been possible to carry this out. Budgetary constraints made it necessary to eliminate this proposed activity from the CS9 DIP.

DIP GOAL: develop a self-sustaining rotating drug fund.

RESULT:

There is now a functioning self-sustaining rotating drug fund for the Sipe Sipe Health Area. Prior to beginning the project in Sipe Sipe, there were no drugs available whatsoever, much less a rotating drug fund.

DIP GOAL: experiment with payment-in-kind for specific health services.

RESULT:

This has not been carried out in Sipe Sipe.

DIP GOAL: develop pilot projects in community development.

RESULT:

Because of the enormous effort which has gone into the censuses and the initiation of routine, systematic home visitation in these communities (not to mention the enrollment of local children into the immunization and growth monitoring programs), there has not yet been an opportunity for the health staff to participate in community development projects.

DIP GOAL: strengthen coordination with and increase the support provided by the MOH.

RESULT:

The Sipe Sipe Health Project under the direction of APSAR/ARHC only began in earnest in early 1993 after almost one year of preliminary groundwork. In contrast to the Mallico Rancho Health Area where the MOH had almost no staff or ongoing health work prior to beginning APSAR/ARHC project activities in 1987, the MOH had a relatively strong presence in the Sipe Sipe Health Area prior to beginning project activities there in early 1993. At that time, there was already based at the Sipe Sipe Hospital/Health Center one physician, three auxiliary nurses, and one dentist, each with a MOH salary. It has not been feasible to

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increase the amount of support provided in Sipe Sipe by the MOH. All of these MOH staff for Sipe Sipe have now been fully integrated into the project.

Dr. Taja and other members of the Sipe Sipe Health Project staff have participated in the activities of the Quillacollo MOH Health District. The Regional Office of the MOH in Cochabamba ("Unidad Sanitaria") has made formal proposals to APSAR and several other private health care organizations to take responsibility for the administration of the health district. Unfortunately, none of these organizations have the capacity to take on such a task at present, however.

CBIO METHODOLOGY

DIP GOAL: complete a census in every community in the Sipe Sipe Health Area.

RESULT:

All of the 17 communities in the Sipe Sipe Health Area completed a census and enumeration of houses by the time of the final evaluation. Routine systematic home visitation was underway in these 17 communities by the end of the period of grant support. The town of Sipe Sipe had not participated in any of these activities by the end of the CS6 grant.

DIP GOAL: visit every home with a child under two years of age every two months; visit every home with a child 24-59 months of age every four months.

RESULT:

Family folders were reviewed for each of the 17 communities in the Sipe Sipe Health Area with routine systematic home visitation. For each community, 10 family health folders were selected in which there was a child under five years of age. A random start was chosen, and then every "nth" family health folder was selected. For example, if a community had 100 homes, then every tenth folder would be selected. If the tenth folder did not have a child under five, then the next folder (the eleventh) would be inspected and so forth until a folder with a family having a child under five was encountered.

The number of home visits carried out between January 1 and September 30, 1993, was ascertained for each family included in the study. Families were categorized as (1) those with at least one child under 24 months of age, or (2) those with no children

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under 24 months of age but at least one child 24-59 months of age. Those families not meeting one of these two criteria were not included in the analysis.

The project policy is to visit homes with children under twenty-four months of age every two months and to visit homes with children 24-59 months of age every three months even though the DIP calls for homes with children 24-59 months of age to be visited every four months.

The results of the analysis are shown in Table 68. Homes with children under 24 months of age received an average of 4.4 visits during the nine month period of study. Forty-three percent of these homes were visited at least every two months. Homes with no children under 24 months of age but with older children 24-59 months of age received an average of 5.1 visits during the nine month study period. Thirty-six percent of the homes were visited according to the program policy of one visit at least every three months.

Table 67

Frequency of Home Visitation in the Sipe Sipe Health Area,
January - October, 1993

family category	average number of visits during the past 9 months	percentage of homes with the frequency of visits within the policies established by the program
homes with children 0-23 months of age (policy to visit every two months)	4.4	43%
homes with no children 0-23 months of age but with children 24-59 months of age (policy is to visit every three months)	5.1	36%

source: review of Sipe Sipe family health folders, November, 1993

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A2. Circumstances Aiding or Hindering the Achievement of Project Objectives

The Sipe Sipe Health Project and the Ancoraimes Health Project on the Northern Altiplano are ARHC's newest. Although some activities began in 1992, internal staffing problems along with internal ARHC financial problems hindered the full implementation of field activities until January, 1993. The progress made in Sipe Sipe between during the first 10 months of 1993, however, is nothing short of spectacular.

The main reason for this has been the unified and dedicated effort of the staff in Sipe Sipe. Of particular note in this regard is the fact that most of the staff had been working there prior to the beginning of this project. They had been accustomed to the traditional MOH mode of providing clinic-based services and had never been exposed to the ARHC/APSAR census-based, impact-oriented (CBIO) methodology. Understandably, there was considerable resistance initially on the part of the older staff to this new approach. The CBIO approach was different, it required considerably more collaboration with the communities, and it also involved much more work and effort.

However, once the older staff became adjusted to this new approach and were able to experience for themselves its advantages, they became enthusiastic advocates. The leadership provided by two young graduate nurses, Ms. Araceli Lazarte and Ms. Amparo Cartagena, helped greatly to make such a remarkable staff transformation possible. The health staff in Sipe Sipe received much counsel and support from Ms. Adela Asbún, Field Supervisor for the Mallco Rancho Health Project, along with other Mallco Rancho staff including Dr. Taja, Executive Director of APSAR.

A3. Sipe Sipe Final Evaluation Survey Results

The results of the final evaluation household survey is included in Appendix III. The results of the key indicators of child survival project performance for the Sipe Sipe Health Project are shown in Table 69.

Table 69

Key Indicators of Child Survival Project Performance
for the Sipe Sipe Health Project

indicator	result
1. initiation of breast-feeding	
percent of children less than 24 months of age who were breastfed during the first eight hours after birth	68% (171/253)
2. exclusive breast-feeding	
percent of infants under four months of age who were given only breast milk	49% (26/53)
3. introduction of foods	
percent of infants between five and nine months who are being given solid or semi-solid foods	91% (63/69)
4. persistence of breast-feeding	
percent of children between 20 and 24 months who are still breast-feeding (and being given solid/semi-solid foods)	20% (4/20)
5. continued breast-feeding	
percent of children (less than 24 months) with diarrhea during the past two weeks who were given the same amount or more of breast milk	85% (52/61)
6. continued fluids	
percent of children (less than 24 months) with diarrhea in the past two weeks who were given the same amount or more fluids other than breast milk:	
not including exclusively breastfed children	79% (58/73)
including exclusively breastfed children	68% (58/85)

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.....
 TABLE 68 (continued)
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7. continued foods		
percent of children less than 24 months with diarrhea during the past two weeks who were given the same amount or more food	60%	(51/85)
8. ORT use		
percent of children (less than 24 months) with diarrhea during the past two weeks who were treated with ORT		
defined as packets of ORT salts	11%	(9/85)
defined as ORT packets or home-based ORT or cereal-based solutions	31%	(26/85)
defined as any oral liquid (including ORT, other liquids, or teas)	57%	(48/85)
9. medical treatment of pneumonia		
percent of mothers who sought any type of medical treatment, modern or traditional for child (less than 24 months) with cough and rapid difficult breathing during the past two weeks	69%	(27/39)
10. EPI access		
percent of children 12-23 months of age who received DPT1	75%	(76/102)
11. EPI coverage		
percent of children 12-23 months who received OPV3	66%	(67/102)
12. measles coverage		
percent of children 12-23 months of age who received measles vaccine	63%	(64/102)
.....		

.....
 TABLE 68 (continued)
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13. drop out rate

percent change between DPT1 and DPT3 doses 13%
 [(DPT1-DPT3)/DPT1 x 100] for children
 12-23 months

$(76-66)/76 \times 100 = 13\%$

14. maternal card

percent of mothers with a maternal card for
 the birth of the youngest child less
 than 24 months of age (this percentage
 includes those mothers who said they had 32%
 a card but this could not be verified) (81/253)

15. maternal tetanus toxoid coverage

percent of mothers who received two doses of
 tetanus toxoid vaccine (card) before the
 birth of her youngest child less than 3%
 24 months of age (8/253)

16. one or more ante-natal visits (card)

percent of mothers who had at least one
 ante-natal visit (card) prior to the
 birth of her youngest child less than 10%
 24 months of age (26/253)

17. modern contraceptive usage

percent of mothers with children less than
 24 months of age who desire no more
 children in the next two years (or who
 are not sure) and are using a modern 5%
 contraceptive method (10/212)

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B. LESSONS LEARNED

See pages 11 - 27.

II. SIPE SIPE PROJECT SUSTAINABILITY

A. Sustainability Status

A1. Termination of AID Funding for Child Survival Activities

CS6 funding formally began in Sipe Sipe in 1992. Less than one year of field activities had been carried out at the time of the final evaluation in November, 1993. Sipe Sipe is included in ARHC's new CS9 grant and support will be continuing there through September, 1996.

A2. ARHC's Plans for Discontinuation of Child Survival Activities

Since ARHC's initiation of health activities in Sipe Sipe in 1992, it has carried out all of its work under the auspices of APSAR (Asociación de Programas de Salud del Area Rural) led by Dr. Orlando Taja. Although there are no short-term plans for ARHC to discontinue its support for child survival activities in Sipe Sipe, it is hoped that APSAR's dependence on ARHC for support will diminish between 1993 and 1996 as APSAR becomes more independent and obtains additional sources of support.

A3. Phase Over of Responsibility and Control to Local Institutions

As mentioned immediately above, ARHC has given APSAR responsibility for managing all health activities in Sipe Sipe. APSAR has its own Board of Directors. With APSAR's recent decision to diversify its funding base, it appears likely that the close working relationship which developed between ARHC and APSAR over the past six years will diminish somewhat. ARHC sees this anticipated progress as healthy since it is APSAR's growing organizational capacity which has made this possible.

B. Estimated Recurrent Costs and Projected Revenues

B1. Child Survival Activities Seen by Project Management as Most Effective and Worthy of Sustaining

There is a strong sense on the part of the APSAR local field management staff in Cochabamba as well as on the part of ARHC's higher management in La Paz and in the US that the census-based, impact-oriented (CBIO) approach is working well and should be maintained. This involves routine systematic home visitation, vaccination in the home, registration of vital events, nutritional monitoring and nutritional education at the time of home visitation, ORT training and support during home visitation, and treatment of ARI in the home. High-risk mothers and high-risk children receive more frequent home visitation.

The inclusion of child survival interventions in a broader program of primary care services which is integrated with the MOH has worked well in Sipe Sipe. ARHC/APSAR management staff want to see this continue.

B2. and B3. Anticipated Ongoing Expenditures After Termination of Child Survival Support and Estimate of Ongoing External Financial Needs

Once AID Child Survival funding terminates for the Sipe Sipe Health Project, the major challenge for APSAR (and for ARHC to a lesser extent) will be to find funds to continue logistical, technical, and administrative support and to find additional funding for local field staff salary support. If AID Child Survival support for the Sipe Sipe Health Project terminates at the end of CS9 (in September, 1996), then it is quite likely that ARHC will significantly reduce its overall contribution to local project expenses to a level of \$20-30,000 per year at the most. If APSAR is able to increase local financial support and also able to diversify its funding base, project operations should continue without a significant diminution in quantity or quality.

B4. Are Costs Reasonable?

At present, there are no reliable estimates of local per capita recurring costs for the Sipe Sipe Health Project. Expenditures for the Mallco Rancho and Sipe Sipe projects are comingled, making it difficult to identify specific costs by project area. This was done for Mallco Rancho in 1991 and 1992 before the Sipe Sipe project began, however. The local recurring annual per capita cost for the entire primary care and child survival project was \$9.66. Costs appear to be similar or perhaps even somewhat less in Sipe Sipe.

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These costs are felt by some to be too high for long-term sustainability. ARHC is searching for new strategies which will make it possible to maintain the basic concepts of the CBIO approach while reducing costs. Six to 7 dollars per capita appears at present to be the minimum expenditure possible without a major reduction in the quality of project operations.

B5. Projected Revenues After AID Funding Ceases

APSAR has no plans to abandon its long-term commitment to Sipe Sipe. APSAR is now beginning to seriously look for other sources of funds beyond ARHC. It is unlikely that ARHC will terminate its support for APSAR in the near future although the level of support is likely to diminish.

B6. Costs Which Are Not Likely to Be Sustainable

Logistical, administrative, and technical support for Sipe Sipe operations will not be easy to sustain. Over time, it is anticipated that local salaries and local expenses will eventually become sustainable with locally-generated funds and with MOH salary support.

B7. Lessons Learned Regarding Costs and Revenues

If relatively comprehensive ongoing primary care and referral services were not now available in Sipe Sipe, there would be no hope whatsoever of longer-term sustainability for the project. The local population is not willing to pay for child survival interventions such as immunizations and growth monitoring. Without strong local financial support, MOH staff will not be able to maintain the primary care and child survival services which have been developed.

Child survival projects which serve extremely poor populations are not likely to become self-sustaining for many years. Thus, it is necessary to be patient, but at the same time expect that steady (if nevertheless slow) progress be made toward the goal of complete sustainability without external financial support. The only way to know if modest progress toward financial sustainability is being made is to develop measurable goals and monitor the results.

C. Sustainability Plan

C1. Project Staff Interviewed

The entire Sipe Sipe staff were interviewed along with the ARHC Bolivian National Director (Mr. Nat Robison) and the ARHC/US

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Program Director (Mr. David Shanklin). The field staff participating included the Executive Director for the Sipe Sipe Health Project (Dr. Orlando Taja), the local staff physician (Dr. Alberto Mendoza), the local field supervisors (Ms. Amparo Cartagena and Ms. Araceli Lazarte), the rural health technician (Ms. Benigna Aguilar), three community-based auxiliary nurses (Ms. Dora Loma, Ms. Ricarda Mejia, and Mr. Ponciano Romero) and the staff dentist (Dr. Catalina Peredo).

The project design was developed primarily by the ARHC/US Program Director (Mr. David Shanklin) working with the ARHC Bolivian National Director (Mr. Nat Robison) and the APSAR Executive Director (Dr. Orlando Taja). Implementation was carried out by APSAR's Executive Director and by local field staff. Monitoring and evaluation has been carried out by all of the above together with ARHC's Program Advisor (Dr. Henry Perry). ARHC has developed a participatory style of evaluation that includes all local field staff.

C2. The Project's Plan for Sustainability

Briefly stated, ARHC's plan for sustainability of the Sipe Sipe Health Project is to gradually decrease its own support for the project and to assist APSAR in promoting support of project operations from local sources and from external sources. This strategy involves reducing costs by keeping the numbers of local paid staff at a minimum and especially those who are at the higher end of the pay scale. This strategy also involves increasing locally-generated income and also increasing the contribution provided by the MOH.

The goal during the next five years is to increase MOH and locally-generated income to cover 30% of project costs and to reduce overall local costs to \$6-7 per capita. In addition, it is ARHC's goal to assist APSAR in obtaining external funding from other sources such that in five years no more than 50% of APSAR's externally-derived funds are provided by ARHC.

C3. Sustainability-Promoting Activities Carried Out

Dr. Taja, Executive Director of APSAR, has sought to develop strong curative health services in Sipe Sipe which the local people trust and utilize. If this can be achieved, the local people will provide financial support. The growth in the numbers of curative services provided by the Sipe Sipe Health Project is an early sign of this confidence (see Table 14, page 49). Thus, the remarkable gains made by the Sipe Sipe Health Project in improving local health services during the final year of the grant represents a major step toward sustainability.

The Sipe Sipe project has made strong progress toward financial sustainability through increased income from

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fees-for-service. The amount of local income for services provided doubled from \$4,535 in FY 1992 to an estimated \$8,822 in FY 1993 (based on income for the first six months of the FY).

C4. Evaluation of Sustainability Plan

As mentioned previously, ARHC has planned to prepare for some time a detailed sustainability strategy document. This document is now being written by ARHC's National Director and will become the basis for policies which will enable ARHC to place more emphasis on sustainability issues and to monitor progress more closely.

The future relationship between ARHC and APSAR depends on how successful APSAR will be in clarifying its longer-range vision and in obtaining funding from sources beyond ARHC. These issues will need to be in clearer focus before a detailed sustainability plan for Sipe Sipe can be developed.

C5. Contributions From Counterpart Institutions to Project Activities

The agreements with the MOH to provide vaccines, vaccination supplies, TB medicines, and salary support were met as established, with the exception that there were periodic lapses in the availability of some of the vaccines.

C6. Reasons for Success or Failure of Counterpart Institutional Support

Although MOH salaries are low, the MOH is reliable in paying them. The donated materials such as vaccines, vaccination supplies, and TB medicines are provided to the MOH by international donors such as AID, so they are generally available.

D. Monitoring and Evaluation of Sustainability

D1. Indicators Used to Track Sustainability Outputs and Outcomes

Efforts to date to monitor sustainability include the annual measurement of the following indicators:

- a. total recurring local project cost (including capital depreciation expenses and training expenses);
- b. total local project cost per capita;
- c. percent of local project costs met by the MOH as well as with locally generated income; and,

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- d. percent of local project costs generated by ARHC's Bolivian NGO counterparts.

D2. Do These Indicators Show Any Progress?

Aside from locally generated income (described above), it has not yet been possible to monitor sustainability in Sipe Sipe. This is a high priority for the CS9 grant period.

D3. Qualitative Data Suggesting Changes in Sustainability

The discussions held in the Sipe Sipe Health Area with community leaders and with mothers' club members held at the time of the final evaluation in November, 1993, revealed that there was no real awareness that most of the financial support for the health program arose from external sources which would not continue in the long run. The local people will need to become more aware of the situation and their need to make a stronger contribution toward the financial support of the project in the future.

The general trend now in the MOH is toward decentralization. This could possibly lead to more resources for the provision of primary health care services in rural areas such as Sipe Sipe.

D4. In-country Agencies Participating in Project Design Implementation, or Evaluation

The Johns Hopkins PVO Child Survival Support Program's Latin American Regional Office provided important assistance with the design of the Sipe Sipe final evaluation cluster sample survey and also with the training of the supervisors of the survey. The household survey in the Sipe Sipe Health Area was directed by Dr. Carmen Marín, Hopkins consultant based in Lima, Peru. Dr. Marín led the training module for the survey supervisors for all four project sites and directed personally the survey and data analysis for the Mallco Rancho and Sipe Sipe surveys.

D5. Sustainability Recommendations Made by Technical Reviewers of the Initial Proposal and DIP

In the technical review of the initial proposal, the following recommendations were made:

- a. clarify the MOH's role in the revolving drug fund;
- b. consider more cost-effective approaches to ensure continuation of the project after termination of ARHC funding (such as reducing the level of home visitation, focusing on high-risk infants, and shift to service delivery at fixed and outreach sites);
- c. give more attention to strengthening MOH capacity, not just supplement MOH activities; and,

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- d. increase training and support of non-professional community health workers since this would decrease reliance on higher salaried staff.

Recommendations provided at the time of the technical review of the DIP were the following:

- a. develop a more detailed sustainability plan;
- b. document lessons learned to date, including successes and failures in the sustainability of the original child survival project;
- c. review the experience with cost recovery;
- d. test income generation, community financing, fee-for-service, and so forth in new areas;
- e. develop sustainability indicators since none were presented in the DIP;
- f. reduce recurrent costs and raise more local revenues; and,
- g. increase information feedback to the communities so they will be more aware of the services provided by the project and thus more willing to provide continuing financial support.

In Sipe Sipe, the policy for the revolving drug fund has been clarified. All medications except TB medicines are included. The MOH no longer provides any other medicines free of charge. In the past, the MOH did not allow charges for penicillin injections for infants and children with ARI. This is no longer the case, and ARI medicines must now be obtained from other sources.

Since the Sipe Sipe Health Project is still in its beginning stages, there have been many lessons learned in nearby Mallco Rancho which are being applied. Among these is an attempt to target home visitation more narrowly than has been the case in Mallco Rancho.

The incorporation of MOH personnel into the project staff means that all the training provided is received as well by the MOH staff assigned to the project as well. It is also quite common now for MOH staff from other geographic areas to come and visit the Sipe Sipe project as well as other ARHC projects because of their growing reputation as high-quality programs using a new and promising approach to health care delivery.

There had been a belief among APSAR staff that an increased reliance upon volunteer health staff represented one partial solution to the sustainability problem. However, because of the failures experienced in Mallco Rancho with the retention of VCHes, the staff in Sipe Sipe has decided to postpone selection and training of VCHes until the experience in Mallco Rancho is reviewed more fully and a new policy developed.

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There has been a long-standing recognition of the need for a comprehensive sustainability plan for ARHC's activities in Bolivia. This plan is now almost completed. Both positive and negative lessons learned about sustainability are serving as an important foundation for ARHC's comprehensive sustainability strategy.

ARHC's experience with cost recovery has been analyzed as part of a more comprehensive financial analysis of ARHC's oldest programs in Bolivia: Carabuco, Mallco Rancho, and Villa Cochabamba/Montero. This was made possible by a special grant from AID to ARHC and is fully described elsewhere (Perry, 1993).

The testing of new approaches to improve financial sustainability through community financing schemes, through income-generation schemes, and through increased fee-for-service revenues has not yet been possible because the initiation of child survival and CBIO activities along with the improvement of the primary care in Sipe Sipe has absorbed all available organizational leadership and resources.

The Sipe Sipe staff and APSAR/ARHC management are aware of the need to reduce project costs and increase local revenue. Increased efforts are now being given to these topics with some success.

There has been relatively little effort so far to provide systematic feedback to individual communities about the numbers of health services provided to each community, about the coverage of those services in the community, and about the health improvements noted. Because so much staff energy in Sipe Sipe has gone into the initiation of basic services, it has not been possible to move into this area of activity.

D6. Results of Recommendations for Sustainability Arising from the MTE

The recommendations arising from the MTE were as follows:

- a. establish realistic objectives for sustainability;
- b. involve to a greater degree community leaders in sustainability issues;
- c. explore the possibility of analyzing sustainability issues of other health programs; and,
- d. consider the provision of a course in leadership and management skills for community leaders.

These recommendations by and large have not yet been implemented in Sipe Sipe because of the reasons cited above.

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E. Community Participation

E1. Community Members Interviewed

The following community members were interviewed:

- a. 25 women representing the community of Hamiraya;
- b. 45 men and women from the communities of Siqui Siquia and Urinsaya;
- c. 13 women from the community of Caviroma; and,
- d. the President and Vice-President of the Civic Committee for the town of Sipe Sipe.

E2. Child Survival Activities Perceived as Being Effective at Meeting Current Health Needs

Many of those interviewed mentioned the improvement of medical services at the Hospital/Health Center in Sipe Sipe as the project's most significant contribution. According to those interviewed, not only had the physical facility together with its equipment and supplies improved, but the quality of services provided by the staff had improved substantially as well. The development of a referral system for patients from Sipe Sipe to Cochabamba to receive needed hospital care at a reasonable cost was mentioned as another benefit of the new project.

The community members also mentioned home visitation as an effective aspect of the new health project. Other beneficial activities mentioned were immunizations, nutritional monitoring, and maternal health services. Home visitation makes it possible, some of the women said, for all children and mothers in the project area to have readily accessible immunizations, training in ORT, nutritional monitoring of children, Papanicolou smears (for uterine cervical cancer), and basic health education.

E3. Activities Carried Out to Help Communities Meet Their Basic Needs and Sustain Effective Child Survival Activities

The community members interviewed expressed the opinion that the improvement in health care services was a critical basic need in the Sipe Sipe Health Area which has now largely been met.

E4. How Did Communities Participate in the Design, Implementation, and/or Evaluation of the Project?

Sipe Sipe area leaders, familiar with APSAR's activities in Mallco Rancho (including the CBIO approach) formally invited APSAR to extend its activities into the Sipe Sipe area. Dr. Taja has been effective in maintaining close contact with local community leaders regarding issues in project implementation. The communities were consulted during the early stages of project

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planning. They were actively involved in the community censuses and in the initiation of routine systematic home visitation. They did participate in the final project evaluation by being interviewed (as described above).

E5. How Many Health Committees Exist and How Do They Function?

There is no formal health committee in the Sipe Sipe Health Area. In the town of Sipe Sipe, there is a Civic Committee (similar to a town council) with which Dr. Taja has had considerable contact since project activities began. Dr. Taja and other project staff members have also worked closely with leaders in other communities as well. At this point, none of the local community leadership groups within the Sipe Sipe Health Area have a supervisory responsibility for the use of funds.

E6. What Issues Are Being Addressed by These Health Committees?

The community leaders have been involved so far in the decision of whether to allow the project to carry out (with the community) a census with household enumeration and whether to begin routine systematic home visitation. The community leaders are also becoming increasingly active in communicating to the project staff what they perceive the community's health needs to be. For instance, in Hamiraya the community leaders have expressed the need for a health post, for training of family members to attend home deliveries (since there is no local traditional midwife there now), and for basic health education.

E7. What Resources Has the Community Contributed to Provide for Sustainability?

The community has been generous in offering its time, manpower, and local materials when these were helpful and appropriate. Also, of course, the community members have paid, within their capabilities, fees-for-services provided.

E8. What Are the Reasons for the Successes or Failures of Community Support?

Over the brief time that the Sipe Sipe Health Project has been underway, the 17 communities surrounding the town of Sipe Sipe) have been strong collaborators and supporters of the CBIO approach. The benefits of a strong home visitation program have become quickly apparent to the community members and they are ready and willing to continue their collaboration when it is needed by the project.

Because of the need to attend to more pressing matters related to start-up of project activities, the project staff have not been able to give as much attention as needed to long-term sustainability issues.

F. Ability and Willingness of Counterpart Institutions to Sustain
Activities

F1. Persons Interviewed:

The following persons were interviewed:

- a. Dr. Carlos Iriarte Saavedra, Director, the Cochabamba Regional Health Office (Unidad Sanitaria) of the MOH;
- b. Dr. Juan Carlos Guillén, Associate Director of Planning, Cochabamba Regional Health Office;
- c. Ms. Cristina Cardoza, Coordinator of ASONGS/Cochabamba (Asociación de Organizaciones No-Gubernamentales en Salud), the Regional Office of the Association of Non-Governmental Health Programs; and,
- d. Mr. Eduardo Vexina, CIAES (Centro de Investigación, Asesoría y Educación en Salud), Center for Research, Consultation, and Education in Health.

Ms. Cardoza and Mr. Vexina participated in the entire week-long evaluation activity for the Cochabamba projects in Mallco Rancho and in Sipe Sipe. Dr. Guillén participated for two days.

F2. Linkages Between the Child Survival Project and Health Development Agencies

The Sipe Sipe Health Project is directed by APSAR with financial support provided by ARHC. All MOH staff assigned to the area are part of the local field staff. For Sipe Sipe, this includes one MOH physician, three auxiliary nurses, and one dentist. The MOH also has a vehicle for the Sipe Sipe Health Area which is now used for project activities. The MOH provides all vaccines, vaccine supplies, UNICEF growth charts, ORT packets, and TB medicines. This provision of resources by the MOH leads to close collaboration by the Sipe Sipe Health Project with all phases of the MOH's activities both at the district level and at the regional office of the Cochabamba "Unidad Sanitaria." The MOH staff assigned to Sipe Sipe continue to receive their regular salaries from the MOH and receive a supplement from the project.

F3. Key Institutions Expected to Contribute to Sustainability

ARHC hopes that APSAR will be successful in the near future in obtaining its own resources to continue its own projects. Since the founding of APSAR in 1987, ARHC has been the sole source of funds for APSAR operations. As an indigenous NGO with a strong track record, APSAR should be able to attract increasing support to expand its operations. Therefore, ARHC is looking to

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APSAR to play an increasingly stronger role in the sustainability of its own projects in the Cochabamba region of Bolivia.

Dr. Iriarte, the newly appointed Director of the Cochabamba Regional Health Office for the MOH, has indicated that the MOH will not be able in the near future to provide any additional resources to the Sipe Sipe Health Area beyond what is currently provided. Perhaps in several years, if the decentralization process moves along as proposed, the MOH will have some additional resources with which to sustain the health activities there.

The most important elements in improving local sustainability are (1) the incorporation of community members and leaders into project management and (2) the provision of quality services at a cost the local people can afford.

F4. Opinions of Collaborating Institutions About the Project's Most Effective Interventions

Representatives of the MOH and of private organizations knowledgeable about project activities in Sipe Sipe and in Mallico Rancho commented at the time of the final field evaluation in November that APSAR's projects and staff have an excellent reputation in the Cochabamba valley region of Bolivia. Specific reasons for this were as follows:

- a. the project staffs are highly competent and dedicated to their work;
- b. the projects are able to achieve a great deal for the limited amount of available funds; and,
- c. routine systematic home visitation and vital events registration are extremely useful in helping the projects achieve their goals of improving child survival.

F5. Contributions of the Project to Local Staff Capacity

The Sipe Sipe Health Project empowers local field staff through teaching and training. All levels of staff, from the Executive Director to the community health auxiliary, receive training in child survival interventions. This training, combined with the experience which the staff members receive while implementing this training, is one of ARHC's contributions to the sustainability of child survival activities in Bolivia. The knowledge imparted through this training will remain with all staff wherever they might work in the future.

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F6. Capacity of the MOH and Other Local Institutions to Sustain Project Activities

In Bolivia, there is a movement toward decentralization of MOH activities from the national and regional offices to the district level. This could have the effect of providing the districts with more resources than they had previously. If this happens, then possibly the Sipe Sipe Health Project might receive additional support from the MOH. Beyond the MOH and the communities themselves, ARHC and APSAR are the only other sources of support available to sustain health activities in the area.

F7. What Project Activities Do Counterpart Organizations Perceive as Being Effective?

Mr. Vexina of CIAES noted that home visitation and the registration of vital events are, in his opinion, highly useful activities.

G. Project Expenditures

See pages 28-29.

H. Attempts to Increase Efficiency

H1. Strategies to Reduce Costs, Increase Productivity, and Improve Efficiency

The productivity of the Sipe Sipe Health Project has improved significantly since the initiation of activities in 1992. Prior to that time, the quantity of services in the health area was limited. The home visitation program in all the communities surrounding the town of Sipe Sipe together with the generally recognized improvement in the quality of medical services offered at the Sipe Sipe Health Center/Hospital have led to a major increase in the number of patients being treated and therefore the productivity of the staff.

H2. Reasons for Success or Failure in Reducing Costs, Increasing Productivity, or Improving Efficiency

The provision of child survival interventions in communities is an important stimulus to the overall health care system in Sipe Sipe since the communities had previously had almost no exposure locally to modern health services. Through this community involvement, and particularly through home visitation,

patients in need of curative services are constantly appearing. Combining strong community outreach services together with improved curative services has made this remarkable growth in staff productivity possible.

H3. Lessons Learned Regarding Improving Efficiency

MOH staff are often not as productive nor as efficient as one might expect given their scarce supply in the rural areas of Bolivia. The productivity and efficiency of the MOH staff who were present in Sipe Sipe before the project began in 1992 (and who chose to continue) have improved dramatically. This is due to the MOH staff's commitment to the people of the area, to the additional resources, training, and strong professional leadership provided by APSAR/ARHC, and also to the increase in the community demand for primary health care services.

I. Cost Recovery Attempts

I1. Cost-Recovery Attempts of the Project

The project charges fees for all services provided except most child survival interventions and home visits. Patients pay a fee for all curative services and medicines. Those with serious or life-threatening illnesses receive care even if they cannot pay for it.

I2. Estimate of Amount of Funds Recovered

There are no good estimates yet of the local costs for the Sipe Sipe project since the accounting for expenses has been comingled with Mallco Rancho expenses and also with APSAR "headquarter" expenses in Quillacollo. The available data for local income generated and for MOH support, however, is available and is shown in Table 70. There appears to be strong improvement toward greater financial support from the local population and the MOH for activities in Sipe Sipe.

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Table 70

MOH Support and Locally Generated Funds for Sipe Sipe Health Activities, 1992-1993

fiscal year*	MOH support	locally generated revenue
1992	\$16,035	\$ 4,819
1993**	\$21,148	\$ 9,070

* FY is March - February

** estimates for 1993 are based on the first six months of the fiscal year (March - September).

1992 MOH contributions include \$13,035 in salary support, \$1,500 in supplies, and \$1,500 in building depreciation.

1993 MOH contributions include an estimated \$18,148 in salary support, \$1,500 in supplies, and \$1,500 in building depreciation.

I3. Effect of Cost Recovery Activities on Project Reputation and on Equity of Services Delivered

Community members who were interviewed indicated that the prices charged by the Sipe Sipe Health Project are lower than those of other health services in adjacent areas. Some community members apparently think that the quality of services offered by the Sipe Sipe Health Program is inferior because of these low fees. Thus, it does not appear that the current cost recovery efforts are sufficiently vigorous to cause any negative effects on the project's reputation. Quite to the contrary, there appears to be a genuine opportunity to raise fees since perceived quality is associated to some degree with higher fees.

The home visitation activity developed in Sipe Sipe, as in all of ARHC's project areas, leads to a strong commitment among the staff to equity for all people living within the project area. Basic services are delivered at the time of home visitation to all homes regardless of the family's ability (or willingness, in some cases) to pay the fees charged. The concept of routine

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systematic home visitation and the provision of immunizations, nutritional monitoring, ARI treatment, and ORT education at the time of the home visit ensures a high degree of equity of services within the project area.

I4. Reasons for Success or Failure of Household Income-Generating Activities of the Project

There were no household income-generating activities supported by the Sipe Sipe Health Project.

I5. Lessons Learned Regarding Cost Recovery for Other Child Survival Projects or for AID

So far, there have been no particular lessons learned regarding cost recovery.

J. Household Income Generation

J1. Household Income-Generating Activities Implemented

There have been no household income-generating activities sponsored by the Sipe Sipe Health Project.

J2. Estimate Dollar Amount of Household Income Generated

Does not apply.

J3. Contribution of Household Income Generated to Project Costs

Does not apply.

J4. Lessons Learned Regarding Household Income Generation

Does not apply.

K. Summary of Sustainability

See pages 253-4.

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III. The Community's Perceived Health Priorities in Sipe Sipe

Defining the community's perceptions of its health priorities is an important aspect of the census-based, impact-oriented (CBIO) approach. The CBIO approach combines the epidemiologic priorities (that is, the most frequent readily preventable or treatable causes of death) together with the community's health priorities to establish project priorities.

The Sipe Sipe communities' perceptions of their health priorities were determined at the time of the October, 1993, cluster sample survey of mothers of children 0-23 months of age. They were asked, "What are your suggestions to improve health in your community?" The results were tabulated manually as part of the field evaluation exercise carried out by the field staff and evaluation participants.

The results of this analysis are shown below in Table 71.

In the course of focus group interviews with groups of community members, including women and community leaders, the following community health priorities were advanced:

- a. construction of a new hospital for Sipe Sipe;
- b. construction of new health posts in Suticollo and in Hamiraya;
- c. reduction of transportation costs to the Sipe Sipe and Mallco Rancho Health Centers/Hospitals;
- d. training of mothers in basic health and hygiene;
- e. training of family members in clean and safe delivery practices;
- f. latrine construction and provision of safe drinking water; and,
- g. education about Chagas disease.

Table 71

Suggestions for Community Health Improvement Made by Mothers
of Children 0-23 Months of Age Participating in the
Sipe Sipe 1993 Household Cluster Sample Survey

suggestion	number of mothers making suggestion	percentage (n=253)
1. closer health posts, posts which function, or posts with an adequate infrastructure	64	25%
2. more health personnel or an expansion of the project	38	15%
3. more or better care at the Sipe Sipe Health Center/ Hospital	30	12%
4. frequent, or more frequent, home visits	30	12%
5. community-based pharmacy, medicines	19	8%
6. potable water	16	6%
7. more specialized services at the Sipe Sipe Health Center/ Hospital	8	3%

source: 1993 Sipe Sipe household cluster sample survey

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IV. Sipe Sipe Project Mortality Analysis

The census-based, impact-oriented (CBIO) approach makes it possible to calculate mortality rates in the population since censuses of the area are updated annually and since births and deaths are registered at the time of routine systematic visitation of all homes in the project area.

This process has been underway in Sipe Sipe since 1992 in eight communities with a population of approximately 2,000 persons. Routine systematic home visitation began in these eight communities at the time project activities began in April, 1992. The mortality rates shown below are for the first year of project activities (April, 1992 - March, 1993) for these eight communities.

The observed mortality rates should represent close to baseline rates. Nevertheless, it is quite likely that not all of the neonatal deaths have been detected. These are the most difficult deaths for project staff to detect. A prior knowledge of a woman's pregnancy is very helpful so that the outcome of individual pregnancies can be specifically followed.

At the time of the field evaluation in November, 1993, mortality rates were also calculated for the entire project area for the first nine months of 1993, but the rates were so low that it was possible that not all deaths were being reported. These findings, therefore, are not reported here.

With these caveats in mind, let us examine Table 72. These data demonstrate an overall infant mortality rate of 118, almost twice that observed for neighboring Mallco Rancho (72). The neonatal mortality rates are similar in the two areas (18 vs 20), but the postneonatal mortality rate for Sipe Sipe is 98 compared to Mallco Rancho's 54. The second year (12-23 month) mortality rate in Sipe Sipe is almost five times that seen in Mallco Rancho (33 versus 7), and the rate for children 24-59 months of age in Sipe Sipe is four times that for children in Mallco Rancho (8 versus 2).

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Table 72

Infant and Child Mortality Rates for the Sipe Sipe Health Area,
April, 1992-March, 1993

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	mortality rate
	<hr/>
neonatal mortality rate (deaths in the first 30 days of life per 1,000 live births)	20
postneonatal mortality rate (deaths during the first year of life but after the first 30 days per 1,000 live births)	98
infant mortality rate (deaths during the first year of life per 1,000 live births)	118
12-23 month mortality rate (deaths during the second year of life per 1,000 children of this age group)	33
24-59 month mortality rate (deaths during the third to fifth year of life per 1,000 children of this age group)	8

source: Sipe Sipe birth registry, death registry, and census
data.

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V. Evaluation Team for the Sipe Sipe Health Project

A1. Members of the Final Evaluation Team

Members of the Sipe Sipe Local Field Staff

Dr. Orlando Taja,	Executive Director
Ms. Adela Asbún,	Field Advisor
Dr. Alberto Mendoza,	MOH staff physician
Dr. Catalina Peredo,	MOH staff dentist
Ms. Amparo Cartagena,	Field Supervisor
Ms. Araceli Lazarte,	Field Supervisor
Ms. Benigna Aguilar,	rural health technician
Ms. Dora Loma,	community auxiliary
Ms. Ricarda Mejia,	community auxiliary
Mr. Ponciano Romero,	community auxiliary

Other ARHC Staff Participating

Mr. Nat Robison	National Director, ARHC
Mr. David Shanklin	International Executive and Program Director, ARHC
Dr. Henry Perry	Program Advisor, ARHC
Mr. Adam Kolff	ARHC volunteer
Ms. Sarah Bott	ARHC volunteer

External Evaluators

Dr. Juan Carlos Guillén	Associate Director of Planning, Cochabamba Regional Health Department, MOH
Ms. Cristina Cardoza	Coordinator, ASONGS/ Cochabamba
Mr. Eduardo Vexina	anthropologist, CIAES
Mr. Juan Mamani	laboratory and x-ray technologist, Quillacollo District Hospital, MOH

A2. Author of Evaluation Report

Author of Evaluation Report: Dr. Henry Perry

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APPENDIX I.

THE CARABUCO HOUSEHOLD SURVEY

INFORME

ESTUDIO DE CONOCIMIENTOS,
PRACTICAS Y COBERTURAS

ACTIVIDADES DE SUPERVIVENCIA
INFANTIL

CONSEJO DE SALUD RURAL ANDINO

CARABUCO - BOLIVIA

OCTUBRE 1993

RESPONSABLE:
DR. JAVIER BALDOMAR

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I. INTRODUCCION

A. ANTECEDENTES

El Consejo de Salud Rural Andino (CSRA) es una Organización no Gubernamental en Salud, la cual desarrolla actividades de Atención Primaria en coordinación con la Secretaria Nacional de Salud (Ministerio de Desarrollo Humano), sirviendo aproximadamente a alrededor de 52,000 personas de escasos recursos en tres regiones de Bolivia: el altiplano norte-área rural de La Paz, los valles de Cochabamba - área rural conjuntamente la Asociación de Programas de Salud del Area Rural, APSAR, y un área urbano marginal en Montero-Santa Cruz.

Los proyectos del Consejo obtienen financiamiento del exterior tanto de Fundaciones, Grupos, Iglesias, Donaciones Individuales como también de la Agencia para la Cooperación Internacional para el Desarrollo USAID. El financiamiento interno proviene de ingresos locales a través de la venta de servicios y medicamentos.

La Organización trabaja en Bolivia desde 1983, iniciando su trabajo en el área de Carabuco (Departamento La Paz), y donde actualmente continúa desarrollando actividades.

El financiamiento proporcionado por AID para el proyecto "Supervivencia Infantil VI " (CSVI), incorpora entre otras al área de trabajo anteriormente mencionado. El inicio del mismo fue en Octubre de 1990, concluyéndose en Octubre del presente, 1993. El presente informe forma un insumo para la evaluación final del proyecto CSVI y constituye información base del proyecto CSIX, el cual ha obtenido financiamiento también de USAID para continuar actividades durante el período 1993-1996.

B. DESCRIPCION DE PROYECTO

El proyecto CSVI promueve el desarrollo principalmente de 4 intervenciones: Inmunizaciones para niños y mujeres, Control de la Enfermedad Diarreica Aguda-Terapia de Rehidratación Oral, Mejoramiento Nutricional a través de educación y Monitoreo del Crecimiento y el Control de las Enfermedades Respiratorias Agudas.

Aunque no están priorizadas en el CSVI, el Consejo de Salud Rural Andino-Proyecto Carabuco trabaja también en el campo asistencial y desarrolla algunas actividades en salud materna, especialmente las relacionadas a la detección y el manejo de embarazos de alto riesgo.

Las intervenciones y actividades mencionadas en los acapites precedentes son aplicadas a través de una estrategia llamada "Atención Primaria en Salud con Base Censal", la cual contempla 5 elementos centrales: un censo familiar, un registro de todos los hogares de cada comunidad, visitas domiciliarias realizadas en

forma periódica y sistemática a cargo de auxiliares de enfermería o educadores voluntarios, un sistema integrado con un Centro de Salud Hospital de referencia y la supervisión de todas las actividades comunitarias a cargo de un técnico en salud.

C) OBJETIVOS DEL PROYECTO

Los objetivos del proyecto están enmarcados en la declaración de la misión del Consejo de Salud Rural Andino y son los siguientes:

"Desarrollar un sistema de identificación y mantenimiento de contacto con cada hogar dentro de las comunidades seleccionadas en el área del proyecto.

Mantener tan preciso como sea posible, un recuento de nacimientos, defunciones y migraciones y otros eventos importantes relacionados a la salud a fin de calcular tasas de mortalidad por año y causa, así como otras mediciones claves del estado de salud de la población y del impacto del programa.

Proporcionar tasas de cobertura razonables en los programas de Inmunizaciones, Control de Crecimiento, Enfermedad Diarreica Aguda, Infecciones Respiratorias Agudas y Servicios Curativos Básicos.

"Iniciar y promover servicios de salud materna mediante el Hospital Ancoraimés y programas de visitas domiciliarias.

Proporcionar servicios básicos a adultos en base a necesidades locales y recursos disponibles.

Promover el desarrollo de proyectos de desarrollo comunitarios relacionados con la salud, incluyendo agua y saneamiento, agricultura y proyectos generadores de ingresos.

Promocionar el máximo involucramiento de la comunidad en apoyo a estas actividades."

D. METAS DE INTERVENCIONES CLAVES

De acuerdo al Plan Detallado de Implementación (DIP) del proyecto se esperaba alcanzar las metas o indicadores detallados en la primera columna del Resumen de Resultados de Indicadores Claves del Proyecto de Salud Infantil "CS-6" en la sección IV del presente informe.

E. PROPÓSITO DEL ESTUDIO

El propósito del estudio es la recolección de información sobre indicadores que permitan evaluar y realizar un seguimiento del proyecto de supervivencia infantil. A través de estos indicadores se pretende demostrar y medir el impacto de las diferentes intervenciones que se han implementado

desde 1ero. de Octubre de 1.990 hasta el 31 de Septiembre 1.993 en el área de Carabuco como parte del proyecto CS - 6 por una parte, por otra parte el de proveer información que servirá como línea de base para el proyecto CS - 9. El diseño del estudio permite obtener información sobre las siguientes intervenciones

1. EDUCACIÓN EN SALUD

Tener una aproximación acerca de los conocimientos de las madres de niños menores de dos años sobre:

- a. Prevención de enfermedades inmuno-prevenibles por vacunas.
- b. Manejo de las enfermedades diarreicas agudas, prácticas de rehidratación oral, reconocimiento de signos de alarma de deshidratación, uso correcto de SRO.
- c. Manejo de las infecciones respiratorias bajas, reconocimiento de signos de alarma de neumonía.
- d. Conocimiento y prácticas de lactancia exclusiva, alimentación complementaria e introducción de alimentos solidos, alimentación durante el destete, consumo de sal iodada, prácticas de alimentación de desnutridos.

2. GESTIÓN SOCIAL - ACERCAMIENTO A LA COMUNIDAD

- a. Identificación de grupos claves en la comunidad para enfocar y dirigir los mensajes educativos.
- b. Obtener una aproximación de la imagen del servicio de salud percibida por la comunidad.
- c. Obtener información sobre las necesidades más sentidas e identificadas en la comunidad.
- d. Obtener información sobre la eficiencia del sistema de información entre las familias y viviendas de las comunidades en el área de influencia.

3. INMUNIZACIONES

- a. Cobertura de inmunizaciones para los niños menores de un año y entre 12 a 23 meses.
- b. Cobertura de inmunización con toxoide tetánico a las mujeres en edad fértil.

4. MORBILIDAD INFANTIL

- a. Estimación de la prevalencia de enfermedades diarreicas e infecciones respiratorias agudas bajas en las dos semanas previas al estudio.

5. ATENCIÓN INTEGRAL A LA MUJER - SALUD REPRODUCTIVA

- a. Estimación de la demanda y uso del programa de control prenatal.
- b. Estimación de la demanda y uso del programa de planificación familiar.

Este estudio ha sido diseñado para ser usado como instrumento de análisis en la gerencia de proyectos y su aplicación permite observar las tendencias y logros alcanzados e identificar debilidades para realizar reprogramaciones oportunas. Por otra parte el estudio ayuda al personal de campo a elevar el nivel de análisis relativo a sus actividades.

F. AREA GEOGRÁFICA Y POBLACIÓN

La intervención básica del CSRA está basada en una metodología de prestación de servicios de salud en base a censos familiares y seguimiento domiciliario rutinario.

El proyecto de supervivencia infantil CSVI del C.S.R.A se ha implementado en el área de Carabuco en las 31 comunidades que comprenden su área de cobertura, con un población total de 9.034 habitantes.

El estudio tuvo como población objetivo a las madres que tuvieron un niño menor de 24 meses hasta la fecha de realización de mismo. En el área se tiene una población de menores de 24 meses de 390 niños (en junio de 1.993).

COMUNIDADES QUE COMPRENDE EL AREA DE CARABUCO

<u>COMUNIDAD</u>	<u>POBLACION DE MENORES DE DOS AÑOS</u>
1. Aguas Calientes.....	6
2. Cacachi.....	10
3. Cavinchilla.....	11
4. Chaguaya.....	15
5. Challapa Belen.....	3
6. Challapata Grande.....	3
7. Cojatapampa.....	11
8. Huajasia.....	21
9. Huancatapi.....	2
10. Jokopampa.....	4
11. Karkapuncu.....	9

12. Marcahilata y Carabuco.....	39
13. Mermapata.....	5
14. Mollipongo.....	22
15. Ollasantia.....	14
16. Omacuyo.....	4
17. Quiascapa.....	22
18. Quilima.....	21
19. Quirihuati.....	31
20. Sacuco.....	6
21. Santiago de Okola.....	8
22. Sañuta.....	6
23. Sayguapampa.....	7
24. Sisasani.....	0
25. Tilacoca.....	27
26. Villa Cojata.....	4
27. Villa Karcuyo.....	9
28. Villa Molino.....	19
29. Yaricoa Alto.....	20
30. Yaricoa Bajo.....	16
31. Centro Putina.....	15

TOTAL

390

G. CRONOGRAMA DE ACTIVIDADES

- Oct. 6 Arribo a la ciudad de La Paz.
- Oct. 7-8 Taller de líderes de la encuesta La Paz.
- Oct. 9 Edición del cuestionario bilingüe Castellano - Aymara preparación del plan de capacitación de supervisores y encuestadores.
- Oct. 10 Traslado a Ancoraimés - Carabuco.
- Oct. 11 Capacitación de supervisores.
- Oct 12-14 Capacitación de entrevistadores
- Oct. 15 Prueba de campo pre-test. Comunidades de Vilajaya y Chijirico. Evaluación de la prueba de campo Comportamiento y grado de aceptación y comprensión de las preguntas y validación de la traducción al Aymara del cuestionario.
- Oct. 16 Corrección, validación, elaboración e impresión de versión final de formulario. Preparativos de la logística para el trabajo de campo; transporte alimentación; revisión de hoja de ruta, asignación de comunidades a entrevistar y meta propuesta a cada una de las brigadas, distribución de material en cantidad suficiente a cada supervisor de equipo.

- Oct17-20 Realización de entrevistas en las 31 comunidades del área de Carabuco. Evaluaciones de logros, fortalezas y debilidades identificadas diariamente.
- Oct. 21 Realización de reentrevistas, evaluación de logros alcanzados con todo el equipo; fiesta.
- Oct. 22 Reunión con equipo de supervisores para realizar análisis preliminar según apreciaciones de los posibles resultados del estudio y elaboración de sugerencias para mejorar la planificación y ejecución del estudio.
- Oct. 23 Traslado a Ancoraimés:
Fiesta de clausura de los estudios con participación de ambos equipos.
- Oct. 24 Traslado a la ciudad de La Paz.
- Oct. 25 Entrega de formularios revisados al equipo de tabulación de datos. Retorno a Santa Cruz - Montero.
- Oct.25-30 Entrada y tabulación de datos.
- Oct. 26 al
13 Nov. Elaboración del informe final.
- Nov. 14 Llegada a la ciudad de La Paz.

II. METODOLOGIA

A. EL CUESTIONARIO

En el presente estudio se ha empleado un instrumento (ANEXO 1) basado en el cuestionario genérico que fue desarrollado y seleccionado por la oficina de Programa de Apoyo en Supervivencia Infantil a Organismos Privados Voluntarios de la Universidad Johns Hopkins. El CSRA ha ido desarrollando y perfeccionando una versión adaptada a las necesidades y particularidades del área; sobre todo tomando en cuenta las dificultades en alcanzar una traducción al Aymara de la forma más veraz posible, respetando los objetivos de cada una de las preguntas y tomando en cuenta las recomendaciones mencionadas por los consultores de la Universidad de Johns Hopkins.

Es así que ahora se cuenta con un cuestionario de 41 preguntas para la recolección de información de las intervenciones prioritarias de supervivencia infantil implementada en los proyectos de Carabuco y Ancoraimés. En el proceso de validación de la traducción al Aymara han participado los equipos de campo de ambos proyectos y personas representativas y confiables de las comunidades.

DESCRIPCION DEL CUESTIONARIO:

MODULO CRECIMIENTO.- Este módulo consta de dos preguntas, destinadas a recoger información sobre la cobertura de tenencia de CSI en el área y la frecuencia del control de peso.

MODULO DE INMUNIZACIONES.- El mismo comprende las preguntas del 3 al 8 destinadas a indagar el estado vacunal del menor de dos años y su madre, además de averiguar sobre la comprensión de los mensajes educativos referentes a la importancia de las vacunas.

MODULO DE LACTANCIA MATERNA.- Abarca desde la pregunta 9 hasta la 12 y tiene por objeto averiguar las prácticas y costumbre de la lactancia materna y destete en la zona.

MODULO DE ALIMENTACION INFANTIL.- Consta de dos preguntas: La 13, con sus cuatro incisos esta destinada a obtener información sobre las prácticas de lactancia exclusiva, introducción de alimentación complementaria (introducción de alimentos sólidos), utilización de sal yodada y adición de aceite a la alimentación del niño diariamente. La pregunta 14 nos da información sobre el uso de biberón en el área.

MODULO SOBRE CONTROL DE LAS ENFERMEDADES DIARREICAS.- Comprende desde la pregunta 15 hasta la 24. El objetivo de éste módulo es el de obtener información para poder tener una aproximación de la eficiencia del programa de control de enfermedades diarreicas, a través de indicadores de prevalencia de las enfermedades diarreicas y manejo adecuado, conocimiento y prácticas de las enfermedades diarreicas: Alimentación y terapias de rehidratación oral durante las EDAS en la zona; conocimiento y uso correcto de las sales de rehidratación oral.

MODULO SOBRE EL CONTROL DE NEUMONIAS.- Se extiende desde la pregunta 25 hasta la 29. El objetivo de este módulo, al igual que del anterior es proporcionar información sobre el estado en que se encuentran las diferentes intervenciones en el programa de control de neumonías; haciendo énfasis sobre los conocimientos y prácticas empleadas en el manejo de las neumonías en la zona.

MODULO DE SALUD MATERNA.- Este módulo comprende desde la pregunta 30 a la pregunta 38 y nos brinda información sobre la eficiencia de los programas de atención integral a la mujer en edad fértil como ser los programas de control prenatal y salud reproductiva y sus intervenciones en planificación familiar.

MODULO SOBRE LA IMAGEN DEL PROYECTO.- Con la inclusión de este módulo se pretende tener una apreciación sobre la imagen que proyectan en la comunidad los servicios de salud que se encuentran a cargo del CSRA. Este módulo desde las preguntas 39 y 40. La pregunta 41 es una pregunta abierta para recolectar información sobre sugerencias para elevar el nivel de prestación de servicios

de salud y tener una idea sobre las expectativas y problemas más sentidos por la comunidad.

B. SELECCIÓN DE LA MUESTRA

Debido a que en el área se encontraban en época de siembra y esto involucra a la mayor parte de la población, donde participa toda la familia, iniciando sus jornadas desde las primeras horas del día, se decidió con el equipo de campo realizar un "barrido" de todas las casas de las 31 comunidades entrevistando a todas las madres de niños menores de dos años que se podrían encontrar. El área de Carabuco consta con una población de menores de dos años de 390 niños. Para poder alcanzar tal meta se vió por conveniente dar inicio al trabajo de campo desde las 4:30 a.m. realizando un descanso para almorzar a medio día prolongandose la jornada hasta las 18 horas. A pesar de la estrategia adoptada se debió volver al domicilio en el que en la primera visita no se encontró al niño o a la madre. Con el equipo se tomó la determinación de no aplicar el cuestionario en caso de que la madre no esté presente en el momento de la realización de la entrevista o en el caso de que el niño sea hijo adoptivo o huérfano de madre. En caso de que una madre tenga dos hijos comprendidos en el grupo etáreo menores de 24 meses se realizó un sorteo con una moneda para decidir cual de los niños será el que entre en la muestra.

Cuando se encontró dos madres con menores de 24 meses en un mismo domicilio se realizó la entrevista a las dos madres en forma individual y separadamente.

C. COMPOSICION DEL EQUIPO (Ver anexo 2)

a. -Equipo responsable de la recolección de datos

-Un coordinador

-Cinco supervisores

-Diez entrevistadores

b. -Equipo responsable de logística

-Un coordinador

-Dos choferes

-Un portero

-Una cocinera

c. Equipo responsable para la entrada y tabulación de datos

- Un Coordinador
- Cuatro transcriptoras(es)

Se conformaron cinco brigadas integradas por un supervisor y dos entrevistadores.

Para el trabajo de campo se programó cuatro días tomando en cuenta el comportamiento de la población motivada por el calendario agrícola, la dispersión de la población y difícil acceso a algunas comunidades. Con la adopción de estas estrategias se logró entrevistar a aproximadamente 87,9% (343/390) de las madres que tenían niño menor de dos años; lógro obtenido gracias al alto grado de responsabilidad y motivación que demostró todo el equipo en el desempeño del trabajo.

D. CAPACITACIÓN DEL EQUIPO

A. Supervisores

Para la capacitación de los supervisores se planificó un día. El equipo de supervisores estuvo integrado por los auxiliares del proyecto del área de Carabuco, para tal efecto se elaboró un programa en el que se contempló los siguientes aspectos del estudio: Propósitos y alcances; indicadores claves; objetivos de las preguntas; Metodología para determinar y recolectar la muestra; revisión del cuestionario y de la traducción en Aymara; funciones del supervisor, elaboración de programa de capacitación de los entrevistadores, elaboración de lista de chequeo y hoja de ruta.

B. Entrevistadores

En la capacitación a los entrevistadores se invirtió tres días con 8 horas diarias. Los criterios tomados para la selección de los entrevistadores fueron:

- que fueran bilingües (Castellano - Aymara)
- que tengan facilidad de palabra, simpatía y amabilidad
- preferentemente que fueran de sexo femenino
- que fueran mayores de 18 años
- que tengan disponibilidad de tiempo completo

El equipo de entrevistadores fue elegido entre los educadores voluntarios del proyecto y los bachilleres del área.

El primer día de capacitación se destinó al fortalecimiento del espíritu de equipo y conocimiento del propósito del estudio, objetivo de cada pregunta y adiestramiento en la lectura del cuestionario en Aymara.

Para cada uno de estos puntos se asignó un facilitador entre los supervisores, con la recomendación de que hicieran énfasis en lograr la mayor motivación para alcanzar el mejor nivel de participación de todos los integrantes.

Los otros dos días se empleó en el adiestramiento en la lectura y llenado del cuestionario con el fin de poder minimizar el sesgo por el entrevistador y perfeccionar las habilidades de los supervisores para lograr que cada uno de estos realice su rol a cabalidad.

Es así que se realizó prácticas de juego de roles, primero en forma conjunta y luego en grupos de tres personas que conformaban cada brigada, con lo que se consiguió fluidez en la lectura y práctica en la transcripción al formulario de la encuesta de datos del CSI, carnet de T.T, y control de embarazo.

Al cuarto día se realizó la prueba de campo en las comunidades de Vilajaya y Chijirico que reunían características similares a las comunidades que serían objeto del estudio y se encontraban bajo jurisdicción de otra área de salud.

Después de haberse realizado la prueba de campo cada supervisor revisó el llenado de los formularios de los entrevistadores de su brigada antes de salir a la comunidad y en caso de detectar cualquier error se realizó la reentrevista.

Para finalizar la jornada se realizó un análisis de las vivencias recogidas y debilidades evidenciadas, reforzando posteriormente la capacitación. Finalmente, se realizó una revisión rápida de logros y cumplimiento de metas propuestas.

E. RECOLECCIÓN DE DATOS

Para la etapa de recolección de datos se programó cuatro días desde el domingo 17, Oct. hasta el miércoles 20 Oct. del 1.993. Actividad que abarcó las 31 comunidades del área.

Cada jornada se prolongó por mas de doce horas debido a los factores anteriormente mencionados (dispersion de la población, comportamiento de la población por calendario agrícola, acceso dificultoso a algunas comunidades).

La verificación del llenado correcto del formulario por parte del supervisor antes de salir de las comunidades permitió velar por la calidad de los datos recolectados.

Si bien se había tomado la determinación de realizar una revisita a una de las madres entrevistadas por parte del supervisor como una forma de control de calidad. Esto no se pudo cumplir en el 100% de los casos debido a que una vez encuestada la madre salía hacia el terreno de siembra retornando tras varias horas de ausencia de su domicilio.

Pese a los factores que dificultaron la ejecución del estudio se alcanzó un cumplimiento de la meta del 87.9% (343 niños de un total de 390). De estas entrevistas, se deshecharon 13, quedando 330 entrevistas validas (85% de la población objetiva).

Es de hacer notar que no se registró ninguna negativa por parte de las madres a participar del estudio ya que en general aceptaron contestar de buen agrado al enterarse de que los entrevistadores venían de parte del servicio de salud (Hospital de Carabuco).

F. ENTRADA Y TABULACION DE DATOS

La entrada de datos se realizó en la ciudad de La Paz debido a que no se cuenta con computadoras en Carabuco.

La entrada y tabulación de datos se realizó con el programa de EPI/INFO 5.0 Para el análisis se tomaron la distribución de frecuencias para cada una de las preguntas. Así también se realizaron algunos cruces en EPI/INFO por la edad para poder construir indicadores que se consideraron necesarios. Este trabajo fué dirigido por el Sr. Joaquin Flores, Consultor en el manejo del EPI/INFO.

III. ANALISIS DE LOS RESULTADOS DEL ESTUDIO

Se trabajó con un total de 330 entrevistas a madres con niños menores de dos años

1.-Identificación de las viviendas

Al encontrarse que el 98% de las viviendas tenían la numeración visible se pone en evidencia el esfuerzo del equipo por mantener un buen acercamiento con la comunidad teniendo identificadas las familias y las viviendas en busca de brindar una atención personalizada, principal objetivo de la metodología de la prestación de servicio de salud con base CENSAL.

TABLA 1.1

<u>Numeración Visible</u>	<u>n</u>	<u>%</u>
si	324	98
no	6	2
TOTAL	330	100

2.-Edad de la Madre

Si bien solo el 0,6% de las madres entrevistadas eran menores de 18 años, el 37,1% estaban comprendidas dentro del grupo etáreo de mayores de 35 años, grupos considerados como de alto riesgo obstétrico.

Tomando en consideración, éste resultado sería importante enfocar y dirigir los mensajes educativos sobre el aumento de los riesgos perinatales y obstétricos con el aumento de la edad y la importancia sobre la utilización de métodos de planificación familiar adecuados.

TABLA 2.1

<u>Edad de Madres</u>	<u>N</u>	<u>%</u>
< 18 años	2	0,6
18 - 35 años	205	62,3
>35 años	122	37,1
TOTAL	329	100.0

3/Edad del Niño.-

Que el 46,7% los niños del estudio eran menores de 11 meses y el 53,3% tenían de 12 a 23 meses, sugiere el logro en la obtención de una muestra aleatoria.

TABLA 3.1

<u>Edad del Niño</u>	<u>N</u>	<u>%</u>
0 - 11	154	46,7
12 - 23	176	53,3
	330	100

4.- Control de Crecimiento y Desarrollo

Se encontró que el 85,2% de los niños tenían el CSI en el domicilio. El 9.4% de los niños no presentaron el CSI en el domicilio, pero sí tenían en el servicio de salud del proyecto.

Con lo que se obtiene una cobertura de carnetización del 94.6% en menores de dos años.

Lógro importante ya que el CSI, aparte de servir como un instrumento de registro, se lo utiliza como un elemento fundamental en la educación a las madres en las diferentes intervenciones de supervivencia infantil.

TABLA 4.1 COBERTURA DE C.S.I.

<u>Evaluación</u>	<u>Domicilio</u>	<u>Puesto de salud</u>	<u>Cumplimiento</u>
Final	82,20%	9,40%	94,60%

La meta propuesta de controlar a los menores de 23 meses bimensualmente (6 veces por año) se alcanzó en 40.0% el 53% en el grupo etáreo de 12 - 23 meses.

TABLA 4.2 No. de Controles por Grupo Etareo

CONTROLES EDAD EN MESES

	0 - 11		12 - 23		TOTAL	
	N	%	N	%	N	%
0	15	9.7	7	4.0	22	6.7
1-<6	99	64.3	77	43.8	176	53.3
6 y+	40	26.0	92	52.2	132	40.0
	---	---	---	---	---	---
	154	100	176	100	330	100

TABLA 4.3

Distribución del número de controles de crecimiento en los 12 meses previos.

Proyecto de supervivencia infantil área de Carabuco. Octubre de 1.993.

Nro. de controles

	N.	%	acumulados
0	22	6.7	6.7
1	22	6.7	13.4
2	30	9.1	22.5
3	26	7.9	30.4
4	38	11.5	41.9
5	60	18.2	60.1
6 y (+)	132	40.0	100.0
TOTAL	<u>330</u>		

5.- INMUNIZACIONES:

Tabla 5.1.- Muestra el acceso al programa de inmunizaciones que se obtiene de sacar el porcentaje de niños entre 12 a 23 meses que han recibido la DPT1.

La accesibilidad según los resultados del estudio es del 96.0%

TABLA 5.1.

RECIBIDO DPT1	N	%
Sí	169	96.0
No	47	4.0
<u>TOTAL</u>	<u>176</u>	<u>100</u>

TABLA 5.2.- Es un indicador de cobertura y muestra el porcentaje de niños entre 12 y 23 meses que han recibido la tercera dosis de Polio. Es así que tenemos 88.1% de cobertura.

TABLA 5.2

RECIBIDO DPT3	N	%
Sí	155	88.1
No	21	11.9
<u>TOTAL</u>	<u>176</u>	<u>100</u>

La tabla 5.3.- Muestra la proporción de niños que cuentan con la dosis inicial de polio que es del 68.5%. Parámetro usado para medir la captación temprana de los recién nacidos por parte del equipo de salud. Con lo que se demuestra la eficiencia de los registro de eventos vitales.

TABLA 5.3.

Polio I	N	%
Sí	226	68.5
No	104	31.5
<u>TOTAL</u>	<u>330</u>	<u>100</u>

La tabla 5.4.- La muestra es cobertura Antisarampionosa. Proyecto de Supervivencia Infantil del CSRA proyecto de Carabuco, Oct., 1.993.

TABLA 5.4.

RECIBIO ANTISARAMPIONOSA	EDAD EN MESES					
	9 - 11		12 - 13		TOTAL (9-23m)	
	N	%	N	%	N	%
Sí	36	69.2	157	89.2	193	84.6
No	16	30.8	19	10.8	35	15.4
	----	----	----	----	----	----
	52	100	176	100	228	100

La tabla 5.5.- Muestra la proporción de deserción del PAI que es igual al % de niños de 12 a 23 meses que recibieron DPT1- % de niños 12-23 meses con DPT3 dividido el % niños con DPT1 x 100- La tasa es del 8.3 %. (169-155/169) x 100).

TABLA 5.5

Deserción P.A.I	%
si	8.3
no	91.7

La Tabla 5.6 muestra el % de niños con esquema de vacunación completa (BCG, Antipolio 1 al 3, DPT 1 al 3 y antisarampionosa). El 85.8 % (151/176) de los niños de 12 a 23 meses de edad tienen esquema de vacunación completa.

Tabla 5.6 Esquema de Vacunación Completa por Grupo Etáreo.

Grupo Etareo	Si	%	No	%	Total	%
0 - 11	39	25%	115	75%	154	
12- 23	151	85.8	25	14.2	176	
	190	57.6	140	42.4	330	100%

La Tabla 5.7 muestra el % de las madres que saben la edad en que el niño debe terminar todas sus vacunas (entre 9 y 12 meses). Este es uno de los mensajes educativos más importantes que se ofrecen a las madres en materia de inmunizaciones. El % de las madres indicó que las vacunas del niño deben completarse hasta el año de vida.

Tabla 5.7 Conocimiento de las madres respecto a la edad en que debe su niño completar sus vacunas.

Saben	No.	%
Si	204	61.8
No	126	38.2
TOTAL	330	100.0

6.- Lactancia Materna y Alimentación Infantil

La tabla 6.1.- Muestra el inicio de la lactancia materna en madres de niños menores de dos años.

El 59% de las madres entrevistadas refieren que inician la lactancia materna durante las 8 primeras horas después del parto.

TABLA 6.1

Inicio de lactancia	N	%
1 - 8 hrs	195	59.1
(+) 8 hrs	129	39.1
No recuerda o no contestó	6	1.8
TOTAL	330	100

La tabla 6.2.- Muestra la alimentación al menor de 4 meses. Si bien el 100% de los menores de 4 meses están recibiendo lactancia materna, ésta no es exclusiva. Tenemos un 13% que está recibiendo líquidos; leche no materna en un 13% y un 4.4% ya recibe alimentos sólidos

TABLA 6.2.- ALIMENTACION AL MENOR DE 4 MESES

	LACTANCIA MATERNA		LIQUIDOS		LECHE NO MATERNA		ALIMENTOS SOLIDOS	
	N	%	N	%	N	%	N	%
Si	45	100	6	13.3	6	13.3	2	4.4
No	0	0	39	86.6	39	86.6	43	95.5
TOTAL	45		45		45		45	

La tabla 6.3.- Muestra la alimentación a los niños entre 5 a 9 meses. Edad en la que un niño ya debe estar comiendo alimentos diferentes a leche materna.

Según hallazgos del estudio se ve que el 33.3% de los niños en este grupo etáreo aún no están consumiendo alimentos sólidos. El 100% de los niños continua recibiendo seno materno.

TABLA 6.3.- ALIMENTACION DE NIÑOS ENTRE 5 Y 9 MESES

	LM		LIQUIDOS		LECHE NO MATERNA		ALIMENTOS SOLIDOS	
	N	%	N	%	N	%	N	%
Si	51	100	37	72.5	27	52.9	36	70.6
No	0		14	27.5	24	47.1	15	29.5
TOTAL	51	100	51	100	51	100	51	100

La tabla 6.4.- Muestra la proporción de niños menores de 24 meses que continúan recibiendo el seno materno. El 93% de los niños continúan recibiendo lactancia materna siendo la persistencia de lactancia materna del hasta los 23 meses del 93% y hasta los 11 meses la persistencia es del 99%.

TABLA 6.4 .- PERSISTENCIA DE LACTANCIA MATERNA

LM	0 - 11		12 - 23		TOTAL	
	N	%	N	%	N	%
Si	153	99	154	87,5	307	93
No	1	1	22	12,5	23	7
TOTALES	154		176		330	

Tabla 6.5.- Muestra la proporción de la persistencia de lactancia materna en el grupo etáreo comprendido entre los 20 y 23 meses.

TABLA 6.5.- PERSISTENCIA ENTRE 20 Y 23 MESES

LM	20 - 23 MESES	
	N.	%
Si	37	72.5
No	14	27.5
TOTAL	51	100

La Tabla 6.6.- Muestra el porcentaje de madres que utilizan el biberón para alimentar a su hijo menor de 24 meses. El porcentaje encontrado es de 43,9%. Este porcentaje aumenta al 47,7% en el grupo etareo de 12 -23 meses y baja al 39.6% en los menores de 0 - 11 meses.

TABLA 6.7.- USO DE BIBERON

	0 - 11		12 - 23		TOTAL	
	N	%	N	%	N	%
Si	61	39,6	84	47,7	145	43,9
No	93	60.4	92	52.3	185	56,1
TOTAL	154	100	176	100	330	100

La tabla 6.7.- Muestra la proporción de madres de niños de menores de 24 que utilizan en la preparación de los alimentos sal yodada. El porcentaje encontrado es 37,2%.

TABLA 6.7.- USO SAL YODADA

	0-11		12 - 23		TOTAL	
	N	%	N	%	N	%
Si	50	32.4	73	41.1	123	37.2
No	104	67.6	103	58.5	207	62.8
TOTAL	154		196		330	

La tabla 6.8.- Muestra el porcentaje de madres que adicionan aceite a la comida del niño menor de 24 meses que es de 43,9% de las madres entrevistadas.

TABLA 6.8.- ADICION DE ACEITE

Adicionan Aceite	0 - 23	
	N	%
Si	145	43,9
No	185	56,1

7.- ENFERMEDADES DIARREICAS

La tabla 7.1.- Muestra la prevalencia de enfermedades diarreicas agudas en las ultimas dos semanas previas al estudio. La prevalencia encontrado es de 27,9% en menores de 34 meses. En el grupo etáreo de 0 - 11 la prevalencia es de 24,6% y se aprecia un incremento del 6% en el grupo de 12 - 23 meses.

TABLA 7.1.- PREVALENCIA E.D.A.

Prevalencia EDA	0 - 11		12 - 23		TOTAL	
	N	%	N	%	N	%
Si	38	24.6	54	30.7	92	27.9
No	116	75.4	122	69.3	238	72.1
	154	176	330			

La Tabla 7.2.- Muestra la conducta de alimentación durante la diarrea con seno materno en menores de dos años. De 92 madres que contestaron que su hijo habían presentado diarrea las dos ultimas semanas previas al estudio el 71.7% continúan dando de lactar al niño y el 26,1 disminuyen la frecuencia. Dos madres habían destetado al niño antes de la ocurrencia de EDA en las dos ultimas semanas previas al estudio.

TABLA 7.2.- ALIMENTACION CON SENNO MATERNO EN E.D.A.

Continuaron LM	N	%	Acumulado
Más de lo acostumbrado	7	7,6	7,6%
Igual a lo acostumbrado	59	64,1	71,7%
Menos de lo acostumbrado	24	26,1	97,8%
Ya no recibían	2	2.2	100%
	92	100.0	

La Tabla 7.3.- Muestra la proporción de madres según la conducta que adoptaron en lo referente al aporte de líquidos durante la diarrea ocurrida en las dos ultimas semanas previas al estudio.

Según los resultados obtenidos se aprecia que el 54.4% de las madres disminuyen o dejan de dar por completo líquidos al niño durante la diarrea y solo el 40.2% continúan dando líquido que antes del episodio o aumentan el aporte de líquidos durante la diarrea.

TABLA 7.3 APOORTE DE LIQUIDOS EN LA E.D.A.

<u>Aporte de líquidos</u>	<u>N</u>	<u>%</u>	<u>Acumulado</u>
Más de lo acostumbrado	14	15.2	15.2%
Igual a lo acostumbrado	23	25	40,2%
Menos de lo acostumbrado	45	48,9	89,1%
Dejó de darle	6	6,5	95,7%
Solo pecho	4	4,3	100%
	92	99.9	

La Tabla 7.4.- Muestra la proporción de madres según la conducta que adoptaron en lo referente al suministro de alimentos sólidos durante la diarrea de su hijo menor de 24 meses en las dos últimas semanas previas al estudio.

Los resultados encontrados son los siguientes: El 54,4% de las madres disminuyen o dejan de dar completamente alimentos sólidos durante la diarrea; el 34.8 da en la misma forma a los acostumbrado y solo un 5.4% de las madres aumentan el suministro de alimentos sólidos durante la diarrea de su hijo menor de 24 meses.

TABLA 7.4.- SUMINISTROS DE ALIMENTOS SOLIDOS EN E.D.A.

<u>Aporte de sólidos</u>	<u>N</u>	<u>%</u>	<u>Acumulado</u>
Mas de lo acostumbrado	5	5.4	5,4%
Igual a lo acostumbrado	32	34,8	40,2%
Menos de lo acostumbrado	41	44,6	84,8%
Dejó de darle	9	9,8	94,6%
Solo pecho	5	5,4	100%
	92	100.0	

La Tabla 7.5.- Muestra la proporción de madres de niños menores de 24 meses que no administraron ningún tratamiento durante la diarrea de su hijo ocurrida en las dos ultimas semanas previas al estudio.

El 5,4% de las madres no dieron ningún tratamiento en la diarrea de su hijo.

TABLA 7.5 SUMINISTRO DE TRATAMIENTO EN E.D.A.

	<u>N</u>	<u>%</u>
Si	87	94,6
No	5	5,4

La Tabla 8.6.- Muestra la propoción de madres que administró algún tipo de líquido como terapia de rehidratación oral. Prevalencias del uso de la T.R.O. (cualquier líquido) durante la diarrea.

TABLA 7.6.- USARON T.R.O. (de las 92 madres)

Usaron T.R.O.	N	%
SRO	47	51
S. Casero	11	12
Sol de Cereales	9	9,8
Liq. tés, mates	52	56,5

La Tabla 7.7.- Muestra la proporción de madres que reconocen los signos y síntomas de alarma de la deshidratación por la enfermedad diarreica.

Solo el 21,8% de todas las madres entrevistadas refieren que consideran como un criterio de gravedad de la EDA los signos y síntomas de alarma de la deshidratación. Entre los síntomas y signos reconocidos con mayor frecuencia están: fiebre, diarrea prolongada, inapetencia, enflaquecimiento, desgana, debilidad.

TABLA 7.7 MOTIVOS DE ALARMA (del total de 330 madres)

	N	%
No sabe	31	9,4
Vómitos	48	14,5
Fiebre	113	34,2
Boca seca, ojos undidos y orina poco	72	21,8
Diarrea prolongada	125	37,9
Sangre en eses	51	15,5
Pérdida de apetito	59	17,9
Débil o desgano	92	27,9
Enflaquecimiento, pérdida de peso	67	20,3
Otro	7	2,1

La Tabla 7.8.- Muestra las acciones que debe tomar una madre cuando su hijo tiene diarrea, según el criterio de las 330 madres entrevistadas.

Ocupando el primer lugar la administración de SRO 44,2 seguida por el inicio rápido en la administración de líquidos con un 33,5%. Dentro de otras acciones positivas tenemos que un 34% de las madres llevarían al niños al centro de salud en caso de que tenga E.D.A.

El porcentaje de madres que mencionaron acciones negativas no llegan al 8% de todas las acciones mencionada.

Entre los otros, la mayoría mencionan algún tipo de practica de TRO

TABLA 7.8.- ACCIONES QUE DEBE TOMAR UNA MADRE EN CASO DE E.D.A.

Acciones	N	%
Preparar y dar SRO correctamente	146	44,2
Iniciar con líquidos lo mas pronto posible	110	33,5
Dar mas líquido de lo usual	63	19,1
Llevar al centro de salud al niño	113	34,2
Dar alimentos con más frecuencia y menor cantidad	5	1,5
Dar más alimentos durante la recuperación	9	2,7
Parar líquidos	4	1,2
Parar alimentación	3	0,9
No sabe	18	5,5
Otros	97	29

La Tabla 7.9.- Muestra la proporción de madres que escucharon hablar de las sales de rehidratación oral.

Según los resultados del estudio el 84,5% de las madres entrevistada escucharon hablar del SRO.

TABLA 7.9.- ESCUCHO HABLAR DEL S.R.O.

	N	%
Si	279	84,5
No	51	15,5
	330	

La Tabla 7. 10.- Muestra el porcentaje de madres que escucharon hablar del S.R.O. y saben para que sirve. El hallazgo expresado en porcentaje es de 96,4%.

TABLA 7.10.- SABEN QUE EL S.R.O.SIRVE PARA LA DIARREA

	N	%
Si	269	96,4
No	9	3,2
	278	

La Tabla 7.11.- Muestra el porcentaje de madres de niños menores de 24 meses que habian escuchado hablar del SRO y que lo han usado alguna vez. Este porcentaje es de 86,7%. Tomando en cuenta la totalidad de las madres encuestadas (330) el 80,7% lo usaron alguna vez.

TABLA 7.12.- MADRES QUE USARON S.R.O.

	N	%
Si	242	86,7
No	36	12,9

La Tabla 7.12 - Muestra el porcentaje de las madres de niños menores de 24 meses entrevistadas, que oyeron hablar del SRO y saben prepararlo correctamente (1 LITRO DE AGUA HERVIDA Y UN S.R.O.). El porcentaje de preparación correcta es de 79,6%. Tomando en cuenta el total de madres (330), 67,3% saben preparar).

TABLA 7.12.- MADRES QUE PREPARAN CORRECTAMENTE EL S.R.O.

	N	%
Si	222	79,9
No	56	20,1
TOTAL	330	

IX.- CONTROL DE NEUMONÍA

La Tabla 8.1.- Muestra la proporción de niños menores de 24 meses que presentaron tos fuerte las dos últimas semanas previas al estudio.

El 25,2% de los niños presentó tos fuerte en las últimas dos semanas previas al estudio.

TABLA 8.1.- TOS FUERTE EN LAS DOS ULTIMAS SEMANAS

	N	%
Si	83	25,2
No	247	74,8

La Tabla 8.2.- Muestra la proporción de niños que presentaron dificultad respiratoria (signo de alarma de neumonía) durante el episodio de tos fuerte ocurrida en las dos últimas semanas previas al estudio.

El 90,4% de los niños con tos fuerte presentó además dificultad respiratoria durante el episodio de tos fuerte en las últimas dos semanas precedentes al estudio.

TABLA 8.2.- DIFICULTAD RESPIRATORIA

	N	%
Si	75	90,4
No	8	9,6
	83	

Por lo tanto, el 22.7% de todos los niños (75/330) presentaron tos fuerte y dificultad respiratoria en las 2 ultimas semanas.

La Tabla 8.3.- Muestra la proporción de madres que buscó ayuda o consejo cuando su niño presentó dificultad respiratoria durante el episodio de tos fuerte presentada en las dos últimas semanas previas al estudio.

El 77,3% buscó ayuda; el 22,7% no pide consejo o ayuda cuando su niño presenta dificultad respiratoria.

TABLA 8.3.- BUSCO AYUDA

	N	%
Si	58	77,3
No	17	22,7

La Tabla 8.4.- Muestra la proporción de madres según su respuesta, si pidió consejo o ayuda cuando su hijo presentó dificultad respiratoria y tos fuerte en la última dos semanas precedentes al estudio.

Destaca el alto porcentaje de madres que recurrieron al centro de salud en busca de consejo o ayuda con un 62,7% (47/75) de las respuestas.

TABLA 8.4.- DE QUIEN PIDIO CONSEJO O AYUDA

	N	%
Puesto u Hospital	47	62,7
Farmacia	0	0
Médico Particular	1	1,3
Promotor	3	4
Curandero	1	1,3
Partera empírica	0	0
Parientes o Amigos	8	10,7
Otras Personas	0	0

La tabla 8.5.- Muestra el porcentaje de Madres que refiere según su criterio, algún signo o síntoma de alarma de neumonía como para pedir consejo o ayuda.

El mayor porcentaje de las respuestas refieren que la tos sería un síntoma de alarma de neumonía con un 86,3%, seguida por un 66,7% que afirman que la fiebre sería un signo de alarma. Es de hacer notar que solo el 27,9% de las respuestas afirman que el aumento de la frecuencia respiratoria sería signo de alarma de neumonía, el 3,6% de las respuesta reconocen el tiraje y el 10,6% reconocen la cianosis, la pérdida de apetito es mencionada por el 22,2% de las respuestas.

TABLA 8.5.- SIGNOS Y SINTOMAS REFERIDOS COMO SIGNA DE ALARMA

	N	%
Tos	276	83,6
Fiebre	220	66,7
No quiere tomar ni comer	73	22,2
Se pone morado	35	10,6
Se le hunde el pecho	12	3,6
Respira más rápido y agitado	92	27,9
No Sabe	19	5,8

9.- SALUD MATERNA

La tabla 9.1.- Muestra el porcentaje de madres en el que se pudo verificar la existencia del carnet de salud para el embarazo y el parto correspondiente a la gestación del hijo que entró en el estudio..

En el 9.1% se pudo verificar su asistencia de por lo menos en un ocasión al control prenatal, lo que nos muestra que existe una baja demanda para este programa.

TABLA 9.1.- VERIFICO TENENCIA DE CARNET DE CONTROL PRENATAL

	N	%
Si	30	9,1
No	300	90,9

La Tabla 10.2.- Muestra una proporción sobre las personas que atendieron el parto de los niños menores de 24 meses que entraron en el estudio.

Teniendo que la persona que atendió en mayor porcentaje los partos fue el esposo en un 32,4% de los casos. Familiar o vecino de sexo femenino en un 29,7% de los casos.

Los partos atendidos por el personal de salud del proyecto alcanzan al 13,6% del total de los menores de 24 meses entrevistados.

La utilización de parteras empíricas por parte de las madres entrevistadas está en el 10% de los casos.

TABLA 9.2.- PERSONA QUE ATENDIO EL PARTO

	N	%
Ella misma	7	2,1
Esposo	107	32,4
Familiar Femenino o vecina	98	29,7
Personal de Proyecto	45	13,6
Parteras Empíricas	31	9,4
Otros Personas	40	12,1
No Recuerda	2	0,6
	<hr/> 330	

La Tabla 9.3.- Presenta una proporción sobre el conocimiento de las madres del tiempo de espera para que se produzca el alumbramiento antes de que la madre este en peligro de morir.

El 50,6% considera que se puede esperar hasta una hora antes de que la vida de la madre corra peligro. Aproximadamente la otra mitad (49,4%) de las madres creen que se puede esperar mas de una hora o no tienen un criterio formado sobre el tiempo prudencial de espera.

TABLA 9.3 TIEMPO DE ESPERA DE ALUMBRAMIENTO

	N	%
Una hora o menos	167	50,6
Más de una hora	140	42,4
No sabe	23	7,0
	<hr/> 330	

La Tabla 9.4.- Muestra la proporción de gestantes entre las Madres con hijos menor de 24 meses entrevistadas.

El 3.9% de las madres se encontraban en gestación en el momento de la entrevista.

TABLA 9.4.- MADRES EN GESTACION

	N	%
Si	13	3,9
No	317	96,1

La Tabla 9.5.- Muestra la proporción de madres que al momento de ser entrevistadas no se encontraban gestando y que no desean tener otro hijo en los próximos dos años.

Según los resultados del estudio se evidencia que el 92,4% de las madres que no están gestando o no desean tener otro hijo en los próximos dos años o no saben.

Con lo que se demuestra que existiría una población importante de mujeres que serían susceptibles de participar en un programa de planificación familiar.

TABLA 9.5.- MADRES QUE DESEAN TENER OTRO HIJO

Los próximos dos años	N	%
Si	24	7,6
No	260	82,0
No sabe	33	10,4

La Tabla 9.6.- Muestra el porcentaje de madres que no desea hijos o que no sabe y están usando algún método anticonceptivo. El 10.9% (32/293) están usando algún método de anticoncepción.

De estas solo el 15,6% (5/32) indican estar usando algún método de contracepción de naturaleza química y dentro de estos el más utilizado sería la pastilla anticonceptiva (9,4%). El 65.6% están usando métodos anticonceptiva naturales, haciendo notar que el principal método que estaban usando las madres en el momento de realización del estudio eran el método del ritmo. 18.8 % no respondieron sobre el método que están usando.

TABLA 10.6.- METODO ANTICONCEPTIVO QUE ESTAN EMPLEANDO

	N	%	Acumulado
Ligadura de trompa/vasectomia	0	0	0
Hormonas inyectables	2	6.3	6.3
Hormona orales	3	9.5	15.8
Diu	0	0	15.8
Diafragma	0	0	15.8
Condomes	0	0	15.8
Espermicida	0	0	15.8
Lactancia materna exclusiva	0	0	15.8
Método del ritmo	17	53.1	68.9
Abstinencia	2	6.3	75.2
Coito interrumpido	0	0	75.2
Otros	2	6.3	81.5
No respondieron	6	18.3	100.-

32

La Tabla 9.7 -Muestra el porcentaje sobre el conocimiento de las madres del objetivo de la vacunación contra tétanos a la mujer embarazada. El 51% de las madres de niños menores de 24 meses no sabe para que se vacuna a las mujeres en gestación contra le tétanos.

El 5,8% piensa que unicamente sirve para proteger a la mujer contra el tétanos. Es decir que el 55,8% piensa que solo sirve para inmunizar a las gestantes contra el tétanos.

TABLA 9.7.- CONOCEN LA UTILIDAD DE LA T.T.

	N	%	Acumulada
Proteger a la madre y al recién nacido	82	24,8	24,8
Proteger solo al recién nacido	60	18,2	43,3
Proteger solo a la mujer	18	5,5	48,5
No sabe	170	51,5	100

330

La Tabla 9.8.- Muestra el porcentaje sobre el conocimiento que tienen las madres de cuantas dosis debe recibir un estante para proteger al recién nacido del tétanos neo natal. El 43,9% de las madres refieren que una mujer gestante debe recibir por lo menos dos dosis para que el recién nacido este protegido contra el tétanos neonatal.

TABLA 9.8.- Nro. DOSIS NECESARIO DE T.T.

	N	%
Una	7	2,1
Dos	20	6,1
Mas de dos	122	37,0
Ninguna	2	0,6
No sabe	179	54,2

330

100

La Tabla 9.9.- Muestra el porcentaje de tenencia de carnet de unmunización contra el tétanos en las madres entrevistadas en el estudio. Solo en el 27,6% de las madres se verificó la tenencia de carnet

TABLA 9.9.- TENENCIA DE CARNET.

	N	%	Acumulado
Verificado en domicilio	74	22,4	22,4
Verificado en el puesto	15	4,5	26,9
No se pudo verificar	39	11,8	38,7
No sabe	202	61,2	99,9

330

10.- IMAGEN DEL PROGRAMA DE SALUD

La Tabla 10.1.- Muestra la proporción del tipo de prestación de servicios en salud brindados por parte del personal del proyecto a las madres y sus familias entrevistadas en el estudio. El 80,3% refieren haber sido visitadas en sus domicilio por algún personal del proyecto.

Un 20% ha recibido consulta por alguna patología en su domicilio.

Según los resultados se aprecia que hay mayor porcentaje de madres que afirman haber acudido en busca de atención a los puestos de salud del proyecto con relación al porcentaje que lo hicieron al hospital, con los que se demuestra el éxito de descentralizar los servicios de salud para favorecer la accesibilidad de la comunidad a los mismos.

Solo el 4,2% de las madres entrevistadas refirió no haber recibido atención en salud por parte del personal de proyecto.

TABLA 10.1.- TIPO DE ATENCION RECIBIDA

	N	%
Consulta en el puesto	92/330	27,9
Consulta en el hospital	62/330	18,8
Consulta a domicilio	66/330	20,0
Visita domiciliaria	265/330	80,3
C.C.o Vacunación por concentración	250/330	75,8
Ninguna	14/330	4,2

La Tabla 10.2.- Muestra el porcentaje según el grado de satisfacción con relación a la atención recibida por las madres con niños menores de 24 meses entrevistadas en el estudio. El 72,3% están satisfechas con la atención a la que la califican como excelente o buena.

TABLA 10.2.- CALIFICACION DE LA ATENCION

<u>La Atención</u>	<u>N</u>	<u>%</u>
Excelente	17	5,2
Buena	221	67,2
Regular	80	24,3
Mala	1	0,3
No recibieron atención	11	3,3
330		

11.- SUGERENCIA DE LAS MADRES PARA MEJORAR LOS SERVICIOS DE SALUD
Principales sugerencias de las madres con niños menores de 24 meses entrevistadas.

<u>Sugerencias</u>	<u>N</u>	<u>%</u>
1. Mejora en calidad y permanencia de la atención.	93/330	28.2
2. Mayor y mejor abastecimiento de medicamentos.	51/330	15.5
3. Orientación sobre la planificación familiar.	25/330	7.6
4. Dotación de agua, luz eléctrica, letrinas	32/330	9.7
5. Mayor frecuencia y regularidad de la visitas domiciliarias	19/330	5.8
6. Asistencia en agricultura, carpas solares, capacitación en artesanías	12/330	3.6
7. Más educación en salud en general, alfabetización en castellano y Aymara	50/330	15.2
8. Alimentos para los niños	7/330	2.1
9. Construcción de puestos, capacitación y asignar un auxiliar para su comunidad en forma permanente.	17/330	5.2
10. Otros	12/330	3.6

IV RESUMEN DE RESULTADOS DE INDICADORES CLAVES DEL PSI CS-6
CONSEJO DE SALUD RURAL ANDINO-PROYECTO CARABUCO

	Evaluación Medio Término (Julio 92)	Evaluación Final (Oct. 93)	Metas Según el DIP
	%	%	
<u>LACTANCIA MATERNA</u>			
1. Inicio oportuno (primeras 8 horas de vida)		59	
2. Lactancia materna entre niños < 23 meses	92	93	
<u>PRACTICA ADECUADAS DE ALIMENTACION INFANTIL</u>			
1. Introducción de alimentos solidos (porcentaje de niño entre 5-9 meses que reciben alimentos solidos o semisólido).		70,5	
<u>CRECIMIENTO Y DESARROLLO</u>			
1. Cobertura de carnetización (CSI).	92,5	94.6	100%
2. Cumplimiento meta de controles a menores 23 meses (6 veces al año).		40.0	100%
<u>INMUNIZACIONES</u>			
1. De acceso al P.A.I. (% niños de 12-23 años que recibieron DPT 1).		96.0	
2. Proporción de deserción (DPT 1 - DPT3/niños de 12 - 23 meses).		8.3	
3. Cobertura de Polio 3 (% de niños de 12 - 23 meses con Polio 3).	89	88.1	
4. Cobertura de PDT3 (5 de niños de 12 - 23 meses con DPT).	91	88.1	
5. Cobertura de Antisarampionosa (% de niños de 12 - 23 meses con Antisarampionosa)	91	89.2	

6. Cobertura de BCG (de niños de 12 - 23 meses con BCG).	97	97.7	
7. Conocimiento, de las madres del tiempo correcto de conclusión de esquema de vacunación de sus hijos.		61% (9-12 meses)	
8. Esquema completo vacunas de 12 a 23 m.	85	85.8	90%
9. % de mujeres encuestadas que por lo menos tiene dos dosis de TT.	19%	43.0	
<u>ENFERMEDADES DIARREICAS AGUDAS</u>			
1. Prevalencia de EDA (ocurrencia de casos en las ultimas 2 semanas).	33	27.9	
2. Practica de manejo adecuados durante EDA			
a. Practica alimentacion (madres que dan mas o igual)			
.-Lactancia Materna	66	71.7	
.-Liquidos	35	40.2	
.-Alimentos solidos	18	40.2	
b. Terapias de Rehidratación Oral			
.-S.R.O.	30	51	
.-Suero Casero		12	
c. Conocimientos de signos de alarma de deshidratación			
.-Boca seca, enoftalmos, oliguria		21.8	
.-Enflaquecimiento		20.3	
.-Debilidad		27.9	

d. Conocimiento, utilidad y manejo correcto del SRO			
.-Escucharon hablar SRO	79	84.5	
.-Saben para que sirve(de las que escucharon)		96.4	
.-Lo han utilizado(de las que escucharon)	68	86.7	
.-Saben preparar correctamente (de las que escucharon)	66	79.6	82%
<u>CONTROL DE NEUMONIA</u>			
1. Prevalencia de IRA (porcentaje de niños con dificultad respiratoria y tos fuerte en las dos ultimas semanas).	33	22.7	
2. Porcentaje de madres que buscaron ayuda cuando su hijo presenta tos fuerte y dificultad respiratoria	53	77.3	
3. Porcentaje de madres que identifican signos y síntomas de alarma de Neumonía			
.-Respiracion rápida y agitada	29	27.9	
.-Cianosis	5	10.6	
.-Tiraje	4	3.6	
.-No quiere tomar ni comer		22.2	
4. Porcentaje de madres que buscan ayuda del personal del proyecto cuando su hijo presenta dificultad respiratoria y tos fuerte 83.	83	62.7	

<u>SALUD MATERNA</u>		
1. Porcentaje de madres en las que se verificó la tenencia de carnet de salud para embarazo y el parto del hijo que entró en el estudio.	28	9.1
2. Practica atención de parto		
.-Porcentaje de partos atendidos por el personal del proyecto.	10	13.6
.-Porcentaje de partos atendidos por el esposo.	24	32.4
.- Porcentaje de partos atendidos por familiar o vecino de sexo femenino.	41	29.7
.-Porcentaje de madres que conocen el tiempo correcto para esperar para que produzca el alumbramiento (menos de una hora).		50.6
.-Porcentaje de gestantes detectado entre las madres entrevistadas.		3.9
.-Porcentaje de madres que no desean o no están seguras de querer otro hijo en los próximos dos años.		92.4
.-Porcentaje de madres que están usando algún método anticonceptivo diferentes a los naturales.		1.7
.-Porcentaje de madres que conocen la utilidad de la inmunización a las gestantes con toxide tetánico.		24.8
.-Cobertura de carnetización con carnet de T.T.		24.8
.-Porcentaje de las madres entrevistadas que saben cuantas dosis de T.T. se precisan (dos o más) para proteger al recién nacido		26.9
		43.1

<u>IMAGEN DEL PROGRAMA DE SALUD</u>		
1.- Proporción según el tipo de atención recibida		
.- Consulta en el puesto	44	27.9
.- Consulta Hospital Carabuco	32	18.8
.- Consulta a domicilio	43	20
- Visita Domiciliaria	90	80.3
.- Sesiones de C.C. e inmunización por concentración	69.5	75.8
.- Ninguna atención	1	4.2
2.- Grado de Satisfacción con la atención brindada		
Buena o excelente	88	74.6

V . TABULACION ENCUESTA CARABUCO OCTUBRE 1993

PROPORCION DE COMUNIDADES

RELACION DE CASAS CON NUMERACION A LA VISTA

Current selection: MUMCASA<>0

COMUNIDAD	Freq	Perc
Aguas Calientes	6	1.
CARABUCO	10	3.
CARABUCO (MARCAHILATA)	1	0.
Caçachi	11	3.
Carabuco	13	4.
Carabuco 41	1	0.
Cavinchilla	8	2.
Centro Putina	12	3.
Chaguaya	18	5.
Challapata Belen	2	0.
Challapata Grande	3	0.
Cojatapampa	10	3.
Huajasia	11	3.
Huancatapi	2	0.
Jokopampa	2	0.
Karkapunko	7	2.
MARCA PATA	3	0.
MARCAHILATA (CARABUCO)	1	0.
MARCAPATA	2	0.
Marca Pata	1	0.
Mermapata	5	1.
Mollipongo	17	5.
Ollajsantia	10	3.
Omacuyo	2	0.
Quiascapa	21	6.
Quilima	18	5.
Quirihuati	27	8.
Sacuco	5	1.
Santiago Okala	6	1.
Sayhuapampa	6	1.
Sañuta	5	1.
Tilacoca	21	6.
Villa Cojata	4	1.
Villa Karkoyo	7	2.
Villa Molino	12	3.
Yaricoa Bajo	14	4.
Yaricoa Alto	20	6.
Total	324	100.

Current selection: MUMCASA=0

RELACION DE CASAS NO CENSADAS POR COMUNIDAD

COMUNIDAD	Frec	Perc
Carabuco	2	33.
Huajasia	1	16.
Quirihuati	2	33.
Yarikoa Alto	1	16.
Total	6	100.

MADRES SEGUN GRUPO ETAREO

GRUPEDMAD	Freq	Percent	Cum.
10 - 18 AÑOS	2	0.6%	0.6%
18 - 35 AÑOS	205	62.3%	62.9%
35 A + AÑOS	122	37.1%	100.0%
Total	329	100.0%	

NIÑOS SEGUN GRUPO ETAREO

GRUPEDNIÑO	Freq	Percent	Cum.
00 - < 01	17	5.2%	5.2%
01 - < 02	10	3.0%	8.2%
02 - < 03	11	3.3%	11.5%
03 - < 04	7	2.1%	13.6%
04 - < 05	6	1.8%	15.5%
05 - < 06	8	2.4%	17.9%
06 - < 07	15	4.5%	22.4%
07 - < 08	12	3.6%	26.1%
08 - < 09	16	4.8%	30.9%
09 - < 10	14	4.2%	35.2%
10 - < 11	17	5.2%	40.3%
11 - < 12	21	6.4%	46.7%
12 - < 13	12	3.6%	50.3%
13 - < 14	22	6.7%	57.0%
14 - < 15	18	5.5%	62.4%
15 - < 16	13	3.9%	66.4%
16 - < 17	12	3.6%	70.0%
17 - < 18	16	4.8%	74.8%
18 - < 19	18	5.5%	80.3%
19 - < 20	14	4.2%	84.5%
20 - < 21	12	3.6%	88.2%
21 - < 22	14	4.2%	92.4%
22 - < 23	10	3.0%	95.5%
23 - < 24	15	4.5%	100.0%
Total	330	100.0%	

Niños según grupos de edad cada doce meses

GRUPNINO	Freq	Percent	Cum.
0 A 11	154	46.7%	46.7%
12 A 23	176	53.3%	100.0%
Total	330	100.0%	

CONTROL DE CRECIMIENTO:

1. Tenencia del Carnet de Salud Infantil

CC01CSI	Freq	Percent	Cum.
1 Verificado	281	85.2%	85.2%
2 Puesto	31	9.4%	94.5%
4 No tiene	17	5.2%	99.7%
5 tiene pero no se verificó	1	0.3%	100.0%
Total	330	100.0%	

Sum = 416.00
 Mean = 1.26
 Standard deviation = 0.73

Tenencia del Carnet de Salud Infantil según grupo etareo

GRUPNINO	CC01CSI				Total
	1	2	4	5	
0 A 11	125	14	14	1	154
12 A 23	156	17	3	0	176
Total	281	31	17	1	330

An expected value is < 5. Chi square not valid.
 Chi square = 10.41
 Degrees of freedom = 3
 p value = 0.01540178 <---

Solo niños que no tienen C.S.I
 Niños que tienen otro documento en lugar del Carnet del Salud Infantil

SOLO NIÑOS CON CARNET DE SALUD INFANTIL EN SU CASA
 2. Numero de veces que ha sido pesado(a) el(la) niño(a)

Current selection: CC01CSI=1

GRUPEDNINO	CC2VECES								
	0	1	2	3	4	5	6	7	
00 - < 01	0	7	2	0	0	0	0	0	0
01 - < 02	0	6	3	0	0	0	0	0	0
02 - < 03	0	2	5	2	0	0	0	0	0
03 - < 04	0	1	2	1	2	0	0	0	0
04 - < 05	0	0	3	1	0	0	0	0	0
05 - < 06	0	0	0	2	3	1	1	1	0
06 - < 07	0	0	1	3	4	2	1	1	1
07 - < 08	0	0	2	0	1	4	0	1	1
08 - < 09	0	0	0	1	2	6	4	1	1
09 - < 10	0	0	1	2	0	7	2	2	2
10 - < 11	0	0	1	0	2	1	5	3	3
11 - < 12	0	0	0	1	2	2	7	4	4
12 - < 13	1	0	1	0	1	3	3	1	1
13 - < 14	0	1	1	2	0	3	3	2	2
14 - < 15	0	0	0	1	0	1	5	3	3
15 - < 16	0	0	1	0	2	2	4	0	0
16 - < 17	1	0	0	2	2	2	0	1	1
17 - < 18	0	0	0	2	0	5	2	0	0
18 - < 19	0	0	1	1	2	5	2	1	1
19 - < 20	0	0	1	2	0	3	2	1	1
20 - < 21	0	0	1	0	2	1	2	1	1
21 - < 22	0	0	1	0	2	3	4	1	1
22 - < 23	0	0	0	0	3	0	0	3	3
23 - < 24	0	0	1	2	2	2	1	0	0
Total	2	17	28	25	32	53	48	26	

GRUPEDNINO	CC2VECES									Total
	8	9	10	11	12	13	14	16		
00 - < 01	0	0	0	0	0	0	0	0	0	9
01 - < 02	0	0	0	0	0	0	0	0	0	9
02 - < 03	0	0	0	0	0	0	0	0	0	9
03 - < 04	0	0	0	0	0	0	0	0	0	6
04 - < 05	0	0	0	0	0	0	0	0	0	4
05 - < 06	0	0	0	0	0	0	0	0	0	7
06 - < 07	0	0	0	0	0	0	0	0	0	12
07 - < 08	0	1	0	0	0	0	0	0	0	9
08 - < 09	0	0	0	0	0	0	0	0	0	14
09 - < 10	0	0	0	0	0	0	0	0	0	14
10 - < 11	1	1	1	0	0	0	0	0	0	15
11 - < 12	0	1	0	0	0	0	0	0	0	17
12 - < 13	0	0	1	0	0	1	0	0	0	12
13 - < 14	3	2	0	0	1	0	0	0	0	18

14 - < 15	2	3	0	0	0	0	0	0	15
15 - < 16	1	1	1	0	0	0	0	0	12
16 - < 17	0	1	0	1	0	0	0	0	10
17 - < 18	1	2	1	1	0	0	0	0	14
18 - < 19	0	0	0	3	0	0	1	0	16
19 - < 20	1	0	2	1	0	0	0	1	14
20 - < 21	1	0	1	0	0	0	0	0	9
21 - < 22	0	2	0	0	0	0	0	0	13
22 - < 23	1	1	0	0	1	0	0	1	10
23 - < 24	2	1	0	2	0	0	0	0	13
Total	13	16	7	8	2	1	1	2	281

An expected value is < 5. Chi square not valid.
 Chi square = 537.56
 Degrees of freedom = 345
 p value = 0.00000000 <---

Current selection: CC01CSI=1

GRUPNIÑO	CC2VECES								Total
	0	1	2	3	4	5	6	7		8
0 A 11	0	16	20	13	16	23	20	12	1
12 A 23	2	1	8	12	16	30	28	14	12
Total	2	17	28	25	32	53	48	26	13

GRUPNIÑO	CC2VECES							Total
	9	10	11	12	13	14	16	
0 A 11	3	1	0	0	0	0	0	125
12 A 23	13	6	8	2	1	1	2	156
Total	16	7	8	2	1	1	2	281

An expected value is < 5. Chi square not valid.
 Chi square = 53.19
 Degrees of freedom = 15
 p value = 0.00000000 <---

NIÑOS CON CARNET DE SALUD INFANTIL EN SU CASA O EL HOSPITAL
 Numero de veces que ha sido pesado(a) el(la) niño(a)

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNIÑO	CC2VECES							
	0	1	2	3	4	5	6	7
00 - < 01	0	9	2	0	0	0	0	0
01 - < 02	0	6	3	0	0	0	0	0
02 - < 03	0	2	5	2	0	0	0	0
03 - < 04	0	1	2	1	2	1	0	0
04 - < 05	0	0	4	1	0	0	0	0
05 - < 06	0	0	0	2	3	2	1	0
06 - < 07	0	0	1	3	6	3	1	1
07 - < 08	0	1	2	0	1	4	0	2
08 - < 09	0	0	0	1	2	7	4	1
09 - < 10	0	0	1	2	0	7	2	2
10 - < 11	0	0	1	0	3	1	6	3
11 - < 12	0	0	0	1	2	2	7	4
12 - < 13	1	0	1	0	1	3	3	1
13 - < 14	0	1	1	2	0	5	3	2
14 - < 15	0	1	0	1	0	1	6	3
15 - < 16	0	0	1	0	3	2	4	0
16 - < 17	1	1	0	2	2	2	0	1
17 - < 18	0	0	0	2	0	5	2	1
18 - < 19	2	0	1	1	2	5	2	1
19 - < 20	0	0	1	2	0	3	2	1
20 - < 21	0	0	1	1	2	2	2	2
21 - < 22	0	0	1	0	3	3	4	1
22 - < 23	0	0	0	0	3	0	0	3
23 - < 24	0	0	2	2	3	2	1	0
Total	4	22	30	26	38	60	50	29

GRUPEDNIÑO	CC2VECES								Total
	8	9	10	11	12	13	14	16	
00 - < 01	0	0	0	0	0	0	0	0	11
01 - < 02	0	0	0	0	0	0	0	0	9
02 - < 03	0	0	0	0	0	0	0	0	9
03 - < 04	0	0	0	0	0	0	0	0	7
04 - < 05	0	0	0	0	0	0	0	0	5
05 - < 06	0	0	0	0	0	0	0	0	8
06 - < 07	0	0	0	0	0	0	0	0	15
07 - < 08	0	1	0	0	0	0	0	0	11
08 - < 09	0	0	0	0	0	0	0	0	15
09 - < 10	0	0	0	0	0	0	0	0	14
10 - < 11	1	1	1	0	0	0	0	0	17
11 - < 12	1	1	0	0	0	0	0	0	18
12 - < 13	0	0	1	0	0	1	0	0	12

13 - < 14	3	3	0	0	1	0	0	0	21
14 - < 15	2	3	1	0	0	0	0	0	18
15 - < 16	1	1	1	0	0	0	0	0	13
16 - < 17	0	1	0	1	0	0	0	0	11
17 - < 18	1	2	1	1	0	0	0	0	15
18 - < 19	0	0	0	3	0	0	1	0	18
19 - < 20	1	0	2	1	0	0	0	1	14
20 - < 21	1	0	1	0	0	0	0	0	12
21 - < 22	0	2	0	0	0	0	0	0	14
22 - < 23	1	1	0	0	1	0	0	1	10
23 - < 24	2	1	0	2	0	0	0	0	15
Total	14	17	8	8	2	1	1	2	312

An expected value is < 5. Chi square not valid.
 Chi square = 558.80
 Degrees of freedom = 345
 p value = 0.00000000 <---

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNIÑO	CC2VECES								Total
	0	1	2	3	4	5	6	7	
0 A 11	0	19	21	13	19	27	21	13	2
12 A 23	4	3	9	13	19	33	29	16	12
Total	4	22	30	26	38	60	50	29	14

GRUPNIÑO	CC2VECES							Total
	9	10	11	12	13	14	16	
0 A 11	3	1	0	0	0	0	0	139
12 A 23	14	7	8	2	1	1	2	173
Total	17	8	8	2	1	1	2	312

An expected value is < 5. Chi square not valid.
 Chi square = 52.30
 Degrees of freedom = 15
 p value = 0.00000000 <---

3. INMUNIZACIONES SEGUN GRUPOS ETAREOS

VACUNA BCG POR GRUPO ETAREO

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNIÑO	BCG		Total
	0	1	
00 - < 01	3	8	11
01 - < 02	0	9	9
02 - < 03	0	9	9
03 - < 04	0	7	7
04 - < 05	0	5	5
05 - < 06	0	8	8
06 - < 07	0	15	15
07 - < 08	1	10	11
08 - < 09	0	15	15
09 - < 10	0	14	14
10 - < 11	0	17	17
11 - < 12	0	18	18
12 - < 13	1	11	12
13 - < 14	0	21	21
14 - < 15	0	18	18
15 - < 16	0	13	13
16 - < 17	0	11	11
17 - < 18	0	15	15
18 - < 19	0	18	18
19 - < 20	0	14	14
20 - < 21	0	12	12
21 - < 22	0	14	14
22 - < 23	0	10	10
23 - < 24	0	15	15
Total	5	307	312

Chi square = 57.85
 Degrees of freedom = 23
 p value = 0.00000000 <---

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNIÑO	BCG		Total
	0	1	
0 A 11	4	135	139
12 A 23	1	172	173
Total	5	307	312

Single Table Analysis

Odds ratio 5.10
 Cornfield 95% confidence limits for OR 0.52* < OR < 123.21*
 *May be inaccurate

Relative risk of (BCG=0) for (GRUPNINO=0 A 11) 4.98
 Greenland, Robins 95% conf. limits for RR 0.56 < RR < 44.04
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
Uncorrected:	2.58	0.10789054
Mantel-Haenszel:	2.58	0.10845668
Yates corrected:	1.33	0.24841590

Fisher exact: 1-tailed P-value: 0.1248439
 2-tailed P-value: 0.1759086

An expected value is less than 5; recommend Fisher exact results.

NIÑOS CON POLIO INICIAL

Current selection: CC01CSI=1 OR CC01CSI=2

POLIOI	Freq	Percent	Cum.
0	86	27.6%	27.6%
1	226	72.4%	100.0%
Total	312	100.0%	

Sum = 226.00
 Mean = 0.72
 Standard deviation = 0.45

NIÑOS CON POLIO INICIAL SEGUN GRUPO ETAREO

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNIÑO	Freq	Percent	Cum.
00 - < 01	8	3.5%	3.5%
01 - < 02	8	3.5%	7.1%
02 - < 03	8	3.5%	10.6%
03 - < 04	7	3.1%	13.7%
04 - < 05	4	1.8%	15.5%
05 - < 06	6	2.7%	18.1%
06 - < 07	9	4.0%	22.1%
07 - < 08	7	3.1%	25.2%
08 - < 09	9	4.0%	29.2%

09 - < 10	8	3.5%	32.7%
10 - < 11	15	6.6%	39.4%
11 - < 12	11	4.9%	44.2%
12 - < 13	8	3.5%	47.8%
13 - < 14	13	5.8%	53.5%
14 - < 15	14	6.2%	59.7%
15 - < 16	11	4.9%	64.6%
16 - < 17	8	3.5%	68.1%
17 - < 18	11	4.9%	73.0%
18 - < 19	13	5.8%	78.8%
19 - < 20	10	4.4%	83.2%
20 - < 21	8	3.5%	86.7%
21 - < 22	8	3.5%	90.3%
22 - < 23	9	4.0%	94.2%
23 - < 24	13	5.8%	100.0%

Total | 226 100.0%

Mean per GRUPEDNIÑO group = 9.42
StdDev = 2.70

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNIÑO	POLIOI		Total
	0	1	
00 - < 01	3	8	11
01 - < 02	1	8	9
02 - < 03	1	8	9
03 - < 04	0	7	7
04 - < 05	1	4	5
05 - < 06	2	6	8
06 - < 07	6	9	15
07 - < 08	4	7	11
08 - < 09	6	9	15
09 - < 10	6	8	14
10 - < 11	2	15	17
11 - < 12	7	11	18
12 - < 13	4	8	12
13 - < 14	8	13	21
14 - < 15	4	14	18
15 - < 16	2	11	13
16 - < 17	3	8	11
17 - < 18	4	11	15
18 - < 19	5	13	18
19 - < 20	4	10	14
20 - < 21	4	8	12
21 - < 22	6	8	14
22 - < 23	1	9	10
23 - < 24	2	13	15
Total	86	226	312

Chi square = 20.46
 Degrees of freedom = 23
 p value = 0.61426628

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNINO	POLIOI		Total
	0	1	
0 A 11	39	100	139
12 A 23	47	126	173
Total	86	226	312

Single Table Analysis

Odds ratio 1.05
 Cornfield 95% confidence limits for OR 0.61 < OR < 1.78

Relative risk of (POLIOI=0) for (GRUPNINO=0 A 11) 1.03
 Greenland, Robins 95% conf. limits for RR 0.72 < RR < 1.48
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
Uncorrected:	0.03	0.86120018
Mantel-Haenszel:	0.03	0.86142054
Yates corrected:	0.00	0.96220373

NINOS CON DOSIS DE VACUNA ANTI-POLIO SEGUN GRUPO ETAREO

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNINO	Freq	Percent	Cum.
00 - < 01	8	3.5%	3.5%
01 - < 02	8	3.5%	7.1%
02 - < 03	8	3.5%	10.6%
03 - < 04	7	3.1%	13.7%
04 - < 05	4	1.8%	15.5%
05 - < 06	6	2.7%	18.1%
06 - < 07	9	4.0%	22.1%
07 - < 08	7	3.1%	25.2%
08 - < 09	9	4.0%	29.2%
09 - < 10	8	3.5%	32.7%
10 - < 11	15	6.6%	39.4%
11 - < 12	11	4.9%	44.2%
12 - < 13	8	3.5%	47.8%
13 - < 14	13	5.8%	53.5%
14 - < 15	14	6.2%	59.7%
15 - < 16	11	4.9%	64.6%

16 - < 17	8	3.5%	68.1%
17 - < 18	11	4.9%	73.0%
18 - < 19	13	5.8%	78.8%
19 - < 20	10	4.4%	83.2%
20 - < 21	8	3.5%	86.7%
21 - < 22	8	3.5%	90.3%
22 - < 23	9	4.0%	94.2%
23 - < 24	13	5.8%	100.0%

Total | 226 100.0%

Mean per GRUPEDNINO group = 9.42
StdDev = 2.70

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNINO	POLIO				Total
	0	1	2	3	
00 - < 01	11	0	0	0	11
01 - < 02	9	0	0	0	9
02 - < 03	4	5	0	0	9
03 - < 04	1	5	1	0	7
04 - < 05	0	3	2	0	5
05 - < 06	0	1	7	0	8
06 - < 07	0	1	8	6	15
07 - < 08	1	2	2	6	11
08 - < 09	0	1	0	14	15
09 - < 10	1	2	1	10	14
10 - < 11	0	0	1	16	17
11 - < 12	0	2	1	15	18
12 - < 13	1	1	2	8	12
13 - < 14	0	3	1	17	21
14 - < 15	2	1	0	15	18
15 - < 16	1	0	0	12	13
16 - < 17	0	1	0	10	11
17 - < 18	0	1	0	14	15
18 - < 19	0	1	0	17	18
19 - < 20	0	1	0	13	14
20 - < 21	0	0	1	11	12
21 - < 22	0	0	0	14	14
22 - < 23	0	0	0	10	10
23 - < 24	0	1	0	14	15
Total	31	32	27	222	312

Chi square = 428.24
Degrees of freedom = 69
p value = 0.00000000 <---

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNIÑO	POLIO				Total
	0	1	2	3	
0 A 11	27	22	23	67	139
12 A 23	4	10	4	155	173
Total	31	32	27	222	312

Chi square = 66.91
 Degrees of freedom = 3
 p value = 0.00000000 <---

NINOS CON DPT SEGUN GRUPO ETAREO

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNIÑO	DPT				Total
	0	1	2	3	
00 - < 01	11	0	0	0	11
01 - < 02	9	0	0	0	9
02 - < 03	4	5	0	0	9
03 - < 04	1	5	1	0	7
04 - < 05	0	3	2	0	5
05 - < 06	0	1	7	0	8
06 - < 07	0	1	8	6	15
07 - < 08	1	3	2	5	11
08 - < 09	0	1	0	14	15
09 - < 10	1	2	1	9	13
10 - < 11	0	0	1	16	17
11 - < 12	0	2	1	15	18
12 - < 13	1	1	2	8	12
13 - < 14	0	3	1	17	21
14 - < 15	2	1	0	15	18
15 - < 16	1	0	0	12	13
16 - < 17	0	1	0	10	11
17 - < 18	0	1	0	14	15
18 - < 19	0	1	0	17	18
19 - < 20	0	1	0	13	14
20 - < 21	0	0	1	11	12
21 - < 22	0	0	0	14	14
22 - < 23	0	0	0	10	10
23 - < 24	0	1	0	14	15
Total	31	33	27	220	311

Chi square = 428.23
 Degrees of freedom = 69
 p value = 0.00000000 <---

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNINO	DPT				Total
	0	1	2	3	
0 A 11	27	23	23	65	138
12 A 23	4	10	4	155	173
Total	31	33	27	220	311

Chi square = 69.31
 Degrees of freedom = 3
 p value = 0.00000000 <---

VACUNA ANTISARAMPIONOSA POR GRUPO ETAREO
 Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNINO	SARAMP		Total
	0	1	
00 - < 01	11	0	11
01 - < 02	9	0	9
02 - < 03	9	0	9
03 - < 04	7	0	7
04 - < 05	5	0	5
05 - < 06	8	0	8
06 - < 07	15	0	15
07 - < 08	10	1	11
08 - < 09	11	4	15
09 - < 10	8	6	14
10 - < 11	3	14	17
11 - < 12	2	16	18
12 - < 13	4	8	12
13 - < 14	1	20	21
14 - < 15	3	15	18
15 - < 16	1	12	13
16 - < 17	1	10	11
17 - < 18	0	15	15
18 - < 19	1	17	18
19 - < 20	1	13	14
20 - < 21	1	11	12
21 - < 22	0	14	14
22 - < 23	1	9	10
23 - < 24	2	13	15
Total	114	198	312

Chi square = 204.64
 Degrees of freedom = 23
 p value = 0.00000000 <---

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNIÑO	SARAMP		Total
	0	1	
0 A 11	98	41	139
12 A 23	16	157	173
Total	114	198	312

Single Table Analysis

Odds ratio 23.45
 Cornfield 95% confidence limits for OR 11.91 < OR < 46.79

Relative risk of (SARAMP=0) for (GRUPNIÑO=0 A 11) 7.62
 Greenland, Robins 95% conf. limits for RR 4.72 < RR < 12.31
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
Uncorrected:	124.72	0.00000000 <---
Mantel-Haenszel:	124.32	0.00000000 <---
Yates corrected:	122.09	0.00000000 <---

NIÑOS CON ESQUEMA DE VACUNACION COMPLETA

GRUPNIÑO	COMPLETAS		Total
	0	1	
0 a 11	115	39	154
12 a 23	25	151	176
Total	140	190	330

GRUPEDNIÑO	COMPLETAS		Total
	0	1	
00 - < 01	17	0	17
01 - < 02	10	0	10
02 - < 03	11	0	11
03 - < 04	7	0	7
04 - < 05	6	0	6
05 - < 06	8	0	8
06 - < 07	15	0	15
07 - < 08	11	1	12
08 - < 09	12	4	16
09 - < 10	8	6	14
10 - < 11	3	14	17
11 - < 12	7	14	21
12 - < 13	4	8	12

13 - < 14	5	17	22
14 - < 15	3	15	18
15 - < 16	1	12	13
16 - < 17	2	10	12
17 - < 18	2	14	16
18 - < 19	2	16	18
19 - < 20	1	13	14
20 - < 21	1	11	12
21 - < 22	0	14	14
22 - < 23	1	9	10
23 - < 24	3	12	15

TOTAL	140	190	330

4.- Edad (en meses) a la que terminan sus vacunas el niño según la madre 0 o 99 = no sabe o no responde.

===== Freq I4TERMVAC			
I4TERMVAC	Freq	Percent	Cum.
0	72	21.8%	21.8%
3	3	0.9%	22.7%
4	4	1.2%	23.9%
5	6	1.8%	25.8%
6	18	5.5%	31.2%
7	2	0.6%	31.8%
8	12	3.6%	35.5%
9	163	49.4%	84.8%
10	18	5.5%	90.3%
11	3	0.9%	91.2%
12	20	6.1%	97.3%
13	1	0.3%	97.6%
14	2	0.6%	98.2%
15	1	0.3%	98.5%
16	1	0.3%	98.8%
18	1	0.3%	99.1%
24	2	0.6%	99.1%
99	1	0.3%	100.0%

Total	330	100.0%	

5. Porque se vacuna contra el tétanos

Current selection: CC01CSI=1 OR CC01CSI=2

I5EMBVT	Freq	Percent	Cum.
1 Proteger a Madre y recién nacido	82	24.8%	24.8%
2 Proteger a la madre	18	5.5%	30.3%
3 Proteger al recién nacido	60	18.2%	48.5%
4 Otro o no sabe	170	51.5%	100.0%
Total	330	100.0%	

Sum = 978.00
 Mean = 2.96
 Standard deviation = 1.25

6. Madres que saben cuantas dosis son necesarias contra el tétanos

Current selection: CC01CSI=1 OR CC01CSI=2

I6EMBVT	Freq	Percent	Cum.
1 Una	7	2.1%	2.1%
2 Dos	20	6.1%	8.2%
3 Más de dos	122	37.0%	45.2%
4 Ninguna	2	0.6%	45.8%
5 No sabe	179	54.2%	100.0%
Total	330	100.0%	

Sum = 1316.00
 Mean = 3.99
 Standard deviation = 1.17

7. Tiene la madre Carnet de Vacunación

Current selection: CC01CSI=1 OR CC01CSI=2

I7CVAC	Freq	Percent	Cum.
1 Verificado	74	22.4%	22.4%
2 No se pudo verificar	39	11.8%	34.2%
3 Si en el puesto	15	4.5%	38.8%
4 No	187	61.2%	100.0%
Total	330	100.0%	

Sum = 1005.00
 Mean = 3.02
 Standard deviation = 1.28

Solo mujeres que mostraron el carnet de vacunación
 8. Mujeres con dosis de vacuna T.T. (No. de dosis)

VACUNAS T.T.

Current selection: (CC01CSI=1 OR CC01CSI=2) AND (I7CVAC=1)

VACTT	Freq	Percent	Cum.
0	240	72.7%	72.7%
1	26	7.9	80.6%
2	34	10.3%	90.9%
3	17	5.2%	96.1%
4	13	3.9%	100.0%
Total	330	100.0%	

Sum = 197.00
 Mean = 0.60
 Standard deviation = 1.11

LACTANCIA MATERNA

9. Madres dando lactancia materna al niño menor de dos años

GRUPEDNISO	LM09DA		Total
	SI	NO	
00 - < 01	17	0	17
01 - < 02	10	0	10
02 - < 03	11	0	11
03 - < 04	7	0	7
04 - < 05	6	0	6
05 - < 06	8	0	8
06 - < 07	15	0	15
07 - < 08	12	0	12
08 - < 09	16	0	16
09 - < 10	14	0	14
10 - < 11	17	0	17
11 - < 12	20	1	21
12 - < 13	10	2	12
13 - < 14	22	0	22
14 - < 15	17	1	18
15 - < 16	11	2	13
16 - < 17	12	0	12
17 - < 18	16	0	16
18 - < 19	17	1	18
19 - < 20	12	2	14
20 - < 21	8	4	12
21 - < 22	11	3	14
22 - < 23	8	2	10
23 - < 24	10	5	15
Total	307	23	330

An expected value is < 5. Chi square not valid.
 Chi square = 54.37
 Degrees of freedom = 23
 p value = 0.00000000 <---

GRUPNINO	LM09DA		Total
	SI	NO	
0 A 11	153	1	154
12 A 23	154	22	176
Total	307	23	330

Single Table Analysis

Odds ratio 21.86
 Cornfield 95% confidence limits for OR 3.04* < OR < 448.47*
 *May be inaccurate

Relative risk of (LM09DA=1) for (GRUPNINO=0 A 11) 1.14
 Greenland, Robins 95% conf. limits for RR 1.07 < RR < 1.20
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
Uncorrected:	17.79	0.00002467 <---
Mantel-Haenszel:	17.74	0.00002538 <---
Yates corrected:	16.01	0.00006305 <---

SOLO MADRES QUE DEJARON DE DAR LACTANCIA MATERNA A SUS NIÑOS
 10. Madres que alguna vez le dieron lactancia materna al niño

Current selection: lm09da=2

LM10DIO	Freq	Percent	Cum.
1 SI	18	78.3%	78.3%
2 NO	5	21.7%	100.0%
Total	23	100.0%	

Sum = 28.00
 Mean = 1.22
 Standard deviation = 0.42

SOLO NIÑOS QUE DEJARON YA NO RECIBEN LACTANCIA MATERNA PERO QUE LA RECIBIERON ALGUNA VEZ

11. Edad del niño en meses cuando dejaron de darle Lactancia Materna

Current selection: (lm09da=2) AND (LM10DIO=1)

LM11EDADIO	Freq	Percent	Cum.
11	1	5.6%	5.6%
12	1	5.6%	11.1%
13	1	5.6%	16.7%
14	2	11.1%	27.8%
15	1	5.6%	33.3%
16	2	11.1%	44.4%
17	2	11.1%	55.6%
18	4	22.2%	77.8%
20	3	16.7%	94.4%
21	1	5.6%	100.0%
Total	18	100.0%	

Sum = 298.00
 Mean = 16.56
 Standard deviation = 2.91

Current selection: (lm09da=2) AND (LM10DIO=1)

GRUPEDNIÑO	LM11EDADIO							
	11	12	13	14	15	16	17	18
12 - < 13	1	0	0	0	0	0	0	0
14 - < 15	0	0	1	0	0	0	0	0
15 - < 16	0	1	0	1	0	0	0	0
18 - < 19	0	0	0	0	1	0	0	0
19 - < 20	0	0	0	1	0	0	0	0
20 - < 21	0	0	0	0	0	1	1	2
21 - < 22	0	0	0	0	0	1	0	1
22 - < 23	0	0	0	0	0	0	0	1
23 - < 24	0	0	0	0	0	0	1	0
Total	1	1	1	2	1	2	2	4

GRUPEDNIÑO	LM11EDADIO		Total
	20	21	
12 - < 13	0	0	1
14 - < 15	0	0	1
15 - < 16	0	0	2
18 - < 19	0	0	1
19 - < 20	0	0	1
20 - < 21	0	0	4

21 - < 22	1	0	3
22 - < 23	1	0	2
23 - < 24	1	1	3
Total	3	1	18

An expected value is < 5. Chi square not valid.
 Chi square = 90.25
 Degrees of freedom = 72
 p value = 0.00000000 <---

Current selection: (lm09da=2) AND (LM10DIO=1)

GRUPNIÑO	LM11EDADIO									
	11	12	13	14	15	16	17	18	20	
12 A 23	1	1	1	2	1	2	2	4	3	
Total	1	1	1	2	1	2	2	4	3	

GRUPNIÑO	LM11EDADIO	
	21	Total
12 A 23	1	18
Total	1	18

An expected value is < 5. Chi square not valid.
 Chi square = 0.00
 Degrees of freedom = 0
 p value = 1.00000000

SOLO NIÑOS QUE DEJARON YA NO RECIBEN LACTANCIA MATERNA PERO QUE LA RECIBIERON ALGUNA VEZ

12. Cuando le dieron la primera lactancia materna al niño

LM12PRIM	Freq	Percent	Cum.
1 En 1ra. hora	106	32.1%	32.1%
2 en iras. 8 horas	89	27.0%	59.1%
3 Más de 8 horas	129	39.1%	98.2%
4 No recuerda	2	0.6%	98.8%
9 No contestó	4	1.2%	100.0%
Total	330	100.0%	

Sum = 715.00
 Mean = 2.17
 Standard deviation = 1.14

ALIMENTACION INFANTIL

13. Le está dando

13.b Líquidos

GRUPEDNIÑO	AI13ALIQ			Total
	SI	NO	NO SABE	
00 - < 01	1	16	0	17
01 - < 02	1	9	0	10
02 - < 03	3	8	0	11
03 - < 04	1	6	0	7
04 - < 05	2	4	0	6
05 - < 06	5	3	0	8
06 - < 07	11	4	0	15
07 - < 08	6	5	1	12
08 - < 09	15	1	0	16
09 - < 10	13	1	0	14
10 - < 11	17	0	0	17
11 - < 12	21	0	0	21
12 - < 13	11	1	0	12
13 - < 14	22	0	0	22
14 - < 15	17	1	0	18
15 - < 16	12	1	0	13
16 - < 17	11	1	0	12
17 - < 18	16	0	0	16
18 - < 19	18	0	0	18
19 - < 20	14	0	0	14
20 - < 21	12	0	0	12
21 - < 22	14	0	0	14
22 - < 23	10	0	0	10
23 - < 24	15	0	0	15
Total	268	61	1	330

An expected value is < 5. Chi square not valid.
 Chi square = 227.86
 Degrees of freedom = 46
 p value = 0.00000000 <---

GRUPNIÑO	AI13ALIQ			Total
	1	2	3	
0 A 11	96	57	1	154
12 A 23	172	4	0	176
Total	268	61	1	330

An expected value is < 5. Chi square not valid.
 Chi square = 67.43

Degrees of freedom = 2
 p value = 0.00000000 <---

13.b Leche de vaca

GRUPEDNINO	AI13BLEC			Total
	SI	NO	NO SABE	
00 - < 01	1	16	0	17
01 - < 02	1	9	0	10
02 - < 03	2	9	0	11
03 - < 04	2	5	0	7
04 - < 05	1	5	0	6
05 - < 06	2	6	0	8
06 - < 07	6	9	0	15
07 - < 08	4	8	0	12
08 - < 09	15	1	0	16
09 - < 10	8	5	1	14
10 - < 11	7	10	0	17
11 - < 12	14	7	0	21
12 - < 13	9	3	0	12
13 - < 14	15	7	0	22
14 - < 15	16	2	0	18
15 - < 16	7	6	0	13
16 - < 17	9	3	0	12
17 - < 18	13	3	0	16
18 - < 19	14	4	0	18
19 - < 20	14	0	0	14
20 - < 21	10	2	0	12
21 - < 22	11	3	0	14
22 - < 23	9	1	0	10
23 - < 24	14	1	0	15
Total	204	125	1	330

An expected value is < 5. Chi square not valid.
 Chi square = 131.28
 Degrees of freedom = 46
 p value = 0.00000000 <---

GRUPNINO	AI13BLEC			Total
	1	2	3	
0 A 11	63	90	1	154
12 A 23	141	35	0	176
Total	204	125	1	330

An expected value is < 5. Chi square not valid.
 Chi square = 53.80
 Degrees of freedom = 2
 p value = 0.00000000 <---

13.c Comida aplastada o papillas

GRUPEDNIÑO	AI13CCOM		Total
	SI	NO	
00 - < 01	0	17	17
01 - < 02	0	10	10
02 - < 03	1	10	11
03 - < 04	1	6	7
04 - < 05	2	4	6
05 - < 06	4	4	8
06 - < 07	9	6	15
07 - < 08	7	5	12
08 - < 09	16	0	16
09 - < 10	13	1	14
10 - < 11	16	1	17
11 - < 12	21	0	21
12 - < 13	12	0	12
13 - < 14	22	0	22
14 - < 15	17	1	18
15 - < 16	13	0	13
16 - < 17	12	0	12
17 - < 18	16	0	16
18 - < 19	17	1	18
19 - < 20	14	0	14
20 - < 21	12	0	12
21 - < 22	14	0	14
22 - < 23	10	0	10
23 - < 24	15	0	15
Total	264	66	330

An expected value is < 5. Chi square not valid.
 Chi square = 233.91
 Degrees of freedom = 23
 p value = 0.00000000 <---

GRUPNIÑO	AI13CCOM		Total
	1	2	
0 A 11	90	64	154
12 A 23	174	2	176
Total	264	66	330

Single Table Analysis

Odds ratio 0.02
 Cornfield 95% confidence limits for OR 0.00 < OR < 0.07
 Relative risk of (AI13CCOM=1) for (GRUPNIÑO=0 A 11) 0.59
 Greenland, Robins 95% conf. limits for RR 0.52 < RR < 0.68
 (Biometrics 1985;41:55-68)
 Ignore relative risk if case control study.

Chi-Squares P-values

Uncorrected: 83.88 0.00000000 <---
 Mantel-Haenszel: 83.62 0.00000000 <---
 Yates corrected: 81.37 0.00000000 <---

13.d Agregan grasa (aceite o manteca) a la comida del niño

		AI13DGRAS			
GRUPEDNIÑO		SI	NO	NO SABE	Total
00	- < 01	0	17	0	17
01	- < 02	0	10	0	10
02	- < 03	0	11	0	11
03	- < 04	1	6	0	7
04	- < 05	1	5	0	6
05	- < 06	2	6	0	8
06	- < 07	4	11	0	15
07	- < 08	4	8	0	12
08	- < 09	11	5	0	16
09	- < 10	7	7	0	14
10	- < 11	9	8	0	17
11	- < 12	8	12	1	21
12	- < 13	10	2	0	12
13	- < 14	13	9	0	22
14	- < 15	8	10	0	18
15	- < 16	5	8	0	13
16	- < 17	7	5	0	12
17	- < 18	10	6	0	16
18	- < 19	9	9	0	18
19	- < 20	12	2	0	14
20	- < 21	5	7	0	12
21	- < 22	5	9	0	14
22	- < 23	5	5	0	10
23	- < 24	9	6	0	15
Total		145	184	1	330

An expected value is < 5. Chi square not valid.
 Chi square = 82.76
 Degrees of freedom = 46
 p value = 0.00000000 <---

		AI13DGRAS			
GRUPNIÑO		1	2	3	Total
0 A 11		47	106	1	154
12 A 23		98	78	0	176
Total		145	184	1	330

An expected value is < 5. Chi square not valid.
 Chi square = 21.83
 Degrees of freedom = 2
 p value = 0.00001819 <---

13.e Cocinan con sal yodada

GRUPEDNINO	AI13ESALY		Total
	SI	NO	
00 - < 01	5	12	17
01 - < 02	3	7	10
02 - < 03	4	7	11
03 - < 04	5	2	7
04 - < 05	0	6	6
05 - < 06	4	4	8
06 - < 07	3	12	15
07 - < 08	2	10	12
08 - < 09	9	7	16
09 - < 10	3	11	14
10 - < 11	7	10	17
11 - < 12	5	16	21
12 - < 13	7	5	12
13 - < 14	13	9	22
14 - < 15	6	12	18
15 - < 16	6	7	13
16 - < 17	5	7	12
17 - < 18	7	9	16
18 - < 19	4	14	18
19 - < 20	4	10	14
20 - < 21	3	9	12
21 - < 22	7	7	14
22 - < 23	2	8	10
23 - < 24	9	6	15
Total	123	207	330

Chi square = 34.32
 Degrees of freedom = 23
 p value = 0.06064053

GRUPNINO	AI13ESALY		Total
	1	2	
0 A 11	50	104	154
12 A 23	73	103	176
Total	123	207	330

Single Table Analysis

Odds ratio 0.68
 Cornfield 95% confidence limits for OR 0.42 < OR < 1.10

Relative risk of (AI13ESALY=1) for (GRUPNINO=0 A 11) 0.78
 Greenland, Robins 95% conf. limits for RR 0.59 < RR < 1.04
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
Uncorrected:	2.85	0.09128014
Mantel-Haenszel:	2.84	0.09177216
Yates corrected:	2.48	0.11535271

14. Dan biberón o mamadera

GRUPEDNIÑO ;	AI14VIVER			; Total
	SI	NO	SIN	
RESPUESTA				
00 - < 01	3	14	0	17
01 - < 02	3	7	0	10
02 - < 03	4	7	0	11
03 - < 04	2	5	0	7
04 - < 05	1	5	0	6
05 - < 06	2	6	0	8
06 - < 07	5	10	0	15
07 - < 08	3	9	0	12
08 - < 09	11	5	0	16
09 - < 10	8	6	0	14
10 - < 11	6	11	0	17
11 - < 12	13	8	0	21
12 - < 13	9	3	0	12
13 - < 14	10	12	0	22
14 - < 15	9	9	0	18
15 - < 16	7	6	0	13
16 - < 17	2	10	0	12
17 - < 18	7	9	0	16
18 - < 19	10	8	0	18
19 - < 20	9	5	0	14
20 - < 21	8	4	0	12
21 - < 22	3	10	1	14
22 - < 23	4	6	0	10
23 - < 24	6	9	0	15
Total ;	145	184	1	330

An expected value is < 5. Chi square not valid.
 Chi square = 60.15
 Degrees of freedom = 46
 p value = 0.00000000 <---

GRUPNIÑO ;	AI14VIVER			; Total
	1	2	9	
0 A 11	61	93	0	154
12 A 23	84	91	1	176
Total ;	145	184	1	330

An expected value is < 5. Chi square not valid.
 Chi square = 3.22
 Degrees of freedom = 2
 p value = 0.20012272

ENFERMEDADES DIARRÉICAS

15. Niños con diarrea las dos últimas semanas

ED15U2SEM	Freq	Percent	Cum.
1 SI	92	27.9%	27.9%
2 NO	237	71.8%	99.7%
3 NO SABE	1	0.3%	100.0%
Total	330	100.0%	

Sum = 569.00
 Mean = 1.72
 Standard deviation = 0.45

GRUPEDNINO	ED15U2SEM			Total
	1	2	3	
00 - < 01	0	17	0	17
01 - < 02	0	10	0	10
02 - < 03	3	8	0	11
03 - < 04	1	6	0	7
04 - < 05	0	6	0	6
05 - < 06	4	4	0	8
06 - < 07	5	10	0	15
07 - < 08	1	11	0	12
08 - < 09	5	11	0	16
09 - < 10	4	10	0	14
10 - < 11	8	9	0	17
11 - < 12	7	14	0	21
12 - < 13	3	9	0	12
13 - < 14	3	19	0	22
14 - < 15	9	9	0	18
15 - < 16	3	10	0	13
16 - < 17	1	11	0	12
17 - < 18	5	11	0	16
18 - < 19	7	10	1	18
19 - < 20	8	6	0	14
20 - < 21	2	10	0	12
21 - < 22	4	10	0	14
22 - < 23	5	5	0	10
23 - < 24	4	11	0	15
Total	92	237	1	330

An expected value is < 5. Chi square not valid.
 Chi square = 58.54
 Degrees of freedom = 46
 p value = 0.00000000 <---

GRUPNIÑO	ED15U2SEM			Total
	1	2	3	
0 A 11	38	116	0	154
12 A 23	54	121	1	176
Total	92	237	1	330

An expected value is < 5. Chi square not valid.
 Chi square = 2.43
 Degrees of freedom = 2
 p value = 0.29637830

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS

16. Madres que continuan con la lactancia materna a los niños con diarrea.

Current selection: ED15U2SEM=1

ED16DIOFCH	Freq	Percent	Cum.
1 Más que siempre	7	7.6%	7.6%
2 Igual	59	64.1%	71.7%
3 Menos	24	26.1%	97.8%
5 No recibe pecho	2	2.2%	100.0%
Total	92	100.0%	

Sum = 207.00
 Mean = 2.25
 Standard deviation = 0.69

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS

17. Madres que dieron otros líquidos ademas del pecho a su niño con diarrea

Current selection: ED15U2SEM=1

ED17OLIQ	Freq	Percent	Cum.
1 Más que siempre	14	15.2%	15.2%
2 Igual	23	25.0%	40.2%
3 Menos	45	48.9%	89.1%
4 Dejó de darle	6	6.5%	95.7%
5 solo recibe pecho	4	4.3%	100.0%
Total	92	100.0%	

Sum = 239.00
 Mean = 2.60
 Standard deviation = 0.97

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 18. Madres que dieron alimentos blandos al niño con diarrea

Current selection: ED15U2SEM=1

ED18ALIM	Freq	Percent	Cum.
1 Más que siempre	5	5.4%	5.4%
2 Igual	32	34.8%	40.2%
3 Menos	41	44.6%	84.8%
4 Dejó de darle	9	9.8%	94.6%
5 Solo recibe pecho	5	5.4%	100.0%
Total	92	100.0%	

Sum = 253.00
 Mean = 2.75
 Standard deviation = 0.91

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19. Que tratamiento le dió
 19.a Madres que no dieron ningún tratamiento al niño con diarrea

Current selection: ED15U2SEM=1

ED19ATRAT	Freq	Percent	Cum.
0 SI	87	94.6%	94.6%
1 NO	5	5.4%	100.0%
Total	92	100.0%	

Sum = 5.00
 Mean = 0.05
 Standard deviation = 0.23

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.b Madres que dieron S. R. O. al niño con diarrea

Current selection: ED15U2SEM=1

ED19BTRAT	Freq	Percent	Cum.
0 NO	45	48.9%	48.9%
1 SI	47	51.1%	100.0%
Total	92	100.0%	

Sum = 47.00
 Mean = 0.51
 Standard deviation = 0.50

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.c Madres que dieron Suero Casero al niño con diarrea

Current selection: ED15U2SEM=1

ED19CTRAT	Freq	Percent	Cum.
0 NO	81	88.0%	88.0%
1 SI	11	12.0%	100.0%
Total	92	100.0%	

Sum = 11.00
 Mean = 0.12
 Standard deviation = 0.33

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.d Madres que dieron Soluciones a base de cereales al niño con diarrea

Current selection: ED15U2SEM=1

ED19DTRAT	Freq	Percent	Cum.
0 NO	83	90.2%	90.2%
1 SI	9	9.8%	100.0%
Total	92	100.0%	

Sum = 9.00
 Mean = 0.10
 Standard deviation = 0.30

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.e Madres que dieron Líquidos, tes o mates al niño con diarrea

Current selection: ED15U2SEM=1

ED19ETRAT	Freq	Percent	Cum.
0 NO	40	43.5%	43.5%
1 SI	52	56.5%	100.0%
Total	92	100.0%	

Sum = 52.00
 Mean = 0.57
 Standard deviation = 0.50

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS

19.f Madres que dieron Medicinas antidiarreicas o antibioticos al niño con diarrea.

Current selection: ED15U2SEM=1

ED19FTRAT	Freq	Percent	Cum.
0 NO	80	87.0%	87.0%
1 SI	12	13.0%	100.0%
Total	92	100.0%	

Sum = 12.00
 Mean = 0.13
 Standard deviation = 0.34

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS

19.g Madres que dieron otros tratamientos al niño con diarrea

Current selection: ED15U2SEM=1

ED19GTRAT	Freq	Percent	Cum.
0	75	81.5%	81.5%
1	17	18.5%	100.0%
Total	92	100.0%	

Sum = 17.00
 Mean = 0.18
 Standard deviation = 0.39

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS

19.g Madres que dieron otros tratamientos al niño con diarrea

Current selection: ED15U2SEM=1

ED19OTRAT	Freq	Percent	Cum.
Canela pan platano qu	1	5.9%	5.9%
PEPA DE PALTA	1	5.9%	11.8%
Pepa de palta quemada	1	5.9%	17.6%
agua hervida	1	5.9%	23.5%

arr. quem. y pan quem	1	5.9%	29.4%
asperina	1	5.9%	35.3%
cebada quemada	1	5.9%	41.2%
cebada quemada en liq	1	5.9%	47.1%
cebada tostada	1	5.9%	52.9%
da su pecho	1	5.9%	58.8%
maicena tomar	1	5.9%	64.7%
mates caseros	1	5.9%	70.6%
medicina tradicional	1	5.9%	76.5%
medios fescos	1	5.9%	82.4%
palta pepa, arroz ceb	1	5.9%	88.2%
quemodo arroz	1	5.9%	94.1%
suero casero	1	5.9%	100.0%

Total	17	100.0%	

20. ¿Como se daría cuenta de que el niño está gravemente enfermo con diarrea?

20.a Madres que no saben cuando su niño está con diarrea grave

ED20ACMED	Freq	Percent	Cum.
0 NO	299	90.6%	90.6%
1 SI	31	9.4%	100.0%

Total	330	100.0%	

Sum = 31.00
Mean = 0.09
Standard deviation = 0.29

20.b Madres que piensan que cuando su niño tiene vomitos esta con diarrea grave.

ED20BCMED	Freq	Percent	Cum.
0 NO	282	85.5%	85.5%
1 SI	48	14.5%	100.0%

Total	330	100.0%	

Sum = 48.00
Mean = 0.15
Standard deviation = 0.35

20.c Madres que piensan que cuando su niño tiene fiebre está con diarrea grave

ED20CCMED	Freq	Percent	Cum.
0 NO	217	65.8%	65.8%
1 SI	113	34.2%	100.0%
Total	330	100.0%	

Sum = 113.00
 Mean = 0.34
 Standard deviation = 0.48

20.d Madres que piensan que cuando su niño tiene la boca seca, los ojos hundidos y orina poco está con diarrea grave

ED20DCMED	Freq	Percent	Cum.
0 NO	258	78.2%	78.2%
1 SI	72	21.8%	100.0%
Total	330	100.0%	

Sum = 72.00
 Mean = 0.22
 Standard deviation = 0.41

20.e Madres que piensan que cuando su niño tiene diarrea prolongada es por que está grave

ED20ECMED	Freq	Percent	Cum.
0 NO	205	62.1%	62.1%
1 SI	125	37.9%	100.0%
Total	330	100.0%	

Sum = 125.00
 Mean = 0.38
 Standard deviation = 0.49

20.f Madres que piensan que cuando su niño tiene sangre en las heces es por que esta grave

ED20FCMED	Freq	Percent	Cum.
0 NO	279	84.5%	84.5%
1 SI	51	15.5%	100.0%
Total	330	100.0%	

Sum = 51.00
 Mean = 0.15
 Standard deviation = 0.36

20.g Madres que piensan que cuando su niño esta grave cuando pierde el apetito es por que esta grave

ED20GCMED	Freq	Percent	Cum.
0 NO	271	82.1%	82.1%
1 SI	59	17.9%	100.0%
Total	330	100.0%	

Sum = 59.00
 Mean = 0.18
 Standard deviation = 0.38

20.h Madres que piensan que cuando su niño esta debil o desgano es por que esta grave

ED20HCMED	Freq	Percent	Cum.
0 NO	238	72.1%	72.1%
1 SI	92	27.9%	100.0%
Total	330	100.0%	

Sum = 92.00
 Mean = 0.28
 Standard deviation = 0.45

20.i Madres que piensan que cuando su niño enflaquece y pierde peso es por que esta grave (1=SI, 2=NO, 9=No responde)

ED20ICMED	Freq	Percent	Cum.
0 NO	263	79.7%	79.7%
1 SI	67	20.3%	100.0%
Total	330	100.0%	

Sum = 67.00
 Mean = 0.20
 Standard deviation = 0.40

20.j Madres que piensan que existen otros sintomas que permiten ver que el niño con diarrea esta grave (1=SI, 2=NO, 9=No responde)

ED20JCMED	Freq	Percent	Cum.
0 NO	323	97.9%	97.9%
1 SI	7	2.1%	100.0%
Total	330	100.0%	

Sum = 7.00
 Mean = 0.02
 Standard deviation = 0.14

20.j OTROS SINTOMAS QUE LA MADRE CONSIDERAN PARA UNA DIARREA GRAVE

ED20ACME01	Freq	Percent	Cum.
Heces color blanco como agua	1	12.5%	12.5%
Pepa de pelto quemado yirva ayca ayca	1	12.5%	25.0%
Ya no lacta, llora mucho ayka	1	12.5%	37.5%
diarrea mas de 3 veces	2	25.0%	62.5%
le aparece granos	1	12.5%	75.0%
tal como esta cada dia	1	12.5%	87.5%
Total	8	100.0%	

20-A ¿Que acciones importantes tomarias cuando tu niño tiene diarrea?

20-A.a No sabe

AED20A1ACC	Freq	Percent	Cum.
0 NO	312	94.5%	94.5%
1 SI	18	5.5%	100.0%
Total	330	100.0%	

Sum = 18.00
 Mean = 0.05
 Standard deviation = 0.23

20-A.b Iniciar con liquidos lo más pronto posible

BED20B1ACC	Freq	Percent	Cum.
0 NO	220	66.7%	66.7%
1 SI	110	33.3%	100.0%
Total	330	100.0%	

Sum = 110.00
 Mean = 0.33
 Standard deviation = 0.47

20-A.c Dar más líquidos que los usuales

CED20C1ACC	Freq	Percent	Cum.
0 NO	267	80.9%	80.9%
1 SI	63	19.1%	100.0%
Total	330	100.0%	

Sum = 63.00
 Mean = 0.19
 Standard deviation = 0.39

20-A.d Dar alimento con más frecuencia y menor cantidad

DED20D1ACC	Freq	Percent	Cum.
0 NO	325	98.5%	98.5%
1 SI	5	1.5%	100.0%
Total	330	100.0%	

Sum = 5.00
 Mean = 0.02
 Standard deviation = 0.12

20-A.e Administrar correctamente SRO

EED20E1ACC	Freq	Percent	Cum.
0 NO	184	55.8%	55.8%
1 SI	146	44.2%	100.0%
Total	330	100.0%	

Sum = 146.00
 Mean = 0.44
 Standard deviation = 0.50

20-A.f Llevar al niño al Centro de Salud

FED20F1ACC	Freq	Percent	Cum.
0 NO	217	65.8%	65.8%
1 SI	113	34.2%	100.0%
Total	330	100.0%	

Sum = 113.00
 Mean = 0.34
 Standard deviation = 0.48

20-A.g Dar más alimento

GED20G1ACC	Freq	Percent	Cum.
0 NO	321	97.3%	97.3%
1 SI	9	2.7%	100.0%
Total	330	100.0%	

Sum = 9.00
 Mean = 0.03
 Standard deviation = 0.16

20-A.h Parar los liquidos

HED20H1ACC	Freq	Percent	Cum.
0 NO	326	98.8%	98.8%
1 SI	4	1.2%	100.0%
Total	330	100.0%	

Sum = 4.00
 Mean = 0.01
 Standard deviation = 0.11

20.A.i Parar la alimentación

IED20I1ACC	Freq	Percent	Cum.
0 NO	327	99.1%	99.1%
1 SI	3	0.9%	100.0%
Total	330	100.0%	

Sum = 3.00
 Mean = 0.01
 Standard deviation = 0.10

20.A-j Otros

JED20J1ACC	Freq	Percent	Cum.
0 NO	232	70.3%	70.3%
1 SI	97	29.4%	99.7%
9 SIN RESPUESTA	1	0.3%	100.0%
Total	330	100.0%	

Sum = 106.00
 Mean = 0.32
 Standard deviation = 0.66

20-A.j

ESPECIFED2	Freq	Percent	Cum.
QUEMADA DE ORINA HACER TOMAR	1	1.0%	1.0%
AICA AICA	1	1.0%	1.9%
ARROZ QUEMADO	1	1.0%	2.9%
Envolver-ropa calentado; hacen sentar en cebada tostada	1	1.0%	3.9%
HARINA TOSTADA	1	1.0%	4.9%
Hacer sentar sobre cebada tostada caliente	1	1.0%	5.8%
MATE DE COCA, CEBADA QUEMADO	1	1.0%	6.8%
Mates	1	1.0%	7.8%
Mates a eucalipto joven.	1	1.0%	8.7%
Pepa de palta mate	1	1.0%	9.7%
Pepa de palta quemado	1	1.0%	10.7%
Pepa de palta y pan quemado	1	1.0%	11.7%
agua de hiervas medicinales, arroz y pan quemado	1	1.0%	12.6%
agua de ñostasa	1	1.0%	13.6%
aica aica mates maizena	1	1.0%	14.6%
arros quemado y pan quemado	1	1.0%	15.5%
arroz pan quemado hacer tomar	1	1.0%	16.5%
arroz quemado	1	1.0%	17.5%
arroz quemado con agua	1	1.0%	18.4%
arroz quemado pepa palto mate de cebada	1	1.0%	19.4%
arroz quemado, mate	1	1.0%	20.4%
arroz y pan quemado	1	1.0%	21.4%
ayca ayca en mate	1	1.0%	22.3%
ayca ayca, pan quemado	1	1.0%	23.3%
azucar quemada en liquido	1	1.0%	24.3%
azucar tostada	1	1.0%	25.2%
canela y agua de arroz	1	1.0%	26.2%
cebada quemada en liquido	1	1.0%	27.2%
cebada quemado mates limon	1	1.0%	28.2%
cebada tostada	3	2.9%	31.1%
cebada tostada en liquido	1	1.0%	32.0%
cebada tostada, manzanilla	1	1.0%	33.0%
cedaba y palta quemada	1	1.0%	34.0%
chocolates y may cina/poco	1	1.0%	35.0%
con los mates clientes	1	1.0%	35.9%
con mates calientes que cura	1	1.0%	36.9%
curar con mates o hierbas.	1	1.0%	37.9%
dar arroz y pan quemado	1	1.0%	38.8%
dar de comer: arroz y canela quemado	1	1.0%	39.8%
dar mate de linaza	1	1.0%	40.8%
dar suero casero	3	2.9%	43.7%
dos mates	1	1.0%	44.7%

hacer tomar chocolate	1	1.0%	45.6%
hacer tratamiento para bajar fiebre	1	1.0%	46.6%
harina blanca redoctar	1	1.0%	47.6%
hierbas caseras	2	1.9%	49.5%
inyecciones	1	1.0%	50.5%
jarabe	1	1.0%	51.5%
k'oa / mate	1	1.0%	52.4%
limon azucar canela mate	1	1.0%	53.4%
maizena tomar	1	1.0%	54.4%
manteo	1	1.0%	55.3%
mate casero	1	1.0%	56.3%
mate de canela y cebada quemada	1	1.0%	57.3%
mate de cebada	2	1.9%	59.2%
mate de coca	2	1.9%	61.2%
mate de eucalipto	1	1.0%	62.1%
mate de perigil	1	1.0%	63.1%
mate de tonco tonce	1	1.0%	64.1%
mates	2	1.9%	66.0%
mates (fresco)	1	1.0%	67.0%
mates calientes	3	2.9%	69.9%
mates caseros	3	2.9%	72.8%
mates de coca manzanilla	1	1.0%	73.8%
mates de hierbas	1	1.0%	74.8%
medicina casera	2	1.9%	76.7%
palta pepa o canela	1	1.0%	77.7%
pan quemado y mates	1	1.0%	78.6%
pan quemado y pepa de palto quemado	1	1.0%	79.6%
pepa de palta quemada en agua	1	1.0%	80.6%
pepa de palto	1	1.0%	81.6%
pepa de palto quemado	1	1.0%	82.5%
pepa palta, flor de rosa	1	1.0%	83.5%
que cura con kerosen	1	1.0%	84.5%
sebada quemada pan quemada	1	1.0%	85.4%
sebada tostada, molida	1	1.0%	86.4%
solucion de azucar quemado	1	1.0%	87.4%
solucion usuales pepa de palta	1	1.0%	88.3%
suero casero	7	6.8%	95.1%
suero casero para que no pierda peso.	1	1.0%	96.1%
suero casero, maicena	1	1.0%	97.1%
tomar pan quemado en aqua	1	1.0%	98.1%
tostado de cebada	1	1.0%	99.0%
tratamiento con friccion de mentisan	1	1.0%	100.0%

Total | 103 100.0%

21. Madres que han oido hablar del S.R.O. (1=SI, 2=NO, 9=No responde)

ED21SRO	Freq	Percent	Cum.
1 SI	279	84.5%	84.5%
2 NO	51	15.5%	100.0%
Total	330	100.0%	

Sum = 381.00
 Mean = 1.15
 Standard deviation = 0.36

SOLO MADRES QUE OYERON HABLAR DEL S.R.O. ALGUNA VEZ

22. Madres que saben para que sirve el S.R.O. (1=SI, 2=NO, 9=No responde)

Current selection: ED21SRO=1

ED22SRO	Freq	Percent	Cum.
1 SI	269	96.4%	96.4%
2 NO	9	3.2%	99.6%
9 NO RESPONDE	1	0.4%	100.0%
Total	279	100.0%	

Sum = 296.00
 Mean = 1.06
 Standard deviation = 0.51

SOLO MADRES QUE OYERON HABLAR DEL S.R.O. ALGUNA VEZ

23. Madres que han utilizado alguna vez S.R.O. (1=SI, 2=NO, 9=No responde)

Current selection: ED21SRO=1

ED23SRO	Freq	Percent	Cum.
1 SI	242	86.7%	86.7%
2 NO	36	12.9%	99.6%
9 NO RESPONDE	1	0.4%	100.0%
Total	279	100.0%	

Sum = 323.00
 Mean = 1.16
 Standard deviation = 0.58

SOLO MADRES QUE OYERON HABLAR DEL S.R.O. ALGUNA VEZ

24. Madres que saben preparar el S.R.O. (1=SI, 2=NO, 9=No responde)

Current selection: ED21SRO=1

ED24SRO	Freq	Percent	Cum.
1 SI	222	79.6%	79.6%
2 NO	56	20.1%	99.6%
9 NO RESPONDE	1	0.4%	100.0%
Total	279	100.0%	

Sum = 343.00

Mean = 1.23

Standard deviation = 0.62

CONTROL DE NEUMONIA

25. Niños con tos fuerte en las 2 Ult.semanas (1=SI, 2=NO, 9=No responde)

CN25TOS2US	Freq	Percent	Cum.
1	83	25.2%	25.2%
2	247	74.8%	100.0%
Total	330	100.0%	

Sum = 577.00

Mean = 1.75

Standard deviation = 0.43

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE LAS DOS ULTIMAS SEMANAS

26. Niños con tos y dificultad respiratoria (1=SI, 2=NO, 9=No responde)

Current selection: CN25TOS2US=1

CN26DIFRES	Freq	Percent	Cum.
1	75	90.4%	90.4%
2	8	9.6%	100.0%
Total	83	100.0%	

Sum = 91.00

Mean = 1.10

Standard deviation = 0.30

Current selection: CN25TOS2US=1

GRUPEDNINO	CN26DIFRES		Total
	1	2	
01 - < 02	2	0	2
02 - < 03	5	0	5
05 - < 06	2	0	2
06 - < 07	1	1	2
07 - < 08	4	0	4
08 - < 09	3	1	4
09 - < 10	5	0	5
10 - < 11	5	1	6
11 - < 12	5	0	5
12 - < 13	3	0	3
13 - < 14	6	1	7
14 - < 15	5	1	6
15 - < 16	2	0	2
16 - < 17	3	1	4
17 - < 18	5	0	5
18 - < 19	5	1	6
19 - < 20	5	1	6
20 - < 21	2	0	2
21 - < 22	1	0	1
22 - < 23	2	0	2
23 - < 24	4	0	4
Total	75	8	83

An expected value is < 5. Chi square not valid.
 Chi square = 11.92
 Degrees of freedom = 20
 p value = 0.91870022

Current selection: CN25TOS2US=1

GRUPNINO	CN26DIFRES		Total
	1	2	
0 A 11	32	3	35
12 A 23	43	5	48
Total	75	8	83

Single Table Analysis

Odds ratio 1.24
 Cornfield 95% confidence limits for OR 0.23* < OR < 7.25*
 *May be inaccurate

Relative risk of (CN26DIFRES=1) for (GRUPNINO=0 A 11) 1.02

Greenland, Robins 95% conf. limits for RR 0.89 < RR < 1.17
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
	-----	-----
Uncorrected:	0.08	0.77847994
Mantel-Haenszel:	0.08	0.77978382
Yates corrected:	0.01	0.92409307

Fisher exact: 1-tailed P-value: 0.5441478

2-tailed P-value: 1.0000000

An expected value is less than 5; recommend Fisher exact results.

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

27. Madres que pidieron ayuda por sus Niños con tos y dificultad respiratoria (1=SI, 2=NO, 9=No responde)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN27CONSEJ	Freq	Percent	Cum.
-----	-----	-----	-----
1	58	77.3%	77.3%
2	17	22.7%	100.0%
Total	75	100.0%	

Sum = 92.00
 Mean = 1.23
 Standard deviation = 0.42

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.a Niños con IRA que reciben ayuda del Centro de Salud (1=SI, 0=NO, 9=No responde)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28ACONS	Freq	Percent	Cum.
-----	-----	-----	-----
0	11	14.7%	14.7%
1	47	62.7%	77.3%
9	17	22.7%	100.0%
Total	75	100.0%	

Sum = 200.00
 Mean = 2.67
 Standard deviation = 3.47

NOMINA DE MADRES EMBARAZADAS ACTUALMENTE

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.b Niños con IRA que reciben ayuda de la farmacia (1=SI, 0=NO, 9=No responde)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28BCONS	Freq	Percent	Cum.
0	58	77.3%	77.3%
9	17	22.7%	100.0%
Total	75	100.0%	

Sum = 153.00
 Mean = 2.04
 Standard deviation = 3.79

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.c Niños con IRA que reciben ayuda de un medico particular (1=SI, 0=NO, 9=No responde)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28CCONS	Freq	Percent	Cum.
0	57	76.0%	76.0%
1	1	1.3%	77.3%
9	17	22.7%	100.0%
Total	75	100.0%	

Sum = 154.00
 Mean = 2.05
 Standard deviation = 3.79

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.d Niños con IRA que reciben ayuda de un promotor de salud (1=SI, 0=NO, 9=No responde)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28DCONS	Freq	Percent	Cum.
0	55	73.3%	73.3%
1	3	4.0%	77.3%
9	17	22.7%	100.0%
Total	75	100.0%	

Sum = 156.00
Mean = 2.08
Standard deviation = 3.78

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.e Niños con IRA que reciben ayuda de un curandero (1=SI, 0=NO, 9=No responde)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28ECONS	Freq	Percent	Cum.
0	57	76.0%	76.0%
1	1	1.3%	77.3%
9	17	22.7%	100.0%
Total	75	100.0%	

Sum = 154.00
Mean = 2.05
Standard deviation = 3.79

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.f Niños con IRA que reciben ayuda de una partera empirica (1=SI, 0=NO, 9=No responde)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28FCONS	Freq	Percent	Cum.
0	58	77.3%	77.3%
9	17	22.7%	100.0%
Total	75	100.0%	

Sum = 153.00
Mean = 2.04
Standard deviation = 3.79

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.g Niños con IRA que reciben ayuda de parientes y amigos
(1=SI, 0=NO, 9=No responde)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28GCONS	Freq	Percent	Cum.
0	50	66.7%	66.7%
1	8	10.7%	77.3%
9	17	22.7%	100.0%
Total	75	100.0%	

Sum = 161.00
Mean = 2.15
Standard deviation = 3.75

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.h Niños con IRA que reciben ayuda de otras personas
(1=SI, 0=NO, 9=No responde)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28HCONS	Freq	Percent	Cum.
0	58	77.3%	77.3%
9	17	22.7%	100.0%
Total	75	100.0%	

Sum = 153.00
Mean = 2.04
Standard deviation = 3.79

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

29. ¿Como sabría que su niño tiene neumonía?

29.a Niños con IRA que reciben ayuda de otras personas o instituciones

(1=SI, 0=NO, 9=No responde)

CONTROL DE NEUMONIA

Madres que no saben cuando pedir ayuda para sus niños con IRA
(1=SI, 0=NO, 9=No responde)

CN29ASABE	Freq	Percent	Cum.
0	311	94.2%	94.2%
1	19	5.8%	100.0%
Total	330	100.0%	

Sum = 19.00
Mean = 0.06
Standard deviation = 0.23

CONTROL DE NEUMONIA

29.b Madres que piden ayuda cuando su niño tiene respiracion rapida y agitada

(1=SI, 0=NO, 9=No responde)

CN29BSABE	Freq	Percent	Cum.
0	238	72.1%	72.1%
1	92	27.9%	100.0%
Total	330	100.0%	

Sum = 92.00
Mean = 0.28
Standard deviation = 0.45

CONTROL DE NEUMONIA

29.c Madres que piden ayuda cuando a su niño se le hunde el pecho

(1=SI, 0=NO, 9=No responde)

CN29CSABE	Freq	Percent	Cum.
0	318	96.4%	96.4%
1	12	3.6%	100.0%
Total	330	100.0%	

Sum = 12.00
Mean = 0.04
Standard deviation = 0.19

CONTROL DE NEUMONIA

29.d Madres que piden ayuda cuando a su niño no quiere comer ni beber liq.

(1=SI, 0=NO, 9=No responde)

CN29DSABE	Freq	Percent	Cum.
0	257	77.9%	77.9%
1	73	22.1%	100.0%
Total	330	100.0%	

Sum = 73.00
 Mean = 0.22
 Standard deviation = 0.42

CONTROL DE NEUMONIA

29.e Madres que piden ayuda cuando a su niño tiene fiebre.
 (1=SI, 0=NO, 9=No responde)

CN29ESABE	Freq	Percent	Cum.
0	110	33.3%	33.3%
1	220	66.7%	100.0%
Total	330	100.0%	

Sum = 220.00
 Mean = 0.67
 Standard deviation = 0.47

CONTROL DE NEUMONIA

29.f Madres que piden ayuda cuando a el niño se pone morado.
 (1=SI, 0=NO, 9=No responde)

CN29FSABE	Freq	Percent	Cum.
0	295	89.4%	89.4%
1	35	10.6%	100.0%
Total	330	100.0%	

Sum = 35.00
 Mean = 0.11
 Standard deviation = 0.31

CONTROL DE NEUMONIA

29. g Madres que piden ayuda cuando el niño tiene tos.
 (1=SI, 0=NO, 9=No responde)

CN29GSABE	Freq	Percent	Cum.
0	54	16.4%	16.4%
1	276	83.6%	100.0%
Total	330	100.0%	

Sum = 276.00
 Mean = 0.84
 Standard deviation = 0.37

CONTROL DE NEUMONIA

29.h Madres que piden ayuda cuando a el niño tiene otros sintomas.
(1=SI, 0=NO, 9=No responde)

CN29HSABE	Freq	Percent	Cum.
0	323	97.9%	97.9%
1	7	2.1%	100.0%

Total	330	100.0%	
Sum	=		7.00
Mean	=		0.02
Standard deviation	=		0.14

CONTROL DE NEUMONIA

29.h Madres que piden ayuda cuando a el niño tiene tos.
(1=SI, 0=NO, 9=No responde)

CN28HCON02	Freq	Percent	Cum.
CEBADA, MATE	1	14.3%	14.3%
Los labios seca y parece quemado	1	14.3%	28.6%
la boca seca	1	14.3%	42.9%
llora	1	14.3%	57.1%
no comiera	1	14.3%	71.4%
resfria	1	14.3%	85.7%
seco su garganta	1	14.3%	100.0%

Total	7	100.0%	

S A L U D M A T E R N A

30. Tiene Carnet de Salud Materna.

SM30CSM	Freq	Percent	Cum.
1 Verificado	23	7.0%	7.0%
2 Sin verificar	21	6.4%	13.3%
3 En puesto	7	2.1%	15.5%
4 No	279	84.5%	100.0%

Total	330	100.0%	
Sum	=		1202.00
Mean	=		3.64
Standard deviation	=		0.88

SOLO MUJERES QUE TIENEN CARNET DE SALUD MATERNA

S A L U D M A T E R N A

31. Número de controles que figuran en el Carnet de Salud Materna

Current selection: SM30CSM=1

SM31CTRL	Freq	Percent	Cum.
1	23	100.0%	100.0%
Total	23	100.0%	

Sum = 23.00
 Mean = 1.00
 Standard deviation = 0.00

S A L U D M A T E R N A

32. Quién ató el cordón umbilical.

SM32CCORD	Freq	Percent	Cum.
1 Ella misma	7	2.1%	2.1%
2 Esposo	107	32.4%	34.5%
3 Fam. Fem. o vecina	98	29.7%	64.2%
4 Fam. Mas. o vecino	33	10.0%	74.2%
5 Partera empírica	31	9.4%	83.6%
6 Personal del proyecto	45	13.6%	97.3%
7 Otro personal de salud	7	2.1%	99.4%
8 No recuerda	2	0.6%	100.0%
Total	330	100.0%	

Sum = 1137.00
 Mean = 3.45
 Standard deviation = 1.55

S A L U D M A T E R N A

33. Que tiempo puede esperarse antes de la salida de la placenta

SM33SPLAC	Freq	Percent	Cum.
1 Una hora menos	167	50.6%	50.6%
2 Más de una hora	140	42.4%	93.0%
3 No sabe	23	7.0%	100.0%
Total	330	100.0%	

Sum = 516.00
 Mean = 1.56
 Standard deviation = 0.62

S A L U D M A T E R N A

34. ¿Está embarazada actualmente?

SM34EMBACT	Freq	Percent	Cum.
1 SI	13	3.9%	3.9%
2 NO	317	96.1%	100.0%
Total	330	100.0%	

Sum = 647.00
 Mean = 1.96
 Standard deviation = 0.19

SOLO MUJERES QUE NO ESTAN EMBARAZADAS

S A L U D M A T E R N A

35. ¿Quiere tener otro hijo en los proximos dos años?

Current selection: SM34EMBACT=2

SM35OHIJO	Freq	Percent	Cum.
1 SI	24	7.6%	7.6%
2 NO	260	82.0%	89.6%
3 NO SABE	33	10.4%	100.0%
Total	317	100.0%	

Sum = 643.00
 Mean = 2.03
 Standard deviation = 0.42

S A L U D M A T E R N A

SOLO MUJERES QUE NO ESTAN EMBARAZADAS Y QUE NO QUIEREN O NO SABEN SI QUIEREN EMBARAZARSE

DURANTE LOS DOS AÑOS SIGUIENTES

36. ¿Están usando algún método anticonceptivo?

Current selection: (SM34EMBACT=2) AND (SM35OHIJO<>1)

SM36METOD	Freq	Percent	Cum.
1 SI	32	10.9%	10.9%
2 NO	260	88.7%	99.7%
9 NO RESPONDE	1	0.3%	100.0%
Total	293	100.0%	

Sum = 561.00
 Mean = 1.91
 Standard deviation = 0.52

S A L U D M A T E R N A

SOLO MUJERES QUE NO ESTAN EMBARAZADAS Y QUE NO QUIEREN EMBARAZARSE DURANTE LOS DOS AÑOS SIGUIENTES

Solo mujeres que están usando algún método anticonceptivo

37. ¿Cual es el método principal que están usando?

Current selection: ((SM34EMBACT=2) AND (SM35OHIJO<>1)) AND (SM36METOD=1)

METODO	Freq	Percent	Cum.
2 Inyecciones	2	7.7%	7.7%
3 Pastillas	3	11.5%	19.2%
9 Ritmo	17	65.4%	84.6%
10 Abstinencia	2	7.7%	92.3%
12 Otros	2	7.7%	100.0%
Total	26	100.0%	

Sum = 210.00
 Mean = 8.08
 Standard deviation = 2.86

38. Madres que verían saludable que el proyecto ofresca algunos metodos anticonceptivos.

SM38PRYMET	Freq	Percent	Cum.
1 SI	276	83.6%	83.6%
2 NO	18	5.5%	89.1%
9 NO RESPONDE	36	10.9%	100.0%
Total	330	100.0%	

Sum = 636.00
 Mean = 1.93
 Standard deviation = 2.49

39. ¿Que tipo de atención recibió del hospital Ud. o alguno de sus familiares?

39.a Consulta en puesto comunitario

IP39ATENC	Freq	Percent	Cum.
0 NO	238	72.1%	72.1%
1 SI	92	27.9%	100.0%
Total	330	100.0%	

Sum = 92.00
 Mean = 0.28
 Standard deviation = 0.45

IMAGEN DEL PROGRAMA DE SALUD
39.b Consulta en el hospital

IP39BTENC	Freq	Percent	Cum.
0 NO	268	81.2%	81.2%
1 SI	62	18.8%	100.0%
Total	330	100.0%	

Sum = 62.00
Mean = 0.19
Standard deviation = 0.39

IMAGEN DEL PROGRAMA DE SALUD
39.c Consulta con el personal de salud en su domicilio

IP39CTENC	Freq	Percent	Cum.
0 NO	264	80.0%	80.0%
1 SI	66	20.0%	100.0%
Total	330	100.0%	

Sum = 66.00
Mean = 0.20
Standard deviation = 0.40

IMAGEN DEL PROGRAMA DE SALUD
39.d Visita domiciliaria

IP39DTENC	Freq	Percent	Cum.
0 NO	65	19.7%	19.7%
1 SI	265	80.3%	100.0%
Total	330	100.0%	

Sum = 265.00
Mean = 0.80
Standard deviation = 0.40

IMAGEN DEL PROGRAMA DE SALUD
39.e Peso, Talla, o vacunación en concentración

IP39ETENC	Freq	Percent	Cum.
0 NO	80	24.2%	24.2%
1 SI	250	75.8%	100.0%
Total	330	100.0%	

Sum = 250.00
 Mean = 0.76
 Standard deviation = 0.43

IMAGEN DEL PROGRAMA DE SALUD
 39.f ninguna atención

IP39FTENC	Freq	Percent	Cum.
0 NO	316	95.8%	95.8%
1 SI	14	4.2%	100.0%
Total	330	100.0%	

Sum = 14.00
 Mean = 0.04
 Standard deviation = 0.20

IMAGEN DEL PROGRAMA DE SALUD
 40. ¿Como califica Ud. esta atención?

IP40CALIF	Freq	Percent	Cum.
1 Excelente	17	5.2%	5.2%
2 Buena	221	67.2%	72.3%
3 Regular	80	24.3%	96.7%
4 Mala	1	0.3%	97.0%
9 No recibieron	10	3.0%	100.0%
Total	329	100.0%	

Sum = 793.00
 Mean = 2.41
 Standard deviation = 1.28

IMAGEN DEL PROGRAMA DE SALUD
 41. Sugerencias al Programa (1)

IP41SUG1	Freq	Percent	Cum.
ATENCION DE LAS ENFERMEDADES	1	0.3%	0.3%
ATENCION MEDICA EN PUESTO DE SALUD	1	0.3%	0.6%
ATENCION Y MEJORAR	1	0.3%	0.9%
ATENCION Y TRABAJEN MAS	1	0.3%	1.2%
Agua potable, luz, letrinas y otros.	1	0.3%	1.5%
Alimentación o buena nutrición a los niños.	1	0.3%	1.9%
Alimentación para el niño.	1	0.3%	2.2%
Alimentarse bien para vivir sano	1	0.3%	2.5%
Alimentos para niños para buena nutrición	1	0.3%	2.8%
Aseo personal y limpieza de los pozos y el ambiente	1	0.3%	3.1%
Atención de Curaciones	1	0.3%	3.4%

Atención esta bien, orientación	1	0.3%	3.7%
Atención permanente	1	0.3%	4.0%
Atención permanente en el puesto	1	0.3%	4.3%
Atención permanente. Más completo las medicinas.	1	0.3%	4.6%
Ayuda carpa solar higiene personal.	1	0.3%	5.0%
Ayuda para la electrificación	1	0.3%	5.3%
Ayudarnos para ya no tener hijos mas.	1	0.3%	5.6%
Buena atención a los pacientes.	1	0.3%	5.9%
Carpa solar vacunas a los niños.	1	0.3%	6.2%
Complementación de medicinas	1	0.3%	6.5%
Complementación de medicamentos en el Puesto	1	0.3%	6.8%
Curacion mas.	1	0.3%	7.1%
Curaciones permanentes	1	0.3%	7.4%
Dar alimentos a los niños por parte del proyecto.	1	0.3%	7.7%
Dar consejos a la familia por personal de salud	1	0.3%	8.0%
Dar medicamentos a los enfermas	1	0.3%	8.4%
Dentista y mas medicamentos	1	0.3%	8.7%
Educacion a las mujeres en la comunidad.	1	0.3%	9.0%
Educacion a los niños. Orientacion a la economía	1	0.3%	9.3%
Educación para las señoras que tienen niños menores	1	0.3%	9.6%
El hospital y los puestos tengas medicinas	1	0.3%	9.9%
El puesto de salud esta bien.	1	0.3%	10.2%
Enseñanza de Planificación familiar.	1	0.3%	10.5%
Enseñanza en la nutrición de los niños	1	0.3%	10.8%
Enseñanza en la salud.	1	0.3%	11.1%
Enseñanza en planificación familiar	1	0.3%	11.5%
Enseñanza planificación familiar.	1	0.3%	11.8%
Enseñanza sobre planificación familiar	1	0.3%	12.1%
Enseñanza sobre planificación familiar.	1	0.3%	12.4%
Enseñanza sobre todo.	1	0.3%	12.7%
Enseñanzas a las madres.	1	0.3%	13.0%
Equipamiento del puesto con más medicamentos de todo	1	0.3%	13.3%
Es necesario, mas atención.	1	0.3%	13.6%
Existencia del personal permanente, orientación en	1	0.3%	13.9%
La salud de los niños, la buena nutrición de los	1	0.3%	14.2%
Limpieza en la casa	1	0.3%	14.6%
MAS ATENCION	1	0.3%	14.9%
MAS ATENCION Y MEJOR	1	0.3%	15.2%
MAYOR ATENCION A LOS PACIENTES	1	0.3%	15.5%
MEJORE LA ATENCION	1	0.3%	15.8%
Más atención y que mejore medicamentos	1	0.3%	16.1%
Más atención a los enfermos			

y a los niños.	1	0.3%	16.4%
Mas atención del parte del hospital	1	0.3%	16.7%
Mas atención en la salud y medicamentos	1	0.3%	17.0%
Mas atención que mejore	1	0.3%	17.3%
Mas atención y medicamentos	1	0.3%	17.6%
Mas atención y medicamentos, más puntual y se puede	1	0.3%	18.0%
Mas atención y mejorar	1	0.3%	18.3%
Mas atención y mejoras.	1	0.3%	18.6%
Mas atención y mejore.	1	0.3%	18.9%
Mas atención a los niños	1	0.3%	19.2%
Mas atención en visitas domiciliarias	1	0.3%	19.5%
Mas atención y control a los niños en las Visitas	1	0.3%	19.8%
Más controles a los niños y mejore	1	0.3%	20.1%
Más doctores especializados en el hospital.	1	0.3%	20.4%
Más información del personal sobre salud en puesto	1	0.3%	20.7%
Más medicamentos en el puesto y el equipamiento	1	0.3%	21.1%
Más medicamentos en el puesto y en el hospital.	1	0.3%	21.4%
Más medicamentos en la comunidad	2	0.6%	22.0%
Más medicamentos en la salud.	1	0.3%	22.3%
Más medicamentos, más atención en la salud.	1	0.3%	22.6%
Más visitas domiciliarias y atención	1	0.3%	22.9%
Medicamento en el puesto de toda clase	1	0.3%	23.2%
Medicamento para la comunidad.	1	0.3%	23.5%
Medicamentos más atención.	1	0.3%	23.8%
Medicamentos para dolor de muela	1	0.3%	24.1%
Medicina en menor costo	1	0.3%	24.5%
Medicinas caseras, dolor de barriga	1	0.3%	24.8%
Medicinas completas	1	0.3%	25.1%
Mejor atención en salud.	1	0.3%	25.4%
Mejoramiento en salud	1	0.3%	25.7%
Mejorar la atención y más seguido las visitas.	1	0.3%	26.0%
Mejorar la atención en medicamentos en el Puesto	1	0.3%	26.3%
Mejorar la salud y higiene.	1	0.3%	26.6%
Mejorar la salud, consejos de la planificación	1	0.3%	26.9%
Mejorar la salud, más atención.	1	0.3%	27.2%
Mejorar mis niños y mayor atención a las familias.	1	0.3%	27.6%
Mejore la atención.	1	0.3%	27.9%
Necesitamos ayuda carpa solar	1	0.3%	28.2%
Necesitan un auxiliar en el puesto permanente	1	0.3%	28.5%
Ninguna	3	0.9%	29.4%

Ninguna.	1	0.3%	29.7%
Ninguno	1	0.3%	30.0%
No opinión	1	0.3%	30.3%
No pido nada porque me lo maltratan al niño.	1	0.3%	30.7%
No.	1	0.3%	31.0%
ORIENTACION AMPLIA SOBRE CONOCIMIENTOS DE SALUD	1	0.3%	31.3%
ORIENTACION SOBRE PLANIFICACION FAMILIAR	1	0.3%	31.6%
OTROS MEDICAMENTOS	1	0.3%	31.9%
Organización para orientar más sobre salud.	1	0.3%	32.2%
Orientación de la salud la alimentación	1	0.3%	32.5%
Orientación en reunion.	1	0.3%	32.8%
Orientación familiar	3	0.9%	33.7%
Orientación familiar en la salud,higiene	1	0.3%	34.1%
Orientación familiar.	2	0.6%	34.7%
Orientación sobre EDA y nutrición.	1	0.3%	35.0%
Orientación sobre la salud del niño	1	0.3%	35.3%
Orientación sobre la salud en el puesto	1	0.3%	35.6%
Orientación sobre planificación familiar	1	0.3%	35.9%
Orientaciones, exámen físico y pesar a los niños	1	0.3%	36.2%
Orientación en la comunidad a las madres sobre	1	0.3%	36.5%
Para no enfermarse que venga o nosotros vamos.	1	0.3%	36.8%
Pasar cursos sobre todo enfermedades	1	0.3%	37.2%
Permanente existencia del auxiliar	1	0.3%	37.5%
Planificación del hogar	1	0.3%	37.8%
Planificación familiar	3	0.9%	38.7%
Planificación familiar y más atención en la salud.	1	0.3%	39.0%
Planificación familiar y orientación	1	0.3%	39.3%
Planificación familiar.	1	0.3%	39.6%
Planificación familiar dar orientaciones	1	0.3%	39.9%
Puesto en la comunidad	1	0.3%	40.2%
Puesto en la comunidad y medicamentos completos.	1	0.3%	40.6%
Puesto en la comunidad, tener medicamentos completo	1	0.3%	40.9%
Puesto en la comunidad.	2	0.6%	41.5%
Puesto permanente en la comunidad	1	0.3%	41.8%
Puesto y auxiliar permanente	1	0.3%	42.1%
QUE HAIGA MAS MEDICAMENTOS QUE ATIENDA A LOS POBRES	1	0.3%	42.4%
QUE HAYA ATENCION Y MEJORAR	1	0.3%	42.7%
QUE HAYA MAS APRENDIZAJE DE LA SALUD	1	0.3%	43.0%
QUE MEJORE LA ATENCION Y LOS CONTROLES	1	0.3%	43.3%
Que ayude mas prevención a las enfermedades.	1	0.3%	43.7%
Que haya ayuda por parte del hospital.	1	0.3%	44.0%

Que haya doctores preparados de aqui a otros años.	1	0.3%	44.3%
Que haya medicina completa en el hospital	1	0.3%	44.6%
Que haya medicinas y atención amplio	1	0.3%	44.9%
Que haya un puesto de Salud	1	0.3%	45.2%
Que haiga un promotor de salud.	1	0.3%	45.5%
Que más atención y frecuencia	1	0.3%	45.8%
Que otra permanente el auxiliar de enfermería	1	0.3%	46.1%
Que siempre les venga a ver a los niños	1	0.3%	46.4%
Que siga como acostumbra la atención	1	0.3%	46.7%
Que trabaje el misma auxiliar	1	0.3%	47.1%
Queremos que haiga medicamento para nuestro puesto	1	0.3%	47.4%
Quiero sal te medecina an la posta de la comunidad.	1	0.3%	47.7%
REALIZAR MAS CURSILLOS SOBRE LA SALUD	1	0.3%	48.0%
REUNIONES DE MADRES PARA SABER MUY BIEN DE SALUD	1	0.3%	48.3%
Realizar visitas domiciliars.	1	0.3%	48.6%
Sanamiento básico-letrinas. Carpas solares	1	0.3%	48.9%
Saneamiento básico(letrina).agropecuaria	1	0.3%	49.2%
Sanitario que venga a ver a los enfermos	1	0.3%	49.5%
Seguir en las mismas actividades	1	0.3%	49.8%
Superación de los aux. enfermería	1	0.3%	50.2%
Tener auxiliar aqui en el puesto	1	0.3%	50.5%
Tener la posta en la comunidad	1	0.3%	50.8%
Tener todos los medicamentos.	1	0.3%	51.1%
Tener un auxiliar aqui en la comunidad	1	0.3%	51.4%
Tener un auxiliar en aqui en el puesto	1	0.3%	51.7%
Tener un auxiliar en la comunidad constante	1	0.3%	52.0%
Un auxiliar permanente en el puesto.	1	0.3%	52.3%
Un puesto en la comunidad	1	0.3%	52.6%
Un puesto y auxiliar permanente	1	0.3%	52.9%
Venir frecuentamente a curar	1	0.3%	53.3%
Vestimenta y alimento para niños.	1	0.3%	53.6%
Visita domiciliaria	1	0.3%	53.9%
Visitas domiciliars	1	0.3%	54.2%
Vivir sanos sin problemas	1	0.3%	54.5%
agua potable	2	0.6%	55.1%
agua potable y alfabetización	1	0.3%	55.4%
agua potable y luz también	1	0.3%	55.7%
agua potable	1	0.3%	56.0%
agua potable y tambien luz y artesanía	1	0.3%	56.3%
agua potable, alfabetización	1	0.3%	56.7%
agua potable, luz, y artesanía	1	0.3%	57.0%
alimento para los niños para que tengan	1	0.3%	57.3%
artesanía, alfabetización	1	0.3%	57.6%
atención a la salud a las familias	1	0.3%	57.9%
atención del personal preparado en la salud	1	0.3%	58.2%
atención mas cerca de salud de los niños	1	0.3%	58.5%

atención más eficaz	1	0.3%	58.8%
atención permanente y puntuales en las visitas	1	0.3%	59.1%
atención sea puntual	1	0.3%	59.4%
ayuda a la familia más atención del auxiliar de	1	0.3%	59.8%
ayuda para yo no tener hijos	1	0.3%	60.1%
buen salud y luz	1	0.3%	60.4%
buena atención de pacientes	1	0.3%	60.7%
buena atención del proyecto a los enfermos	1	0.3%	61.0%
carpas solares y curaciones, enfermedades	1	0.3%	61.3%
complementación de medicamentos en el puesto	1	0.3%	61.6%
consultas por el médico a cada familia	1	0.3%	61.9%
control seguido a los niños	1	0.3%	62.2%
curaciones, planificación familiar	1	0.3%	62.5%
curación un hospital	1	0.3%	62.8%
el proyecto mejore de equipamiento, en el puesto de salud debe haber más	1	0.3%	63.2%
medicamentos	1	0.3%	63.5%
enseñanza de medicinas y abrir centros	1	0.3%	63.8%
enseñanza sobre la salud en comunidades	1	0.3%	64.1%
enseñanza sobre planificación familiar	1	0.3%	64.4%
enseñanza sobre salud	1	0.3%	64.7%
existencia de medicamentos en puesto y atención	1	0.3%	65.0%
la familia viaja bastante y quiere	1	0.3%	65.3%
más atención a la salud y poner	1	0.3%	65.6%
más atención de pacientes	1	0.3%	65.9%
más atención en cuestión de vacunas a los niños	1	0.3%	66.3%
más atención en puesto y visitas puntuales	1	0.3%	66.6%
más atención en salud	1	0.3%	66.9%
más atención en salud diario	1	0.3%	67.2%
más atención hacia los enfermos	1	0.3%	67.5%
más atención médica en puesto de salud	1	0.3%	67.8%
más atención y educación a las mujeres	1	0.3%	68.1%
más atención y mejorar puntuales	1	0.3%	68.4%
más atención y puntuales, atención medica en puesto	1	0.3%	68.7%
más ayuda del hospital	1	0.3%	69.0%
más curaciones	1	0.3%	69.3%
más enseñanza	1	0.3%	69.7%
más enseñanza sobre la planificación familiar	1	0.3%	70.0%
más equipamiento en los puestos y atención dental	1	0.3%	70.3%
más medicamentos en el puesto	1	0.3%	70.6%
más medicamentos en la salud	1	0.3%	70.9%
más medicamentos lo mejor pronto posible	1	0.3%	71.2%
más medicamentos rebajados y un			

puesto de salud	1	0.3%	71.5%
más medicamentos y atención en la salud	1	0.3%	71.8%
más medicinas y atención en la salud y planificación	1	0.3%	72.1%
más mejoramiento y orientación en salud	1	0.3%	72.4%
más peso y talla	1	0.3%	72.8%
más progreso del proyecto para que ayude	1	0.3%	73.1%
medicamentos completos en el puesto	1	0.3%	73.4%
medicamentos gratis	1	0.3%	73.7%
medicamentos, personal que trabaje en la misma	1	0.3%	74.0%
medicinas completas en el puesto	1	0.3%	74.3%
medicinas para los niños	1	0.3%	74.6%
medicinas tradicionales y atención a las familias	1	0.3%	74.9%
mejoramiento de hospital	1	0.3%	75.2%
mejorar la salud y encontrar con el sanitario	1	0.3%	75.5%
mejorar los sanitarios y enseñar hierbas	1	0.3%	75.9%
necesitamos de alfabetización, agua potable, luz,	1	0.3%	76.2%
necesita agua potable, ayuda del hospital Carabuco	1	0.3%	76.5%
necesita atención más a la salud	1	0.3%	76.8%
necesita desarrollo económico y a la agricultura	1	0.3%	77.1%
necesitamos atención en vacunas	1	0.3%	77.4%
no quiere la vida porque es difícil vivir	1	0.3%	77.7%
no sabe el esposo sabe más medicamentos	1	0.3%	78.0%
orientación a la familia	1	0.3%	78.3%
orientación en la nutrición	1	0.3%	78.6%
orientación en la nutrición e higiene	1	0.3%	78.9%
orientación en la salud	1	0.3%	79.3%
orientación familiar	5	1.5%	80.8%
orientación sobre diarrea y alimentación	1	0.3%	81.1%
orientación sobre cuidados del niño y salud	1	0.3%	81.4%
orientación sobre nutrición y dentista	1	0.3%	81.7%
orientación sobre planificación familiar	2	0.6%	82.4%
orientación sobre salud del niño y permanencia del	1	0.3%	82.7%
orientación sobre vivir mejor en la comunidad	1	0.3%	83.0%
orientaciones sobre remedios caseros	1	0.3%	83.3%
personal permanente en la comunidad	1	0.3%	83.6%
pide agua potable, atención del puesto de la misma	1	0.3%	83.9%
pide ayuda atención en salud y tejidos y otros	1	0.3%	84.2%
pide en tejidos y atención en salud	1	0.3%	84.5%
pide medicamento completo en el puesto	1	0.3%	84.8%
pide medicinas naturales y completamento			

con api	1	0.3%	85.1%
piden agua potable	1	0.3%	85.4%
piden carpas solares y agua potable más atención	1	0.3%	85.8%
piden más atención en la salud	1	0.3%	86.1%
planificación familiar	9	2.8%	88.9%
planificación familiar más atención médica	1	0.3%	89.2%
protegernos para no tener hijos	1	0.3%	89.5%
puesto en la comunidad	1	0.3%	89.8%
que cure buena y la atención	1	0.3%	90.1%
que debemos andar limpio y sanos de salud	1	0.3%	90.4%
que hay los medicamentos para que vivamos bien	1	0.3%	90.7%
que haya bien de salud, agua potable, letrenización	1	0.3%	91.0%
que haya mas orientaciones sobre salud	1	0.3%	91.3%
que no falte medicamentos y más educación	1	0.3%	91.6%
que no falte medicina en el puesto	1	0.3%	92.0%
que puedan vivir los niños sanos también agua	1	0.3%	92.3%
que venga a curar los doctores que venga a visitar	1	0.3%	92.6%
queremos agua potable y para los niños también	1	0.3%	92.9%
queremos ayuda para no embarazarnos o ya no tener niños	1	0.3%	93.2%
queremos la artesanía, agua potable y luz	1	0.3%	93.5%
queremos luz y agua potable	1	0.3%	93.8%
queremos saber de leer y escribir Aymara	1	0.3%	94.1%
quiero artesanía y aprender de escribir y leer	1	0.3%	94.4%
quiero ayuda del hospital de algunos medicamentos	1	0.3%	94.7%
quiero de artesanía y aprender leer y escribir	1	0.3%	95.0%
quiero de artesanía, agua potable y luz	1	0.3%	95.4%
quiero que vivan mis hijos sanos de salud	1	0.3%	95.7%
quiero saber de artesanía, agua potable, luz	1	0.3%	96.0%
quiero saber de las medicinas y agua potable	1	0.3%	96.3%
quisiera que venga el personal de salud	1	0.3%	96.6%
salud materna sobre parto y planificación	1	0.3%	96.9%
seria bueno mas atencion a la familia	1	0.3%	97.2%
tener medicamentos en el puesto de salud	1	0.3%	97.5%
una ensenanza sobre salud en la comunidad	1	0.3%	97.8%
vacunación de su hijo la familia vivía en la ciudad	1	0.3%	98.1%
venir cada semana por lo menos en el lugar	1	0.3%	98.5%

visita domiciliaria y más atención a los niños menores	1	0.3%	98.8%
vivir limpio	1	0.3%	99.1%
vivir limpio y sanos, y atención a la familia	1	0.3%	99.4%
vivir limpio, sanos, todas las familias	1	0.3%	99.7%
vivir sano en la salud y pedimos más medicamentos	1	0.3%	100.0%
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Total	323	100.0%	

IMAGEN DEL PROGRAMA DE SALUD
Sugerencias al Programa (2)

IP41SUG2	Freq	Percent	Cum.
curar.	1	0.7%	0.7%
de 5 años sobre higiene.	1	0.7%	1.3%
Agua potable.	1	0.7%	2.0%
Atención permanente	1	0.7%	2.6%
Aymara	1	0.7%	3.3%
Aymara y agua potable, y luz	1	0.7%	4.0%
Domiciliarias	1	0.7%	4.6%
ENSEÑANZA DE NUTRICION AL NINO	1	0.7%	5.3%
ENSEÑANZA DE PLANIFICACION FAMILIAR	1	0.7%	6.0%
Enseñanza de planificación familiar	1	0.7%	6.6%
Enseñanza de planificación.	1	0.7%	7.3%
Enseñanza en Planificación	1	0.7%	7.9%
Enseñanza en la planificación familiar	1	0.7%	8.6%
MAS VISITAS	1	0.7%	9.3%
MEDICAMENTOS	1	0.7%	9.9%
Mas medicamentos completos.	1	0.7%	10.6%
Medicinas complementarias	1	0.7%	11.3%
Más atención del personal de salud	1	0.7%	11.9%
ORGANIZARNOS	1	0.7%	12.6%
Organizar en grupos a las madres para la Orientacion familiar, puesto de salud comunitario	1	0.7%	13.2%
Orientación familiar.	2	1.3%	15.2%
Orientación sobre salud.	1	0.7%	15.9%
Orientación aprendizaje de Planificación Familiar	1	0.7%	16.6%
PLANIFICACION	1	0.7%	17.2%
PLANIFICACION FAMILIAR	4	2.6%	19.9%
Planificacion familiar.	1	0.7%	20.5%
QUE HAYA PERSONAL ESPECIALIZADO	1	0.7%	21.2%
Que sean completos los medicamentos en el Puesto	1	0.7%	21.9%
Que siga trabajando los auxiliares con RADIOGRAFIAS	1	0.7%	22.5%
Saneamiento básico buscar Proyecto	1	0.7%	23.2%
a clase para diferentes enfermedades	1	0.7%	23.8%

adecuado del auxiliar enfermero	1	0.7%	25.2%
agua potable	1	0.7%	25.8%
ahora se quedará	1	0.7%	26.5%
alimentación para los niños	1	0.7%	27.2%
alimentación a los niños.	1	0.7%	27.8%
artesanía	1	0.7%	28.5%
atención con más medicamentos	1	0.7%	29.1%
atención continua	1	0.7%	29.8%
atención dental, y alfabetización	1	0.7%	30.5%
atención permanente	1	0.7%	31.1%
atención permanente en el puesto	1	0.7%	31.8%
auxiliares en puesto	1	0.7%	32.5%
ayuda para tener agua potable,			
electrificación	1	0.7%	33.1%
como artesanía	1	0.7%	33.8%
completas y atención continua.	1	0.7%	34.4%
completo, y pide agua potable	1	0.7%	35.1%
comunidad	4	2.6%	37.7%
comunidad, orientación	1	0.7%	38.4%
comunidades	2	1.3%	39.7%
comunitario	1	0.7%	40.4%
con el control de los sanitarios	1	0.7%	41.1%
con medicamentos	1	0.7%	41.7%
crianza de animales. Carpas solares.	1	0.7%	42.4%
cuidado de los niños	1	0.7%	43.0%
curación	1	0.7%	43.7%
cursos de capacitación sobre la salud			
de nutrición	1	0.7%	44.4%
de alimentos para mejorar la comunidad	1	0.7%	45.0%
de la salud	1	0.7%	45.7%
de niños que ayude el proyecto.	1	0.7%	46.4%
de salud y visitas domiciliarias	1	0.7%	47.0%
de visita domiciliaria	1	0.7%	47.7%
de Yaricoa Alto.	1	0.7%	48.3%
el auxiliar no actúa con sinceridad	1	0.7%	49.0%
el personal tiene que ser más capacitados			
y capaz	1	0.7%	49.7%
en la comunidad	1	0.7%	50.3%
enseñanzas	1	0.7%	51.0%
familia	1	0.7%	51.7%
familiar.	1	0.7%	52.3%
hijos	1	0.7%	53.0%
madre	1	0.7%	53.6%
más atención	2	1.3%	55.0%
más atención a los niños en vacunaciones	1	0.7%	55.6%
más medicamentos	1	0.7%	56.3%
más medicamentos en el puesto	1	0.7%	57.0%
mayor atención en el puesto	1	0.7%	57.6%
medicamentos	1	0.7%	58.3%
medicinas completas en el puesto.	1	0.7%	58.9%
medicinas.	1	0.7%	59.6%
memoria, letrización, agua potable	1	0.7%	60.3%

mujeres	1	0.7%	60.9%
familiar agua potable	1	0.7%	61.6%
niños	1	0.7%	62.3%
niños.	1	0.7%	62.9%
Todas las familias. Quería saber bien			
los metodos de	1	0.7%	63.6%
organización sobre salud.	1	0.7%	64.2%
organizandose por grupos.	1	0.7%	64.9%
orientación en la agronomía y ganadería	1	0.7%	65.6%
orientación en la agropecuaria	1	0.7%	66.2%
orientación en la prevención de			
enfermedades	1	0.7%	66.9%
orientación familiar	7	4.6%	71.5%
orientación familiar y planificación	1	0.7%	72.2%
orientación para buena nutrición			
de la familia	1	0.7%	72.8%
orientación sobre EDA y neumonias y otros	1	0.7%	73.5%
orientación sobre alfabetización	1	0.7%	74.2%
orientación sobre peso	1	0.7%	74.8%
para que nos orienten y enseñen	1	0.7%	75.5%
para vivir en buena salud y condición	1	0.7%	76.2%
para vivir sanos.	1	0.7%	76.8%
permanente en el puesto de salud	1	0.7%	77.5%
personal, orientando a las familias	1	0.7%	78.1%
peso, vacunas a los niños y mayores	1	0.7%	78.8%
planificación familiar que lo enseñen			
los metodos	1	0.7%	79.5%
potable, luz también artesanias	1	0.7%	80.1%
puesta fecha de atención	1	0.7%	80.8%
puesto comunitario	1	0.7%	81.5%
puesto de salud	1	0.7%	82.1%
puesto en la comunidad	1	0.7%	82.8%
que cumpla su actividad	1	0.7%	83.4%
queremos enseñanza sobre salud	1	0.7%	84.1%
queremos tener agua potable	1	0.7%	84.8%
quiero saber como se cura con las hierbas	1	0.7%	85.4%
revisar a todas las madres para saber			
la nutrición	1	0.7%	86.1%
s	1	0.7%	86.8%
s de 2 años	1	0.7%	87.4%
salas de internación, radiografía	1	0.7%	88.1%
salud	1	0.7%	88.7%
salud de ser madre en su domicilio	1	0.7%	89.4%
salud que hay agua potable y también			
de luz	1	0.7%	90.1%
se quiere médico	1	0.7%	90.7%
siempre y cuando estemos bien.	1	0.7%	91.4%
situaciones nos encontramos.	1	0.7%	92.1%
tanto a la salud	1	0.7%	92.7%
tejer también quiero saber	1	0.7%	93.4%
tener los niños sanos de salud	1	0.7%	94.0%
todo ayuda necesito	1	0.7%	94.7%

que viven en la pobreza	1	0.7%	95.4%
un puesto en la comunidad	1	0.7%	96.0%
vacunas sean nuestros niños	1	0.7%	96.7%
visitas domiciliarias	1	0.7%	97.4%
y aprender algunas medicinas	1	0.7%	98.0%
y artesanía	1	0.7%	98.7%
y niños de la salud	1	0.7%	99.3%
y tener un auxiliar propio	1	0.7%	100.0%
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Total	151	100.0%	

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VI A N E X O S

A N E X O 1

C U E S T I O N A R I O

CONSEJO DE SALUD RURAL ANDINO
ENTREVISTA EN LINEA DE BASE - OCTUBRE 1993

CARABUCO

Entrevista No. _____ Fecha de revisión: ___/___/___
 Fecha de entrevista: ___/___/___ Reentrevista: ___/___/___
 Entrevistador: _____ Supervisor _____

INFORMACION DE IDENTIFICACION:

Comunidad: _____

Hay número de la casa a la vista?

Hay [1]Cuál es: _____
 No hay [2]

Nombre de la madre: _____ - _____

Nombres Apellidos

Edad de la madre en años cumplidos: _____

Idioma de la entrevista: Español [1]
 Quechua [2]
 Aymara [3]

Nombre del niño menor de 2 años: _____ - _____

Nombres Apellidos

Fecha de nacimiento (___/___/___) Edad en meses _____

CONTROL DE CRECIMIENTO:

- 1.- Tiene (nombre del niño) su carnet de Salud Infantil u otras tarjetas de vacunación en su casa? Muestreme [por favor].
 UTXITI WAWAMAN VACUNAT, PISAT PAPELANAKAPAXA
 UNACHT AYTASMASTI.

Carnet de Salud Infantil (verificado). [1]
 No, pero tiene Carnet de Salud Infantil en el puesto u hospital. [2]Pase a Preg.4
 Otro documento de controles de crecimiento o vacuna (especifique). [3]_____
 No tiene documento. [4]Pase a Preg.4
 Tiene, pero no se pudo verificar. [5]Pase a Preg.4

- 2.- Mire el registro o gráfico del niño y anote la siguiente información:
 Cuántas veces ha sido pesado el niño en los últimos 12 meses?
 _____ veces No hay controles [99].

INMUNIZACIONES:

- 3.- Mire el carnet de Salud Infantil u otro documento con información de vacunas y registre la fecha de cada vacuna (día/mes/año).

BCG (___/___/___) DPT (___/___/___)
 (___/___/___)
 (___/___/___)
 Antipolio inicial (___/___/___) Antisarampión: (___/___/___)
 Antipolio 1 (___/___/___)
 Antipolio 2 (___/___/___)
 Antipolio 3 (___/___/___)

4.- A qué edad un niño termina sus vacunas?
 QHAUQHA PHAXSINIRUS MA WAWAX TAQPACHA VACUNXA TUKUCHXANAPA
 _____ meses No sabe []

5.- Sabe Ud. porqué una mujer embarazada necesita ser vacunada
 contra el Tétanos?
 JUMAX YATATI, KUNATS MA USURY WARMIX VACUNATANAPA TETANOS
 SAT USUTAKIXA.

- Para proteger a la madre y recién nacido contra el tétanos [1]
- Para proteger sólo a la mujer contra el tétanos [2]
- Para proteger sólo al recién nacido contra el tétanos [3]
- Otro o no sabe [4]

6.- Cuántas vacunas contra el tétanos debe recibir una mujer
 embarazada para proteger al recién nacido del tétanos?
 QHANQHA KUTIS MA USURI WARMIXA TETANO VACUNA KATUQANAPA JAN
 WAWAN USUNTANAPATAKIXA

- Una [1]
- Dos [2]
- Más de dos [3]
- Ninguna [4]
- No sabe [5]

7.- Tiene Ud. su Carnet de Vacunación? Muéstreme
 JUMAN UTXTAMTI CARNITI VACUNACIONAMAXA, UNICHT'AYTASMATI

- Si (Verificado) [1]
- Si pero no se pudo verificar [2]
 (vaya a pregunta 9).
- Si, tiene en el puesto u hospital [3]
- No (vaya a pregunta 9) [4]

8.- Mire el Carnet de Vacunación y registre las fechas de
 vacunas de TT ó DT en los(dia/mes/año).

DT ó tt1 (___/___/___) DT ó tt4 (___/___/___)
 DT ó tt2 (___/___/___) DT ó tt5 (___/___/___)
 DT ó tt3 (___/___/___) LACTANCIA MATERNA

9.- Está Ud. dando su pecho a (nombre del niño).?
 JUMAX WAWAMARU NUNUYASKTATI

si [1] vaya a preg. 12
no [2]

10.- Ha dado su pecho alguna vez a (nombre del niño)?
NUNU CHURITITATI (NOMBRE DEL NIÑO)?

si [1]
no [2] vaya a preg. 13

11.- Qué edad tenía (nombre del niño) cuando dejó de darle pecho?
QHAUQHA PHAXSINIRUS WAWAMX NUNUT T'AQAQXTAXA?

meses.

12.- Después del parto, cuándo le dió el pecho por primera vez
a (nombre del niño)?
KUNAPACHATIXA WAWA USUSKTAXA, KUNA RATUTSA NUNKATUYTAXA
(NOMBRE DEL NIÑO)?

Durante la primera hora después del parto	[1]
Durante las primeras 8 horas después del parto	[2]
Más de 8 horas después del parto	[3]
No se acuerda	[4]

ALIMENTACION INFANTIL:

13.

a. Le está dando agua (tés/mate) a (nombre del niño)?
(NOMBRE DEL NIÑO) WAWAMARU UMA JUNTU UMA CHURTATI?

1. si	[1]
2. no	[2]
3. no sabe	[3]

b. Le está dando leche de vaca, leche en polvo, o queso a
(nombre del niño)
(NOMBRE DEL NIÑO) WAKA LICH1, KISO, JAQHA LICHINAKA
CHURIRITATI

1. si	[1]
2. no	[2]
3. no sabe	[3]

c. Le está dando comida aplastadita a (nombre del niño), como
papa, plátano, o la comida de tu plato?
(NOMBRE DEL NIÑO) MANQ'A CHURTATI T'UJXASA, JAN UKAXA
PLATUMATCHA.

1. si	[1]
2. no	[2]
3. no sabe	[3]

d. Le aumenta aparte aceite o manteca al plato de comida de
(nombre del niño) todos los días?
SAPURU (NOMBRE DEL NIÑO) PLATUPARU YAPT'IRITATI ACITIMPI.

- | | |
|------------|-----|
| 1. si | [1] |
| 2. no | [2] |
| 3. no sabe | [3] |

e. Con qué tipo de sal cocina Ud. el alimento de (nombre del niño)? Muéstreme, por favor.

(NOMBRE DEL NIÑO) MANQ'APXA, KUNA KASTA JAYUMPIISA PHAYASTAXA
UNACHT'AYITASMATI.

- | | |
|----------------------------|-----|
| 1. sal yodada (verificado) | [1] |
| 2. sal no yodada | [2] |

14.- Le da mamadera a (nombre del niño).
(NOMBRE DEL NIÑO) MAMADIRA CHURIRITATI?

- | | |
|-------|-----|
| 1. si | [1] |
| 2. no | [2] |

ENFERMEDADES DIARREICAS

15.- Ha tenido (Nombre del niño) diarrea en las dos ultimas semanas?
(NOMBRE DEL NIÑO) PASIR PA'SEMANA KURSIYAMPI USUNTITI

- | | | |
|------------|-----|---------------------|
| 1. si | [] | |
| 2. no | [] | -----> Pase a la 20 |
| 3. no sabe | [] | -----> Pase a la 20 |

16.- Durante la diarrea de (nombre del niño), le dió pecho
(lea las opciones a la madre)
KURSIAMPIKANA UKHAXA NUNUM CHURASKIRITATI

- | | | |
|------------------------------|-----|------------------------------|
| 1. Más de lo acostumbrado? | [1] | NUNUYIRIKTA UKAT
YAPT'ATA |
| 2. Igual a lo acostumbrado? | [2] | NUNUYIRIKT UKHAMAKCHA |
| 3. Menos de lo acostumbrado? | [3] | JUK'AMP JUK'AKCHA |
| 4. Paró completamente? | [4] | NUNUTX APAQJTACHA |
| 5. Ya no recibe pecho | [5] | JANIT NUNUYXAYATA |

17.- Durante la diarrea de (nombre del niño), le dió otros líquidos
(ademas del pecho),? (lea las opciones a la madre)
KUMAPACHATIXA (NOMBRE DEL NIÑO) KURSIYA USUMPIKI UKH'AXA YAKH'A
UMANAK CHURTATI NUNUTSIPANA.

- | | | |
|--------------------------------|-----|------------------------------|
| 1. Más de lo acostumbrado? | [1] | UMIRIKI JUK'AMPI
YAPT'ATA |
| 2. Igual a lo acostumbrado? | [2] | UMIRIK UKA PASCHPAKCHA |
| 3. Menos de lo acostumbrado? | [3] | JUK'AMP JUK'AKCHA |
| 4. Dejó de darle completamente | [4] | JANICH CHURKHTAXA |
| 5. Sólo recibe pecho | [5] | NUNUSAPAKTI CHURTAXA |

18.- Durante la diarrea de (nombre del niño), le dió alimentos
aplastados.....?

(lea las opciones a la madre)
KURSIAMPIKIUKHAXA MANQ'A T'UXASAT CHURTAXA?

- | | | |
|----------------------------|-----|------------------------------|
| 1. Más de lo acostumbrado? | [1] | MANQ'IRIKI UKARU
YAPT'ATA |
|----------------------------|-----|------------------------------|

2. Igual a lo acostumbrado? [2] MANQ'IRIKI UKJAKCHA
 3. Menos de lo acostumbrado? [3] JUK'AMPI JUK'AKCHA
 4. Dejó de darle completamente [4] JANICH CHURXTA
 5. Sólo recibe pecho [5] NUNUSAPAKTI CHURTAXA

19.- Cuando (nombre del niño) tuvo diarrea, qué tratamiento le dió? ¿ es que usó alguno)

(puede marcar más de una respuesta)

KUNA QULLAS (NOMBRE DEL NIÑO) CHURIRITA KURSIYAMPIKI UKH'AXA

- a. Nada [a]
 b. Sobre de rehidratación oral [b]
 c. Solución de agua, azúcar y sal (suero casero) [c]
 d. Soluciones a base de cereales [d]
 e. Líquidos, té o mates [e]
 f. Medicinas anti-diarreicas o antibióticos [f]
 g. Otro (especifique) [g]

20.- Si (nombre del niño) tuviese diarrea, cómo te darías cuenta que está grave ?

(puede marcar más de una respuesta)

KUNXAMATS JUMAX AMUYI'ASMAX (NOMBRE DEL NIÑO) ANCHA
 KURSYAMPITAPA?

- a. No sabe [a]
 b. Vómitos [b]
 c. Fiebre [c]
 d. Boca seca, ojos hundidos, mollera hundida, orina poco (deshidratación) [d]
 e. Diarrea prolongada (más de 14 días) [e]
 f. Sangre en la heces [f]
 g. Perdida del apetito [g]
 h. Débil o desganado [h]
 i. Enflaquecimiento o pérdida de peso [i]
 j. Otros (especifique) [j]

Qué acciones importantes tomarías cuando tu niño tiene diarrea?

(puede marcar más de una respuesta)

KUNSA LURASMA QULLT'ANATAKI WIWITAMAX KURSIYAMPIKI UKHAXA

- a. No sabe [a]
 b. Iniciar con líquidos lo más pronto posible [b]
 c. Dar al niño más líquidos de los usuales [c]
 d. Dar alimento con más frecuencia y menor cantidad [d]
 e. Preparar y administrar SRO correctamente [e]
 f. Llevar al niño a un centro de salud [f]
 g. Alimentar más al niño después de la diarrea, de manera que recupere el peso [g]
 h. Parar los líquidos [h]
 i. Parar la alimentación [i]
 j. Otros (especifique) [j]

21.- Ha oído hablar del sobre de rehidratación oral alguna vez?
 JUMAX UNT'ATI, JAN UKAX IST'IRITACH PARLIRI SOBRE DE
 REHIDRATACION ORAL UKATA?

si [1]
no [2] (vaya a la pregunta 25)

22.- Sabe Ud. para qué sirve el sobre de rehidratación oral?
JUMAX YATATI KUNATAKIS WALISUKA SOBREXA?

Si, sabe [1]
No sabe o incorrecto [2]

23.- Lo ha usado alguna vez?
JUMAX APNAQIRITATI?

Si [1]
No [2]

24.- Sabe preparar el sobre de rehidratación?
KUNXAMASA WAKIST'ANAXA?

Si [1] CORRECTO 1 litro de agua hervida
No o incorrecto [2] 1 sobre SRO

CONTROL DE NEUMONIA

25.- Ha estado (nombre del niño) enfermo con tos fuerte en las dos últimas semanas?
PASIR PA SEMANA, ANCHA CH'UXU UXUMPINTI (NOMBRE DEL NIÑO)

Si [1]
No [2] (Vaya a la pregunta 29)

26.- Ha estado (nombre del niño) con dificultad al respirar, o respiraba como cansado, cuando enfermó con tos?
(NOMBRE DEL NIÑO) KUNAPCHATIX 'CH'UXUMPIKI, UKHAMARAKI UXUMPIKANA UKHAXA WALIT SAMAQINA, QARXATJAMA?

Si [1]
No [2] (vaya a la pregunta 29)
No sabe [3] (vaya a la pregunta 29)

27.- Ha pedido Ud. consejo o ayuda para (nombre del niño) cuando estuvo enfermo con tos y dificultad respiratoria?
JUMAX AMUYT'AWI MAYTATI KUNAPCHATIXA (NOMBRE DEL NIÑO) UXU USUMP USUTAKANH, UKHAMARAKI CH'AMAHPI SAMSKI UKHAXA?

Si [1]
No [2] (vaya a la pregunta 29)

28.- De quién recibió Ud. consejo para la tos de (nombre del niño)?
[Más de una respuesta es posible, anote todas]
JUMAX KHITITS MAYTAX MA AMUYT'AWI O YANAPT'AWI UJUMPIKANA (NOMBRE DEL NIÑO) UK'AXA?

Puesto o centro de salud [a]
Farmacia [b]
Médico particular [c]
Promotor de salud [d]

Curandero .	[e]
Partera empirica	[f]
Parientes y amigos	[g]
Otros (especifique)	[h]

29.- Ud. cómo sabría que (nombre del niño) tiene neumonia? [Más de una respuesta es posible, anote todas]

KUNXAMATSA YATISMAX (NOMBRE DEL NIÑO) WALI K'AXAUSUMPI
USONTATAPXA?

No lo sabe	[a]
Respiración rapida y agitada	[b]
Se le hunde el pecho	[c]
No quiere tomar o comer	[d]
Fiebre	[e]
Cuando se pone morado	[f]
Tos	[g]
Otros (especifique)	[h]

SALUD MATERNA

30.- Tiene Ud. su Carnet de Salud Materna? Muéstreme
"SALUD MATERNA" SISKI UKA, CARNITIMA UTXTAMTI? UNASTAITASMA

Si (Verificado)	[1]
Si pero no se pudo verificar	[2] (vaya a la preg.32)
Si, tiene en el puesto u hospital	[3] (vaya a la preg.31)
No, (vaya a la pregunta 31)	[4]

31.- Registre el número de controles que figura en el Carnet

uno o más	[1]
ninguno	[2]

32.- En el nacimiento de (nombre del niño), quien ató y cortó el cordon umbilical?

(NOMBRE DEL NIÑO) USUSKAYAT UKHAX, KHITIS KURURITUP CHINUQIXA,
UKHAMARAX KHARIQIXA?

Ella misma	[1]
Esposo	[2]
Familiar femenino o vecina	[3]
Familiar masculino o vecino	[4]
Partera empirica	[5]
Personal en salud del proyecto	[6]
Otro personal de salud	[7]
No recuerda	[8]

33.- Después del parto si no sale la placenta, Qué tiempo se puede esperar antes que la madre este en peligro de muerte?
KUNAPACHATIX USUSTAX JAN PARISA MISTXASPAXA, KUNARATKAMAS
SUYT'ASMAXA JANI TAYKAX JAN WALIRU PURINATAKI?

Una hora o menos	[1]
Más de una hora	[2]
No sabe	[3]

34.- Está Ud. ahora embarazada?
JUMAX JICHA USURI XAQ'TATI O YAQHA WAWITA SUYTATI?

Si [1] (vaya a la pregunta 39)
No [2]

35.- Quisiera tener Ud. otro hijo en los próximos dos años?
MUNASMATI MA WAWITAMPI UTXANAPA AKAT PAMARARU?

Si [1] (vaya a la pregunta 39)
No [2]
No sabe [3]

36.- Está Ud. ahora usando algún método para no embarazarse o retrasar el próximo embarazo?
JAN WASITAT USUR XAQI UNJASINATAKI, YATIPTACHA ISPOSUMAMPI KUNA KASTA, QULLASIWI O XARQ'AQ'ASIWI?

Si [1]
No [2] (vaya a la pregunta 38)

37.- Cuál es el método principal, que Ud. o su esposo, están usando ahora para que no salga embarazada?
CHACHA - WARMI KAUKNIZI KASTSA QULLT'AWI O XARQ'AQASIWSA APNAQAPTAXA JANI WASITAT WAWA UTXANAPATAQ'XA?

Donde lo obtiene?

Ligadura de trompas/vasectomía	[1]	.....
Inyecciones	[2]	.....
Pastillas anticonceptivas	[3]	.....
Dispositivo intra-uterino	[4]	.....
Diafragma	[5]	.....
Condomes	[6]	.....
Espuma o gel	[7]	.....
Lactancia materna exclusiva	[8]	.....
Método del ritmo	[9]	.....
Abstinencia	[10]	.....
Coito interrumpido	[11]	.....
Otros	[12]	.....

38.- Quisieras que el hospital ofrezca alguno de estos métodos?
JUMAX MUNASMATI, AKA JARK'AWINAKA HOSPITALAN YANAPAWIPA?

Si [1]
No [2]

IMAGEN DEL PROGRAMA DE SALUD

39.- Qué tipo de atención recibió Ud. o alguno de sus familiares durante este año? (lea las opciones pueden ser más que una, anote todas)

AKA MARA, WAWANAKAMA, JUMANAKA KUNA KASTA QULLT'AWSA O LURAWINAKSA HOSPITAL TUQITXA KATUQTAXA?

Consulta en el puesto de salud comunitario	[a]	
Consulta en el hospital	[b]	
Consulta del personal de salud a su domicilio		[c]
Visita domiciliaria	[d]	
Peso, talla o vacunación en concentración	[e]	
Ninguna (vaya a la preg.41)	[f]	

40.- Cómo califica Ud. está atención?

KUNXAMSA UKA LURAWINAKA O QULLT'AWINAKA JUMATAKI?

Excelente	[1]
Buena	[2]
Regular	[3]
Mala	[4]

41.- Cuáles son sus sugerencias para mejorar la salud en su comunidad?

KUNXAMASA AMUYT'AWINAKAMAXA, JUK'AMPI K'UMAR JAKANATAKI AKA MARKAS TAYPINA?

CSRA [5 Pag.]

15/OCT/93

A N E X O 2

LISTA DE PARTICIPANTES

RESPONSABLE: Dr. Javier Baldomar

ASISTENCIA TECNICA: Dra. Maria Elena Ferrel

SUPERVISORES: Dr. William Valencia
Luciano Tintaya
Pablo Siñani
Joaquín Pacosillo
Cruz Apaza
Fermin Quispe

ENCUESTADORES: Mauricio Yujra, Voluntario Comunitario
Pedro Yujra " "
Tomas Quispe " "
Mario Quispe " "
Rosa Quispe " "
Juan de Dios Pacosillo "
Sussy Villca Estudiante
Pastorita Quispe "
Lucio Quelali "
Leticia Taxaca "

TABULACION: Joaquin Flores

INGRESO DE DATOS: Marcela Chumacero
Nelly Mendieta
Sara Bott
Adam Kolff

APOYO LOGISTICO: Jaime Cabrera, Responsable
Luis Pacosillo y Sra.- Cocina
Zacarias Cari, Chofer

APPENDIX II.

THE ANCORAIMES HOUSEHOLD SURVEY

CONSEJO DE SALUD RURAL ANDINO

Iglesia Evangélica Metodista en Bolivia
Secretaría Regional de Salud - La Paz

*Encuesta de Coberturas de Servicios Materno Infantiles,
Conocimientos y Practicas Maternas*

INFORME FINAL

*AREA DE SALUD ANCORAIMES,
DEPARTAMENTO DE LA PAZ,
18-24 de Octubre de 1993*

Coordinadora:

*María Elena Ferrel,
Directora Ejecutiva
Proyecto Ancoraimes
CONSEJO DE SALUD RURAL ANDINO*

Colaboradores:

*Carmen Marin
Nathan Robison
Javier Baldomar
Joaquin Flores*

Voluntarios:

*Sara Bott
Adam Kolff*

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I. INTRODUCCION

A. Antecedentes

El Consejo de Salud Rural Andino (CSRA) es una Organización no Gubernamental en Salud, la cual desarrolla actividades de Atención Primaria en coordinación con la Secretaria Nacional de Salud (Ministerio de Desarrollo Humano), sirviendo aproximadamente a alrededor de 52,000 personas de escasos recursos en tres regiones de Bolivia: el altiplano norte-área rural de La Paz, los valles de Cochabamba - área rural conjuntamente la Asociación de Programas de Salud del Área Rural, APSAR, y un área urbano marginal en Montero-Santa Cruz.

Los proyectos del Consejo obtienen financiamiento del exterior tanto de Fundaciones, Grupos, Iglesias, Donaciones Individuales como también de la Agencia para la Cooperación Internacional para el Desarrollo USAID. El financiamiento interno proviene de ingresos locales a través de la venta de servicios y medicamentos.

La Organización trabaja en Bolivia desde 1983, inició su trabajo en el área de Carabuco (Departamento La Paz), en el cual actualmente continúa desarrollando actividades. En el área de Ancoraimes situada también en la zona altiplánica se inician actividades en 1992 en forma conjunta con la Iglesia Evangélica Metodista en Bolivia.

El financiamiento proporcionado por AID para el proyecto "Supervivencia Infantil VI" (CSVI), incorpora entre otras a las dos áreas de trabajo anteriormente mencionadas. El inicio del mismo fue en Octubre de 1990, concluyéndose en Octubre del presente año. El presente informe forma un insumo para la evaluación final del proyecto CSVI y constituye información base del proyecto CSIX, el cual ha obtenido financiamiento también de USAID para continuar actividades durante el período 1993-1996.

B. Descripción del Proyecto

El proyecto CSVI promueve el desarrollo principalmente de 4 intervenciones: Inmunizaciones para niños y mujeres, Control de la Enfermedad Diarreica Aguda-Terapia de Rehidratación Oral, Mejoramiento Nutricional a través de educación y Monitoreo del Crecimiento y el Control de las Enfermedades Respiratorias Agudas.

Aunque no están priorizadas en el CSVI, el Consejo de Salud Rural Andino-Proyecto Ancoraimes trabaja también en el campo asistencial y desarrolla algunas actividades en salud materna, especialmente las relacionadas a la detección y el manejo de embarazos de alto riesgo.

Las intervenciones y actividades mencionadas en los acapites precedentes son aplicadas a través de una estrategia llamada "Atención Primaria en Salud con Base Censal", la cual contempla 5 elementos centrales: Un censo familiar, un registro de todos los hogares de cada comunidad, visitas domiciliarias realizadas en forma periódica y sistemática a cargo de auxiliares de enfermería o educadores voluntarios, un sistema integrado con un Centro de Salud Hospital de referencia y la supervisión de todas las actividades comunitarias a cargo de un técnico en salud.

C) Objetivos del Proyecto

Los objetivos del proyecto están enmarcados en la declaración de la misión del Consejo de Salud Rural Andino y son los siguientes (1):

"Desarrollar un sistema de identificación y mantenimiento de contacto con cada hogar dentro de las comunidades seleccionadas en el área del proyecto.

Mantener tan preciso como sea posible, un recuento de nacimientos, defunciones y migraciones y otros eventos importantes relacionados a la salud a fin de calcular tasas de mortalidad por año y causa, así como otras mediciones claves del estado de salud de la población y del impacto del programa.

Proporcionar tasas de cobertura razonables en los programas de Inmunizaciones, Control de Crecimiento, Enfermedad Diarreica Aguda, Infecciones Respiratorias Agudas y Servicios Curativos Básicos.

"Iniciar y promover servicios de salud materna mediante el Hospital Ancoraimés y los programas de visitas domiciliarias.

Proporcionar servicios básicos a adultos en base a necesidades locales y recursos disponibles.

Promover proyectos de desarrollo comunitarios relacionados con la salud, incluyendo agua y saneamiento, agricultura y proyectos generadores de ingresos.

Promocionar el máximo involucramiento de la comunidad en apoyo a estas actividades."

(1) Robison, N. y Shanklin D., Proyecto de Atención de Salud para Ancoraimés, Propuesta de Trabajo entre la Iglesia Metodista en Bolivia y el Consejo de Salud Rural Andino, Noviembre, 1991.

Metas del Proyecto CSVI-Ancoraimes

A continuación las metas CSVI que no están entre paréntesis fueron formuladas en Octubre de 1990 en el Plan Detallado de Implementación (DIP). Las metas entre parentesis "()" fueron formuladas posterior a un "Estudio Linea de Base" desarrollado en Mayo de 1992. Las metas con un asterisco "*" fueron formuladas en junio de 1993. Las metas expresadas para el proyecto CSIX son aún tentativas y serán precisadas mejor dentro del DIP justamente tomando en cuenta los resultados de este estudio.

Programa Ampliado de Inmunizaciones-PAI: Cobertura Dosis CompletasCSV I

20% en menores de 24 meses

CSIX (Metas Preliminares)

67% en menores de 24 meses
50% en menores de 12 meses

TT materna por lo menos 2
dosis: 25%

Programa de Diarrea-EDA :CSV I

(25% de las madres reconoce
dos o mas síntomas de la
diarrea)

Reforzar en un 20% el número
de madres que dan mas

-liquidos *

50% de las madres prepara
correctamente SRO

CSIX (Metas preliminares)

60% de las madres reconoce
síntomas y efectua tratamiento
adecuado de la diarrea

60% de las madres da igual
o mas
-lactancia materna
-liquidos
-alimentos solidos

75% de las madres conoce SRO
67% de Las madres sabe
preparar SRO

Control de Neumonía:CSV I

(25% de la madres conoce
prevención y tratamiento
de neumonia)

CSIX (Metas preliminares)

50% de madres reconoce
síntomas y busca tratamiento
adecuado para su niño con
neumonia

Programa de Crecimiento y Nutrición

CSVI

Reducir en 20% el número de niños que no ganen peso

(75% de los niños menores de 12 meses pesados y tallados mensualmente)

(75% de los niños entre 12 y 23 meses pesados y tallados bimensualmente)

CSIX (Metas preliminares)

75% de niños ganan peso

Desnutridos de 2do y 3er grado reciben servicios de rehabilitación nutricional

75% de madres de niños desnutridos recibe educación nutricional intensiva

Salud Materna

CSVI

(30% de las embarazadas tiene por lo menos un control prenatal)

CSIX (Metas preliminares)

40% de embarazadas tiene control prenatal

33% de los partos recurren al personal de salud

80% de los embarazos de alto riesgo son tratados y referidos

PLANIFICACION FAMILIAR

Promover uso de servicios de planificación familiar

Iniciar servicios de PF en todas las areas

Coordinar con organizaciones de PF en EEUU y Bolivia

Promover la lactancia materna prolongada como medio natural de espaciamiento de embarazos

Vitamina A

CSVI

CSIX (Metas preliminares)

80% de niños menores de 24 meses ha recibido capsulas de vitamina A

D) Propósito del estudio

El estudio es la aplicación de una encuesta rápida de conocimientos actitudes y prácticas y determinación de coberturas, el cual hace énfasis en las Intervenciones de Supervivencia Infantil. Este es un requerimiento de la oficina FHA/PVC/CSH de AID/Washington para los estudios de base y evaluaciones finales en los programas de Supervivencia Infantil.

El propósito del estudio es evaluar en base a indicadores de las estrategias de Supervivencia Infantil, el cumplimiento de las metas y objetivos, propuestos en el Plan Detallado de Implementación (DIP)-1990, y las mismas propuestas en un Taller de Arranque posterior a la Encuesta Línea de Base (1992).

También es propósito del estudio, el lograr un conocimiento objetivo de la realidad, el cual permitiera identificar tendencias y reajustar las metas propuestas en el Proyecto CS IX.

El estudio fue diseñado para conseguir información de las siguientes áreas: Lactancia Materna/ Nutrición, Control de Crecimiento, Inmunizaciones, Enfermedades Diarreicas Agudas, Infecciones Respiratorias, Salud Materna e Imagen del Centro de Salud.

En las áreas mencionadas anteriormente se tomarán en cuenta los aspectos mencionados a continuación:

- Las tasas de cobertura en inmunizaciones en niños menores de un año y entre los 12 y 23 meses.
- La estimación de la prevalencia de enfermedades diarreicas agudas y las infecciones respiratorias agudas en las dos semanas anteriores al estudio.
- La identificación de grupos clave de la comunidad tanto para dirigir mensajes educativos como para capacitarlos como multiplicadores de ciertas acciones en salud.
- El nivel de conocimientos, actitudes y prácticas de las madres de niños menores de 24 meses, en las áreas anteriormente mencionadas destinadas a disminuir la morbimortalidad de ambos.

E) Area geográfica y población

El área de Ancoraimos (ver mapa, anexo 5) se encuentra ubicado en el distrito sanitario Illampu del Departamento de La Paz. Comprende

49 comunidades con una población total estimada de 14.438 habitantes (2)

Actualmente se cuenta con un solo Centro de Salud Hospital para todo el área. El equipo de salud está conformado por dos grupos de trabajo cada uno con dos auxiliares de enfermería y un promotor. Cada equipo es supervisado por un técnico en salud. Los equipos cuentan asimismo con el apoyo del médico del área y una licenciada en enfermería.

El personal del proyecto ha desarrollado actividades en las siguientes comunidades:

Cuadro Nr. 1: Comunidades Area Ancoraimos

1. Incakaturapi		24. Ancoraimos	(*)
2. Kolani		25. Sunturuta	(*)
3. Azacilo		26. Cancahuani	(*)
4. Catuhaya		27. Ispaya Tocoli	(*)
5. Chiñaja		28. Ispaya Grande	(*)
6. Patap. Nigruni		29. Ispaya Luquimblaya	(*)
7. Chojñapata		30. Villa Maca Maca	
8. Calahuancane		31. Camajhuaycha	
9. Huanquisco Kanta		32. Pacoma	
10. Coani		33. Sud Calamarca	
11. Lugaraya		34. Chuñuña Norte	
12. Chejepampa		35. Laymini	
14. Karcapata		36. Llojllata	
15. Apohoco		37. Lojrocachi	
16. Maquilaya		38. Chacasia	
17. Pocoata Grande	(*)	39. Lacaya	
18. Limancachi		40. Camata Norte	
19. Sotalaya		41. Camata Sud	
20. Cajiata Grande		42. Camata Centro	
21. Villa Cajiata		43. Turrini Alta	
22. Chinchaya	(*)	44. Turrini B.C.	
23. Corpa Grande	(*)	45. Zamora	
		46. Sallcapampa	
		47. Ispaya Este	
		48. Pacharia	
		49. Chuntamarca	(*)

Fuente: Autoridades y Personal de Salud Hospital Ancoraimos

Nota : Las comunidades marcadas (*), tienen Censo realizado por el proyecto.

(2) CSRA, Actualización Censal - grupo etáreo Ancoraimos, Junio 1993.

Las características más importantes de la población son las siguientes:

Cuadro Nr 2: Características poblacionales

Ancoraimos 1993		
Población total	(3)	14.438
Nro de familias	(3)	3.612
Personas/familia	(2)	3.99
Niños de 0-11 meses	(3)	438
Niños de 12-23 meses	(3)	427
Niños < de 5 años	(3)	2.111
Mujeres en edad fértil	(3)	3.382
15-49 años		

Fuente: (3) CSRA, Actualización Censal

II. METODOLOGIA

A. Diseño del cuestionario

El cuestionario consta de 42 preguntas (Ver Anexo 1) y ha sido diseñado en cuatro etapas:

1. Un borrador del cuestionario ha sido elaborado en la oficina de La Paz basado en el genérico de John Hopkins, sugerencias de la Oficina Internacional del CSRA, el cuestionario de Línea de Base de Ancoraimos (1992) y los cuestionarios de Evaluación de Medio Término de Carabuco y Mallico Rancho (1992).

2. El borrador del cuestionario fue presentado a los supervisores de las áreas Carabuco y Ancoraimos quienes fueron capacitados en forma conjunta. No se añadieron ni quitaron preguntas. Se trabajó principalmente en mejorar la traducción al aymara del instrumento.

3. Durante la capacitación de encuestadores, la cual se realizó por separado para ambas áreas se corrigieron algunos términos especialmente relacionados a formas de expresión locales del aymara.

4. La versión final del cuestionario se la obtuvo posterior a la validación de prueba de campo realizada por el equipo de Carabuco. Los últimos cambios se relacionaron mas con el formato del cuestionario.

B. Determinación de la muestra

El tamaño de la muestra se lo ha determinado según la siguiente formula:

$$n = z^2 pq / d^2 \quad (4)$$

n = tamaño de la muestra; z = 95% de límite de confianza = 1.96;
 p = tasa de cobertura o prevalencia; $q=1-p$; d =es la precisión deseada, que usualmente es del 5% al 10%.

El tamaño de muestra calculado sería de 246, pero teniendo en cuenta la eliminación de cuestionarios errados para poder tener un margen lo suficientemente amplio se decidió trabajar con por lo menos 270 cuestionarios.

La selección de la muestra fue por conglomerado, se seleccionaron 30 conglomerados de cada uno debían obtenerse 9 entrevistas a madres de niños menores de 24 meses. Se hizo la selección de conglomerados tomando en cuenta la población estimada de cada comunidad en el área del proyecto. Algunas comunidades grandes podían tener más de un conglomerado.

Para seleccionar a las madres para la entrevista dentro de cada conglomerado se siguieron los siguientes pasos:

- 1) Ir a un lugar céntrico de la comunidad.
- 2) Girar una botella para determinar la dirección a seguir para buscar a las madres.
- 3) Ir a la primera casa que señala la botella y preguntar si hay un niño menor de dos años en la casa y si la madre esta en la misma. Después de terminar con esta casa (con una entrevista o descartada por falta de niños menores de 2 años) se dirige a la casa vecina mas cercana. Se sigue este proceso hasta entrevistar a las 9 madres.
- 4) Si se termina un grupo de casas vecinas y aún no se alcanza el número previsto para el conglomerado, se vuelve al centro de la comunidad a hacer girar la botella y comenzar de nuevo el procedimiento.
- 5) En comunidades pequeñas se hará un barrido a toda la comunidad, si a pesar de haber visitado a todas las viviendas no se consiguieran entrevistar a las 9 madres se continúa con la casa más cercana de la comunidad vecina.
- 6) Cuando la madre con un hijo menor de 2 años esta ausente se trata de volver a entrevistar a la madre mas tarde.
- 7) En caso de haber dos familias con niños menores de dos años en una vivienda, se entrevista a ambas madres por separado
- 8) En caso de encontrar una madre con dos niños menores de dos años, se elige con una moneda al azar para saber a cual de los dos niños se tomaría en cuenta.

C. Capacitación de los supervisores y encuestadores

La capacitación al equipo de estudio se llevó a cabo en dos etapas:

En la primera etapa que duró un día se realizó la capacitación conjunta de los supervisores de las áreas Carabuco y Ancoraimes en los siguientes tópicos:

1. Propósitos del estudio
2. Indicadores
3. Funciones de los supervisores
4. Revisión de la traducción del cuestionario
5. Lista de chequeo
6. Muestreo
7. Prácticas
8. Hoja de ruta (Cronograma de supervisión)
9. Preparación de la capacitación de los encuestadores

(Ver anexos para el desarrollo de los tópicos 1-3-5-9)

En la segunda etapa que duró 4 días se realizó la capacitación de los encuestadores en cada área por separado, capacitándolos en los tópicos 1-2-6-7-8 anteriormente mencionados.

Durante la capacitación, se puso mucho énfasis en las prácticas, buscando sobre todo la fluidez de los encuestadores, se hizo hincapié en que se concretaran a leer la pregunta, solamente se entrevistó en idioma aymara. (Ver Anexo1)

Los primeros 3 días fueron de capacitación y durante el cuarto se realizó la prueba de campo. Los cuestionarios utilizados para las prácticas y la prueba de campo fueron corregidos y evaluados por los supervisores, posteriormente la coordinadora realizó también una revisión de los mismos. En todo momento se buscó la retroalimentación a los encuestadores, buscando reforzar las deficiencias.

Una actividad que ayudó mucho durante la capacitación fue la reunión diaria que se tuvo con los supervisores, ello permitió la detección oportuna de errores y su posterior corrección. También permitió el reajuste y mejoramiento del programa elaborado inicialmente.

El equipo de supervisores estuvo integrado por personal de salud de Ancoraimes:

4 Supervisores: Simeon Barra (tec.), Simon Saavedra (tec), Maria Marquez (lic.) y Martin Chiri (aux. enf.)

El equipo de encuestadores estuvo conformado en parte por educadores voluntarios del proyecto y en parte por estudiantes de cuarto medio.

11 Encuestadores: Teodoro Arubito (Vol.), Isaac Cordero (Vol.), José Cutipa (Vol.), Maria Luisa Cancari (Vol.) Mercedes Ramos (Estud.), Fenina Ticona (Estud.), Gregoria Luna (Vol.), Paulina Ramos (Estud.), Lucia Zarzoso (Estud.), Walter Paucará (Vol.) y Mery Ramos (Estud.)

D. La recolección de datos

Las entrevistas se realizaron en tres días. Para hacer las entrevistas se dividieron equipos de un supervisor y dos encuestadores. Solamente a equipos con encuestadores sobresalientes se asigno tres encuestadores.

En lo posible cada equipo trabajaba en un conglomerado hasta terminar con las nueve entrevistas, para luego pasar al segundo que se tenía asignado. En algunos casos donde se trabajó con encuestadores sobresalientes, el supervisor asigno a cada encuestador una comunidad, buscando empero que fuesen comunidades vecinas para asegurar la supervisión durante esa jornada.

En ningún caso entrevistaron los supervisores. Antes de salir de las comunidades cada supervisor revisó sus cuestionarios, para así asegurar la corrección oportuna de las fallas. Los cuestionarios fueron revisados por segunda vez por la coordinadora o en su defecto personal que apoyo en la revisión.

La recolección de datos exigió un particular esfuerzo de todo el equipo encargado, ya que la fecha elegida para realizar la encuesta coincidió con la época de siembra en el campo. Por esta razón y para poder encontrar a las madres en sus viviendas se debió trabajar desde muy tempranas horas (4am.) y en algunos casos hasta muy entrada la noche (8.pm).

La gran motivación de los supervisores y encuestadores así como el espíritu de equipo que se dió al interior del grupo ayudó a cubrir el trabajo, en menor tiempo (3 días) del previsto inicialmente (4 días).

Al finalizar el trabajo de campo en ambas áreas: Carabuco y Ancoraimes se realizó una evaluación del desarrollo del mismo incluyendo sugerencias para próximos estudios. (Ver anexo 3)

E. La entrada de datos

Antes de entregar al equipo encargado de la entrada de datos se hizo una última revisión de los cuestionarios. La entrada de datos estuvo a cargo del Consultor Joaquin Flores con el apoyo de personal de la oficina central en La Paz y voluntarios (4

personas). El programa utilizado para la tabulación de datos fue el epi info 5.1. Se incorporó en el programa chequeos para prevenir la entrada de datos no consistentes.

La limpieza de datos estuvo a cargo del consultor. La entrada y limpieza de datos tardó 2 días.

III. ANALISIS DE LOS RESULTADOS

Se trabajó con un total de 277 entrevistas a madres con niños menores de dos años.

A1. EDAD DE LA MADRE

Como se puede observar en la Tabla A.1.1. Casi una tercera parte de las madres se encuentran en grupos de alto riesgo (< de 18 años y > de 35 años). En comparación a la encuesta de línea Basal, 1992 no se encuentran diferencias significativas.

En una encuesta realizada en 1989 a nivel nacional en 1989, (5) se pudo comprobar que los riesgos de mortalidad infantil más altos ocurren en el inicio del periodo reproductivo, antes de los veinte años (101 * mil nacidos vivos) y especialmente hacia el final del periodo, entre las madres mayores de 40 años (140 * mil).

Tabla A.1.1.- Distribución de las madres según Grupos de edad. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimas. Octubre 1993

Grupo etareo	Freq	Percent	Cum.
10 - 18 AÑOS	1	0.4%	0.4%
18 - 35 AÑOS	196	70.8%	71.1%
35 A + AÑOS	80	28.9%	100.0%
Total	277	100.0%	

A2. EDAD DEL NIÑO

En lo que respecta a la edad de los niños, el 51.6% de los mismos tenía entre 0 y 11 meses, mientras el 48.4% se encontraba entre los 12 y 23 meses de edad, ello sugiere el éxito en la obtención de la muestra aleatoria.

A3. CONTROL DE CRECIMIENTO

La Tabla A.3.1 muestra la Cobertura en Control de Crecimiento del Servicio de Salud, la misma que se refiere a la tenencia de Carnet de Salud Infantil en la casa o en el puesto de salud. El porcentaje es elevado, 67.5%, si se tiene en cuenta que el proyecto tiene apenas 18 meses de vida en el area. Por grupo etareo se puede ver que se logró captar especialmente a los niños que se encuentran entre los 13 y 23 meses de edad. Aquí la cobertura es muy buena, llegando casi al 80%. Comparando con hallazgos de la

Encuesta Basal 1992, se encontró un incremento apreciable desde un 21% (1992) de todos los niños que tenían CSI en su casa a un 56.7% (1993).

Tabla A.3.1.- Tenencia del Carnet de Salud Infantil (En la casa o en el puesto de salud). Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimas. Octubre de 1993.

Grupo etareo	si	%	no	%	Total	%
0 A 11 mes	81	56.6	62	43.3	143	100
12 A 23 mes	106	79.1	28	20.9	134	100
Total	187	67.5	90	32.5	277	100

La Tabla A.3.2 muestra el número de Controles de Crecimiento en el último año*. Si bien el porcentaje de niños que recibieron entre 1 a 5 controles es bastante elevado, alrededor del 95%, si se compara con la meta inicial de 6 controles por año por niño que se encuentra entre los 12 y 23 meses, se tiene que solamente el 7.5% se acerca a la norma.

(*)Solamente se tomarón en cuenta a los niños cuyas madres poseían Carnet de Salud Infantil en casa(187).

Tabla A.3.2- Número de Controles de Crecimiento en los 12 meses previos al estudio. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimes. Octubre de 1993.

# de Controles	0 n	%	1 a 5 n	%	Mas de 5 n	%	Total n	%
0 A 11	0	0	80	98.7	1	1.3	81	100
12 A 23	1	0.9	97	91.5	8	7.5	106	100
Total	1	0.5	177	94.6	9	4.8	187	100

La comparación entre los datos obtenidos para comunidades Censadas (intensivas) y comunidades no Censadas (en campaña) permite una mejor aproximación a los logros de proyecto en función al impacto de su metodología, así en la Tabla A.3.3 se puede observar que la cobertura del proyecto es en comunidades Censadas 3 veces mayor que en las de Campaña

Tabla A.3.3.- Niños entre 12 y 23 meses con CSI en la casa con 4 o más controles en el último año. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimes. Octubre de 1993.

Comunidades	4 o más contr. n	Total niños	%
No Censadas	8	62	12.9%
Censadas	8	23	34.7%
Total	16	85	

A4. INMUNIZACIONES

La Tabla A.4.1 muestra el acceso a inmunizaciones, el mismo que se calcula a partir del porcentaje de niños entre 12 y 23 meses que ha recibido la primera dosis de vacuna triple, en relación al total de niños entre 12 y 23 meses que se encuestarán.

Tabla A.4.1- Acceso a Inmunizaciones en relación al total de niños entre 12 y 23 meses encuestados. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimas. Octubre de 1993.

Recibió DPT1	Niños entre 12 y 23 meses	%
Si	98	73.1%
Total	134	100

La Tabla A.4.2 muestra la proporción de niños entre 12 y 23 meses que ha recibido la tercera dosis de polio en relación al total de niños entre 12 y 23 meses encuestados. Este es un indicador que estima la cobertura de un servicio de salud.

Los datos de la Encuesta Basal 1992 muestran una cobertura del 2.2%, comprobándose que la elevación de cobertura ha sido apreciable. Las comunidades Censadas tuvieron una cobertura del 53%.

Tabla A.4.2- Cobertura en Inmunizaciones en relación al total de la población de niños entre 12 y 23 meses encuestados. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimas. Octubre de 1993.

Recibió OPV3	Niños entre 12 y 23 meses	%
si	47	35
Total	134	100

La Tabla A.4.3 muestra la cobertura de vacunación antisarampionosa que alcanza en los menores de 1 año a 13.3% y en los niños entre 12 y 23 meses de edad el 65.6%. La cobertura en Comunidades Censadas para niños entre 12 y 23 meses asciende a 84.3%.

Comparando resultados con la Encuesta Basal de 1992, en la cual la cobertura para esta vacuna en niños entre 12 y 23 meses era de 7.5% también se registra un incremento apreciable.

Tabla A.4.3- Cobertura de Vacunación Antisarampionosa en relación al total de la población encuestada. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimos. Octubre de 1993.

Edad	no	%	si	%	Total	%
0 A 11	124	86.7	19	13.3	143	100
12 A 23	46	34.3	88	65.6	134	100
Total	170	61.4	107	38.6	277	100

La Tabla A.4.4 Muestra la cobertura para la vacuna triple (DPT). La cobertura para la 3ra. dosis aumentó de 0.7% (1992) a 34.3% para los niños de 12 a 23 meses. De este cuadro se puede desprender la tasa de deserción del PAI, que alcanza al 53%. Se calculó en base a la diferencia entre niños que recibieron la tercera de aquellos que recibieron solamente la primera dosis $DPT1-DPT3/DPT1=98-46/98=0.53$). Como universo se tomó el total de niños de la encuesta de 12 a 23 meses de edad.

Tabla A.4.4- Cobertura para DPT. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimos. Octubre de 1993.

Edad	DPT				Total
	0 %	1 %	2 %	3 %	
0 A 11	83 58.0	33 23.1	15 10.5	12 8.4	141
12 A 23	36 26.9	34 25.4	18 13.4	46 34.3	134
Total	119 43.0	67 24.2	33 11.9	58 20.9	277

Las Coberturas de Vacunación presentadas por el Ministerio de Previsión Social y Salud Pública para 1992 en niños menores de un año (3), parecen estar alejadas de la realidad encontrada para el area Ancoraimos-Distrito Illampu, especialmente si se tratan de 3eras dosis. Los niños menores de un año con 3era dosis de polio (OPV3) según el MPSSP alcanzan en Bolivia al 83.5%, en el área según el presente estudio este porcentaje es de 9% (13/143) para todo el área y de 18.2% en Comunidades Censadas.

En la Encuesta Basal de 1992, la proporción de niños con esquema de vacunación completa ascendía al 1.7% del total. Los datos de la presente encuesta muestran que se logró sobrepasar la meta del 20% (34.3%) de los niños entre 12 y 23 meses con esquema de vacunación completa.

En un esfuerzo por medir el conocimiento de las madres en materia de vacunas se detectó que solo 14, 4% de ellas indicaron que todas las vacunas al niño se las debe completar entre los 9 y 12 meses de edad.

(3) Política Nacional de Salud, Fundamentos y Logros 1989-1993, WPSS, La Paz 1993.

A5 LACTANCIA MATERNA Y ALIMENTACION INFANTIL

El porcentaje de madres que se encontraban dando de lactar a su niño entre 12 y 23 meses al momento de la encuesta es de 86%. En la Encuesta Basal de 1992 el porcentaje alcanzaba a 70%. Se registra un incremento aunque este no es significativo. 99% de los niños < 12 meses se encontraban recibiendo lactancia materna.

La Tabla A.5.1 se refiere al inicio de la lactancia materna en madres de niños menores de 24 meses. Una tercera parte de las madres inicio la lactancia materna en las primera hora despues del parto. En la Encuesta Basal de 1992 llegaba a un 23 % la proporción de madres que iniciaba lactancia materna durante la primera hora después del parto. Se observa un incremento si bien este no es muy significativo.

Tabla A.5.1- Inicio de la lactancia materna. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

Horas despues del parto	Freq	Percent	Cum.
En la 1era Hora	91	32.9%	32.9%
Durante las primeras 8 horas	77	27.8%	60.6%
Mas de 8 horas	106	38.3%	98.9%
No se acuerda	3	1.1%	100.0%
Total	277	100.0%	

En relación a la edad de inicio de ingesta de líquidos, mientras en 1992 el porcentaje calculado era de 3.5% antes de los 3 meses, durante el presente estudio el porcentaje alcanzado fue de 14.5%. Lo precedente sugiere un incremento en el riesgo de contraer la enfermedad diarreica aguda "EDA".

La Tabla A.5.2. muestra la alimentación del niño menor de 4 meses. y a su vez confirma lo inferido anteriormente en relación al riesgo de contraer la "EDA" Todos los niños reciben lactancia materna, pero no es exclusiva.

Tabla A.5.2- Alimentación del niño menor de 4 meses. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

	LM		Leche Liquidos		Alimentos no materna		Alimentos solidos	
	n	%	n	%	n	%	n	%
si	61	100.0%	12	19.7%	7	11.5	8	13.1
no	0		49	80.3%	54	88.5	53	86.8
Total	61		61		61		61	

La Tabla A.5.3 muestra la alimentación de niños entre 5 y 9 meses, edad en la que el niño ya debe estar recibiendo alimentos distintos de la leche materna. Como puede apreciarse el 17.6% de las madres aún no dan alimentos sólidos a sus niños.

Tabla A.5.3. Alimentación de niños entre 5 y 9 meses. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

	LM		Liquidos		Leche no materna		Alimentos solidos	
	n	%	n	%	n	%	n	%
si	34	100	26	76.4	18	52.9	28	82.4
no			8	23.6	16	47.1	6	17.6
Total	34		34		34		34	

Tabla A.5.4. Persistencia de Lactancia Materna en niños entre los 18 y 23 meses. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

Persisten	n	%
Si	42	73.7
No	15	26.3
Total	57	

A objeto de comparación, se calculó el porcentaje de madres de niños entre los 12 y 17 meses que continuaban dando lactancia materna, para 1992 este porcentaje ascendía a un 86%, actualmente este porcentaje se encuentra en el 96%.

La Tabla A.5.5 muestra que el porcentaje de madres que da biberón a su niño el cual es de 39.7%. Durante la Encuesta Basal 1992, se obtuvo un porcentaje menor de madres que hacían uso del biberón, 29%. Este resultado aunque no es muy significativo sugiere cambios en las prácticas de las madres, no necesariamente positivos.

Tabla A.5.5. Proporción de madres que da biberón a su niño menor de 24 meses. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

Edad	Si	%	No	%	Total	%
0 A 11	46	32.1	97	67.8	143	100
12 A 23	64	47.7	70	52.2	134	100
Total	110	39.7	167	60.3	277	100

Los porcentajes de madres que añaden aceite a la comida del niño, (20.2%) o que cocinan con sal iodada (26.4%), representan aproximadamente la quinta parte del total no habiéndose registrado variaciones de significancia en relación a la Encuesta Basal 1992.

6.A ENFERMEDAD DIARREICA AGUDA

La Tabla A.6.1 muestra la prevalencia de enfermedad diarreica aguda en las dos semanas previas a la entrevista. La tasa de prevalencia es de 36.5% (Estación: Primavera). En la Encuesta Basal 1992 la misma era de 18.3%. (Estación: Otoño). Esta diferencia se podría explicar especialmente por la época de año en que se realizaron ambas encuestas.

Tabla A.6.1. Proporción de niños menores de 24 meses que presentó Diarrea durante las dos semanas previas a la entrevista. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimos. Octubre de 1993.

Presencia de EDA	Freq	Percent	Cum.
Si	101	36.5%	36.5%
No	173	62.5%	98.9%
No sabe	1	0.4%	99.3%
Sin respuesta	2	0.7%	100.0%
Total	277	100.0%	

La Tabla A.6.2 muestra con que frecuencia continuarón la lactancia materna las madres de los niños que habian presentado diarrea en las dos semanas previas y que aun lactaban sus hijos. Dos terceras partes de las madres continuó la lactancia materna mas o igual a lo acostumbrado. No hay diferencias significativas en relación a la Encuesta Basal realizada en 1992.

Tabla A.6.2 Continuación de la lactancia materna durante la diarrea. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimos. Octubre de 1993.

Lactancia materna	Freq	Percent	Cum.
Más de lo acostumbrado	10	10.3%	10.3%
Igual a lo acostumbrado	51	52.6%	62.9%
Menos de lo acostumbrado	32	33.0%	95.9%
Paró completamente	3	3.1%	99.0%
Sin respuesta	1	1.0%	100.0%
Total	97	100.0%	

La Tabla A.6.3 muestra la misma información respecto a si la madre continuo liquidos cuando su niño tuvo diarrea. Se puede apreciar que alrededor de la tercera parte de las madres adoptaron la conducta correcta.

Tabla A.6.3 Continuación de Líquidos durante la diarrea. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Área Ancoraimas. Octubre de 1993.

Líquidos	Freq	Percent	Cum.
Más de lo acostumbrado	15	14.9%	14.9%
Igual a lo acostumbrado	20	19.8%	34.7%
Menos de lo acostumbrado	27	26.7%	61.4%
Paró completamente	3	3.0%	64.4%
Solo recibe pecho	36	35.6%	100.0%
Total	101	100.0%	

La tabla A.6.4 muestra que el porcentaje de madres que continua dando alimentos sólidos a sus niños durante la diarrea es muy bajo, alcanza apenas la tercera parte de las madres.

Tabla A.6.4 Continuación de Alimentos Sólidos durante la diarrea. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Área Ancoraimas. Octubre de 1993.

Alimentos Sólidos	Freq	Percent	Cum.
Más de lo acostumbrado	3	3.0%	3.0%
Igual a lo acostumbrado	28	27.7%	30.7%
Menos de lo acostumbrado	38	37.6%	68.3%
Paró completamente	3	3.0%	71.3%
Solo recibe pecho	29	28.7%	100.0%
Total	101	100.0%	

La Tabla A.6.5 muestra la proporción de madres que dió Terapia de Rehidratación Oral a sus niños con diarrea. Entendiendo por TRO, todo tipo de líquido que hubieran administrado las madres. Más del 40% de las madres indicó haber administrado algún tipo de líquido a sus niños. En la Encuesta Basal 92 se alcanzó similar porcentaje (42%).

La utilización de Sobre de Rehidratación Oral (SRO) es mínima, (8.9%) si se tiene en cuenta que la Encuesta Nacional de Salud en 1989 (5) presentó para el altiplano que el 19% de la madres en las mismas circunstancias utilizaba SRO.

Tabla A.6.5 Prevalencia del Uso de Terapia de Rehidratación Oral durante la diarrea. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

TRO	Freq	Percent
1 Nada	24	23.8%
2 SRO	9	8.9%
3 Suero Casero	4	4.0%
4 Soluciones a Base de Cereales	1	1.0%
5 Liquidos tes o mates	41	40.6%
6 Otros	78	77.2%

Total de niños con diarrea	101	

La Tabla A.6.6 muestra los conocimientos de las madres respecto a los signos de gravedad de la enfermedad diarreica aguda "EDA". Un 17.7% manifestó no conocer los síntomas de gravedad de la enfermedad. Los síntomas referidos con mayor frecuencia fueron : Otros, Fiebre, Debil y desgano. Entre los otros síntomas, los mas frecuentes se refirieron a la diarrea seguida y al susto.

En la encuesta Basal 92, era un 30% de las madres,el que manifestaba no conocer los signos de gravedad de la "EDA"

Tabla A.6.6 Reconocimiento de signos y síntomas durante la diarrea. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

Síntomas	Freq	Percent
1 No sabe	49	17.7%
2 Vomitos	24	8.7%
3 Fiebre	90	32.5%
4 Boca seca, ojos hundidos, orina poco	27	9.7%
5 Diarrea + 14 días	26	9.4%
6 Sangre en heces	6	2.2%
7 Perdió el apetito	27	9.7%
8 Débil, desgano	49	17.7%
9 Enflaquecimiento, perdida de peso	44	15.9%
10 Otros	120	43.3%

Total de madres	277	100.0%

La Tabla A.6.7 muestra lo que consideran las madres serían las acciones importantes a tomar cuando su niño tiene diarrea.

Tabla A.6.7 Acciones Importantes a realizar en caso de diarrea Proyecto de Supervivencia Infantil del CSRA. Area Ancoraimos Octubre, 1993.

TOTAL DE MADRES:	277	100%
No Sabe	33	11.9%
Iniciar con líquidos lo antes posible	14	5.1%
Dar más líquido de lo normal	23	8.3%
Dar alimentos con mayor frecuencia y menor cantidad	3	1.1%
Administrar correctamente el SRO	43	15.5%
Llevar al Centro de Salud	38	13.7%
Alimentar más después de la diarrea	6	2.2%
Parar los líquidos	9	3.2%
Parar los alimentos	44	15.9%
Otros	120	43.3%

La Tabla A.6.8 Muestra la proporción de madres que oyó hablar de las sales de rehidratación oral. Casi el 60% de las madres ha oído hablar de los sobres de rehidratación oral. En relación a la Encuesta Basal 92, no hubo variaciones significativas.

Tabla A.6.8 Proporción de Madres de Niños Menores de 24 meses que ha oído hablar de los SRO. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimos. Octubre de 1993.

Oyó	Freq	Percent	Cum.
si	164	59.2%	59.2%
no	113	40.8%	100.0%
Total	277	100.0%	

Entre las madres que oyeron hablar de las SRO. La Tabla A.6.9. muestra que la mayoría sabe para que sirve este sobre. En relación a la Encuesta Basal 92 (82%) se observa un pequeño incremento.

Tabla A.6.9. Proporción de Madres de Niños Menores de 24 meses que oyó hablar y sabe para que sirve el sobre. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimos. Octubre de 1993.

Sabe	Freq	Percent	Cum.
Si	147	89.6%	89.6%
No	17	10.4%	100.0%
Total	164	100.0%	

La Tabla A.6.10 Muestra el porcentaje de madres que ha oído hablar de las SRO y lo ha usado alguna vez. El mismo es inferior al de aquellas que dice saber para que sirve el sobre. De acuerdo a los testimonios de las madres, frecuentemente los niños no aceptan tomar las S.R.O. por el sabor, otros aspecto importante mencionado por los voluntarios es la no disponibilidad continua de este insumo.

En la Encuesta Basal 92, este porcentaje alcanzaba a un 49%, lo que estaría demostrando un ligera mejora en la aceptación así como en la distribución de los mismos a las comunidades.

La Tasa de Uso de SRO calculada para el total de las madres en la encuesta es de 38% (107/277), este porcentaje es algo mas elevado que el encontrado en 1992 (32%). Según la UNICEF (4) la Tasa de Uso de Sales de Rehidratación Oral calculada para Bolivia en el periodo 1987-1991 es del 63%.

Tabla A.6.10 Proporción de Madres de Niños Menores de 24 meses que oyó hablar y ha usado alguna vez SRO. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

Uso	Freq	Percent	Cum.
Si	107	65.2%	65.2%
No	57	34.8%	100.0%
Total	164	100.0%	

La Tabla A.6.11 muestra la proporción de madres de niños menores de 24 Meses que responde correctamente como preparar SRO (entre las madres que alguna vez oyeron hablar de SRO) esta alcanza a la mitad de ellas. Los resultados en 1992 muestran que solo el 26.5% de ellas lo preparaba correctamente. Esta mejoría alcanzada podría deberse a la actividad educativa desplegada por el personal de salud.

Tabla A.6.11. Proporción de Madres de Niños Menores de 24 meses que oyeron hablar del SRO y que responde correctamente como preparar el SRO. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

Correcta	Freq	Percent	Cum.
Si	84	51.2%	51.2%
No	80	48.8%	100.0%
Total	164	100.0%	

Tomando en cuenta el total de madres de la encuesta (277), solo el 30% (84) sobre prepara correctamente el SRO.

(4) UNICEF, Estado Mundial de la Infancia 1993, Reino Unido, 1994

A.7. CONTROL DE NEUMONIA

La Tabla A.7.1 muestra la proporción de niños que presentó tos fuerte y dificultad respiratoria en las dos semanas previas a la entrevista. Como puede apreciarse, el 43% de los niños tuvo tos y dificultad respiratoria en las dos semanas previas a la entrevista. Esta proporción es mayor que la encontrada en 1992 (14,4%). Al igual que en el caso de la prevalencia de la EDA, son especialmente los cambios en las estaciones los que podrían estar haciendo variar las tasas de prevalencia.

Tabla A.7.1. Proporción de Madres cuyo Niño Menor de 24 meses tuvo tos y dificultad respiratoria en las dos semanas previas a la entrevista. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

Tos y Dif. resp.	Freq	Percent	Cum.
Si	119	42.9%	42.9%
No	158	57.1%	100.0%
Total	277	100.0%	

La Tabla A.7.2 muestra que entre las madres cuyos niños presentaban tos y dificultad respiratoria casi la mitad de ellas buscó consejo o ayuda. Aquí se registra un incremento en relación a 1992, donde la proporción solo alcanzaba a una tercera parte (35,2%).

Tabla A.7.2. Proporción de Madres que busco ayuda para su niño menor de 24 meses que tuvo tos y dificultad respiratoria en las dos semanas previas a la entrevista. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

Busco tratamiento	Freq	Percent	Cum.
si	49	41.2%	41.2%
no	70	58.8%	100.0%
Total	119	100.0%	

La Tabla A.7.3 muestra las respuestas de las madres respecto a de quien recibieron consejo o ayuda cuando el niño estuvo con tos y dificultad respiratoria. Alrededor del 17% de las madres recibió ayuda del Hospital de Ancoraimenes, algo mayor que en 1992. (9.9%)

Tabla A.7.3. Persona o institución de quien recibieron ayuda para su niño menor de 24 meses que tuvo tos y dificultad respiratoria en las dos semanas previas a la entrevista. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimas. Octubre de 1993.

Persona/institución	Freq	Percent
No pidieron ayuda	70	58.8%
Puesto o centro de salud	20	16.8%
Farmacia	4	3.4%
Médico particular	4	3.4%
Promotor de salud	11	9.2%
Curandero	5	4.2%
Parientes y amigos	14	11.8%
Otros	2	1.7%
Total de niños con tos y dificultad respiratoria	119	100.0%

La Tabla A.7.4. muestra las respuestas de las madres relacionadas a signos y síntomas que evidencian una enfermedad respiratoria grave. Como puede apreciarse la tos es el signo que mas relacionan las madres con enfermedad grave, seguido de fiebre. Los signos mas importantes relacionados con neumonía como ser la respiración rápida y las retracciones intercostales al parecer no son reconocidos como tales por las madres. No se registran grandes diferencias en relación a la Encuesta Basal de 1992.

Tabla A.7.4 Signos y Síntomas interpretados como Neumonía por Madres de niños menores de 24 meses que tuvieron tos y dificultad respiratoria en las dos semanas previas a la entrevista. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimas. Octubre de 1993.

Signos de Neumonía	Freq	Percent
No sabe	34	12,3%
Respiración rapida y agitada	55	19,9%
Retracciones intercostales	1	0,4%
Disminución del apetito y/o sed	20	7,2%
Fiebre	130	46,9%
Cianosis	12	4,3%
Tos	232	83,8%
Otros	19	6,9%
Total de madres	277	100.0%

A.8. SALUD MATERNA

La Tabla A.8.1 muestra la proporción de madres que posee el Carnet de Vacunación de Toxoides Tetánico (en casa o en hospital), la misma asciende al 47.1%. Con respecto a la Encuesta Basal 1992 se ha registrado un incremento importante, ya que en esa ocasión solo el 6.6% de las madres poseía Carnet de Vacunación.

Tabla A.8.1 Proporción de Madres de Niños Menores de 24 meses que tiene Carnet de Vacunación de Toxoides Tetánico (TT). Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Área Ancoraimas. Octubre de 1993.

	Carnet	Freq	Percent	Cum.
En Casa		56	20.2%	20.2%
Si pero no se pudo verificar		11	4.0%	24.2%
Si tiene en el puesto u hosp		75	27.1%	51.3%
No		135	48.7%	100.0%
Total		277	100.0%	

La Tabla A.8.2 muestra las dosis de vacuna tetánica recibidas por las madres que mostraron Carnet de vacunación en su casa. El 70% de ellas recibió por lo menos dos dosis.

En relación al total de madres entrevistadas (277), se puede ver que un 14,4% (40/277) de las madres fue cubierta con una dosis de esta vacuna.

En general se observa un incremento de coberturas apreciable en relación a la Encuesta Basal 92.

Tabla A.8.2 Dosis de Toxoides Tetánico recibidas por madres de niños menores de 24 meses quienes tenían Carnet de Vacunación en su casa. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Área Ancoraimas. Octubre de 1993.

Dosis	Freq	Percent	Cum.
0	1	1.8%	1.8%
1	15	26.8%	28.6%
2	18	32.1%	60.7%
3	13	23.2%	83.9%
4	8	14.3%	98.2%
5	1	1.8%	100.0%
Total	56	100%	

La Tabla A.8.3 muestra las respuestas de las madres respecto a la protección que confiere la vacuna antitetánica. Más de la mitad (60.3%) de las madres dicen no saber a quien protege la TT. Teniendo en cuenta las crecientes coberturas, ello nos estaría mostrando que posiblemente las acciones de vacunación no tienen un componente educativo desarrollado que este siendo captado por las madres.

Tabla A.8.3 Respuestas de las madres de los niños menores de 24 meses acerca de a quien protege la TT. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimos. Octubre de 1993.

Respuesta	Freq	Percent	Cum
A la madre	38	13.7%	13.7%
Al niño	19	6.9%	20.6%
A ambos	53	19.1%	39.7%
Otro o no sabe	167	60.3%	100.0%
Total	277	100.0%	

La Tabla A.8.4 muestra las respuestas de las madres acerca de cuantas dosis de vacuna son necesarias para proteger del tetanos neonatal, una mayoría, dos terceras partes no sabia. Las respuestas a esta pregunta confirman lo mencionado anteriormente.

Tabla A.8.4 Respuestas de las madres de los niños menores de 24 meses acerca de cuantas dosis son necesarias para proteger al recién nacido del tetanos. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimos. Octubre de 1993.

Dosis	Freq	Percent	Cum.
Una	3	1.1%	1.1%
Dos	11	4.0%	5.1%
Mas de dos	81	29.2%	34.3%
Ninguna	3	1.1%	35.4%
No sabe	179	64.6%	100.0%
Total	277	100.0%	

La Tabla A.8.5 muestra la proporción de madres que mostró el Carnet de Salud Materna del embarazo del niño menor. Como puede apreciarse solo el 1.5% poseia un Carnet de Salud (en casa u hospital).

Tabla A.8.5 Proporción de madres de niños menores de 24 meses que tiene el Carnet de Salud Materna para el último niño. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimes. Octubre de 1993.

Carnet de Salud Materna	Freq	Percent	Cum.
Si (verificado)	3	1.1%	1.1%
Si pero no se pudo verificar	5	1.8%	2.9%
Si en el puesto u hospital	1	0.4%	3.2%
No	268	96.8%	100.0%
Total	277	100.0%	

La Tabla A.8.6 muestra quien atendió el parto y corto el cordon umbilical en el nacimiento del último niño. Como puede apreciarse la proporción de partos atendidos por el personal de salud es infima (4.4%), no habiendo variado mucho la situación desde 1992. Un porcentaje importante (54.9%) refirió que su parto fue atendido por familiar femenino o vecina. En la Encuesta Basal 92 este porcentaje era de (42%). El porcentaje de partos atendidos por parteras (24,5% en 1992) aparentemente disminuyó en quince puntos en el lapso de un año y medio, ello requeriría, mayor investigación con grupos focales, para establecer la verdadera dimensión de este cambio en las prácticas.

Tabla A.8.6 Distribución de las madres de niños de niños menores de 24 meses según persona que ató y corto el cordon umbilical en el último parto. Proyecto de Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimes. Octubre de 1993.

Quien ató el cordon	Freq	Percent	Cum.
Ella misma	11	4.0%	4.0%
Esposo	67	24.2%	28.2%
Familiar femenino o vecina	152	54.9%	83.0%
Familiar masculino o vecino	11	4.0%	87.0%
Partera empirica	24	8.7%	95.7%
Personal en salud del proyecto	6	2.2%	97.8%
Otro personal de salud	6	2.2%	100.0%
Total	277	100.0%	

La Tabla A.8.7 muestra la distribución de las madres según su respuesta al tiempo que se puede esperar que salga la placenta. Una cuarta parte de las madres respondió correctamente. En 1992 la proporción de madres que respondió correctamente alcanzaba a una quinta parte del total.

Tabla A.8.7 Respuestas de las Madres de Niños de 24 meses acerca del tiempo que se puede esperar que salga la placenta antes de que la madre este en riesgo de morir. Proyecto Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

Tiempo	Freq	Percent	Cum.
Una hora o menos	77	27.8%	27.8%
Mas de una hora	136	49.1%	76.9%
No sabe	64	23.1%	100.0%
Total	277	100.0%	

La Tabla A.8.8 muestra que el 9.4% de las madres se encuentra gestando.

Embarazada	Freq	Percent	Cum.
Si	26	9.4%	9.4%
No	251	90.6%	100.0%
Total	277	100.0%	

La Tabla A.8.9 muestra las respuestas de las madres (que no estan gestando) acerca del deseo de tener otro hijo en los siguientes dos años. Solo el 10% de las madres respondió afirmativamente.

Tabla A.8.9 Distribución de las Madres según si desea tener otro hijo en los siguientes años. Proyecto Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimenes. Octubre de 1993.

Desea tener un hijo	Freq	Percent	Cum.
Si	25	10.0%	10.0%
No	218	86.9%	96.8%
No sabe	6	2.4%	99.2%
Sin respuesta	2	0.8%	100.0%
Total	251	100.0%	

La Tabla A.8.10 muestra que un mínimo porcentaje de las madres utiliza un metodo para evitar el embarazo.

Tabla A.8.10 Proporción de Madres de Niños Menores de 24 meses que no desean tener hijos en los próximos dos años o no están seguras y que usan métodos anticonceptivos. Proyecto Supervivencia Infantil del Consejo de Salud Rural Andino. Área Ancoraimas. Octubre de 1993.

Utiliza algún método	Freq	Percent	Cum.
Si	16	7.1%	7.1%
No	208	92.0%	99.1%
Sin respuesta	2	0.9%	100.0%
Total	226	100.0%	

La Tabla A.8.11 muestra el tipo de método usado por las madres que desean evitar el embarazo. La mayoría de las madres manifestarán que usan el método del ritmo. Esta respuesta comparada con las anteriores sugiere que el Hospital no estaría respondiendo a necesidades sentidas de la población.

Tabla A.8.11 Distribución de las Madres de Niños menores de 24 meses que no desean tener hijos en los próximos dos años, según el método que usan actualmente. Proyecto Supervivencia Infantil del Consejo de Salud Rural Andino. Área Ancoraimas. Octubre de 1993.

Método	Freq	Percent	Cum.
Método del Ritmo	13	81,25%	100.0%
Otros métodos	3	18,75%	
Total	16	100.0%	

La Tabla A.8.12 muestra el nivel de preferencia por un servicio de planificación familiar, de madres no embarazadas que no quieren tener otro hijo en los dos próximos años. Se puede ver que la mayoría de ellos desea un servicio de planificación familiar.

Con relación al total de mujeres encuestadas el porcentaje disminuye al 77% (214/277), el mismo que es levemente más elevado que los datos encontrados para mujeres del altiplano, área rural con bajo nivel de instrucción (67%) en una encuesta realizada en 1989 a nivel nacional (5)

(5) Encuesta nacional de Demografía y Salud (ENDSA) 1989, INE/OHS, 1990

Tabla A.8.12 Distribución de las Madres de Niños menores de 24 meses según si desea que el proyecto ofrezca algún método anticonceptivo. Proyecto Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimas. Octubre de 1993.

Desea	Freq	Percent	Cum.
Si	214	94.7%	94.7%
No	12	5.3%	100 %
Total	226	100.0%	

A.9. IMAGEN DEL PROGRAMA DE SALUD

La presente sección se refiere a la imagen del hospital, según las madres entrevistadas.

La Tabla A.9.1 muestra las atenciones recibidas por las familias con niños menores de dos años de la zona.

Un 72,6% de las madres refirió haber recibido algún tipo de atención del equipo de salud. La atención recibida con mayor frecuencia fue las actividades preventivas de peso talla o vacunación en concentración, seguidos de visitas domiciliarias. En la Encuesta Basal 92 solo el 35% de las madres refería haber recibido alguna atención del equipo de salud.

Tabla A.9.1 Tipo de atención recibida por la madre o alguno de sus familiares en el año previo. Proyecto Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimas. Octubre de 1993.

Atención	Freq	Percent
Consulta en el puesto de salud comunitario	31	11,2%
Consulta en el hospital	18	6,5%
Consulta del personal de salud a su dom.	10	3,6%
Visita domiciliaria	112	40,4%
Peso talla o vacunación en concentración	118	42,6%
Ninguna	76	27,4%
Total de Madres	277	100.0%

La Tabla A.9.2 La proporción de madres que calificaba la atención como buena se incrementó en relación a lo obtenido en la Encuesta 92 (61%).

Tabla A.9.2 Calificación de las madres de niños menores de 24 meses de la atención recibida de parte del proyecto. Proyecto Supervivencia Infantil del Consejo de Salud Rural Andino. Area Ancoraimes. Octubre de 1993.

Calificación	Freq	Percent	Cum.
Exelente	13	6.3%	6.3%
Buena	176	85.8%	92.1%
Regular	11	5.4%	97.5%
Mala	5	2.4%	100%
Total	205	100.0%	

Prioridades Comunitarias en Salud

Un grupo del personal trabajó en analizar las respuestas en la encuesta sobre "¿cuales son sus sugerencias para mejorar la salud en su comunidad?". Los resultados de esta pregunta fueron las siguientes:

Tabla A.9.3 Sugerencias de Madres en la Encuesta para Mejorar la Salud en la Comunidad (n=277)

Sugerencia	Número	Porcentaje
Más o mejor atención	144	43.6
a. Vacunar a los niños	34	10.3
b. Que venga a las comunidades a curar	31	9.4
c. Un puesto o personal de salud permanente en la com.	29	8.8
d. Visitas domiciliarias	14	4.2
e. Más atención a los niños y a las madres	8	2.4
e. Más atención para mayores de edad	4	
g. Más atención en general	24	
Medicamentos	83	25.2
Capacitación	37	11.2
Planificación Familiar	26	7.9
Saneamiento Ambiental/higiene	20	6.1
Alimentos o alimentarse bien	16	4.8
Medicina tradicional	4	1.2
TOTAL DE RESPUESTAS	330	100%

A.10 INDICADORES CLAVE

La Tabla A.10.1 muestra los Indicadores clave propuestas por la Universidad de John Hopkins (9) en junio 1992, las metas propuestas para 1993, los indicadores clave en octubre de 1993 y la meta propuesta para 1996 a Noviembre de 1993.

B.1 INDICADORES CLAVE

Tabla B.1.1.-Resumen de Indicadores Clave del Proyecto de Supervivencia Infantil. Consejo de Salud Rural Andino. Area Ancoraimas. Estudio Linea de Base Junio 1992, Metas propuestas hasta Octubre de 1993, Evaluación Final Octubre 1993 y Metas preliminares y propuestas para 1996.

	1992	Meta 93	Oct 93	Meta 96
<u>Edad de la madre</u>				
<18 años	0.4%		0.4 %	
>35 años	33.0%		28.9%	
<u>Lactancia Materna y Alimentación Infantil</u>				
1) % de niños menores de 24 meses que recibieron pecho durante la primera hora despues del nacimiento.	23.1%		32.9%	
2) % de niños menores de 4 meses a los que la madre refiere dar LME.				67 %
3) % de niños entre 5 y 9 meses que reciben alimentos solidos y o semisolidos según la madre.	39%		82.4	
4) % de niños entre 18 y 23 meses que continua LM.			73.7%	
4a) % de madres que dicen cocinar con sal yodada.	56.3%		26.3%	
4b)% de madres que da biberón a su niño.	29.3%		39.7%	

<u>Crecimiento y Desarrollo</u>			
5) % de niños de 12-23 meses que tiene 3 o más controles de peso en los doce meses previos.	3 %		43.4%
6) % de niños que tiene Carnet de Salud Infantil	21%		67.5%
<u>Inmunizaciones</u>			
Acceso al PAI			73.1%
7) % de niños entre 12 y 23 meses que recibió DPT1.			
8) % de niños entre 12 y 23 meses que recibió OPV3	2.2%		35%
9) % de niños entre 12 y 23 meses que recibió vacuna antisarampionosa.	7.5%		65.6%
10) Porcentaje de abandono (DPT)			53%
10a) % de niños con esquema de vacunación completa.	1.5%	20%	34.3% 67%
<u>Enfermedad Diarreica Aguda</u>			
11) Prevalencia de la Enfermedad diarreica aguda en las dos semanas previas a la entrevista.	18.3%		36.5%
11a) % de niños que recibió gual cantidad o más			
-lactancia materna	65%		62.9% 60%
-liquidos	67%		34.7% 60%
-alimentos durante la diarrea.			30.7% 60%
12) % de las madres que saben como preparar el sobre.	26.5%		30.0% 85%
12a) % de niños menores de 24 meses con diarrea en las dos últimas semanas que recibieron SRO.	21.4%		8.9% 50%

<u>Control de Neumonía</u>			
13) <u>Prevalencia de IRA</u> % de niños con tos fuerte y dificultad respiratoria en las últimas dos semanas.	14%		42.9%
13a) % de madres que buscan ayuda cuando su hijo presenta tos y dificultad respiratoria.			41.2% 50%
13b) % de madres de niños con tos y dificultad respiratoria que buscó ayuda del personal de salud. (Personal del Centro más promotores).	13%		26.0%
13b) % de madres que identifican signos y síntomas de peligro			
- Resp. Rápida	14%		19.9% 50%
- Cianosis			4.3%
- Tiraje	0.9%		0.4%
- No quiere tomar ni comer	11.4%		7.2%
<u>Salud Materna</u>			
14) % de madres de niños menores de dos años que tienen Carnet de Salud Materna de su último hijo.			1.1%
15) % de madres de niños menores de dos años que tuvieron por lo menos un control prenatal, antes del nacimiento de su hijo (a) según su carnet de salud.	7%	30%	0.7% 40%
16) % de madres de niños menores de dos años que han recibido por lo menos 2 dosis de toxoide tetánico.	2.2%		13.7% 25%

16a) % niños cuyo cordón umbilical fué cortado por personal de salud.	3.5%	4.4%	33%
16b) % de madres que conocen el tiempo correcto para esperar que se produzca el alumbramiento		27.8%	
17 % de madres de niños menores de dos años que no esta gestando y no desea tener un niño los proximos dos años.		87%	
17a) % de madres de niños menores de dos años que no desea o no está segura que quiere tener hijos en los proximos dos años y que no usa un método anticonceptivo.		92%	
17b) % de madres con niños menores de 24 meses que no desea tener hijos en los proximos dos años, o no está segura y que está usando un método anticonceptivo moderno.		0%	
<u>Imagen del Centro de Salud</u>			
19) % de madres que indicaron haber recibido alguna atención del Centro de Salud o su personal.	35%	72.6%	
20) Proporción según el tipo de atención recibida:			
Consulta en el puesto		11.2%	
Consulta en el hospital		6.5%	
Consulta a domicilio		3.6%	
Visita domiciliaria		40.4%	
Sesiones de Control de Crecimiento e Inmunización		42.6%	

IV. CONCLUSIONES

En general se concluye que el estudio, de Octubre, 1993 para la evaluación final CSVI muestra una tendencia creciente a mejorar indicadores en relación al mismo realizado hace 17 meses en Mayo, 1992. Es especialmente en actividades desarrolladas por el equipo de salud donde se evidencia un avance. Tal es el caso de las Inmunizaciones, Monitoreo en el Crecimiento y la Actividad Asistencial. Los indicadores de las actividades de tipo educativo que presuponen cambio en las actitudes y prácticas de la población no registran grandes avances. Esto era de suponerse, por el breve lapso entre ambos estudios. Otro aspecto que ha podido incidir en ello es posiblemente que el Proyecto haya concentrado sus esfuerzos en desarrollar las actividades, donde se pueden evidenciar resultados a corto plazo. El hecho de que el personal no está constantemente en cada comunidad y que los voluntarios en muchos casos no son multiplicadores de los mensajes educativos reforzaria las conclusiones anteriormente mencionadas.

Edad de la madre.-

Se evidencia un apreciable porcentaje de madres del área Ancoraimés que se encuentra en el grupo considerado como de alto riesgo lo que justificaria tanto el desarrollo de programas de planificación familiar como de detección y atención de partos de alto riesgo en la zona.

Lactancia materna.-

Es aun muy bajo el porcentaje de madres que, da pecho a su niño durante la primera hora del nacimiento.

El porcentaje de madres que da lactancia materna a sus niños menores de 24 meses en el area Ancoraimés, es elevado pudiendo el proyecto concentrar sus esfuerzos en otras actividades.

La introducción muy temprana (<4 meses) de líquidos y sólidos, es una conducta que debería tratar de evitarse, lo mismo que el incremento progresivo del uso del biberón ya que ambas elevan el riesgo de contraer "EDA".

Crecimiento y desarrollo.-

La Cobertura en Tenencia de Carnet de Salud Infantil "CSI", se ha incrementado mucho en relación a los porcentajes obtenidos por la Encuesta Basal 92, especialmente en los niños que se encuentran entre los 12 y 23 meses. La Cobertura en niños menores de 12 meses es menor y requiere de concentrar esfuerzos para elevarla.

El número de Controles por niño por año no se sujeta a las normas. Si bien muchos de los niños tuvieron uno o mas controles, menos del 10% de lo menores de 12 a 23 meses tuvo 6 controles por año por niño.

Inmunizaciones.-

En general se aprecia un gran incremento de Coberturas en todos los tipos de vacuna en relación a los datos obtenidos durante el año 1992. Se observa también la preponderancia de mayor cobertura en Comunidades Censadas en relación al resto del area. A pesar de ello se encontró porcentajes bajos en coberturas de inmunizaciones en niños menores de 12 meses.

Se debe destacar que el porcentaje de niños de 12 a 23 meses de edad con esquema de vacunación completa que en 1992 ascendía al 1.5%, actualmente se ha elevado a un 34%, el mismo que supera la meta trazada para 1993 (20%).

Enfermedad Diarréica Aguda.-

El porcentaje de madres que continúa con lactancia materna en igual o mayor cantidad durante la enfermedad es relativamente alto por lo que no representaría una prioridad del proyecto el incentivar esta conducta.

No sucede lo mismo con la continuación de liquidos en igual o mayor cantidad en el transcurso de la enfermedad. Solo una tercera parte de las madres da liquidos en igual o mayor cantidad a sus niños. Por la importancia que tiene en la mortalidad por EDA, el tratamiento adecuado de la misma, es esta una conducta que debería reforzarse.

En lo que respecta a la continuación de alimentos solidos por lo menos en igual cantidad a lo acostumbrado, ocurre lo mismo que con los liquidos, solo una tercera parte de las madres da solidos en igual o mayor cantidad a su niño durante la diarrea. Teniendo en cuenta que en la muestra tan solo el 6% de todos los casos de niños con diarrea correspondió a madres de niños menores de 4 meses, esta conducta debería reforzarse.

En general se observa que no hay reconocimiento claro de los signos y síntomas asociados a la gravedad de "EDA". Se habla más de síntomas generales e inespecíficos. Ello podría deberse en parte a la forma en que se formuló la pregunta, en parte a que la explicación etimológica y causal de las causas tradicionales relacionadas a la diarrea difiere en mucho de la explicación occidental al respecto.

Con relación a la difusión masiva de las Sales de Rehidratación Oral a lo largo y ancho de las comunidades del area, se evidencia que en el transcurso del pasado año no se realizó mucho al respecto ya que el porcentaje de madres que oyo hablar sobre las SRO se mantuvo inalterado. Donde hubo una mejoría fue en el porcentaje de madres que utilizaba y preparaba correctamente el SRO. Ello indica actividad educativa del personal de salud al respecto.

Control de la Neumonía.-

Si bien el porcentaje de madres que pide ayuda al personal de salud se ha incrementado mucho en relación a 1992. Aun persisten y en número muy elevado las madres que no reconocen los signos de peligro de la neumonia, lo que les estaria impidiendo actuar oportunamente. Generalmente se mencionan síntomas muy generales y muy inespecíficos. Al igual que para el caso de EDA, podría deberse tanto al modo de formulación de la pregunta como a la divergencia de explicación etimológica y causal entre ambas culturas, la occidental y la tradicional.

Salud Materna.-

Según los resultados obtenidos el programa que mas apoyo necesitaria es el referido a la mujer en edad fertil.

Una necesidad tal vez no percibida se constituye en la atención del parto por personal de salud y/o parteras capacitadas. Ya que una mayoría de los partos son atendidos por familiares femeninos o vecinas no capacitadas en la atención de parto limpio y detección de casos de alto riesgo.

Una tercera parte de las madres refiere el conocimiento correcto con relación a cuanto tiempo esperaría a que salga la placenta antes de pedir ayuda. Además de ser una pregunta que mide conocimiento, esta pregunta al parecer no fue muy bien comprendida por las madres, lo que le restaría validez a la respuesta.

También dentro de las necesidades no percibidas de la población se encuentra la asistencia al control prenatal, solo 3 de las 277 madres tenía un Carnet de Control Prenatal y de estas solo 2 tenían dos o mas Controles Prenatales. Esto podría deberse por un lado a que en el area no se tiene aun un Programa de PPP (Prenatal, Parto y Puerperio) difundido en todas las comunidades. Otra posible explicación se encontraría en las barreras culturales, como ser, la costumbre que motiva a las mujeres a tener los niños en la casa, rodeadas de sus familiares representando para ella el hospital un lugar extraño, que las aleja del ambiente familiar.

La actividad que se destaca por la cobertura alcanzada, en el área es la administración del Toxoide Tetánico, a mujeres en edad fértil. Algo más de la décima parte de las madres entrevistadas recibieron por lo menos una dosis. Se mejoraron ostensiblemente las coberturas con relación a 1992. A pesar de ello y como durante todo el desarrollo de la encuesta es el componente educativo el que debe reforzarse, son muy pocas las madres quienes conocen el porque y el para que de esta vacuna.

Una necesidad muy sentida por la población es la demanda por servicios de Planificación Familiar. La gran mayoría de las madres desea estos servicios.

Imagen del Programa de Salud.-

El porcentaje de madres que no recibieron ninguna atención del Hospital disminuyó de 65% en 1992 a tan solo 27% en 1993. A través de este indicador se percibe la creciente aceptación del servicio de salud por la población.

Otro aspecto a destacar es el hecho de que muchas de las actividades del equipo de salud mencionadas por las madres son de tipo preventivo y no así curativo, enmarcándose de esta manera dentro la Estrategia de Atención Primaria.

V. RECOMENDACIONES

Se recomienda en forma general, la retroalimentación sistemática de toda la información obtenida en este estudio a la comunidad a través de sus diferentes instancias y organizaciones. Esta retroalimentación debería ser paulatina (No a todas las comunidades a la vez), buscando sobre todo el cumplimiento y seguimiento de actividades relacionadas con la salud que a partir de esta presentación se planteen con una comunidad.

Las preguntas referidas a los conocimientos de las madres, especialmente las que fueron preguntadas en condicional, presentaron problemas de entendimiento y en algunos casos hasta de comprensión del sentido, por lo que se sugiere, que los indicadores al respecto se los mida o se los trabaje mejor a partir de grupos focales en las comunidades.

Edad de la madre

Para poder captar mejor a los grupos de alto riesgo se sugiere el trabajo continuo con los últimos cursos en los colegios, o en su defecto, la preparación y seguimiento de los profesores encargados de la materia de biología.

Se sugiere la implementación de visitas domiciliarias selectivas a las mujeres > de 35 años trimestralmente, así como el trabajo educativo relacionado al riesgo obstétrico con sus familias.

Lactancia materna

Los conceptos educativos relacionados a incrementar los porcentajes de niños < de 24 meses que son alimentados adecuadamente podrían transmitirse a través del desarrollo de cursos de cocina en base a alimentos del lugar. El incentivo hacia cambios de actitudes y prácticas mejores, podría fomentarse a través de participación en las ferias semanales del área con actividades recreativo educativas y/o productivas a cargo de las propias madres capacitadas.

Crecimiento y Desarrollo

Con el objetivo de mantener la tendencia creciente de coberturas en crecimiento y desarrollo, se deberá asegurar un sistema de provisión de insumos (Carnets de Salud Infantil), de no ser posible a través de la dirección distrital, buscando otras instancias estatales o privadas, que mediante Convenio provean al Consejo de este instrumento.

El equipo de salud deberá desarrollar un sistema de Control de Calidad que asegure no solo el mejoramiento del Sistema de Información, sino también el cumplimiento de las normas relacionadas a la frecuencia de pesaje a niños menores de dos años y dentro de este grupo especialmente a los niños menores de un año.

Inmunizaciones

Es imprescindible para mantener las coberturas de vacunación en tendencia ascendente, fuera de asegurar insumos, asegurar una explicación adecuada a cada madre de un niño menor de dos años sobre las bondades, pero también las limitaciones de las vacunas.

Se sugiere para mantener coberturas en menores de 12 a 23 meses, la capacitación y el monitoreo estricto de los voluntarios más destacados. El equipo de Salud deberá preocuparse por implementar un Programa de Garantía de Calidad que tienda a terminar con esquema completo a niños menores de un año.

Enfermedad Diarreica Aguda

En este Programa se debería hacer énfasis en que las madres reconozcan los síntomas de peligro de la diarrea y actuen adopten la conducta adecuada. Tal vez la mejor manera de encontrar una forma de comunicación adecuada con las madres podría salir del trabajo con grupos focales.

En relación al tratamiento, se deberá hacer hincapie en que es necesaria la ingesta de líquidos en mayor cantidad a los acostumbrado así como la ingesta de sólidos igual a lo acostumbrado durante el transcurso de la enfermedad. Este mensaje se lo debería transmitir a todas las madres cuyos niños tengan un episodio de diarrea.

Con respecto a las Sales de Rehidratación Oral, se podría iniciar una campaña de difusión masiva solo y solo si se tienen la provisión de insumos asegurada. El capacitar a un voluntario por comunidad para esta actividad con el respectivo seguimiento podría mejorar la accesibilidad al respecto. La difusión de otros preparados locales con similar composición química a las sales, solo tiene sentido si su provisión está garantizada en el futuro.

Infecciones Respiratoria Agudas

En este Programa se debería hacer énfasis en que las madres reconozcan los síntomas de peligro de la neumonía adopten la conducta adecuada. Tal vez la mejor manera de encontrar una forma de comunicación adecuada con las madres podría salir del trabajo con grupos focales.

Para asegurar el tratamiento y referencia adecuada de los casos de Neumonía se debería capacitar, proveer de insumos y monitorear estrictamente a por lo menos un voluntario por comunidad.

Salud Materna

Para poder responder en primera instancia a la demanda de servicios de planificación familiar se recomienda sobre todo asegurar el aprovisionamiento continuo, de insumos para este programa. Para ello se podría buscar la firma de convenios tanto a nivel estatal como privado. En segunda instancia se sugiere designar a una persona responsable del programa, que previa capacitación y con el constante apoyo de la dirección ejecutiva, prepare un plan anual de trabajo y monitoree el desarrollo del mismo en coordinación con todo el equipo.

La importancia de poder responder a esta demanda concreta y urgente de la población mueve a pensar en que sería muy importante incluso para el trabajo en la atención de prenatal, parto y puerperio buscar el apoyo de aquel grupo de personas que según el presente estudio es el que con mayor frecuencia atiende los partos en una comunidad, pudiendo ser este grupo de personas el nexo entre el servicio de salud y la comunidad.

Para el seguimiento de pacientes de alto riesgo obstétrico así como la atención de parto limpio a domicilio se sugiere capacitar a las personas que con mayor frecuencia atienden partos en la comunidad, implementando posteriormente para su seguimiento un sistema de referencia y contra referencia.

Imagen del Programa.-

Para mejorar aun más la imagen del Hospital en el área se sugiere mejorar la calidad de los servicios, a través del reciclaje mensual del personal complementando ello con un Sistema de Supervisión que permita documentar los avances y retrocesos del mismo.

Por otro lado se hace imprescindible la salida mas frecuente y más sistemática del personal médico a las comunidades.

VI. T A B U L A C I O N E S

TABULACION ENCUESTA POR MUESTREO ANCORAIMES/OCTUBRE 1993
 INFORMACION DE IDENTIFICACION
 PROPORCION DE COMUNIDADES CENSADAS Y NO CENSADAS

CASAS CENSADAS EN COMUNIDADES POR EL PROYECTO EN ANCORAIMES

Current selection: MUMCASA<>0 or MUMCASA<>"0"

COMUNIDAD	Freq	Perc
Ancoraimes	9	14.
CHINAYA	1	1.
Chejepampa	1	1.
Chuntamarca	9	14.
Corpo Grande	10	16.
Ispaya Luquimblaya	4	6.
Ispaya Tocali	9	14.
Pocoata	10	16.
SUNTURATA	5	8.
Sunturata	3	4.
Total	61	100.

CASAS NO CENSADAS EN COMUNIDADES DEL PROYECTO EN ANCORAIMES

Current selection: MUMCASA=0 or MUMCASA="0"

COMUNIDAD	Freq	Perc
Apohoco	9	4.
CHINAYA	5	2.
CHINAYA INCAKATURAPI	2	0.
Cajiata Grande	10	4.
Calahuancane	10	4.
Camata Sud	9	4.
Chacasia	9	4.
Chejepampa	17	7.
Chojñapata	9	4.
Ispaya Luquimblaya	5	2.
Kolani	10	4.
Llojllata	9	4.
Lacaya	9	4.
Laymini	9	4.
Limancachi	10	4.
Lochrocachi	9	4.
Lugaraya	9	4.
Maquilaya	10	4.
Pacharí	9	4.
Pacoma	9	4.
SUNTURATA	1	0.
Sallcapampa	9	4.
TURRINI	9	4.
Villa Cajyata	10	4.
ZAMORA	9	4.
Total	216	100.

MADRES SEGUN GRUPO ETAREO

GRUPEDMAD	Freq	Percent	Cum.
10 - 18 AÑOS	1	0.4%	0.4%
18 - 35 AÑOS	196	70.8%	71.1%
35 A + AÑOS	80	28.9%	100.0%
Total	277	100.0%	

NIÑOS SEGUN GRUPO ETAREO

GRUPEDNINO	Freq	Percent	Cum.
00 - < 01	14	5.1%	5.1%
01 - < 02	20	7.2%	12.3%
02 - < 03	14	5.1%	17.3%
03 - < 04	13	4.7%	22.0%
04 - < 05	11	4.0%	26.0%
05 - < 06	6	2.2%	28.2%
06 - < 07	5	1.8%	30.0%
07 - < 08	11	4.0%	33.9%
08 - < 09	12	4.3%	38.3%
09 - < 10	12	4.3%	42.6%
10 - < 11	12	4.3%	46.9%
11 - < 12	13	4.7%	51.6%
12 - < 13	14	5.1%	56.7%
13 - < 14	15	5.4%	62.1%
14 - < 15	13	4.7%	66.8%
15 - < 16	11	4.0%	70.8%
16 - < 17	12	4.3%	75.1%
17 - < 18	12	4.3%	79.4%
18 - < 19	11	4.0%	83.4%
19 - < 20	12	4.3%	87.7%
20 - < 21	14	5.1%	92.8%
21 - < 22	11	4.0%	96.8%
22 - < 23	4	1.4%	98.2%
23 - < 24	5	1.8%	100.0%
Total	277	100.0%	

Niños según grupos de edad cada doce meses

GRUPNINO	Freq	Percent	Cum.
0 A 11	143	51.6%	51.6%
12 A 23	134	48.4%	100.0%
Total	277	100.0%	

CONTROL DE CRECIMIENTO:

1. Tenencia del Carnet de Salud Infantil

CC01CSI	Freq	Percent	Cum.
1 Si, verif.	157	56.7%	56.7%
2 En puesto	30	10.8%	67.5%
4 No	79	28.5%	96.0%
5 Si, Sin Verif.	11	4.0%	100.0%
Total	277	100.0%	

Sum = 588.00
 Mean = 2.12
 Standard deviation = 1.43

Tenencia del Carnet de Salud Infantil según grupo etareo

GRUPNINO	CC01CSI				Total
	1	2	4	5	
0 A 11	72	9	56	6	143
12 A 23	85	21	23	5	134
Total	157	30	79	11	277

Chi square = 19.48
 Degrees of freedom = 3
 p value = 0.00021749 <---

NIÑOS CON CARNET DE SALUD INFANTIL EN SU CASA O EL HOSPITAL

2. Número de veces que ha sido pesado(a) el(la) niño(a)

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNINO	CC2VECES							
	0	1	2	3	4	5	6	7
00 - < 01	0	2	0	0	0	0	0	0
01 - < 02	0	9	0	0	0	0	0	0
02 - < 03	0	5	1	0	0	0	0	0
03 - < 04	0	2	4	0	0	0	0	0
04 - < 05	0	2	5	2	0	0	0	0
05 - < 06	0	2	0	0	0	0	0	0
06 - < 07	0	1	1	0	1	0	0	0
07 - < 08	0	4	1	1	0	0	0	0
08 - < 09	0	4	2	1	0	0	0	0
09 - < 10	0	2	3	5	0	0	0	0

10 - < 11	0	2	2	5	1	1	0	0
11 - < 12	0	3	2	3	1	0	0	1
12 - < 13	0	5	4	2	0	1	0	0
13 - < 14	0	7	3	1	0	0	0	1
14 - < 15	0	7	1	1	0	0	0	0
15 - < 16	0	1	1	3	3	0	0	0
16 - < 17	0	3	3	1	3	0	0	1
17 - < 18	1	0	2	5	2	0	1	0
18 - < 19	0	3	1	2	0	0	1	0
19 - < 20	0	1	4	2	0	0	0	0
20 - < 21	0	4	1	4	0	1	0	0
21 - < 22	0	1	5	2	1	0	0	0
22 - < 23	0	1	0	1	0	0	2	0
23 - < 24	0	1	0	2	1	0	0	0
Total	1	72	46	43	13	3	4	3

GRUPEDNINO	CC2VECES		Total
	8	11	
00 - < 01	0	0	2
01 - < 02	0	0	9
02 - < 03	0	0	6
03 - < 04	0	0	6
04 - < 05	0	0	9
05 - < 06	0	0	2
06 - < 07	0	0	3
07 - < 08	0	0	6
08 - < 09	0	0	7
09 - < 10	0	0	10
10 - < 11	0	0	11
11 - < 12	0	0	10
12 - < 13	0	0	12
13 - < 14	0	0	12
14 - < 15	0	0	9
15 - < 16	0	0	8
16 - < 17	0	0	11
17 - < 18	0	0	11
18 - < 19	1	0	8
19 - < 20	0	1	8
20 - < 21	0	0	10
21 - < 22	0	0	9
22 - < 23	0	0	4
23 - < 24	0	0	4
Total	1	1	187

An expected value is < 5. Chi square not valid.
 Chi square = 253.41
 Degrees of freedom = 207
 p value = 0.00000000 <---
 Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNINO	CC2VECES								
	0	1	2	3	4	5	6	7	8
0 A 11	0	38	21	17	3	1	0	1	0
12 A 23	1	34	25	26	10	2	4	2	1
Total	1	72	46	43	13	3	4	3	1

GRUPNINO	CC2VECES	
	11	Total
0 A 11	0	81
12 A 23	1	106
Total	1	187

An expected value is < 5. Chi square not valid.
 Chi square = 10.74
 Degrees of freedom = 9
 p value = 0.29399808

3. INMUNIZACIONES SEGUN GRUPOS ETAREOS

VACUNA BCG POR GRUPO ETAREO (0=No 1=Si)

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNINO	BCG		Total
	0	1	
00 - < 01	0	2	2
01 - < 02	3	6	9
02 - < 03	1	5	6
03 - < 04	0	6	6
04 - < 05	1	8	9
05 - < 06	0	2	2
06 - < 07	1	2	3
07 - < 08	0	6	6
08 - < 09	0	7	7
09 - < 10	0	10	10
10 - < 11	0	11	11
11 - < 12	1	9	10
12 - < 13	0	12	12
13 - < 14	1	11	12
14 - < 15	1	8	9
15 - < 16	2	6	8
16 - < 17	1	10	11
17 - < 18	0	11	11
18 - < 19	0	8	8
19 - < 20	2	6	8
20 - < 21	1	9	10

21 - < 22	0	9	9
22 - < 23	0	4	4
23 - < 24	0	4	4

Total	15	172	187

An expected value is < 5. Chi square not valid.
 Chi square = 25.66
 Degrees of freedom = 23
 p value = 0.31713075

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNINO	BCG		Total
	0	1	
0 A 11	7	74	81
12 A 23	8	98	106

Total	15	172	187

Single Table Analysis

Odds ratio 1.16
 Cornfield 95% confidence limits for OR 0.35 < OR < 3.76

Relative risk of (BCG=0) for (GRUPNINO=0 A 11) 1.15
 Greenland, Robins 95% conf. limits for RR 0.43 < RR < 3.03
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
	-----	-----
Uncorrected:	0.07	0.78476588
Mantel-Haenszel:	0.07	0.78532801
Yates corrected:	0.00	0.99884089

NIÑOS CON POLIO INICIAL (0=No 1=Si)

Current selection: CC01CSI=1 OR CC01CSI=2

POLIOI	Freq	Percent	Cum.
No	150	80.2%	80.2%
Si	37	19.8%	100.0%

Total	187	100.0%	

Sum = 37.00
 Mean = 0.20
 Standard deviation = 0.40

NINOS CON POLIO INICIAL SEGUN GRUPO ETAREO

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNINO	Freq	Percent	Cum.
00 - < 01	2	5.4%	5.4%
01 - < 02	8	21.6%	27.0%
02 - < 03	2	5.4%	32.4%
03 - < 04	0	0.0%	32.4%
04 - < 05	7	18.9%	51.4%
05 - < 06	0	0.0%	51.4%
06 - < 07	1	2.7%	54.1%
07 - < 08	0	0.0%	54.1%
08 - < 09	1	2.7%	56.8%
09 - < 10	2	5.4%	62.2%
10 - < 11	4	10.8%	73.0%
11 - < 12	1	2.7%	75.7%
12 - < 13	2	5.4%	81.1%
13 - < 14	1	2.7%	83.8%
14 - < 15	1	2.7%	86.5%
15 - < 16	1	2.7%	89.2%
16 - < 17	1	2.7%	91.9%
17 - < 18	1	2.7%	94.6%
18 - < 19	1	2.7%	97.3%
19 - < 20	0	0.0%	97.3%
20 - < 21	1	2.7%	100.0%
21 - < 22	0	0.0%	100.0%
22 - < 23	0	0.0%	100.0%
23 - < 24	0	0.0%	100.0%
Total	37	100.0%	

Mean per GRUPEDNINO group = 1.54
 StdDev = 2.06

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNINO	POLIOI		Total
	0	1	
00 - < 01	0	2	2
01 - < 02	1	8	9
02 - < 03	4	2	6
03 - < 04	6	0	6
04 - < 05	2	7	9
05 - < 06	2	0	2
06 - < 07	2	1	3
07 - < 08	6	0	6
08 - < 09	6	1	7
09 - < 10	8	2	10
10 - < 11	7	4	11

11 - < 12	9	1	10
12 - < 13	10	2	12
13 - < 14	11	1	12
14 - < 15	8	1	9
15 - < 16	7	1	8
16 - < 17	10	1	11
17 - < 18	10	1	11
18 - < 19	7	1	8
19 - < 20	8	0	8
20 - < 21	9	1	10
21 - < 22	9	0	9
22 - < 23	4	0	4
23 - < 24	4	0	4

Total	150	37	187

An expected value is < 5. Chi square not valid.
 Chi square = 71.78
 Degrees of freedom = 23
 p value = 0.00000000 <---

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNINO	POLIOI		Total
	0	1	
0 A 11	53	28	81
12 A 23	97	9	106

Total	150	37	187

Single Table Analysis

Odds ratio 0.18
 Cornfield 95% confidence limits for OR 0.07 < OR < 0.43

Relative risk of (POLIOI=0) for (GRUPNINO=0 A 11) 0.72
 Greenland, Robins 95% conf. limits for RR 0.60 < RR < 0.85
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
Uncorrected:	19.67	0.00000919 <---
Mantel-Haenszel:	19.57	0.00000971 <---
Yates corrected:	18.06	0.00002136 <---

NINOS CON DOSIS DE VACUNA ANTI-POLIO SEGUN GRUPO ETARRO (0=ninguna, 1= solo 1ra. Dosis, 2= solo 1ra. y 2da. dosis, 3=1ra, 2da y 3ra dosis)

GRUPEDNINO	POLIO				Total
	0	1	2	3	
00 - < 01	2	0	0	0	2
01 - < 02	8	1	0	0	9
02 - < 03	3	3	0	0	6
03 - < 04	0	2	4	0	6
04 - < 05	3	5	1	0	9
05 - < 06	0	2	0	0	2
06 - < 07	0	2	0	1	3
07 - < 08	0	4	2	0	6
08 - < 09	0	5	2	0	7
09 - < 10	0	1	6	3	10
10 - < 11	0	3	1	7	11
11 - < 12	0	4	4	2	10
12 - < 13	0	5	5	2	12
13 - < 14	0	7	5	0	12
14 - < 15	0	7	0	2	9
15 - < 16	1	1	1	5	8
16 - < 17	0	1	4	6	11
17 - < 18	0	1	1	9	11
18 - < 19	0	3	2	3	8
19 - < 20	0	2	3	3	8
20 - < 21	0	5	0	5	10
21 - < 22	0	1	2	6	9
22 - < 23	0	1	0	3	4
23 - < 24	0	1	0	3	4
Total	17	67	43	60	187

An expected value is < 5. Chi square not valid.
 Chi square = 216.87
 Degrees of freedom = 69
 p value = 0.00000000 <---

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNINO	POLIO				Total
	0	1	2	3	
0 A 11	16	32	20	13	81
12 A 23	1	35	23	47	106
Total	17	67	43	60	187

Chi square = 30.04
 Degrees of freedom = 3
 p value = 0.00000135 <---

NINOS CON DPT SEGUN GRUPO ETAREO

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNINO	DPT				Total
	0	1	2	3	
00 - < 01	2	0	0	0	2
01 - < 02	8	1	0	0	9
02 - < 03	5	1	0	0	6
03 - < 04	1	3	2	0	6
04 - < 05	4	5	0	0	9
05 - < 06	0	2	0	0	2
06 - < 07	0	2	0	1	3
07 - < 08	0	5	1	0	6
08 - < 09	1	4	2	0	7
09 - < 10	0	1	6	3	10
10 - < 11	0	4	1	6	11
11 - < 12	0	5	3	2	10
12 - < 13	1	6	3	2	12
13 - < 14	3	5	4	0	12
14 - < 15	0	7	0	2	9
15 - < 16	1	1	1	5	8
16 - < 17	0	2	3	6	11
17 - < 18	1	1	0	9	11
18 - < 19	0	3	2	3	8
19 - < 20	0	2	3	3	8
20 - < 21	1	4	0	5	10
21 - < 22	1	1	2	5	9
22 - < 23	0	1	0	3	4
23 - < 24	0	1	0	3	4
Total	29	67	33	58	187

An expected value is < 5. Chi square not valid.

Chi square = 177.58

Degrees of freedom = 69

p value = 0.00000000 <---

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNINO	DPT				Total
	0	1	2	3	
0 A 11	21	33	15	12	81
12 A 23	8	34	18	46	106
Total	29	67	33	58	187

Chi square = 23.12

Degrees of freedom = 3

p value = 0.00003817 <---

VACUNA ANTISARAMPIONOSA POR GRUPO ETAREO

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPEDNINO	SARAMP		Total
	0	1	
00 - < 01	2	0	2
01 - < 02	9	0	9
02 - < 03	6	0	6
03 - < 04	6	0	6
04 - < 05	9	0	9
05 - < 06	2	0	2
06 - < 07	3	0	3
07 - < 08	5	1	6
08 - < 09	7	0	7
09 - < 10	8	2	10
10 - < 11	2	9	11
11 - < 12	3	7	10
12 - < 13	2	10	12
13 - < 14	5	7	12
14 - < 15	0	9	9
15 - < 16	1	7	8
16 - < 17	2	9	11
17 - < 18	2	9	11
18 - < 19	2	6	8
19 - < 20	1	7	8
20 - < 21	2	8	10
21 - < 22	0	9	9
22 - < 23	1	3	4
23 - < 24	0	4	4
Total	80	107	187

An expected value is < 5. Chi square not valid.
 Chi square = 106.83
 Degrees of freedom = 23
 p value = 0.00000000 <---

Current selection: CC01CSI=1 OR CC01CSI=2

GRUPNINO	SARAMP		Total
	0	1	
0 A 11	62	19	81
12 A 23	18	88	106
Total	80	107	187

Single Table Analysis

Odds ratio 15.95
 Cornfield 95% confidence limits for OR 7.27 < OR < 35.55

Relative risk of (SARAMP=0) for (GRUPNINO=0 A 11) 4.51
 Greenland, Robins 95% conf. limits for RR 2.91 < RR < 6.98
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
Uncorrected:	66.54	0.00000000 <---
Mantel-Haenszel:	66.19	0.00000000 <---
Yates corrected:	64.13	0.00000000 <---

ESQUEMA DE VACUNACION COMPLETA
 COMPLETAS

GRUPNINO	0	1	Total
0 a 11	134	9	143
12 a 23	88	46	134
Total	222	55	277

GRUPEDNINO	COMPLETAS		Total
	0	1	
00 - < 1	14	0	14
01 - < 02	20	0	20
02 - < 03	14	0	14
03 - < 04	13	0	13
04 - < 05	11	0	11
05 - < 06	6	0	6
06 - < 07	5	0	5
07 - < 08	11	0	11
08 - < 09	12	0	12
09 - < 10	11	1	12
10 - < 11	6	6	12
11 - < 12	11	2	13
12 - < 13	12	2	14
13 - < 14	15	0	15
14 - < 15	11	2	13
15 - < 16	6	5	11
16 - < 17	6	6	12
17 - < 18	3	9	12
18 - < 19	8	3	11
19 - < 20	9	3	12
20 - < 21	9	5	14
21 - < 22	6	5	11
22 - < 23	1	3	4
23 - < 24	2	3	5
TOTAL	222	55	277

4. Edad a la que los niños terminan sus vacunas según la madre

I4TERVAC	Freq	Percent	Cum.
0	159	57.6%	57.6%
2	4	1.4%	59.1%
3	6	2.2%	61.2%
4	4	1.4%	62.7%
5	5	1.8%	64.5%
6	6	2.2%	66.7%
9	20	7.2%	73.9%
10	1	0.4%	74.3%
12	19	6.9%	81.2%
13	2	0.7%	81.9%
14	2	0.7%	82.6%
17	1	0.4%	83.0%
18	5	1.8%	84.8%
24	4	1.4%	86.2%
36	7	2.5%	88.8%
48	2	0.7%	89.5%
60	15	5.4%	94.9%
99	14	5.1%	100.0%
Total	276	100.0%	

5. Porque se vacuna contra el tétanos

Current selection: CC01CSI=1 OR CC01CSI=2

I5EMBVT	Freq	Percent	Cum.
1 Proteger Madre y niño r.n. contra tetanos	38	13.7%	13.7%
2 Proteger solo a la madre	19	6.9%	20.6%
3 Proteger al niño recién nacido	53	19.1%	39.7%
4 Otro o no sabe	167	60.3%	100.0%
Total	277	100.0%	

Sum =
 Mean = 3.26
 Standard deviation = 1.08

6. Madres que saben cuantas dosis son necesarias contra el tétanos

Current selection: CC01CSI=1 OR CC01CSI=2

I6EMBVT	Freq	Percent	Cum.
1 Una	3	1.1%	1.1%
2 Dos	11	4.0%	5.1%
3 Más de Dos	81	29.2%	34.3%
4 Ninguna	3	1.1%	35.4%
5 No sabe	179	64.6%	100.0%
Total	187	100.0%	

Sum = 1175.00
 Mean = 4.24
 Standard deviation = 1.07

7. Tiene la madre Carnet de Vacunación

Current selection: CC01CSI=1 OR CC01CSI=2

I7CVAC	Freq	Percent	Cum.
1 Si verificó	56	20.2%	20.2%
2 Si pero no se verificó	11	4.0%	24.2%
3 Puesto	75	27.1%	51.3%
4 No	135	48.7%	100.0%
Total	277	100.0%	

Sum = 843.00
 Mean = 3.04
 Standard deviation = 1.16

Solo mujeres que mostraron el carnet de vacunación

8. Mujeres con dosis de vacuna T.T.

VACUNAS T.T.

Current selection: (CC01CSI=1 OR CC01CSI=2) AND (I7CVAC=1)

VACTT	Freq	Percent	Cum.
0	1	1.8%	1.8%
1	15	26.8%	28.6%
2	18	32.1%	60.7%
3	13	23.2%	83.9%
4	8	14.3%	98.2%
5	1	1.8%	100.0%
Total	56	100.0%	

Sum = 127.00
 Mean = 2.27
 Standard deviation = 1.12

LACTANCIA MATERNA

9. Madres dando lactancia materna al niño menor de dos años

GRUPEDNINO	LM09DA		Total
	1	2	
00 - < 01	14	0	14
01 - < 02	20	0	20
02 - < 03	14	0	14
03 - < 04	13	0	13
04 - < 05	11	0	11
05 - < 06	6	0	6
06 - < 07	5	0	5
07 - < 08	11	0	11
08 - < 09	12	0	12
09 - < 10	12	0	12
10 - < 11	11	1	12
11 - < 12	13	0	13
12 - < 13	14	0	14
13 - < 14	14	1	15
14 - < 15	13	0	13
15 - < 16	10	1	11
16 - < 17	12	0	12
17 - < 18	11	1	12
18 - < 19	9	2	11
19 - < 20	10	2	12
20 - < 21	12	2	14
21 - < 22	8	3	11
22 - < 23	2	2	4
23 - < 24	1	4	5
Total	258	19	277

An expected value is < 5. Chi square not valid.

Chi square = 78.61

Degrees of freedom = 23

p value = 0.00000000 <---

GRUPNINO	LM09DA		Total
	Si	No	
0 A 11	142	1	143
12 A 23	116	18	134
Total	258	19	277

Single Table Analysis

Odds ratio 22.03

Cornfield 95% confidence limits for OR 3.00* < OR < 457.18*

*May be inaccurate

Relative risk of (LM09DA=1) for (GRUPNINO=0 A 11) 1.15
 Greenland, Robins 95% conf. limits for RR 1.07 < RR < 1.23
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
Uncorrected:	17.56	0.00002789 <---
Mantel-Haenszel:	17.49	0.00002883 <---
Yates corrected:	15.62	0.00007742 <---

SOLO MADRES QUE DEJARON DE DAR LACTANCIA MATERNA A SUS NIÑOS
 10. Madres que alguna vez le dieron lactancia materna al niño

Current selection: lm09da=2

LM10DIO	Freq	Percent	Cum.
1	19	100.0%	100.0%
Total	19	100.0%	

Sum = 19.00
 Mean = 1.00
 Standard deviation = 0.00

SOLO NIÑOS QUE DEJARON YA NO RECIBEN LACTANCIA MATERNA PERO
 QUE LA RECIBIERON ALGUNA VEZ
 11. Edad del niño en meses cuando dejaron de darle Lactancia Materna

Current selection: (lm09da=2) AND (LM10DIO=1)

LM11EDADIO	Freq	Percent	Cum.
0	1	5.3%	5.3%
14	2	10.5%	15.8%
15	3	15.8%	31.6%
16	3	15.8%	47.4%
17	1	5.3%	52.6%
18	3	15.8%	68.4%
19	2	10.5%	78.9%
20	3	15.8%	94.7%
21	1	5.3%	100.0%
Total	19	100.0%	

Sum = 311.00
 Mean = 16.37
 Standard deviation = 4.52

Current selection: (lm09da=2) AND (LM10DIO=1)

GRUPEDNINO	LM11EDADIO							
	0	14	15	16	17	18	19	20
10 - < 11	1	0	0	0	0	0	0	0
13 - < 14	0	0	0	0	0	0	0	1
15 - < 16	0	0	1	0	0	0	0	0
17 - < 18	0	0	0	1	0	0	0	0
18 - < 19	0	0	0	1	1	0	0	0
19 - < 20	0	1	0	0	0	1	0	0
20 - < 21	0	0	0	0	0	1	0	1
21 - < 22	0	0	1	0	0	0	1	1
22 - < 23	0	0	0	1	0	1	0	0
23 - < 24	0	1	1	0	0	0	1	0
Total	1	2	3	3	1	3	2	3

GRUPEDNINO	LM11EDADIO	
	21	Total
10 - < 11	0	1
13 - < 14	0	1
15 - < 16	0	1
17 - < 18	0	1
18 - < 19	0	2
19 - < 20	0	2
20 - < 21	0	2
21 - < 22	0	3
22 - < 23	0	2
23 - < 24	1	4
Total	1	19

An expected value is < 5. Chi square not valid.
 Chi square = 70.72
 Degrees of freedom = 72
 p value = 0.00000000 <---

Current selection: (lm09da=2) AND (LM10DIO=1)

GRUPNINO	LM11EDADIO									Total
	0	14	15	16	17	18	19	20	21	
0 A 11	1	0	0	0	0	0	0	0	0	1
12 A 23	0	2	3	3	1	3	2	3	1	18
Total	1	2	3	3	1	3	2	3	1	19

An expected value is < 5. Chi square not valid.
 Chi square = 19.00
 Degrees of freedom = 8
 p value = 0.01485965 <---

NIÑOS QUE RECIBEN LACTANCIA MATERNA O QUE LA RECIBIERON ALGUNA VEZ
 12. Cuando le dieron la primera lactancia materna al niño

LM12PRIM	Freq	Percent	Cum.
1 1ra. Hora	91	32.9%	32.9%
2 1-8 Horas	77	27.8%	60.6%
3 Más de 8 horas	106	38.3%	98.9%
4 No recuerda	3	1.1%	100.0%
Total	277	100.0%	

Sum = 575.00
 Mean = 2.08
 Standard deviation = 0.87

ALIMENTACION INFANTIL

13. Le está dando
 13.a Agua, té, mates
 Líquidos

GRUPEDNINO	AI13ALIQ			Total
	Si	No	No sabe	
00 - < 01	0	13	1	14
01 - < 02	3	17	0	20
02 - < 03	4	10	0	14
03 - < 04	5	8	0	13
04 - < 05	7	4	0	11
05 - < 06	3	3	0	6
06 - < 07	3	2	0	5
07 - < 08	10	1	0	11
08 - < 09	10	2	0	12
09 - < 10	12	0	0	12
10 - < 11	11	1	0	12
11 - < 12	13	0	0	13
12 - < 13	14	0	0	14
13 - < 14	13	2	0	15
14 - < 15	13	0	0	13
15 - < 16	10	1	0	11
16 - < 17	12	0	0	12
17 - < 18	12	0	0	12
18 - < 19	11	0	0	11
19 - < 20	11	1	0	12
20 - < 21	14	0	0	14
21 - < 22	11	0	0	11
22 - < 23	4	0	0	4
23 - < 24	5	0	0	5
Total	211	65	1	277

An expected value is < 5. Chi square not valid.
 Chi square = 176.99
 Degrees of freedom = 46
 p value = 0.00000000 <---

GRUPNINO	AI13ALIQ			Total
	1	2	3	
0 A 11	81	61	1	143
12 A 23	130	4	0	134
Total	211	65	1	277

An expected value is < 5. Chi square not valid.
 Chi square = 62.14
 Degrees of freedom = 2
 p value = 0.00000000 <---

13.b Leche de vaca

GRUPEDNINO	AI13BLEC			Total
	Si	No	No Sabe	
00 - < 01	0	13	1	14
01 - < 02	3	17	0	20
02 - < 03	1	13	0	14
03 - < 04	3	10	0	13
04 - < 05	2	9	0	11
05 - < 06	2	4	0	6
06 - < 07	3	2	0	5
07 - < 08	4	7	0	11
08 - < 09	9	3	0	12
09 - < 10	7	5	0	12
10 - < 11	11	1	0	12
11 - < 12	7	5	1	13
12 - < 13	10	4	0	14
13 - < 14	11	4	0	15
14 - < 15	6	7	0	13
15 - < 16	5	6	0	11
16 - < 17	7	5	0	12
17 - < 18	6	5	1	12
18 - < 19	10	1	0	11
19 - < 20	9	2	1	12
20 - < 21	10	4	0	14
21 - < 22	7	4	0	11
22 - < 23	2	2	0	4
23 - < 24	5	0	0	5
Total	140	133	4	277

An expected value is < 5. Chi square not valid.
 Chi square = 99.42
 Degrees of freedom = 46
 p value = 0.00000000 <---

GRUPNINO	AI13BLEC			Total
	1	2	3	
0 A 11	52	89	2	143
12 A 23	88	44	2	134
Total	140	133	4	277

An expected value is < 5. Chi square not valid.
 Chi square = 24.22
 Degrees of freedom = 2
 p value = 0.00000552 <---

13.c Comida aplastada o papillas

GRUPEDNINO	AI13CCOM			Total
	Si	No	No sabe	
00 - < 01	0	13	1	14
01 - < 02	2	18	0	20
02 - < 03	2	12	0	14
03 - < 04	4	9	0	13
04 - < 05	6	5	0	11
05 - < 06	2	4	0	6
06 - < 07	4	1	0	5
07 - < 08	10	1	0	11
08 - < 09	12	0	0	12
09 - < 10	11	1	0	12
10 - < 11	12	0	0	12
11 - < 12	12	1	0	13
12 - < 13	13	1	0	14
13 - < 14	15	0	0	15
14 - < 15	12	1	0	13
15 - < 16	10	1	0	11
16 - < 17	11	1	0	12
17 - < 18	9	3	0	12
18 - < 19	9	2	0	11
19 - < 20	11	1	0	12
20 - < 21	14	0	0	14
21 - < 22	11	0	0	11
22 - < 23	3	1	0	4
23 - < 24	5	0	0	5
Total	200	76	1	277

An expected value is < 5. Chi square not valid.
 Chi square = 177.10
 Degrees of freedom = 46
 p value = 0.00000000 <---

GRUPNINO	AI13CCOM			Total
	1	2	3	
0 A 11	77	65	1	143
12 A 23	123	11	0	134
Total	200	76	1	277

An expected value is < 5. Chi square not valid.
 Chi square = 49.71
 Degrees of freedom = 2
 p value = 0.00000000 <---

13.d Agregan grasa (aceite o manteca) a la comida del niño

GRUPEDNINO	AI13DGRAS			Total
	Si	No	No Sabe	
00 - < 01	0	13	1	14
01 - < 02	1	19	0	20
02 - < 03	0	14	0	14
03 - < 04	3	10	0	13
04 - < 05	1	10	0	11
05 - < 06	0	6	0	6
06 - < 07	0	5	0	5
07 - < 08	1	10	0	11
08 - < 09	2	10	0	12
09 - < 10	2	10	0	12
10 - < 11	7	5	0	12
11 - < 12	1	12	0	13
12 - < 13	5	9	0	14
13 - < 14	4	11	0	15
14 - < 15	4	9	0	13
15 - < 16	4	7	0	11
16 - < 17	4	8	0	12
17 - < 18	3	9	0	12
18 - < 19	2	9	0	11
19 - < 20	3	9	0	12
20 - < 21	2	12	0	14
21 - < 22	5	6	0	11
22 - < 23	1	3	0	4
23 - < 24	1	4	0	5
Total	56	220	1	277

An expected value is < 5. Chi square not valid.
 Chi square = 56.67
 Degrees of freedom = 46
 p value = 0.00000000 <---

GRUPNINO	AI13DGRAS			Total
	Si	No	No Sabe	
0 A 11	18	124	1	143
12 A 23	38	96	0	134
Total	56	220	1	277

An expected value is < 5. Chi square not valid.
 Chi square = 11.43
 Degrees of freedom = 2
 p value = 0.00330252 <---

13.e Cocinan con sal yodada

GRUPEDNINO	AI13ESALY		Total
	Si	No	
00 - < 01	5	9	14
01 - < 02	7	13	20
02 - < 03	2	12	14
03 - < 04	5	8	13
04 - < 05	5	6	11
05 - < 06	3	3	6
06 - < 07	2	3	5
07 - < 08	3	8	11
08 - < 09	5	7	12
09 - < 10	3	9	12
10 - < 11	5	7	12
11 - < 12	4	9	13
12 - < 13	4	10	14
13 - < 14	4	11	15
14 - < 15	2	11	13
15 - < 16	0	11	11
16 - < 17	0	12	12
17 - < 18	1	11	12
18 - < 19	2	9	11
19 - < 20	3	9	12
20 - < 21	2	12	14
21 - < 22	3	8	11
22 - < 23	0	4	4
23 - < 24	3	2	5
Total	73	204	277

An expected value is < 5. Chi square not valid.
 Chi square = 27.63
 Degrees of freedom = 23
 p value = 0.23008147

GRUPNINO	AI13ESALY		
	Si	No	Total
0 A 11	49	94	143
12 A 23	24	110	134
Total	73	204	277

Single Table Analysis

Odds ratio 2.39
 Cornfield 95% confidence limits for OR 1.31 < OR < 4.38

Relative risk of (AI13ESALY=1) for (GRUPNINO=0 A 11) 1.91
 Greenland, Robins 95% conf. limits for RR 1.25 < RR < 2.93
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
Uncorrected:	9.53	0.00201679 <---
Mantel-Haenszel:	9.50	0.00205497 <---
Yates corrected:	8.71	0.00316447 <---

14. Dan Biberón o mamadera

GRUPEDNINO	AI14VIVER		
	Si	No	Total
00 - < 01	0	14	14
01 - < 02	4	16	20
02 - < 03	3	11	14
03 - < 04	5	8	13
04 - < 05	4	7	11
05 - < 06	1	5	6
06 - < 07	2	3	5
07 - < 08	3	8	11
08 - < 09	5	7	12
09 - < 10	5	7	12
10 - < 11	6	6	12
11 - < 12	8	5	13
12 - < 13	7	7	14
13 - < 14	7	8	15
14 - < 15	5	8	13
15 - < 16	5	6	11
16 - < 17	7	5	12
17 - < 18	6	6	12

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18 - < 19	6	5	11
19 - < 20	6	6	12
20 - < 21	9	5	14
21 - < 22	3	8	11
22 - < 23	1	3	4
23 - < 24	2	3	5
Total	110	167	277

An expected value is < 5. Chi square not valid.
 Chi square = 29.18
 Degrees of freedom = 23
 p value = 0.17453931

GRUPNINO	AI14VIVER		Total
	1	2	
0 A 11	46	97	143
12 A 23	64	70	134
Total	110	167	277

Single Table Analysis

Odds ratio 0.52
 Cornfield 95% confidence limits for OR 0.31 < OR < 0.87

Relative risk of (AI14VIVER=1) for (GRUPNINO=0 A 11) 0.67
 Greenland, Robins 95% conf. limits for RR 0.50 < RR < 0.91
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
Uncorrected:	7.03	0.00803471 <---
Mantel-Haenszel:	7.00	0.00814934 <---
Yates corrected:	6.39	0.01147971 <---

ENFERMEDADES DIARRÉICAS

15. Niños con diarrea las dos últimas semanas

ED15U2SEM	Freq	Percent	Cum.
1 Si	101	36.5%	36.5%
2 No	173	62.5%	98.9%
3 No sabe	1	0.4%	99.3%
9 No responde	2	0.7%	100.0%
Total	277	100.0%	

Sum □ 468.00
 Mean = 1.69
 Standard deviation = 0.79

GRUPEDNINO	ED15U2SEM				Total
	1	2	3	9	
00 - < 01	1	13	0	0	14
01 - < 02	2	18	0	0	20
02 - < 03	1	13	0	0	14
03 - < 04	2	11	0	0	13
04 - < 05	4	7	0	0	11
05 - < 06	4	2	0	0	6
06 - < 07	2	3	0	0	5
07 - < 08	5	6	0	0	11
08 - < 09	4	8	0	0	12
09 - < 10	7	5	0	0	12
10 - < 11	7	5	0	0	12
11 - < 12	8	5	0	0	13
12 - < 13	5	9	0	0	14
13 - < 14	10	4	1	0	15
14 - < 15	6	7	0	0	13
15 - < 16	5	6	0	0	11
16 - < 17	3	9	0	0	12
17 - < 18	6	6	0	0	12
18 - < 19	5	6	0	0	11
19 - < 20	2	8	0	2	12
20 - < 21	6	8	0	0	14
21 - < 22	4	7	0	0	11
22 - < 23	0	4	0	0	4
23 - < 24	2	3	0	0	5
Total	101	173	1	2	277

An expected value is < 5. Chi square not valid.
 Chi square = 105.87
 Degrees of freedom = 69
 p value = 0.00000000 <---

GRUPNINO	ED15U2SEM				Total
	Si	No	No sabe	No responde	
0 A 11	47	96	0	0	143
12 A 23	54	77	1	2	134
Total	101	173	1	2	277

An expected value is < 5. Chi square not valid.
 Chi square = 5.29
 Degrees of freedom = 3
 p value = 0.15207776

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS

16. Madres que continúan con la lactancia materna a los niños con diarrea

Current selection: ED15U2SEM=1

ED16DIOPCH	Freq	Percent	Cum.
1 Mas	10	9.9%	9.9%
2 Igual	51	50.5%	60.4%
3 Menos	32	31.7%	92.1%
4 Dejó de dar	3	3.0%	95.0%
5 Ya no recibe	4	4.0%	99.0%
9 Sin respuesta	1	1.0%	100.0%
Total	101	100.0%	

Sum = 249.00
 Mean = 2.47
 Standard deviation = 1.08

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS

17. Madres que dieron otros líquidos además del pecho a su niño con diarrea

Current selection: ED15U2SEM=1

ED17OLIQ	Freq	Percent	Cum.
1 Mas	15	14.9%	14.9%
2 Igual	20	19.8%	34.7%
3 Menos	27	26.7%	61.4%
4 Dejó de dar	3	3.0%	64.4%
5 Solo recibe pecho	36	35.6%	100.0%
Total	101	100.0%	

Sum = 328.00
 Mean = 3.25
 Standard deviation = 1.49

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS

18. Madres que dieron alimentos blandos al niño con diarrea

Current selection: ED15U2SEM=1

ED18ALIM	Freq	Percent	Cum.
1 Mas	3	3.0%	3.0%
2 Igual	28	27.7%	30.7%
3 Menos	38	37.6%	68.3%
4 Dejó de dar	3	3.0%	71.3%
5 Solo recibe pecho	29	28.7%	100.0%
Total	101	100.0%	

Sum = 330.00
 Mean = 3.27
 Standard deviation = 1.23

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.a Madres que no dieron ningun tratamiento al niño con diarrea

Current selection: ED15U2SEM=1

ED19ATRAT	Freq	Percent	Cum.
0 No	77	76.2%	76.2%
1 Si	24	23.8%	100.0%
Total	101	100.0%	

Sum = 24.00
 Mean = 0.24
 Standard deviation = 0.43

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.b Madres que dieron S. R. O. al niño con diarrea

Current selection: ED15U2SEM=1

ED19ETRAT	Freq	Percent	Cum.
0 No	92	91.1%	91.1%
1 Si	9	8.9%	100.0%
Total	101	100.0%	

Sum = 9.00
 Mean = 0.09
 Standard deviation = 0.29

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.c Madres que dieron Suero Casero al niño con diarrea

Current selection: ED15U2SEM=1

ED19CTRAT	Freq	Percent	Cum.
0 No	97	96.0%	96.0%
1 Si	4	4.0%	100.0%
Total	101	100.0%	

Sum = 4.00
 Mean = 0.04
 Standard deviation = 0.20

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.d Madres que dieron Soluciones a base de cereales al niño con diarrea

Current selection: ED15U2SEM=1

ED19DTRAT	Freq	Percent	Cum.
0 No	100	99.0%	99.0%
1 Si	1	1.0%	100.0%
Total	101	100.0%	

Sum = 1.00
 Mean = 0.01
 Standard deviation = 0.10

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.e Madres que dieron Líquidos, tes o mates al niño con diarrea

Current selection: ED15U2SEM=1

ED19ETRAT	Freq	Percent	Cum.
0 No	60	59.4%	59.4%
1 si	41	40.6%	100.0%
Total	101	100.0%	

Sum = 41.00
 Mean = 0.41
 Standard deviation = 0.49

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.f Madres que dieron Medicinas antidiarreicas o antibioticos al niño con diarrea

Current selection: ED15U2SEM=1

ED19FTRAT	Freq	Percent	Cum.
0 No	91	90.1%	90.1%
1 Si	10	9.9%	100.0%
Total	101	100.0%	

Sum = 10.00
 Mean = 0.10
 Standard deviation = 0.30

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.g Madres que dieron otros tratamientos al niño con diarrea

Current selection: ED15U2SEM=1

ED19GTRAT	Freq	Percent	Cum.
0 No	67	66.3%	66.3%
1 Si	34	33.7%	100.0%
Total	101	100.0%	

Sum = 34.00
 Mean = 0.34
 Standard deviation = 0.47

SOLO NIÑOS QUE TUVIERON DIARREA LAS DOS ULTIMAS SEMANAS
 19.h Madres que dieron otros tratamientos al niño con diarrea

Current selection: ED15U2SEM=1

ED19OTRAT	Freq	Percent	Cum.
Hierbas medicinales	1	2.9%	2.9%
PLANTAS MEDICINALES	2	5.9%	8.8%
Plantas medicinales	3	8.8%	17.6%
aba- arroz y maizina	1	2.9%	20.6%
agua hervido, sal, ba	1	2.9%	23.5%
ajayo, plantas med.	1	2.9%	26.5%
arroz y palta quemado	1	2.9%	29.4%
azucar quemado	2	5.9%	35.3%
cebada tostados hervi	1	2.9%	38.2%
con platas medicinale	1	2.9%	41.2%
eucalipto quemado	1	2.9%	44.1%
frescos de hiervas	1	2.9%	47.1%
granos quemados pepas	1	2.9%	50.0%
hespina llamo pescal	1	2.9%	52.9%
hierbas medicinales	4	11.8%	64.7%
hierbas-mate q'chanco	1	2.9%	67.6%
llamar al ajayo	1	2.9%	70.6%
mate de eucalipto	1	2.9%	73.5%
mate de perigil	1	2.9%	76.5%
med. fisicos, trap cal	1	2.9%	79.4%
pan y arroz quem. pepa	1	2.9%	82.4%
pepa de palta, eucalip	1	2.9%	85.3%
plantas med. y pepa	1	2.9%	88.2%
plantas medicinales	2	5.9%	94.1%
plasto hierbas espald	1	2.9%	97.1%
sebada quemada	1	2.9%	100.0%
Total	34	100.0%	

20. ¿Si tuviese diarrea, como se daría cuenta que está grave?
 20.a Madres que no saben cuando su niño esta con diarrea grave

ED20ACMED	Freq	Percent	Cum.
0 No	228	82.3%	82.3%
1 Si	49	17.7%	100.0%
Total	277	100.0%	

Sum = 49.00
 Mean = 0.18
 Standard deviation = 0.38

20.b Madres que piensan que cuando su niño tiene vomitos esta con diarrea grave

ED20BCMED	Freq	Percent	Cum.
0 No	253	91.3%	91.3%
1 Si	24	8.7%	100.0%
Total	277	100.0%	

Sum = 24.00
 Mean = 0.09
 Standard deviation = 0.28

20.c Madres que piensan que cuando su niño tiene fiebre esta con diarrea grave

ED20CCMED	Freq	Percent	Cum.
0 No	187	67.5%	67.5%
1 Si	90	32.5%	100.0%
Total	277	100.0%	

Sum = 90.00
 Mean = 0.32
 Standard deviation = 0.47

20.e Madres que piensan que cuando su niño tiene la boca seca, los ojos hundidos y orina poco esta con diarrea grave

ED20DCMED	Freq	Percent	Cum.
0 No	250	90.3%	90.3%
1 Si	27	9.7%	100.0%
Total	277	100.0%	

Sum = 27.00
 Mean = 0.10
 Standard deviation = 0.30

20.f Madres que piensan que cuando su niño tiene diarrea prolongada es por que esta grave

ED20ECMED	Freq	Percent	Cum.
0 No	251	90.6%	90.6%
1 Si	26	9.4%	100.0%
Total	277	100.0%	

Sum = 26.00
 Mean = 0.09
 Standard deviation = 0.29

20.g Madres que piensan que cuando su niño tiene sangre en las heces es por que esta grave

ED20FCMED	Freq	Percent	Cum.
0 No	271	97.8%	97.8%
1 Si	6	2.2%	100.0%
Total	277	100.0%	

Sum = 6.00
 Mean = 0.02
 Standard deviation = 0.15

20.h Madres que piensan que cuando su niño esta grave cuando pierde el apetito es por que esta grave

ED20GCMED	Freq	Percent	Cum.
0 No	250	90.3%	90.3%
1 Si	27	9.7%	100.0%
Total	277	100.0%	

Sum = 27.00
 Mean = 0.10
 Standard deviation = 0.30

20.I Madres que piensan que cuando su niño esta debil o desganado es por que esta grave

ED20HCMED	Freq	Percent	Cum.
0 No	228	82.3%	82.3%
1 Si	49	17.7%	100.0%
Total	277	100.0%	

Sum = 49.00
 Mean = 0.18
 Standard deviation = 0.38

20.j Madres que piensan que cuando su niño enflaquece y pierde peso es por que esta grave (1=SI, 2=NO, 9=No responde)

ED20ICMED	Freq	Percent	Cum.
0 No	233	84.1%	84.1%
1 Si	44	15.9%	100.0%
Total	277	100.0%	

Sum = 44.00
 Mean = 0.16
 Standard deviation = 0.37

Madres que piensan que existen otros sintomas que permiten ver que el niño con diarrea esta grave (1=SI, 2=NO, 9=No responde)

ED20JCMED	Freq	Percent	Cum.
0	157	56.7%	56.7%
1	120	43.3%	100.0%
Total	277	100.0%	

Sum = 120.00
 Mean = 0.43
 Standard deviation = 0.50

OTROS SINTOMAS QUE GUIAN A LA MADRE SOBRE UNA DIARREA AGUDA

ED20ACME01	Freq	Percent	Cum.
Caquita verde, llora de rato en rato	1	0.9%	0.9%
DIARREA COMO AGUA	3	2.6%	3.4%
DIARREA CONTINUA	1	0.9%	4.3%
DIARREA SEGUIDO	2	1.7%	6.0%
DIARREA SEGUIDO COMO AGUA	1	0.9%	6.9%
De rato en rato hace su caquita	2	1.7%	8.6%
Diarrea de rato en rato	1	0.9%	9.5%
Llora de rato en rato	2	1.7%	11.2%
Llora mucho	1	0.9%	12.1%
Mucha diarrea	5	4.3%	16.4%
Mucha diarrea de rato en rato	2	1.7%	18.1%
RESFRIO	1	0.9%	19.0%
Susto	1	0.9%	19.8%
ayca	1	0.9%	20.7%

ayca (para caminar)	1	0.9%	21.6%
ayca, hace caquita rato en rato	1	0.9%	22.4%
caca rato en rato	1	0.9%	23.3%
corsia rato en rato	1	0.9%	24.1%
cuando empieza a caminar tiene corsea	1	0.9%	25.0%
curisia rato en rato	1	0.9%	25.9%
demasiado diarrea	2	1.7%	27.6%
diarrea aguanoso	1	0.9%	28.4%
diarrea como agua	2	1.7%	30.2%
diarrea continua	1	0.9%	31.0%
diarrea de rato en rato	2	1.7%	32.8%
diarrea en rato en rato	1	0.9%	33.6%
diarrea frecuente	7	6.0%	39.7%
diarrea frecuente medio verde	1	0.9%	40.5%
diarrea fuerte	1	0.9%	41.4%
diarrea fuerte, liquida	1	0.9%	42.2%
diarrea rato en rato	3	2.6%	44.8%
diarrea rato en rato llora mucho	1	0.9%	45.7%
diarrea seguida	10	8.6%	54.3%
diarrea seguida como agua	1	0.9%	55.2%
diarrea seguido	4	3.4%	58.6%
dolor del estomago	1	0.9%	59.5%
ha la caquita rato en rato	1	0.9%	60.3%
hace caquita rato en rato	4	3.4%	63.8%
hace caquita rato en rato por el frio	1	0.9%	64.7%
hace caquito rato en rato	1	0.9%	65.5%
hace mucha diarrea	1	0.9%	66.4%
hace rato en rato diarrea	3	2.6%	69.0%
le hace frio	1	0.9%	69.8%
llora	2	1.7%	71.6%
llora mucho	4	3.4%	75.0%
mucha diarrea	8	6.9%	81.9%
mucha diarrea rato a rato	1	0.9%	82.8%
mucha diarrea rato en rato	1	0.9%	83.6%
mucha llora	1	0.9%	84.5%
nino que llora con diarrea	1	0.9%	85.3%
por el frio hace caquita rato en rato	1	0.9%	86.2%
por el frio hace caquito rato en rato	2	1.7%	87.9%
por ver los animales muertos	1	0.9%	88.8%
puede tener diarrea	1	0.9%	89.7%
gusanos en estomago y larpha	1	0.9%	90.5%
rato en rato hace diarrea	3	2.6%	93.1%
resfrio	2	1.7%	94.8%
resfrio e insolacion	1	0.9%	95.7%
su piel se vuelve arrugada	1	0.9%	96.6%
susto	1	0.9%	97.4%
susto, resfria	1	0.9%	98.3%
tiene susto	1	0.9%	99.1%
tiene susto o ajayo	1	0.9%	100.0%
Total	116	100.0%	

20.A Que acciones importantes tomarias cuando tu niño tiene diarrea

20.A.a No sabe

AED20A1ACC	Freq	Percent	Cum.
0 No	244	88.1%	88.1%
1 Si	33	11.9%	100.0%
Total	277	100.0%	

Sum = 33.00
 Mean = 0.12
 Standard deviation = 0.32

20.A.b Iniciar con liquidos lo más pronto posible

BED20B1ACC	Freq	Percent	Cum.
0 No	263	94.9%	94.9%
1 Si	14	5.1%	100.0%
Total	277	100.0%	

Sum = 14.00
 Mean = 0.05
 Standard deviation = 0.22

20.A.c Dar más liquido de lo normal

CED20C1ACC	Freq	Percent	Cum.
0 No	254	91.7%	91.7%
1 Si	23	8.3%	100.0%
Total	277	100.0%	

Sum = 23.00
 Mean = 0.08
 Standard deviation = 0.28

20.A.d Dar alimentos con frecuencia y menor cantidad

DED20D1ACC	Freq	Percent	Cum.
0 No	274	98.9%	98.9%
1 Si	3	1.1%	100.0%
Total	277	100.0%	

Sum = 3.00
 Mean = 0.01
 Standard deviation = 0.10

20.A.e Administrar SRO correctamente

EED20E1ACC	Freq	Percent	Cum.
0 No	234	84.5%	84.5%
1 Si	43	15.5%	100.0%
Total	277	100.0%	

Sum = 43.00
 Mean = 0.16
 Standard deviation = 0.36

20.A.f Llevar al centro de salud

FED20F1ACC	Freq	Percent	Cum.
0 No	239	86.3%	86.3%
1 Si	38	13.7%	100.0%
Total	277	100.0%	

Sum = 38.00
 Mean = 0.14
 Standard deviation = 0.34

20.A.g Alimentar más despues de la diarrea

GED20G1ACC	Freq	Percent	Cum.
0 No	271	97.8%	97.8%
1 si	6	2.2%	100.0%
Total	277	100.0%	

Sum = 6.00
 Mean = 0.02
 Standard deviation = 0.15

20.A.h Para los liquidos

HED20H1ACC	Freq	Percent	Cum.
0 No	268	96.8%	96.8%
1 Si	9	3.2%	100.0%
Total	277	100.0%	

Sum = 9.00
 Mean = 0.03
 Standard deviation = 0.18

20.A.i Para la alimentación

ED20ICMED	Freq	Percent	Cum.
0 No	233	84.1%	84.1%
1 Si	44	15.9%	100.0%
Total	277	100.0%	

Sum = 44.00
 Mean = 0.16
 Standard deviation = 0.37

20.A.j Otros

ED20JCMED	Freq	Percent	Cum.
0 No	157	56.7%	56.7%
1 Si	120	43.3%	100.0%
Total	277	100.0%	

Sum = 120.00
 Mean = 0.43
 Standard deviation = 0.50

ESPECIFED2	Freq	Percent	Cum.
ARROZ QUEMADO O MATE	1	0.6%	0.6%
Arroz cocido con sal	1	0.6%	1.2%
Azucar quemada como mate	1	0.6%	1.8%
Bañar con yerbas frescas	1	0.6%	2.3%
CERBALES QUEMADOS COMO CAFE	1	0.6%	2.9%
CON MATES DE EUCALIPTO	1	0.6%	3.5%
Con yatiris	1	0.6%	4.1%
Envolver con cebada tostada	1	0.6%	4.7%
Friccionar con mentisan	1	0.6%	5.3%
GRANO TOSTADO ENVUELTO	1	0.6%	5.8%
Hacer quemar cebada y pepa de palta como mate	1	0.6%	6.4%
Hierbas calientes	1	0.6%	7.0%
Hierbas frescas hacen tomar	1	0.6%	7.6%
Hierbas me di y mates	1	0.6%	8.2%
Hierbas medicinales	2	1.2%	9.4%
Hierbas medicinales calentar y envuelve	1	0.6%	9.9%
Hierbas medicinales mate	1	0.6%	10.5%
Lo hago tomar el suero casero	1	0.6%	11.1%
MATES CALIENTES Y HIERBAS	1	0.6%	11.7%
MATES DE HIERBAS	1	0.6%	12.3%
Mate de sebada quemada y pepa de palta	1	0.6%	12.9%

Mates de hierba	1	0.6%	13.5%
PEPA DE PALTA QUEMADA Y MOLIDA	1	0.6%	14.0%
PLANTAS MEDICINALES	3	1.8%	15.8%
Pepas de palta aqua de arroz	1	0.6%	16.4%
Pepas de palta, mates de yerbas	1	0.6%	17.0%
Plantas medicinales	1	0.6%	17.5%
Puedo dar mate	1	0.6%	18.1%
SAL TOSTADO CON AGUA HERVIDA	1	0.6%	18.7%
Sal hervida y azucar	1	0.6%	19.3%
Suero casero y cebada quemada	1	0.6%	19.9%
TOMAR HERVAS QUE HAY EN EL CAMPO	1	0.6%	20.5%
Te y mates de eucalipto	1	0.6%	21.1%
Wirbina	1	0.6%	21.6%
YERBAS DEL CAMPO	1	0.6%	22.2%
Yerbas medicinales	1	0.6%	22.8%
Yerbas medicinales , mate	1	0.6%	23.4%
Yerbas medicinales en mate	1	0.6%	24.0%
abas, arveja quemada pepa de palta en mate	1	0.6%	24.6%
abono de la oveja le hago dormir	1	0.6%	25.1%
acudir a los yatiris	1	0.6%	25.7%
agua con sal quemado	1	0.6%	26.3%
agua de mate	1	0.6%	26.9%
agua de ramos	1	0.6%	27.5%
arroz quemada y cascara de modio?	1	0.6%	28.1%
arroz quemado	1	0.6%	28.7%
arroz y pan quemado	1	0.6%	29.2%
azucar quemado	1	0.6%	29.8%
azucar quemado y palto de pepa y limon	1	0.6%	30.4%
cebada quemada	2	1.2%	31.6%
cebada quemado	1	0.6%	32.2%
cebada quemado y canela	1	0.6%	32.7%
cebada tostada lo hare sentar al niño	1	0.6%	33.3%
como masage	1	0.6%	33.9%
con arroz quemado	1	0.6%	34.5%
con cebada tostada envuelto	1	0.6%	35.1%
con la planta medicinal	1	0.6%	35.7%
con las plantas medicinales	2	1.2%	36.8%
con mentisan	1	0.6%	37.4%
con plantas medicinales	8	4.7%	42.1%
con suero casero	1	0.6%	42.7%
curanderos	2	1.2%	43.9%
curanderos y hierbas	1	0.6%	44.4%
dar mate de hierba	1	0.6%	45.0%
dar mates	1	0.6%	45.6%
envuelve con la cebada calentada	1	0.6%	46.2%
eucaliptus	1	0.6%	46.8%
hacer llamar ajayu	1	0.6%	47.4%
hacer quemar pelos-animales,h- tomar en liq.,baña	1	0.6%	48.0%
harina blanca quemada	1	0.6%	48.5%
hierba medicinales	1	0.6%	49.1%
hierba medicinales, mate	1	0.6%	49.7%
hierbas	1	0.6%	50.3%

hierbas calientes	1	0.6%	50.9%
hierbas frescas que son las espinas como mate	1	0.6%	51.5%
hierbas medicinales	7	4.1%	55.6%
hierbas medicinales, llamade de ajayo	1	0.6%	56.1%
hierbas medicinales, mates	1	0.6%	56.7%
hierbas, pepa de palta	1	0.6%	57.3%
hiervas medicinales	3	1.8%	59.1%
llamar el animo del niño	1	0.6%	59.6%
llevar ante un curandero	1	0.6%	60.2%
los plantas y cañalonas	1	0.6%	60.8%
maiz tostado molido como cafe	1	0.6%	61.4%
masages	1	0.6%	62.0%
mate de canela	1	0.6%	62.6%
mate de coca, eucalipto	2	1.2%	63.7%
mate de hierbas	1	0.6%	64.3%
mate de palta	1	0.6%	64.9%
mate de vervena	1	0.6%	65.5%
mates ceriales sal quemado y hervido	1	0.6%	66.1%
mates de hierva	1	0.6%	66.7%
no cura porque tiene muchos ninos	1	0.6%	67.3%
no le da nada	1	0.6%	67.8%
no le dio nada pero recupero	1	0.6%	68.4%
palntas medicinales	1	0.6%	69.0%
pan quemado	2	1.2%	70.2%
pan quemado hervido	1	0.6%	70.8%
pan quemado y con limon	1	0.6%	71.3%
pan quemado y maranga quemado	1	0.6%	71.9%
pastilla supositorio	1	0.6%	72.5%
pepa de palta preparada	1	0.6%	73.1%
pepa de palta quemada	1	0.6%	73.7%
pepa de palta quemada y molida	1	0.6%	74.3%
pepa de palta y arroz quemado	1	0.6%	74.9%
pepa de palta y masage	1	0.6%	75.4%
planta medicina	1	0.6%	76.0%
planta medicinal	4	2.3%	78.4%
planta medicinales	1	0.6%	78.9%
plantas medicinales	13	7.6%	86.5%
plantas medicinales o hierbas	1	0.6%	87.1%
preparar medicinas caseras	1	0.6%	87.7%
preparar suero casero	1	0.6%	88.3%
quemar azucar	1	0.6%	88.9%
sal y azucar en un litro de agua	1	0.6%	89.5%
sangre de sapa	1	0.6%	90.1%
sebad quemada	1	0.6%	90.6%
sebada grano	1	0.6%	91.2%
sebada quemada	1	0.6%	91.8%
suero casero	11	6.4%	98.2%
sueros caseros	1	0.6%	98.8%
yerba medicinales	1	0.6%	99.4%
yerbas medicinales	1	0.6%	100.0%
Total			171 100.0%

21. Madres que han oido hablar del S.R.O. (1=SI, 2=NO, 9=No responde)

ED21SRO	Freq	Percent	Cum.
1	164	59.2%	59.2%
2	113	40.8%	100.0%
Total	277	100.0%	

Sum = 390.00
Mean = 1.41
Standard deviation = 0.49

SOLO MADRES QUE OYERON HABLAR DEL S.R.O. ALGUNA VEZ

22. Madres que saben para que sirve el S.R.O. (1=SI, 2=NO, 9=No responde)

Current selection: ED21SRO=1

ED22SRO	Freq	Percent	Cum.
1	147	89.6%	89.6%
2	17	10.4%	100.0%
Total	164	100.0%	

Sum = 181.00
Mean = 1.10
Standard deviation = 0.31

SOLO MADRES QUE OYERON HABLAR DEL S.R.O. ALGUNA VEZ

23. Madres que han utilizado alguna vez S.R.O. (1=SI, 2=NO, 9=No responde)

Current selection: ED21SRO=1

ED23SRO	Freq	Percent	Cum.
1	107	65.2%	65.2%
2	57	34.8%	100.0%
Total	164	100.0%	

Sum = 221.00
Mean = 1.35
Standard deviation = 0.48

SOLO MADRES QUE OYERON HABLAR DEL S.R.O. ALGUNA VEZ

24. Madres que saben preparar el S.R.O. (1=SI, 2=NO, 9=No responde)

Current selection: ED21SRO=1

ED24SRO	Freq	Percent	Cum.
1	84	51.2%	51.2%
2	80	48.8%	100.0%
Total	164	100.0%	

Sum = 244.00
Mean = 1.49
Standard deviation = 0.50

CONTROL DE NEUMONIA

25. Niños con tos fuerte en las 2 Ult.semanas (1=SI, 2=NO, 9=No responde)

CN25TOS2US	Freq	Percent	Cum.
1	127	45.8%	45.8%
2	150	54.2%	100.0%
Total	277	100.0%	

Sum = 427.00
Mean = 1.54
Standard deviation = 0.50

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE LAS DOS ULTIMAS SEMANAS

26. Niños con tos y dificultad respiratoria (1=SI, 2=NO, 9=No responde)

Current selection: CN25TOS2US=1

CN26DIFRES	Freq	Percent	Cum.
1	119	93.7%	93.7%
2	8	6.3%	100.0%
Total	127	100.0%	

Sum = 135.00
Mean = 1.06
Standard deviation = 0.24

Current selection: CN25TOS2US=1

GRUPEDNINO	CN26DIFRES		Total
	1	2	
00 - < 01	3	0	3
01 - < 02	8	1	9
02 - < 03	4	1	5
03 - < 04	8	0	8
04 - < 05	5	2	7
05 - < 06	1	0	1
06 - < 07	2	0	2
07 - < 08	7	0	7
08 - < 09	5	0	5
09 - < 10	5	0	5
10 - < 11	6	0	6
11 - < 12	6	0	6
12 - < 13	7	0	7
13 - < 14	11	0	11
14 - < 15	5	1	6
15 - < 16	6	1	7
16 - < 17	3	0	3
17 - < 18	5	0	5
18 - < 19	1	1	2
19 - < 20	4	0	4
20 - < 21	10	0	10
21 - < 22	6	0	6
22 - < 23	1	0	1
23 - < 24	0	1	1
Total	119	8	127

An expected value is < 5. Chi square not valid.
 Chi square = 37.07
 Degrees of freedom = 23
 p value = 0.03195545 <---

Current selection: CN25TOS2US=1

GRUPNINO	CN26DIFRES		Total
	1	2	
0 A 11	60	4	64
12 A 23	59	4	63
Total	119	8	127

Single Table Analysis

Odds ratio 1.02
 Cornfield 95% confidence limits for OR 0.20* < OR < 5.20*
 *May be inaccurate

Relative risk of (CN26DIFRES=1) for (GRUPNINO=0 A 11) 1.00
 Greenland, Robins 95% conf. limits for RR 0.91 < RR < 1.10
 (Biometrics 1985;41:55-68)

Ignore relative risk if case control study.

	Chi-Squares	P-values
Uncorrected:	0.00	0.98164371
Mantel-Haenszel:	0.00	0.98171611
Yates corrected:	0.12	0.73216476

Fisher exact: 1-tailed P-value: 0.6323601
 2-tailed P-value: 1.0000000

An expected value is less than 5; recommend Fisher exact results.

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

27. Madres que pidieron ayuda por sus Niños con tos y dificultad respiratoria (1=SI, 2=NO, 9=No responde)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN27CONSEJ	Freq	Percent	Cum.
1	49	41.2%	41.2%
2	70	58.8%	100.0%
Total	119	100.0%	

Sum = 189.00
 Mean = 1.59
 Standard deviation = 0.49

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28. De quien recibió consejos

28.a Niños con IRA que reciben ayuda del Centro de Salud (1=SI, 0=NO, 9=No pidieron ayuda)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28ACONS	Freq	Percent	Cum.
0	29	59.2%	59.2%
1	20	40.8%	100.0%
Total	49	100.0%	

Sum = 20.0
 Mean = 0.41
 Standard deviation = 0.50

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.b Niños con IRA que reciben ayuda de la farmacia

(1=SI, 0=NO, 9=No pidieron ayuda)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28BCONS	Freq	Percent	Cum.
0	45	91.8%	91.8%
1	4	8.2%	100.0%
Total	49	100.0%	

Sum = 4.0
Mean = 0.08
Standard deviation = 0.28

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.c Niños con IRA que reciben ayuda de un medico particular

(1=SI, 0=NO, 9=No pidieron ayuda)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28CCONS	Freq	Percent	Cum.
0	45	91.8%	91.8%
1	4	8.2%	100.0%
Total	49	100.0%	

Sum = 4.0
Mean = 0.08
Standard deviation = 0.28

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.d Niños con IRA que reciben ayuda de un promotor de salud

(1=SI, 0=NO, 9=No pidieron ayuda)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28DCONS	Freq	Percent	Cum.
0	38	77.6%	77.6%
1	11	22.4%	100.0%
Total	49	100.0%	

Sum = 11.0
Mean = 0.22
Standard deviation = 0.42

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.e Niños con IRA que reciben ayuda de un curandero

(1=SI, 0=NO, 9=No pidieron ayuda)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28ECONS	Freq	Percent	Cum.
0	44	89.8%	89.8%
1	5	10.2%	100.0%
Total	49	100.0%	

Sum = 5.0
Mean = 0.10
Standard deviation = 0.31

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.f Niños con IRA que reciben ayuda de una partera empírica

(1=SI, 0=NO, 9=pidieron ayuda)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28FCONS	Freq	Percent	Cum.
0	49	100.0%	100.0%
Total	49	100.0%	

Sum = 0
Mean = 0
Standard deviation = 0

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.g Niños con IRA que reciben ayuda de parientes y amigos

(1=SI, 0=NO, 9=No pidieron ayuda)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28GCONS	Freq	Percent	Cum.
0	35	71.4%	71.4%
1	14	28.6%	100.0%
Total	49	100.0%	

Sum = 14.00
 Mean = 0.29
 Standard deviation = 0.46

CONTROL DE NEUMONIA

SOLO NIÑOS CON TOS FUERTE Y DIFICULTAD RESP. LAS DOS ULTIMAS SEMANAS

28.h Niños con IRA que reciben ayuda de otras personas

(1=SI, 0=NO, 9=No pidieron)

Current selection: (CN25TOS2US=1) AND (CN26DIFRES=1)

CN28HCONS	Freq	Percent	Cum.
0	48	40.3%	40.3%
1	1	0.8%	41.2%
9	70	58.8%	100.0%
<hr/>			
Total	119	100.0%	

Sum = 623.00
 Mean = 5.24
 Standard deviation = 4.44

29. ¿Como sabría que el niño tiene neumonía?

CONTROL DE NEUMONIA

29.a Madres que no saben cuando pedir ayuda para sus niños con IRA

(1=SI, 0=NO, 9=No responde)

CN29ASABE	Freq	Percent	Cum.
0	243	87.7%	87.7%
1	34	12.3%	100.0%
<hr/>			
Total	277	100.0%	

Sum = 34.00
 Mean = 0.12
 Standard deviation = 0.33

CONTROL DE NEUMONIA

29.b Madres que piden ayuda cuando su niño tiene respiracion rapida y agitada

(1=SI, 0=NO, 9=No responde)

CN29BSABE	Freq	Percent	Cum.
0	222	80.1%	80.1%
1	55	19.9%	100.0%
<hr/>			
Total	277	100.0%	

Sum = 55.00
 Mean = 0.20
 Standard deviation = 0.40

CONTROL DE NEUMONIA

29.c Madres que piden ayuda cuando a su niño se le hunde el pecho
 (1=SI, 0=NO, 9=No responde)

CN29CSABE	Freq	Percent	Cum.
0	276	99.6%	99.6%
1	1	0.4%	100.0%
Total	277	100.0%	

Sum = 1.00
 Mean = 0.00
 Standard deviation = 0.06

CONTROL DE NEUMONIA

29.d Madres que piden ayuda cuando a su niño no quiere comer ni beber liq.
 (1=SI, 0=NO, 9=No responde)

CN29DSABE	Freq	Percent	Cum.
0	257	92.8%	92.8%
1	20	7.2%	100.0%
Total	277	100.0%	

Sum = 20.00
 Mean = 0.07
 Standard deviation = 0.26

CONTROL DE NEUMONIA

29.e Madres que piden ayuda cuando a su niño tiene fiebre.
 (1=SI, 0=NO, 9=No responde)

CN29ESABE	Freq	Percent	Cum.
0	147	53.1%	53.1%
1	130	46.9%	100.0%
Total	277	100.0%	

Sum = 130.00
 Mean = 0.47
 Standard deviation = 0.50

CONTROL DE NEUMONIA

29.f Madres que piden ayuda cuando a el niño se pone morado.
(1=SI, 0=NO, 9=No responde)

CN29FSABE	Freq	Percent	Cum.
0	265	95.7%	95.7%
1	12	4.3%	100.0%
Total	277	100.0%	

Sum = 12.00
Mean = 0.04
Standard deviation = 0.20

CONTROL DE NEUMONIA

29.g Madres que piden ayuda cuando a el niño tiene tos.
(1=SI, 0=NO, 9=No responde)

CN29GSABE	Freq	Percent	Cum.
0	45	16.2%	16.2%
1	232	83.8%	100.0%
Total	277	100.0%	

Sum = 232.00
Mean = 0.84
Standard deviation = 0.37

CONTROL DE NEUMONIA

29.h Madres que piden ayuda cuando a el niño tiene otros sintomas.
(1=SI, 0=NO, 9=No responde)

CN29HSABE	Freq	Percent	Cum.
0	258	93.1%	93.1%
1	19	6.9%	100.0%
Total	277	100.0%	

Sum = 19.00
Mean = 0.07
Standard deviation = 0.25

CONTROL DE NEUMONIA

Madres que piden ayuda cuando a el niño tiene tos.
(1=SI, 0=NO, 9=No responde)

CN28HCON02	Freq	Percent	Cum.
VOMITO	1	5.3%	5.3%
desmayo	1	5.3%	10.5%
dolor de cabeza	1	5.3%	15.8%
gripe	1	5.3%	21.1%
ojos rojos	1	5.3%	26.3%
llora	5	26.3%	52.6%
mucha llora	1	5.3%	57.9%
no duerma	1	5.3%	63.2%
pierde apetito	1	5.3%	68.4%
poca lactana	1	5.3%	73.7%
reniega y llora	1	5.3%	78.9%
resfrio	2	10.5%	89.5%
ronquera	2	10.5%	100.0%
Total	19	100.0%	

S A L U D M A T E R N A

30. Tiene Carnet de Salud Materna.
 (1=SI, 0=NO, 9=No responde)

SM30CSM	Freq	Percent	Cum.
1 Si verificó	3	1.1%	1.1%
2 Si no verificó	5	1.8%	2.9%
3 En puesto	1	0.4%	3.2%
4 No	268	96.8%	100.0%
Total	277	100.0%	

Sum = 1088.00
 Mean = 3.93
 Standard deviation = 0.41

SOLO MUJERES QUE TIENEN CARNET DE SALUD MATERNA
 S A L U D M A T E R N A

31. Número de controles que figuran en el Carnet de Salud Materna

Current selection: SM30CSM=1

SM31CTRL	Freq	Percent	Cum.
1	2	66.7%	66.7%
2	1	33.3%	100.0%
Total	3	100.0%	

Sum = 4.00
 Mean = 1.33
 Standard deviation = 0.58

S A L U D M A T E R N A

32. Quién ato el cordón umbilical.

SM32CCORD	Freq	Percent	Cum.
1 Ella misma	11	4.0%	4.0%
2 Esposo	67	24.2%	28.2%
3 Fam. o Vec. Femenina	152	54.9%	83.0%
4 Fam. o Vec. Masculino	11	4.0%	87.0%
5 Partera empírica	24	8.7%	95.7%
6 Personal Proyecto	6	2.2%	97.8%
7 Otras personas	6	2.2%	100.0%
Total	277	100.0%	
Sum	= 843.00		
Mean	= 3.04		
Standard deviation	= 1.15		

S A L U D M A T E R N A

33. Que tiempo puede esperarse antes de la salida de la paciente

SM33SPLAC	Freq	Percent	Cum.
1 1ra. hora o menos	77	27.8%	27.8%
2 Más de una hora	136	49.1%	76.9%
3 No sabe	64	23.1%	100.0%
Total	277	100.0%	
Sum	= 541.00		
Mean	= 1.95		
Standard deviation	= 0.71		

SALUD MATERNA

34. Está embarazada actualmente?

SM34EMBACT	Freq	Percent	Cum
1 Si	26	9.4%	9.4%
2 No	251	90.6%	100.0%
Total	277	100%	
Sum	= 528.00		
Mean	= 1.91		
Standar deviation	= 0.29		

SOLO MUJERES QUE NO ESTAN EMBARAZADAS

S A L U D M A T E R N A

35. Quiere tener otro hijo en los proximos dos años

Current selection: SM34EMBACT=2

SM35OHIJO	Freq	Percent	Cum.
1 Si	25	10.0%	10.0%
2 No	218	86.9%	96.8%
3 No sabe	6	2.4%	99.2%
9 no responde	2	0.8%	100.0%
Total	251	100.0%	
Sum	= 497.00		

Mean = 1.98
 Standard deviation = 0.72

S A L U D M A T E R N A

SOLO MUJERES QUE NO ESTAN EMBARAZADAS Y QUE NO O NO SABEN SI QUIEREN EMBARAZARSE DURANTE LOS DOS AÑOS SIGUIENTES

36. Están usando algún metodo metodo anticonceptivo

Current selection: (SM34EMBACT=2) AND (SM35OHIJO<>1)

SM36METOD	Freq	Percent	Cum.
1 Si	16	7.1%	7.1%
2 No	208	92.0%	99.1%
9 No responde	2	0.9%	100.0%
Total	226	100.0%	

Sum = 450.00
 Mean = 1.99
 Standard deviation = 0.71

S A L U D M A T E R N A

SOLO MUJERES QUE NO ESTAN EMBARAZADAS Y QUE NO QUIEREN EMBARAZARSE DURANTE LOS DOS AÑOS SIGUIENTES

37. solo mujeres que están usando algun metodo anticonceptivo

Current selection: ((SM34EMBACT=2) AND (SM35OHIJO<>1)) AND (SM36METOD=1)

METODO	Freq	Percent	Cum.
9Ritmo	13	100.0%	100.0%
Total	13	100.0%	

Sum = 117.00
 Mean = 9.00
 Standard deviation = 0.00

Salud Materna

38. Madres que verían bien que el proyecto ofrezca algún método anticonceptivo

SM38PRYMET	Freq	Percent	Cum.
1 Si	214	77.3%	77.3%
2 No	12	4.3%	81.6%
9	51	18.4%	100.0%
Total	277	100.0%	

Sum = 697.00
 Mean = 2.52
 Standard deviation = 3.09

IMAGEN DEL PROGRAMA DE SALUD

39.a Que tipo de atención recibió del hospital este año.

IP39ATENC	Freq	Percent	Cum.
0 Si	246	88.8%	88.8%
1 No	31	11.2%	100.0%

Total	277	100%	
Sum	=	31.00	
Mean	=	0.11	
Standard deviation	=	0.32	

39.b Consulta en el hospital

IP39BTENC	Freq	Percent	Cum.
0 No	259	93.5%	93.5%
1 Si	18	6.5%	100.0%

Total	277	100.0%	
Sum	=	18.00	
Mean	=	0.06	
Standard deviation	=	0.25	

IMAGEN DEL PROGRAMA DE SALUD

39.c Consulta con el personal de salud en su domicilio

IP39CTENC	Freq	Percent	Cum.
0 No	267	96.4%	96.4%
1 Si	10	3.6%	100.0%

Total	277	100.0%	
Sum	=	10.00	
Mean	=	0.04	
Standard deviation	=	0.19	

IMAGEN DEL PROGRAMA DE SALUD

39.d Visita domiciliaria

IP39DTENC	Freq	Percent	Cum.
0 No	165	59.6%	59.6%
1 Si	112	40.4%	100.0%

Total	277	100.0%	
Sum	=	112.00	
Mean	=	0.40	
Standard deviation	=	0.49	

IMAGEN DEL PROGRAMA DE SALUD

39.e Peso, Talla, o vacunación en concentración

IP39ETENC	Freq	Percent	Cum.
0	159	57.4%	57.4%
1	118	42.6%	100.0%

Total	277	100.0%	
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Sum = 118.00
 Mean = 0.43
 Standard deviation = 0.50

IMAGEN DEL PROGRAMA DE SALUD
 39.f Ninguna atención

IP39FTENC ;	Freq	Percent	Cum.
0 No	201	72.6%	72.6%
1 Si	76	27.4%	100.0%
Total	277	100.0%	

Sum = 76.00
 Mean = 0.27
 Standard deviation = 0.45

IMAGEN DEL PROGRAMA DE SALUD
 40. Como califica Ud. esta atención

IP40CALIF	Freq	Percent	Cum.
1 Excelente	13	4.7%	4.7%
2 Buena	176	63.5%	68.2%
3 Deficiente	11	4.0%	72.2%
4 Mala	5	1.8%	74.0%
9 No recibieron atención	72	26.0%	100.0%
Total	277	100.0%	

Sum = 1066.00
 Mean = 3.85
 Standard deviation = 3.08

IMAGEN DEL PROGRAMA DE SALUD
 41. Sugerencias al Programa (1)

IP41SUG1	Freq	Percent	Cum.
ALIMENTAR A LOS NIÑOS PARA PROTEGER DE ENFERMEDAD	1	0.4%	0.4%
ALIMENTARSE Y ASEO PARA NO TENER ENFERMEDADES	1	0.4%	0.8%
AYUDAS PARA LOS NIÑOS Y MADRES	1	0.4%	1.1%
Alimentarse bien con lo canidor(?) limpos y lavarse	1	0.4%	1.5%
Alimentos	1	0.4%	1.9%
Asistencia continua a los comunidades de asi	1	0.4%	2.3%
Ayuda con medicinas para los niños	1	0.4%	2.6%
Ayuda con educacion sobre planificacion familiar,	1	0.4%	3.0%
Ayuda con las medicinas	1	0.4%	3.4%
Ayuda con las medicinas del H. Ancoraimes y vacunas	1	0.4%	3.8%
Ayuda de medicamentos, etc.	1	0.4%	4.2%

CON MEDICAMENTOS	1	0.4%	4.5%
Como curarse cuando no enfermarnos. Educacion	1	0.4%	4.9%
Como para parto, colaron queremos medicamentos	1	0.4%	5.3%
Cuando llega a nuestro comunidad rapido se va	1	0.4%	5.7%
Cuando vayamos al puesto de salud, tambien podemos	1	0.4%	6.0%
Curarse bien con ? limpio y tomando medicinas.	1	0.4%	6.4%
Curarse cuando hay enfermedad.	1	0.4%	6.8%
Educacion continuo sobre la salud de todo los	1	0.4%	7.2%
El hospital que venga a curarnos para que	1	0.4%	7.5%
En la comunidad falta los enfermeros, protegerse	1	0.4%	7.9%
En la comunidad queremos ensenanza para nosotros	1	0.4%	8.3%
Es bueno que nos ayuden con medicinas de parte del	1	0.4%	8.7%
Falta los medicamentos alimentos, y asi para el	1	0.4%	9.1%
Faltan los enfermeros que traigan los medicinas	1	0.4%	9.4%
Hacer vacunar a los niños bien, asi para poder	1	0.4%	9.8%
Hacer vacunar y mantener con las plantas	1	0.4%	10.2%
Hospital acercarse para hacer controlar despues	1	0.4%	10.6%
Ir al hospital para hacerse vacunar para no	1	0.4%	10.9%
La ensenanza de planificacion familiar.	1	0.4%	11.3%
Llevar los cursos de salud.	1	0.4%	11.7%
MAS AYUDA DEL HOSPITAL	1	0.4%	12.1%
MEDICAMENTO, VACUNAS	1	0.4%	12.5%
MEDICAMENTOS PARA LA DIARREA	1	0.4%	12.8%
Mantenerse limpias, los enfermedades es causado por	1	0.4%	13.2%
Mas medicamentos y orientación sobre planificacion	1	0.4%	13.6%
Medicamentos para los enfermos	1	0.4%	14.0%
Medicina para nosotros y nuestros niños	1	0.4%	14.3%
Medicinas para la familia para vivir sanos	1	0.4%	14.7%
NADA	3	1.1%	15.8%
NO DA SU OPINION	1	0.4%	16.2%
NO PUEDE DECIR NADA PORQUE NUNCA RECIBIERON ATENCIO	1	0.4%	16.6%
NO SABE	1	0.4%	17.0%
Ninguna	1	0.4%	17.4%
Ninguno	1	0.4%	17.7%
No ... ninguna.	1	0.4%	18.1%
No hay como una puesto de salud para nosotros.	1	0.4%	18.5%
No sabe	3	1.1%	19.6%
Nosotros queremos alimento par nuestro hijo.	1	0.4%	20.0%
Nosotros queremos alimentos	1	0.4%	20.4%
Nosotros queremos hacer vacunar a los niños	1	0.4%	20.8%
Nosotros queremos las medicamentos	1	0.4%	21.1%
Nosotros queremos las medicinales del hospital	1	0.4%	21.5%
Nosotros queremos los medicamentos.	1	0.4%	21.9%
Nosotros queremos medicamentos para vivir sano.	1	0.4%	22.3%
Nosotros queremos puesto de salud y tambien que	1	0.4%	22.6%
Nosotros queremos que ayude con las medicinas	1	0.4%	23.0%
Nosotros queremos que ayude con las medicinas del	1	0.4%	23.4%
Nosotros queremos que mas auden con medicinas	1	0.4%	23.8%
Nosotros queremos que no ayude con la medicina,	1	0.4%	24.2%
Nosotros queremos que no ayude.	1	0.4%	24.5%
Nosotros queremos que nos ayuda con las	1	0.4%	24.9%
Nosotros queremos que nos ayuda del hospital con	1	0.4%	25.3%

Nosotros queremos que traiga el medicamentos del	1	0.4%	25.7%
Nosotros queriamos que ayude con las medicinas del	1	0.4%	26.0%
Orientacion acerca de planificacion familiar	1	0.4%	26.4%
Orientacion sobre planificacion familiar.	1	0.4%	26.8%
PIDE AYUDA PARA LA COMUNIDAD	1	0.4%	27.2%
PIDE MEDICAMENTOS PARA LA COMUNIDAD	2	0.8%	27.9%
PIDE PLANIFICACION FAMILIAR	1	0.4%	28.3%
PLANIFICACION FAMILIAR	1	0.4%	28.7%
PLANIFICACION FAMILIAR PARA LA COMUNIDAD	1	0.4%	29.1%
Para no enfermarse queremos que nos ayuden con	1	0.4%	29.4%
Para vivir sano de salud que traiga medicamentos.	1	0.4%	29.8%
Para vivir sano en esta comunidad sobre salud	1	0.4%	30.2%
Para vivir sanos con mas medicinas que nos ayuden	1	0.4%	30.6%
Pedimos nosotros que nos atiendan en el parto	1	0.4%	30.9%
Pidemos los medicamentos del hospital.	1	0.4%	31.3%
Planificación familiar	1	0.4%	31.7%
Posta sanitaria que haya en la comunidad	1	0.4%	32.1%
Posta sanitaria, asi tambien que haya ambulancia	1	0.4%	32.5%
Posta santiaria en la comunidad asi para la	1	0.4%	32.8%
Protegenos con la vacunacion asi para vivir en	1	0.4%	33.2%
Pueden venir a enseñarnos para que vivamos mejor.	1	0.4%	33.6%
Q' un puesto de salud en la comunidad asi para no	1	0.4%	34.0%
QUEREMOS MEDICAMENTOS	1	0.4%	34.3%
QUEREMOS UN MEDICO EN EL PUEBLO	1	0.4%	34.7%
QUISIERAMOS AYUDA DEL HOSPITAL	1	0.4%	35.1%
Que curen a nuestros niños	1	0.4%	35.5%
Que hay mas curacion que nos den mas medicamento.	1	0.4%	35.8%
Que haya las posta sanitaria, asi para vivir mas	1	0.4%	36.2%
Que haya los doctores tambien como una posta	1	0.4%	36.6%
Que haya los enfermeros para la comunidad asi para	1	0.4%	37.0%
Que no traiga medicinas y podemos comprar.	1	0.4%	37.4%
Que nos ayude enseñar para la salud.	1	0.4%	37.7%
Que nos enseñe a las mamás y asi para orientamos	1	0.4%	38.1%
Que podemos ir nosotros a la hospital o puesto	1	0.4%	38.5%
Que pueden venir los doctores a la posta sanitaria	1	0.4%	38.9%
Que se construya un puesto de salud porque ir hasta	1	0.4%	39.2%
Que siga adelante el hospital	1	0.4%	39.6%
Que venga a enseñar sobre planificacion familiar	1	0.4%	40.0%
Que venga el doctor y personal salud.	1	0.4%	40.4%
Que vengan a curar a nuestros hijos.	1	0.4%	40.8%
Que vengan a curar el personal de salud del	1	0.4%	41.1%
Que vengan a curarnos del hospital.	1	0.4%	41.5%
Que vengan del Hospital a curar a los niños	1	0.4%	41.9%
Que vengan los enfermeros a este lugar por que	1	0.4%	42.3%
Que visite casa por casa el personal de salud.	1	0.4%	42.6%
Queremos atención a los enfermos con medicamentos	1	0.4%	43.0%
Queremos cursillo que nos enseñe planificacion	1	0.4%	43.4%
Queremos la atencion del Hospital (en) cualquier	1	0.4%	43.8%
Queremos la atención del hospital para vivir sanos	1	0.4%	44.2%
Queremos mas ayuda con el hospital.	1	0.4%	44.5%
Queremos mas ayuda del hospital en servicios	1	0.4%	44.9%
Queremos medicamentos del puesto de salud,	1	0.4%	45.3%

Queremos medicamentos para curar a los niños	1	0.4%	45.7%
Queremos medicamentos para nuestro salud.	1	0.4%	46.0%
Queremos medicamentos para que vivemos sano.	1	0.4%	46.4%
Queremos nosotros que nos enseñe sobre	1	0.4%	46.8%
Queremos nosotros que vengan a curar a los	1	0.4%	47.2%
Queremos nostoros que venga el doctor que no ayude	1	0.4%	47.5%
Queremos orientación sobre la salud, que nos preste	1	0.4%	47.9%
Queremos que haya medicamentos en el hospital para	1	0.4%	48.3%
Queremos que haya un doctor para que nos oriente so	1	0.4%	48.7%
Queremos que nos de medicamentos para los enfermos	1	0.4%	49.1%
Queremos que nos oriente sobre planificacion	1	0.4%	49.4%
Queremos que traigan mas medicinas para los niños y	1	0.4%	49.8%
Queremos que vacuna a nuestro hijo para que	1	0.4%	50.2%
Queremos que venga doctor de personal salud.	1	0.4%	50.6%
Queremos que vengan a curar a los enfermos personal	1	0.4%	50.9%
Queremos que vengan los promotores a pasar curcillo	1	0.4%	51.3%
Queremos un curcillo para planificacion familiar	1	0.4%	51.7%
Queremos una ayuda de medicamentos y sobre	1	0.4%	52.1%
Queremos vivir sanos	1	0.4%	52.5%
Quiere ayuda a los niños de salud.	1	0.4%	52.8%
Quiere ayuda alimentos para los niños	1	0.4%	53.2%
Quiere los medicamentos	1	0.4%	53.6%
Quiere los medicamentos para los niños	1	0.4%	54.0%
Quiere saber sobre el alimento, como se prepara	1	0.4%	54.3%
Quiere saber sobre planificación familiar	1	0.4%	54.7%
Quiero que venga del hospital y que traigan	1	0.4%	55.1%
Quiero que venga el medico a enseñar sobre	1	0.4%	55.5%
Quiero que venga el medico para que nos cure, pueden	1	0.4%	55.8%
RECIBIR MAS VACUNAS	1	0.4%	56.2%
SI ABRIA UNA ATENCION PERMANENTE	1	0.4%	56.6%
SI EL PERSONAL PUEDE VENIR SEGUIDO A LA COMUNIDAD	1	0.4%	57.0%
Saber bien de la salud y que medicos nos pueden	1	0.4%	57.4%
Saber sobre saneamiento básico	1	0.4%	57.7%
Sugere no pedir nada.	1	0.4%	58.1%
Visitar al hospital y pedir medicamentos y	1	0.4%	58.5%
Yo digo que nos traiga mas medicinas por la	1	0.4%	58.9%
Yo quiero por mi parte mas ayuda sobre la salud y	1	0.4%	59.2%
acudir al centro de salud para mejorar la salud	1	0.4%	59.6%
alimentarse bien	1	0.4%	60.0%
alimentarse bien para mejorar la vida	1	0.4%	60.4%
atencion a las familias con visitas domiciliarias	1	0.4%	60.8%
atencion a los pacientes	1	0.4%	61.1%
atencion constante en la comunidad	1	0.4%	61.5%
atencion personas mayores y vacunar a niños menores	1	0.4%	61.9%
ayuda con medicinas del hospital	2	0.8%	62.6%
ayuda de los medicos y orientacion en la salud	1	0.4%	63.0%
ayuda del hospital	1	0.4%	63.4%
ayuda del hospital para proteger las enfermedades	1	0.4%	63.8%
ayuda del hospital que nos dicte clases	1	0.4%	64.2%
ayuda del hospital, mas con medicamentos	1	0.4%	64.5%
ayuda del hospital, medicamentos	1	0.4%	64.9%
ayuda para los niños	1	0.4%	65.3%

ayuda para mejorar la salud	1	0.4%	65.7%
buena orientacion sobre la salud para vivir sanos	1	0.4%	66.0%
controlar a los ninos, vacunas a toda la comunidad	1	0.4%	66.4%
controles a los ninos y vacunas	1	0.4%	66.8%
cuando estamos embarazadas que traigan medicina	1	0.4%	67.2%
curarnos con hospital y con otros.	1	0.4%	67.5%
defenderse de enfermedades	1	0.4%	67.9%
hacer curar y vacunar para que seamos bien de salud	1	0.4%	68.3%
hacer vacunas a los niños	1	0.4%	68.7%
hacerse controles con los medicos.	1	0.4%	69.1%
hacerse curar bien todas las familias	1	0.4%	69.4%
ir al hospital para hacerse curar	1	0.4%	69.8%
mantener limpio los litrenos, consumir agua limpio,	1	0.4%	70.2%
mas atencion a la comunidad	1	0.4%	70.6%
mas atencion con controles a los ninos con	1	0.4%	70.9%
mas atencion de salud a los niños	1	0.4%	71.3%
mas atencion del hospital	1	0.4%	71.7%
mas atencion para el salud	1	0.4%	72.1%
mas ayuda del hospital	1	0.4%	72.5%
mas prefiere con sus propios medicamentos, el hospi	1	0.4%	72.8%
mas visitas a las comunidades para ver a los niños	1	0.4%	73.2%
medicamentos del hospital	1	0.4%	73.6%
medicamentos para diarrea	1	0.4%	74.0%
medicamentos para los niños	1	0.4%	74.3%
medicamentos para niños	1	0.4%	74.7%
medicamentos para que crezca los niños	1	0.4%	75.1%
medicinas para no tener mas hijos	1	0.4%	75.5%
mejorar agricultura y ganaderia para consumo y vent	1	0.4%	75.8%
necesitamos mas ayuda con el proyecto	1	0.4%	76.2%
no cree en personal de salud, fue defraudado en	1	0.4%	76.6%
nunca consulta al centro y no puedo decir nada	1	0.4%	77.0%
orientacion a las madres para cuidar a los niños	1	0.4%	77.4%
orientacion a los trabajadores del hospital	1	0.4%	77.7%
para vengam cada mes para que controle a los niños	1	0.4%	78.1%
pedir ayuda al hospital, orientacion y educacion	1	0.4%	78.5%
pide atencion medica en la comunidad para toda la	1	0.4%	78.9%
pide la atencion medica para los enfermos	1	0.4%	79.2%
pide medicamentos	1	0.4%	79.6%
planificacion familiar	1	0.4%	80.0%
puesto de salud para la comunidad, medicamentos	1	0.4%	80.4%
que los niños sean vacunados, que se construya una	1	0.4%	80.8%
que ayude con las medicinas del hospital como	1	0.4%	81.1%
que el hospital nos ayude con el personal de salud	1	0.4%	81.5%
que el promotor sea mas capacitado para la	1	0.4%	81.9%
que haya mas control de salud de criamiento	1	0.4%	82.3%
que haya medicamentos	1	0.4%	82.6%
que los medicos nos pueden orientar y curar	1	0.4%	83.0%
que los medicos sigan viniendo a vacunar los niños	1	0.4%	83.4%
que los niños reciban las vacunas	1	0.4%	83.8%
que nos ayude con medicamentos para nuestra salud	1	0.4%	84.2%
que nos ayuden del hospital	1	0.4%	84.5%
que nos ayuden los medicos de Ancoraimos con	1	0.4%	84.9%

que tenga el personal del hospital seguido para la	1	0.4%	85.3%
que traigan medicinas para los niños	1	0.4%	85.7%
que vengan a curar a los niños y a los abuelos en	1	0.4%	86.0%
que vengan a la comunidad y que traigan medicina	1	0.4%	86.4%
que vengan los enfermeros auxilios para atender de	1	0.4%	86.8%
que vengan los enfermeros para entrarnos	1	0.4%	87.2%
queremos clases del hospital	1	0.4%	87.5%
queremos que nos ayude del hospital con las medicina	1	0.4%	87.9%
queremos que nos mande el medicamentos del hospital	1	0.4%	88.3%
queremos que venga los doctores para curar y que	1	0.4%	88.7%
queremos una buena atencion del doctor	1	0.4%	89.1%
quiere las medicinas para la salud.	1	0.4%	89.4%
quisiera que vengan los doctores a la comunidad	1	0.4%	89.8%
quisiera que vengan vacunas	1	0.4%	90.2%
recibir consejo sobre la salud	1	0.4%	90.6%
saniamiento ambiental, agua potable	1	0.4%	90.9%
siempre lleva a la paz	1	0.4%	91.3%
solicita visita medica para planificacion dfamiliar	1	0.4%	91.7%
tener aguas limpios y hervidos	1	0.4%	92.1%
un puesto de salud y asi para mejorar de nuestra	1	0.4%	92.5%
un puesto sanitario	1	0.4%	92.8%
vacuna domicilio	1	0.4%	93.2%
vacunas	1	0.4%	93.6%
vacunas para sus hijos y su comunidad	1	0.4%	94.0%
vacunas, medicamentos	3	1.1%	95.1%
vivir bien con la familia y hacerse vacunar a los	1	0.4%	95.5%
vivir bien en salud	1	0.4%	95.8%
vivir bien en salud con la centro de por parte	1	0.4%	96.2%
vivir bien sin hablar nada	1	0.4%	96.6%

VII A N E X O S

A N E X O 1

FORMULARIO DE ENCUESTA

CONSEJO DE SALUD RURAL ANDINO
ENTREVISTA EN LINEA DE BASE - OCTUBRE 1993 ANCORAIMES

Entrevista No. _____ Fecha de revisión: ___/___/___

Fecha de entrevista: ___/___/___ Reentrevista: ___/___/___

Entrevistador: _____ Supervisor _____

INFORMACION DE IDENTIFICACION:

Comunidad: _____

Hay número de la casa a la vista?

- Hay [1] Cuál es: _____
- No hay [2]

Nombre de la madre: _____ - _____

	Nombres	Apellidos
Edad de la madre en años cumplidos:	_____	

Idioma de la entrevista:	Español	[1]
	Quechua	[2]
	Aymara	[3]

Nombre del niño menor de 2 años: _____ - _____

	Nombres	Apellidos
Fecha de nacimiento (___/___/___) Edad en meses	_____	

CONTROL DE CRECIMIENTO:

1.- Tiene (nombre del niño) su carnet de Salud Infantil u otras tarjetas de vacunación en su casa? Muestreme [por favor].
 UTXITI WAWAMAN VACUNAT, PISAT PAPELANAKAPAXA
 UNACHT AYTASMASTI.

- Carnet de Salud Infantil (verificado). [1]
- No, pero tiene Carnet de Salud Infantil en el puesto u hospital. [2]
- Otro documento de controles de crecimiento o vacuna (especifique). [3] _____
- No tiene documento. [4]
- Tiene, pero no se pudo verificar. [5]

2.- Mire el registro o gráfico del niño y anote la siguiente información:
 Cuántas veces ha sido pesado el niño en los últimos 12 meses?
 _____ veces No hay controles [99].

INMUNIZACIONES:

3.- Mire el carnet de Salud Infantil u otro documento con información de vacunas y registre la fecha de cada vacuna (día/mes/año).

BCG (___/___/___)

DPT (___/___/___)

(___/___/___)

(___/___/___)

Antipolio inicial (___/___/___) Antisarampión: (___/___/___)

Antipolio 1 (___/___/___)

Antipolio 2 (___/___/___)

Antipolio 3 (___/___/___)

- 4.- A qué edad un niño termina sus vacunas?

QHAUQHA PHAXSINIRUS MA WAWAX TAQPACHA VACUNXA TUKUCHXANAPA.

_____ meses

No sabe []

- 5.- Sabe Ud. porqué una mujer embarazada necesita ser vacunada contra el Tétanos?

JUMAX YATATI, KUNATS MA USURY WARMIX VACUNATANAPA TETANOS SAT USUTAKIXA.

Para proteger a la madre y recién nacido contra el tétanos

[1]

Para proteger sólo a la mujer contra el tétanos

[2]

Para proteger sólo al recién nacido contra el tétanos

[3]

Otro o no sabe

[4]

- 6.- Cuántas vacunas contra el tétanos debe recibir una mujer embarazada para proteger al recién nacido del tétanos?

QHANQHA KUTIS MA USURI WARMIXA TETANO VACUNA KATUQANAPA JAN WAWAN USUNTANAPATAKIXA

Una [1]

Dos [2]

Más de dos [3]

Ninguna [4]

No sabe [5]

- 7.- Tiene Ud. su Carnet de Vacunación? Muéstreme

JUMAN UXTAMTI CARNITI VACUNACIONAMAXA, UNICHT AYTASMATI

Si (Verificado) [1]

Si pero no se pudo verificar [2]

(vaya a pregunta 9).

Si, tiene en el puesto u hospital [3]

No (vaya a pregunta 9) [4]

- 8.- Mire el Carnet de Vacunación y registre las fechas de vacunas de TT ó DT en los(día/mes/año).

DT ó tt1 (___/___/___)

DT ó tt4 (___/___/___)

DT ó tt2 (___/___/___)

DT ó tt5 (___/___/___)

DT ó tt3 (___/___/___)

LACTANCIA MATERNA

- 9.- Está Ud. dando su pecho a (nombre del niño).?

JUMAX WAWAMARU NUÑUYASKTATI

si [1] vaya a preg. 12
no [2]

10.- Ha dado su pecho alguna vez a (nombre del niño)?
NUNU CHURITITATI (NOMBRE DEL NIÑO)?

si [1]
no [2] vaya a preg. 13

11.- Qué edad tenía (nombre del niño) cuando dejó de darle pecho?
QHAUQUA PHAXSINIRUS WAWAMX NUNUT T' AQAQXTAXA?

meses.

12.- Después del parto, cuándo le dió el pecho por primera vez
a (nombre del niño)?
KUNAPACHATIXA WAWA USUSKTAXA, KUNA RATUTSA NUNKATUYTAXA
(NOMBRE DEL NIÑO)?

Durante la primera hora después del parto [1]
Durante las primeras 8 horas después del parto [2]
Más de 8 horas después del parto [3]
No se acuerda [4]

ALIMENTACION INFANTIL:

13.

a. Le está dando agua (tés/mate) a (nombre del niño)?
(NOMBRE DEL NIÑO) WAWAMARU UMA JUNT'U UMA CHURTATI?

1. si [1]
2. no [2]
3. no sabe [3]

b. Le está dando leche de vaca, leche en polvo, o queso a
(nombre del niño)
(NOMBRE DEL NIÑO) WAKA LICHI, KISO, JAQHA LICHINAKA
CHURIRITATI

1. si [1]
2. no [2]
3. no sabe [3]

c. Le está dando comida aplastadita a (nombre del niño), como
papa, plátano, o la comida de tu plato?
(NOMBRE DEL NIÑO) MANQ' A CHURTATI T' UJXASA, JAN UKAXA
PLATUMATCHA.

1. si [1]
2. no [2]
3. no sabe [3]

d. Le aumenta aparte aceite o manteca al plato de comida de
(nombre del niño) todos los días?
SAPURU (NOMBRE DEL NIÑO) PLATUPARU YAPT'IRITATI ACITIMPI.

- 1. si [1]
- 2. no [2]
- 3. no sabe [3]

e. Con qué tipo de sal cocina Ud. el alimento de (nombre del niño)? Muéstreme, por favor.
 (NOMBRE DEL NIÑO) MANQ'APXA, KUNA KASTA JAYUMPISA PHAYASTAXA UNACHT'AYITASMATI.

- 1. sal yodada (verificado) [1]
- 2. sal no yodada [2]

14.- Le da mamadera a (nombre del niño).
 (NOMBRE DEL NIÑO) MAMADIRA CHURIRITATI?

- 1. si [1]
- 2. no [2]

ENFERMEDADES DIARREICAS

15.- Ha tenido (Nombre del niño) diarrea en las dos ultimas semanas?
 (NOMBRE DEL NIÑO) PASIR PA' SEMANA KURSIYAMPI USUNTITI

- 1. si []
- 2. no [] -----> Pase a la 20
- 3. no sabe [] -----> Pase a la 20

16.- Durante la diarrea de (nombre del niño), le dió pecho
 (lea las opciones a la madre)
 KURSIAMPIKANA UKHAXA NUBUM CHURASKIRITATI

- 1. Más de lo acostumbrado? [1] NUBUYIRIKTA UKAT YAPT'ATA
- 2. Igual a lo acostumbrado? [2] NUBUYIRIKT UKHAMAKCHA
- 3. Menos de lo acostumbrado? [3] JUK'AMP JUK'AKCHA
- 4. Paró completamente? [4] NUBUTX APAQJTACHA
- 5. Ya no recibe pecho [5] JANIT NUBUYXAYATA

17.- Durante la diarrea de (nombre del niño), le dió otros líquidos (ademas del pecho),? (lea las opciones a la madre)
 KUMAPACHATIXA (NOMBRE DEL NIÑO) KURSIYA USUMPIKI UKH'AXA YAKH'A UMANAK CHURTATI NUBUTSIPANA.

- 1. Más de lo acostumbrado? [1] UMIRIKI JUK'AMPI YAPT'ATA
- 2. Igual a lo acostumbrado? [2] UMIRIK UKA PASCHPAKCHA
- 3. Menos de lo acostumbrado? [3] JUK'AMP JUK'AKCHA
- 4. Dejó de darle completamente [4] JANICH CHURKHTAXA
- 5. Sólo recibe pecho [5] NUBUSAPAKTI CHURTAXA

18.- Durante la diarrea de (nombre del niño), le dió alimentos aplastados.....?

(lea las opciones a la madre)
 KURSIAMPIKIUKHAXA MANQ'A T'UXASAT CHURTAXA?

- 1. Más de lo acostumbrado? [1] MANQ'IRIKI UKARU YAPT'ATA

2. Igual a lo acostumbrado? [2] MANQ'IRIKI UKJAKCHA
 3. Menos de lo acostumbrado? [3] JUK'AMPI JUK'AKCHA
 4. Dejó de darle completamente [4] JANICH CHURXTA
 5. Sólo recibe pecho [5] NUNUSAPAKTI CHURTAXA

19.- Cuando (nombre del niño) tuvo diarrea, qué tratamiento le dió? ¿ es que usó alguno)

(puede marcar más de una respuesta)

KUNA QULLAS (NOMBRE DEL NIÑO) CHURIRITA KURSIYAMPIKI UKH'AXA

- a. Nada [a]
 b. Sobre de rehidratación oral [b]
 c. Solución de agua, azúcar y sal (suero casero) [c]
 d. Soluciones a base de cereales [d]
 e. Líquidos, té o mates [e]
 f. Medicinas anti-diarreicas o antibióticos [f]
 g. Otro (especifique) [g]

20.- Si (nombre del niño) tuviese diarrea, cómo te darías cuenta que está grave?

(puede marcar más de una respuesta)

KUNXAMATS JUMAX AMUYT'ASMAX (NOMBRE DEL NIÑO) ANCHA
 KURSYAMPITAPA?

- a. No sabe [a]
 b. Vómitos [b]
 c. Fiebre [c]
 d. Boca seca, ojos hundidos, mollera hundida, orina poco (deshidratación) [d]
 e. Diarrea prolongada (más de 14 días) [e]
 f. Sangre en la heces [f]
 g. Pérdida del apetito [g]
 h. Débil o desganado [h]
 i. Enflaquecimiento o pérdida de peso [i]
 j. Otros (especifique) [j]

Qué acciones importantes tomarías cuando tu niño tiene diarrea?

(puede marcar más de una respuesta)

KUNSA LURASMA QULLT'ANATAKI WIWITAMAX KURSIYAMPIKI UKHAXA

- a. No sabe [a]
 b. Iniciar con líquidos lo más pronto posible [b]
 c. Dar al niño más líquidos de los usuales [c]
 d. Dar alimento con más frecuencia y menor cantidad [d]
 e. Preparar y administrar SRO correctamente [e]
 f. Llevar al niño a un centro de salud [f]
 g. Alimentar más al niño después de la diarrea, de manera que recupere el peso [g]
 h. Parar los líquidos [h]
 i. Parar la alimentación [i]
 j. Otros (especifique) [j]

21.- Ha oído hablar del sobre de rehidratación oral alguna vez?
 JUMAX UNT'ATI, JAN UKAX IST'IRITACH PARLIRI SOBRE DE
 REHIDRACION ORAL UKATA?

si [1]
no [2] (vaya a la pregunta 25)

22.- Sabe Ud. para qué sirve el sobre de rehidratación oral?
JUMAX YATATI KUNATAKIS WALISUKA SOBREXA?

Si, sabe [1]
No sabe o incorrecto [2]

23.- Lo ha usado alguna vez?
JUMAX APNAQIRITATI?

Si [1]
No [2]

24.- Sabe preparar el sobre de rehidratación?
KUNXAMASA WAKIST'ANAXA?

CORRECTO

Si [1] 1 litro de agua hervida
No o incorrecto [2] 1 sobre SRO

CONTROL DE NEUMONIA

25.- Ha estado (nombre del niño) enfermo con tos fuerte en las dos últimas semanas?
PASIR PÁ SEMANA, ANCHA CH'UXU UXUMPINTI (NOMBRE DEL NIÑO)

Si [1]
No [2] (Vaya a la pregunta 29)

26.- Ha estado (nombre del niño) con dificultad al respirar, o respiraba como cansado, cuando enfermó con tos?
(NOMBRE DEL NIÑO) KUNAPACHATIX CH'UXUMPIKI, UKHAMARAKI UXUMPIKANA UKHAXA WALIT SAMAQINA, QARXATJAMA?

Si [1]
No [2] (vaya a la pregunta 29)
No sabe [3] (vaya a la pregunta 29)

27.- Ha pedido Ud. consejo o ayuda para (nombre del niño) cuando estuvo enfermo con tos y dificultad respiratoria?
JUMAX AMUYT'AWI MAYTATI KUNAPACHATIXA (NOMBRE DEL NIÑO) UXU USUMP USUTAKANH, UKHAMARAKI CH'AMAMPI SAMSKI UKHAXA?

Si [1]
No [2] (vaya a la pregunta 29)

28.- De quién recibió Ud. consejo para la tos de (nombre del niño)?
[Más de una respuesta es posible, anote todas]
JUMAX KHITITS MAYTAX MA AMUYT'AWI O YANAPT'AWI UJUMPIKANA (NOMBRE DEL NIÑO) UK'AXA?

Puesto o centro de salud [a]
Farmacia [b]
Médico particular [c]
Promotor de salud [d]

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Curandero	[e]
Partera empirica	[f]
Parientes y amigos	[g]
Otros (especifique)	[h]

29.- Ud. cómo sabría que (nombre del niño) tiene neumonia? [Más de una respuesta es posible, anote todas]

KUNXAMATSA YATISMAX (NOMBRE DEL NIÑO) WALI K'AXAUSUMPI
USUNTATAPXA?

No lo sabe	[a]
Respiración rápida y agitada	[b]
Se le hunde el pecho	[c]
No quiere tomar o comer	[d]
Fiebre	[e]
Cuando se pone morado	[f]
Tos	[g]
Otros (especifique)	[h]

SALUD MATERNA

30.- Tiene Ud. su Carnet de Salud Materna? Muéstreme
"SALUD MATERNA" SISKI UKA, CARNITIMA UTXTAMTI? UNASTAITASMA

Si (Verificado)	[1]
Si pero no se pudo verificar	[2] (vaya a la preg.32)
Si, tiene en el puesto u hospital	[3] (vaya a la preg.31)
No, (vaya a la pregunta 31)	[4]

31.- Registre el número de controles que figura en el Carnet

uno o más	[1]
ninguno	[2]

32.- En el nacimiento de (nombre del niño), quien ató y cortó el cordón umbilical?

(NOMBRE DEL NIÑO) USUSKAYAT UKHAX, KHITIS KURURITUP CHINUQIXA,
UKHAMARAX KHARIQIXA?

Ella misma	[1]
Esposo	[2]
Familiar femenino o vecina	[3]
Familiar masculino o vecino	[4]
Partera empirica	[5]
Personal en salud del proyecto	[6]
Otro personal de salud	[7]
No recuerda	[8]

33.- Después del parto si no sale la placenta, Qué tiempo se puede esperar antes que la madre este en peligro de muerte?

KUNAPACHATIX USUSTAX JAN PARISA MISTXASPAXA, KUNARATKAMAS
SUYT'ASMAXA JANI TAYKAX JAN WALIRU PURINATAKI?

Una hora o menos	[1]
Más de una hora	[2]
No sabe	[3]

34.- Está Ud. ahora embarazada?

JUMAX JICHA USURI XAQ'TATI O YAQHA WAWITA SUYTATI?

Si [1] (vaya a la pregunta 39)

No [2]

35.- Quisiera tener Ud. otro hijo en los próximos dos años?

MUNASMATI MĀ WAWITAMPI UTXANAPA AKAT PAMARARU?

Si [1] (vaya a la pregunta 39)

No [2]

No sabe [3]

36.- Está Ud. ahora usando algún metodo para no embarazarse o retrasar el proximo embarazo?

JAN WASITAT USUR XAQI UNJASINATAKI, YATIPTACHA ISPUSUMAMPI KUNA KASTA, QULLASIWI O XARQ'AQ'ASIWI?

Si [1]

No [2] (vaya a la pregunta 38)

37.- Cuál es el metodo principal, que Ud. o su esposo, están usando ahora para que no salga embarazada?

CHACHA - WARMI KAUKNIZI KASTSA QULLT'AWI O XARQ'AQASIWSA APNAQAPTAXA JANI WASITAT WAWA UTXANAPATAQ'XA?

Donde lo obtiene?

Ligadura de trompas/vasectomia [1]

Inyecciones [2]

Pastillas anticonceptivas [3]

Dispositivo intra-uterino [4]

Diafragma [5]

Condomes [6]

Espuma o gel [7]

Lactancia materna exclusiva [8]

Metodo del ritmo [9]

Abstinencia [10]

Coito interrumpido [11]

Otros [12]

38.- Quisieras que el hospital ofrezca alguno de estos métodos?
JUMAX MUNASMATI, AKA JARK'AWINAKA HOSPITALAN YANAPAWIPA?

Si [1]

No [2]

IMAGEN DEL PROGRAMA DE SALUD

39.- Qué tipo de atención recibió Ud. o alguno de sus familiares durante este año? (lea las opciones pueden ser más que una, anote todas)

AKA MARA, WAWANAKAMA, JUMANAKA KUNA KASTA QULLT'AWSA O LURAWINAKSA HOSPITAL TUQITXA KATUQTAXA?

Consulta en el puesto de salud comunitario	[a]	
Consulta en el hospital	[b]	
Consulta del personal de salud a su domicilio		[c]
Visita domiciliaria	[d]	
Peso, talla o vacunación en concentración	[e]	
Ninguna (vaya a la preg.41)	[f]	

40.- Cómo califica Ud. está atención?

KUNXAMSA UKA LURAWINAKA O QULLT'AWINAKA JUMATAKI?

Excelente	[1]
Buena	[2]
Regular	[3]
Mala	[4]

41.- Cuáles son sus sugerencias para mejorar la salud en su comunidad?

KUNXAMASA AMUYT'AWINAKAMAXA, JUK'AMPI K'UMAR JAKAÑATAKI AKA MARKAS TAYPINA?

CSRA { 5 Pag. }

15/OCT/93

ANEXO 2

INDICADORES CLAVES - CAPACITACION SUPERVISORES Y ENCUESTADORES

LACTANCIA MATERNA Y ALIMENTACION INFANTIL

1. Practicas Adecuadas de Alimentación Infantil:
* Iniciación de la Lactancia Materna
% < 24 meses que recibieron pecho en las 8 primeras horas después del nacimiento.
2. Practicas Adecuadas de Alimentación Infantil:
* Lactancia Materna Exclusiva
% de niños < 4 meses que solo han recibido alimentos solidos o semisolidos.
3. Practicas Adecuadas de Alimentación Infantil:
* Introducción de Alimentos
% de niños entre 5-9 meses que han recibido alimentos solidos o semisolidos.
4. Practicas Adecuadas de Alimentación Infantil:
* Persistencia de lactancia materna
% de niños entre 20-24 meses que continuan con pecho (y reciben alimentos solidos).

ENFERMEDADES DIARREICAS AGUDAS

5. MANEJO DE ENFERMEDADES DIARREICAS:

*Persistencia de Lactancia Materna
% de niños < de 24 meses con EDA en las ultimas 2 semanas, que recibieron la misma cantidad o más de leche materna.
6. MANEJO DE EDA:

* Continuación de líquidos
% de < 24 meses con EDA que recibieron la misma cantidad o más de líquidos distintos de leche materna.
7. MANEJO DE EDA:

* Sólidos continuados
% de < 24 meses con EDA en las ultimas 2 semanas que recibieron la misma cantidad o más de alimentos.
8. MANEJO DE EDA:

* Uso de TRO
% de menores de 24 meses con EDA en las ultimas 2 semanas que recibieron rehidratación oral.

INFECCIONES RESPIRATORIAS AGUDAS

9. Control de neumonía: Tratamiento Médico
% de madres que buscó tratamiento médico para el menor de 24 meses con tos, respiración rápida y dificultosa en las ultimas dos semanas.

INMUNIZACIONES:

10. Cobertura de vacunación (Tarjeta): Acceso PAI.
% de niños entre 12 y 23 meses que recibieron DPT/1
11. Cobertura de vacunación (Tarjeta): Cobertura PAI.
% de niños de 12 y 23 meses que recibieron OPV3.
12. Cobertura de vacunación (Tarjeta): Cobertura Sarampión
% de niños entre 12 y 23 meses que recibieron vacuna antisarampionosa:
13. Cobertura de vacunación (Tarjeta): Proporción de deserción. 100^* (niños entre 12 y 23 meses que recibieron DPT1 - niños que recibieron DPT3)/niños entre 12 y 23 meses que recibieron DPT1.

CUIDADO MATERNO:

14. Cuidado materno (tarjeta): Tarjeta de atención materna.
% de madres con tarjeta de cuidado materno para el último hijo menor de 24 meses.
15. Cuidado materno (tarjeta) Cobertura de T.T
% de madres que recibieron dos dosis de vacuna contra el tetanos antes del nacimiento de su ultimo hijo < de 24 meses.
16. Cuidado materno (tarjeta) una o más visitas prenatales.
% de madres que tuvieron al menos una visita prenatal antes del nacimiento de su último hijo < de 24 meses.
17. Cuidado materno: uso de métodos anticonceptivos
% de madres con niños < de 24 meses que no desea tener hijos en los proximos dos años o no está segura y que está usando un método anticonceptivo moderno.

FUENTE: Universidad de Johns Hopkins, Escuela de Salud Pública.

ANEXO 3

EVALUACION FINAL: OBSERVACIONES SOBRE EL DESARROLLO DE LA ENCUESTA

FECHA: 23-10-93

PARTICIPACION: ANCORAIMES-CARABUCO

COORDINADORES
7 SUPERVISORES (9)
19 ENCUESTADORES (21)

A continuación se presentan las opiniones y sugerencias de los participantes, en torno a : Planificación, Capacitación, Trabajo de Campo, Seguimiento, Transporte-alojamiento-alimentación y expectativas.

1. Planificación

- La planificación no fue participativa ya que no se consultó a los equipos de campo en relación a la época en que se debía desarrollar la encuesta.
- Hubiera sido importante tener el formulario final de encuesta con mayor anticipación para agilizar la traducción.
- Las fechas de encuesta debieran tener el formulario final de encuesta con mayor anticipación para agilizar la traducción.
- Encuesta (Fecha propuesta): fines de noviembre

2. Capacitación

- Anteriormente las encuestas las realizaba el personal de salud, en la presente encuesta fue personal comunitario (estudiantes y promotores) quienes se ocuparon de ello. Lo que es muy positivo ya que motiva a la participación comunitaria, además de hacer que los encuestadores adquieran experiencia en este tipo de trabajo.

Como sugerencia para proximas encuestas: Se deberían retomar los recursos ya capacitados actualmente.
- Según opinión de algunos de los educadores, esta encuesta les sirvió para adquirir otros conocimientos, todo ello les motiva a incrementar el trabajo en su comunidad, además de motivarles a capacitarse más. El participar como encuestadores también les permitió conocer algo más sobre el trabajo del hospital, así como algo sobre medicina tradicional.
- Les impresionó mucho el grado de compañerismo que se pudo lograr en escasos días, todo ello les motivó a tratar de obtener información lo más verídica posible.

3. Trabajo de campo

- La forma de seleccionar las viviendas no fue sesgada, más bien objetiva.
- El tiempo de trabajo fue sin hora, fué muy sacrificado.

4. Seguimiento y supervisión

- Hubo en general un buen seguimiento de los supervisores.
- Se prestó orientación a los encuestadores especialmente en lo relacionado al sentido de las preguntas.
- Sirvió a los supervisores para conocer la realidad de trabajo y de vida en otras comunidades.

5. Transporte, alojamiento y alimentación

- Carabuco, Ok. alimentación
- Ancoraimés, Ok. alimentación
- El alojamiento estuvo regular en Carabuco ya que no se contó con suficientes frazadas.
- En Carabuco no se tenía moto, lo que dificultó la supervisión, la camioneta utilizada para transportar al personal no contaba con una carpa.
- En Ancoraimés se sugirió variar la alimentación. Para una próxima encuesta también se sugirió que el personal pudiera contar con pequeñas mochilas para transportar su alimento.

6. Espectativas

- Las visitas a familias crean expectativas, en relación a educación, planificación familiar y organización.
- Para que el trabajo sea más efectivo, los resultados deben volver a la comunidad.
- Se obtuvieron respuestas de familias que nunca tuvieron contacto con el servicio de salud. (PF)
- Las encuestas muestran las necesidades tanto institucionales como las de las comunidades.
- La devolución de datos debe ser en forma oportuna tanto al distrito como a la comunidad.

ANEXO 4 a

PROPOSITOS Y OBJETIVOS DE LA ENCUESTA
Preparado por los Coordinadores

El presente estudio es una encuesta rápida de conocimiento, actitudes, practicas y determinación de coberturas, haciendo énfasis en las Intervenciones de Supervivencia Infantil.

Las Intervenciones de Supervivencia Infantil son aquellas estrategias (EDA, IRA, PAI, CREC y DES, SALUD MATERNA, VIT. A) destinadas a asegurar la vida a través de la disminución de todas las causa de enfermedad y muerte en niños menores de 5 años y mujeres en edad fértil.

El propósito del estudio es la evaluación final de los objetivos y metas que nos propusimos en el plan de trabajo definidos en la línea de base. Para poder medir estos nuestros logros utilizaremos indicadores los cuales se traducirán en preguntas de la encuesta.

El estudio servirá también para obtener un conocimiento objetivo de la realidad y poder orientar la planificación de nuestras actividades.

Las ventajas del estudio radican en que a través del mismo, se puede obtener de forma rápida y simple un conocimiento del trabajo de un proyecto en una zona determinada.

Las desventajas del estudio radican en que no es posible a través del mismo profundizar en muchos aspectos que serían de mucho interés para el equipo de salud. Por ejemplo, conocer más acerca de practicas nutricionales de las familias. Para el conocimiento de estas costumbres se hacen necesarios la utilización de otros instrumentos.

ANEXO 4a

PROPOSITOS DE LA ENCUESTA SEGUN LOS SUPERVISORES

1. Medir el avance del trabajo.
2. Comparar metas propuestas con logros.
3. Determinar el impacto del proyecto en las comunidades.
4. Para saber como está caminando el proyecto.
5. Ver si nuestra metodología es aplicable en las comunidades.
6. Verificar actividades programadas y si estas han sido captadas para las comunidades.
7. Para conocer más a las comunidades.
8. Retroalimentar a la comunidad, CSRA y MPSSP.
9. Identificar necesidades de la comunidad.

ANEXO 4a

PROPOSITO DEL ESTUDIO
Según los Encuestadores

- Para saber como está avanzando sobre la salud en las comunidades.
 - Para saber si los niños están vacunados o no y a que edad.
 - Para saber como se encuentran sobre la alimentación en los niños.
 - Para saber que educación han recibido las por parte del proyecto.
 - Para saber cuantos niños menores de 2 años existen en la comunidad.
 - Para saber la salud de los niños.
 - Para saber si los niños tienen carnet de salud infantil.
 - Para saber cuantos nacimientos han habido en la comunidad.
 - Para saber si hay aceptabilidad de las vacunas por familias.
 - Para saber si saben preparar S.R.O. para los niños con diarrea.
 - Para saber cuantas madres o familias quieren saber planificación familiar.
- Saber:
- Que enfermedades existen en la comunidad.

ANEXO 4b

FUNCIONES DE SUPERVISORES

1. Dirigir a los encuestadores desde el inicio hasta culminar los resultados de la encuesta.
2. Capacitar buenos encuestadores concientes de sus funciones para que los datos sean confiables.
3. Seleccionar a los mejores encuestadores.
4. Conocer la metodología de la encuesta.
5. Supervisar la ejecución : liderizar.
6. Los supervisores realizarán un trabajo conciente; elaborar un instrumento óptimo.
7. Revisar instrumentos y analizar los resultados.
8. Ser responsable dentro del trabajo.
9. Los supervisores debemos saber completamente los objetivos del proyecto.

A N E X O 4c

DESARROLLO ENCUESTA CARABUCO-ANCORAIMES
CRONOGRAMA

11-10-93	Capacitación Supervisores	
12-10-93	Capacitación	
13-10-93		
14-10-93	Encuestadores	Carabuco
15-10-93	Prueba de Campo Corrección-reciclaje	Carabuco
16-10-93	Fotocopia de Instrumento	
17-10-93	final	La Paz
16-10-93	Trabajo de Campo	Carabuco
18-10-93		
19-10-93		
20-10-93		
15-10-93	Capacitación Encuestadores	Ancoraimes
16-10-93		
17-10-93		
18-10-93	Prueba de campo	Ancoraimes
20-10-93	Trabajo de campo	Ancoraimes
21-10-93		
22-10-93		

ANEXO 4c

CRONOGRAMA DE CAPACITACION DE SUPERVISORES
CARABUCO - ANCORAIMES
LUNES 11 DE OCTUBRE - 1993

I	Presentación	8:45	9:00
II	Propósitos	9:00	9:30
III	Indicadores	9:30	10:00
	Refrigerio	10:00	10:30
IV	Funciones	10:30	11:00
V	Revisión de la Traducción	11:00	12:30
VI	Lista de chequeo		
	Almuerzo	12:30	14:00
VII	Muestreo	14:00	16:00
VIII	Practicas		
IX	Hoja de Ruta		
	Refrigerio	16:00	16:30
X	Preparación Cap. Encuestadores	16:30	18:30
	Cena	18:30	

ANEXO 4c

CRONOGRAMA DE CAPACITACION
A LOS ENCUESTADORES - ANCORAIMES

15-10-93

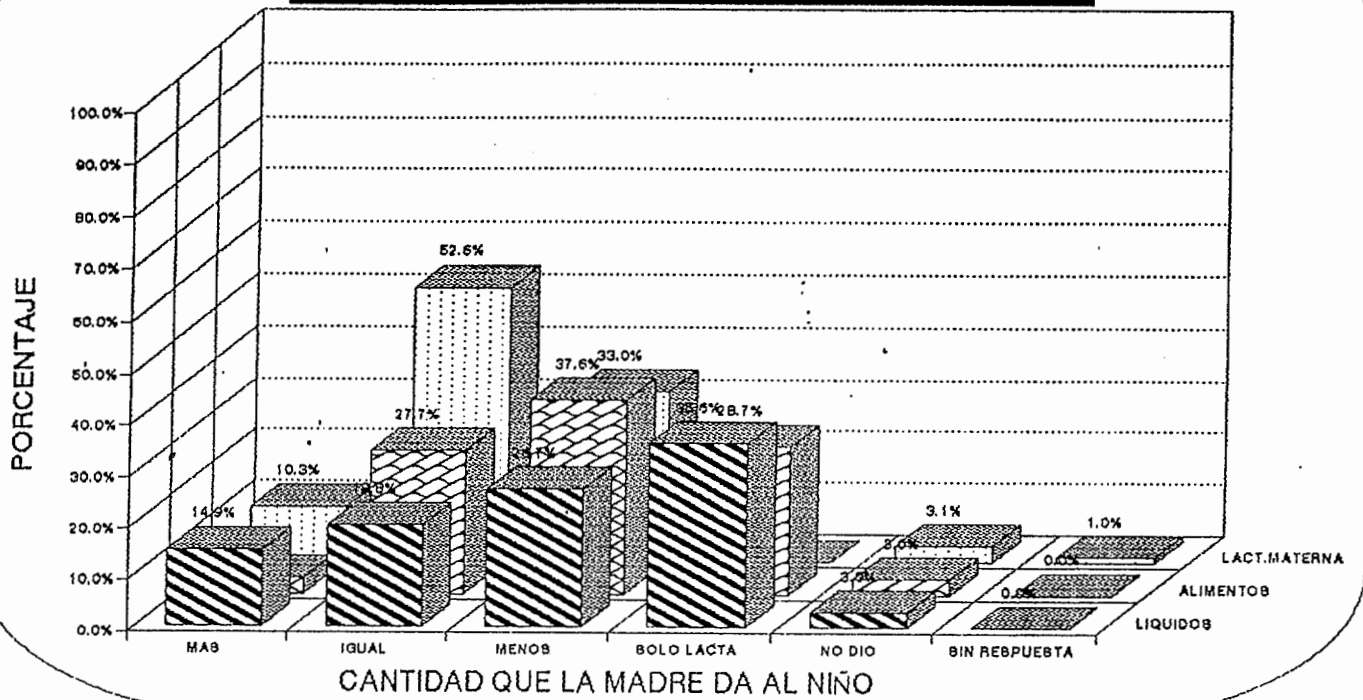
14:00 a 14:15	Presentación (Dinámica)
14:15 a 14:45	Propósito del Estudio (lluvia de ideas)
14:45 a 16:00	Metodología de Estudio (Explicación)
16:00 a 16:30	Refrigerio
16:30 a 17:30	Interpretación Lectura Encuesta (Sociodrama)
17:30 a 18:30	Objetivo de las preguntas (Crecimiento y Desarrollo)
	Práctica
18:30	Cena

16-10-93

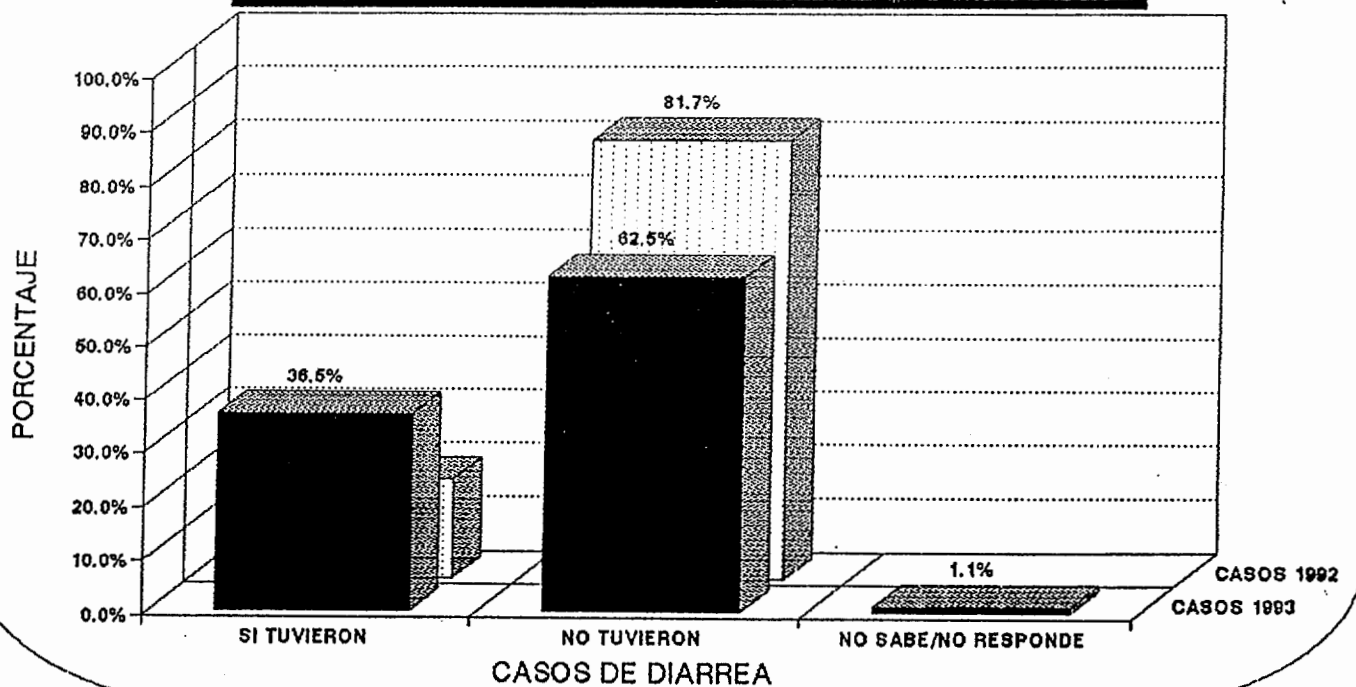
8:00 a 8:30	Desayuno (dinámica)
8:30 a 9:30	Objetivos de las preguntas Inmunizaciones - Practicas - Problemas identificados
9:30 a 10:30	Objetivos de las preguntas Lactancia - Practicas - Problemas identificados
10:30 a 11:00	Refrigerio
11:00 a 12:30	Objetivos de las Preguntas Alimentación - Infantil - Practicas - Problemas identificados
12:30 a 14:00	Almuerzo
14:00 a 16:00	Objetivos de las preguntas EDA - Practicas - Problemas identificados

16:00 a 16:30	Refrigerio
16:30 a 17:30	Objetivos de las Preguntas IRA
	- Practicas
	- Problemas identificados
17:30 a 18:30	Objetivosde las preguntas Salud Materna
	- Practicas
	- Problemas identificados
18:30	Cena
17-10-93	
8:00 a 8:30	Desayuno (Dinámica)
8:30 a 9:30	Objetivos de las preguntas Salud Materna
	- Practicas
	- Problemas identificados
9:30 a 10:30	Objetivos de las preguntas Imagen
	- Practicas
	- Problemas Identificados
10:30 a 11:00	Refrigerio
11:00 a 12:00	Objetivos de las preguntas Introducción de la presentación
	- Practicas
	- Problemas Identificados
12:00 a 14:00	Almuerzo
14:00 a 16:00	Práctica general en grupos
16:00 a 16:30	Refrigerio
16:30 a 17:30	Practica plenaria
17:30 a 18:30	Problemas Identificados Resumen del día

MADRES DE NIÑOS MENORES A 24 MESES ACTITUD DURANTE LA DIARREA

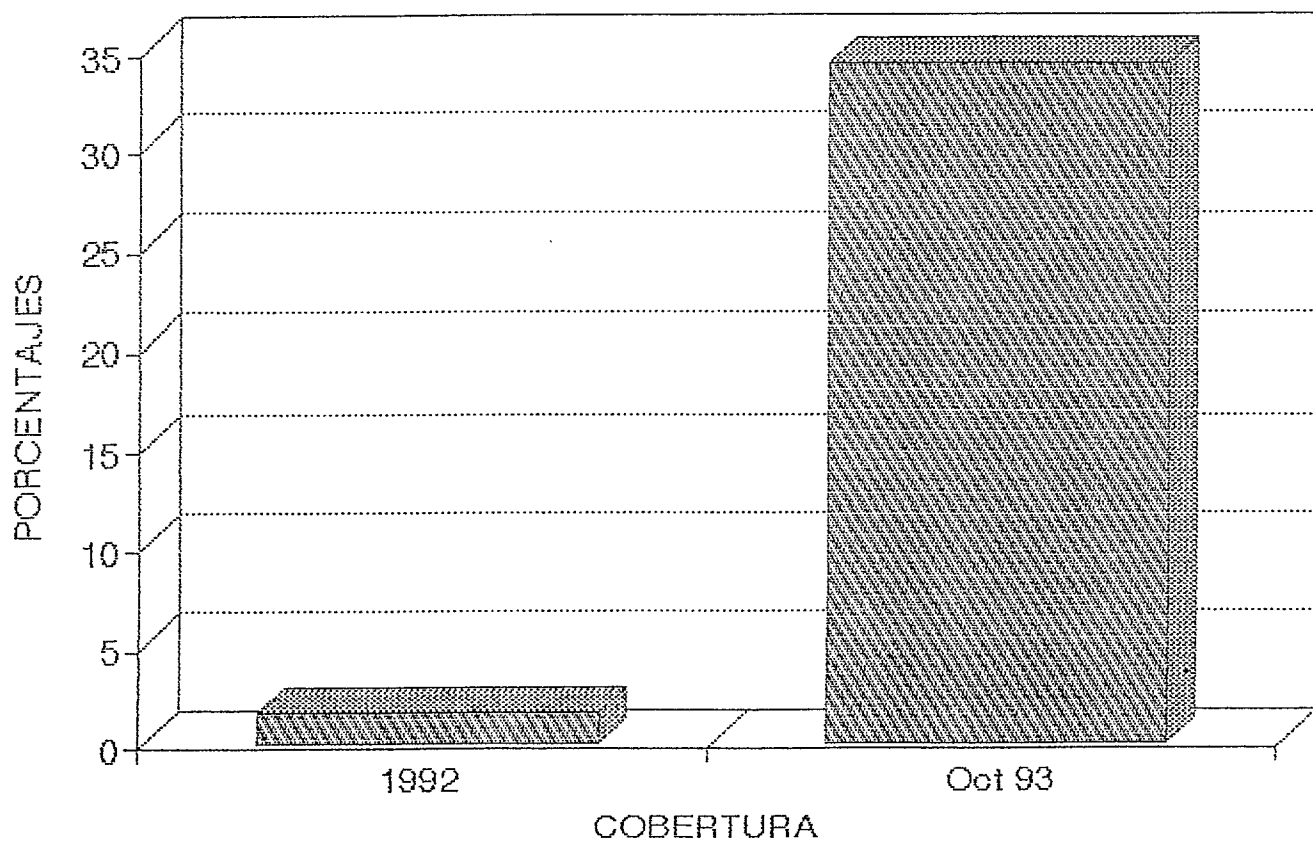


CASOS DE DIARREA EN LAS DOS ULT. SEMANAS NIÑOS MENORES DE 24 MESES



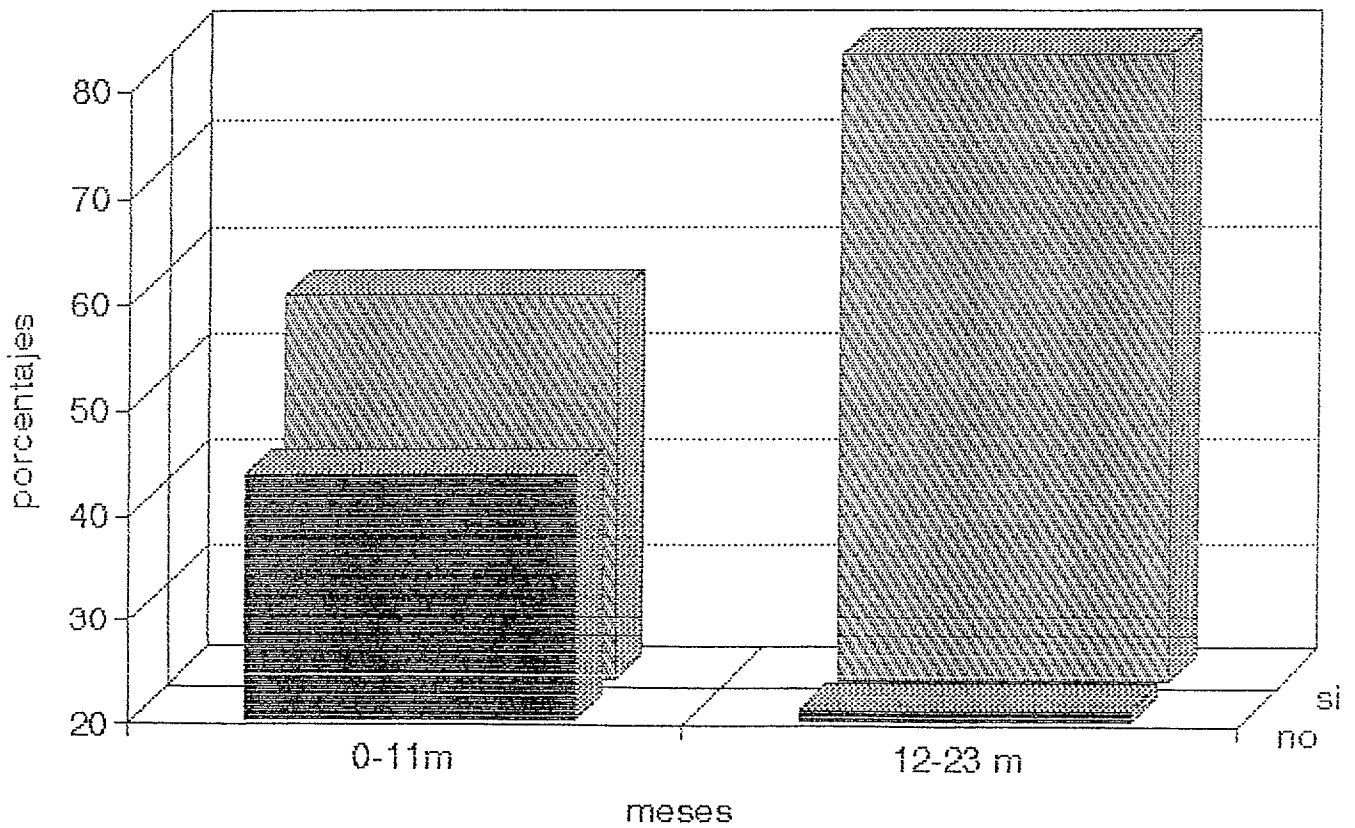
ESQUEMA DE VACUNACION COMPLETA

NINOS MENORES DE DOS ANOS



TENENCIA DE CARNET DE SALUD INFANTIL

NINOS MENORES DE DOS ANOS



A N E X O 5

CROQUIS DEL AREA ANCORAIMES

A N E X O 6

BIBLIOGRAFIA

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- (2) *Robison N. y Shanklin D., Proyecto de Atención de Salud para Ancoraimas, Propuesta de trabajo entre la Iglesia Metodista en Bolivia y el Consejo de Salud Rural Andino, CSRA Actualización Censal, Grupo Etareo Ancoraimas, Julio 1993.*
- (4) *Marin Carmen, Informe de PSI CS-6 Estudio Final e Informe del PSI, CS9 Estudio Basal Mallco Rancho Sipe Sipe, 1993.*
- (5) *Encuesta Nacional de Demografía y Salud (ENDSA) 1989, INE/DHS, 1990.*
- (6) *Política Nacional de Salud, Fundamentos y logrow 1989-1993 MPSSP La Paz, 1993.*
- (8) *UNICEF, Estado Mundial de la Infancia, 1993, Reino Unido, 1994.*
- (9) *Supervivencia Infantil. Informe Técnico para las OPVs, Abril 1993, Vol. 3, No. 3 p.10.*

APPENDIX III

THE MALLCO RANCHO AND SIPE SIPE HOUSEHOLD SURVEYS

Carmen Marín M.D., M.P.H.

Consultant of the study, PVO Child

Survival Support

Program Institute for International
Programs, School of Hygiene and Public

Health. The Johns Hopkins

University

Local sponsor:

Lic.

Adela Asbum M.P.H.

#Adela Asbun M.P.H.

Responsible of Systems:

Ing. Joaquín Flores

Collaborators:

Nathan Robison

Javier Baldomar

María Elena Ferrel

Volunteers:

Sara Bott Adam Kolff

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- A. Background
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 - C.2 Sipe Sipe
- D. Schedule of activities in Bolivia

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- B. Sample size
- C. Sample selection
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 - C.2 Sipe Sipe
- D. Training of the fieldworkers
- E. Conduction of the study
 - C.1 Mallco Ranch
 - C.2 Sipe Sipe
- F. Analysis

III. RESULTS

- A. Mallco Ranch
- B. Sipe Sipe

IV. CONCLUSIONS

- A. Mallco Ranch
- B. Sipe Sipe

C. RECOMMENDATIONS

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1. Consent for the mother in Spanish and Quechua
2. Questionnaire in spanish and quechua
3. Training schedule
4. Population used for the selection of the sample

EXECUTIVE SUMMARY

There were carried out two studies on knowledge, coverage and practices in October of 1993.

The first study was carried out in 11 rural communities of Mallco Rancho, the other in 17 communities of Sipe Sipe.

This work was carried out between the cooperation of the organization private CSRA and the Program to Support to OVP (Private Voluntary Organizations) of the Institute for International Programs of the School of Public Health of the University Johns Hopkins.

The program of support to OVP has an agreement for cooperation between the university and the office of FHA /FVC/CSH of AID /Washington.

The purpose of the study is the of providing basal information of the project CS-9 and final of the project CS-6 about the knowledge and practices in infantile survival, of mothers of under two years of the mentioned communities.

Besides provide information about the opinions of the population about the attentions the project offers.

The Child Survival project, fiscal year 1990-93 ([CS] 6) is being carried out by Consejo de Salud Rural Andina in collaboration with Asociacion de Programas de Salud del Area Rural (APSAR).

Also, the CS-9 project has gotten financement in order to continue activities during the period 1993-96.

Consejo de Salud Rural Andino is a bolivian organization that is working in the counties of Cochabamba and La Paz since 1987.

Their central headquarters is located in Lake Junalaska NC, but its constitution in a national institution with all the requirements is in course for the following six months.

The questionnaire that was used, you/he/she/it have been adapted of the generic questionnaire sophisticated in the office of the program of support to OVP (PVO CSSP) in Baltimore, MD like a standardized questionnaire and result of 22 previous experiences with OVP in several countries in development.

The methodology of sampling, execution and obtaining indicators is now standardized and it is relied on key indicators key for the different strategies of infantile survival to be gotten in this study.

The questionnaire was refined in the Taller de Líderes de Encuestas carried out the 7 and 8 of October in La Paz, Bolivia where it became adapted and criterions for the selection of housings were adopted. The selection of conglomerate of work was done and there were defined responsibilities of supervisors, fieldworkers and leaders of the surveys to be carried out, almost simultaneously in the areas of work of the CSRA (Ancoraimes, Carabuco, Mallco Rancho and Sipe Sipe).

Also, the needs of training and necessary logistics for the execution of the respective studies in each zone were done. The questions were refined and the translation and validation of them to quechua (case of Mallco Rancho and Sipe Sipe) and to aymara (Ancoraimes and Carabuco).

The assisting team to the Shop received training in the methodology of selection of 30 conglomerate.

This training was done so that the CSRA could carry out studies of this category when they are necessary and in order to measure the progresses of the project with minimal or whatever external attendance.

The field team of Mallico Ranchu and Sipe Sipe received training in the application of the questionnaire and the selection of housings by Dra. Carmen Marín and the local sponsor Lic. Adela Asbum.

The objectives of the study were fulfilled in a little more of two weeks.

The project team discussed the results in order to propose the recommendations for the implementation plan for the subsequent period.

I. INTRODUCTION

Background

The Consejo de Salud Rural Andino (CSRA) is a private voluntary organization, without political, religious or economic purposes.

The area of work of the Project of Cochabamba, includes two geographical different areas, with different characteristics, history and constraints. The programs of Mallco Ranchu, grouping of rural communities and Sipe Sipe, that includes a small town and various rural communities in a much more extensive and populated area than Mallco Ranch. Both are denominated the Project of Cochabamba and constitute model programs in the "areas de salud" of the district of Quillacollo.

Now, the CSRA maintains relationships with the personnel of the Office Distrital of the MPSSP.

The activities are directed to fortify the capacity of the MPSSP and they are completely composed with the of the Ministry, instead of carrying them of parallel manner.

CSRA also, maintains coordination with other groups of support to the community and is member of the PROCOSI.

By now, the CSRA is concluding the CS-6 and beginning the CS-9, of which this study represents the baseline.

The executed projects or in execution by the CSRA have been financed by donations of USAID and other sources.

Objectives of the Child Survival Project of Cochabamba:

The strategies stated by CSRA for the group of the project are the following:

CS- 6

Fiscal year 90-93

EPI	20%	
ORT	20	
Nutrition	25	
Breastfeeding		5
Child feeding		10
Maternal Nutrition		5
Vitamin A		5
High-risk Pregnancies	3	
Malaria	0	
Pneumonia control	20	
Others:		
sustainability	12	
Total	100	

Goals for the Child Survival Project

EPI Enlarged Program of Immunization: Coverage

Principal activities: by means of home visit the doses of vaccine are administered in the corresponding date, so the outline is completed before the year of age.

	CS- 6	CS- 9
Mallco Rancho	90% in children under 12 months	80% in children under 12 months 90% in children under 24 months
<hr/>		
Sipe Sipe	20% in under 24 months	67% in under 24 months 50% in under 12 months

Diarrheal Disease Program

Principal activities: by means of home visits diarrheal cases are captured, the team teaches the mothers about the adequate handling of diarrhea, the basic messages are continuation of breastfeeding, liquids and solid foods.

	CS-6	CS-9
Mallco Ranchu +	15% mothers prepare correctly ORS	75% of mothers gives same or more - breastfeeding - liquids - solid foods
	50% mothers use ORS	90% of mothers knows ORS 85% of mothers knows preparing ORS 75% of mothers has used ORS
<hr/>		
Sipe Sipe	50% mothers prepare correctly ORS	60% of mothers gives same or more - breastfeeding - liquids - solid foods
	25% mothers uses ORS	75% of mothers knows ORS 67% of mothers knows preparing ORS 50% of mothers has used

Control of Pneumonia

Principal activities: training of the mothers in early identification and treatment of pneumonia

	CS- 6	CS- 9
Mallco Ranchu	+ 10% of mothers identify prevention and treatment of pneumonia	67% of mothers knows signs of pneumonia 75% of mothers search medical treatment for their boy with pneumonia
Sipe Sipe	+ 10% of mothers knows how to prevent and treat pneumonia	50% of mothers search medical treatment for of their boy with pneumonia

Growth and Nutrition Program

Principal activities: by means of home visits the child under two years have weight and length determination.

	CS- 6	CS- 9
		NUTRITIONAL REHABILITATION
Mallco Ranchu	100% of children under two has a weight determination each two months	90% of children gains weight Second and third degree malnourished children receive nutritional rehabilitation More than the 90% of mothers who have undernourished children receive nutritional education
Sipe Sipe	100% of children under 24 months are weighed every two months	75% of children gains Second and 3rd degree malnourished children receive nutritional rehabilitation 75% of mothers of malnourished children receive nutritional education

Maternal Health

Principal activities: support to the program of iron supplement to pregnant, promotion of assistance of the childbirth in health centers.

CS- 6

CS- 9

Mallco Ranchu

75% of women has received prenatal care

80% of the childbirths occur in presence of health personnel

80% of high risk pregnancies are treated and referred appropriately

Sipe Sipe

40% of women has prenatal care
33% of the childbirths occur in presence of health personnel

80% of high risk pregnancies are treated and referred appropriately

FAMILY PLANNING

Promoting use of family planning services

Offering FP services in all the areas

To coordinate with FP organizations in USA and Bolivia

To promote prolonged breastfeeding as a natural method for birthspacing.

Vitamin A

Principal activities: distribution of vitamin A capsules to children under two years. Evaluation of vitamin A consumption in all the areas. Developing and use material directed to promote vitamin A according to the local needs.

CS - 6

CS - 9

Mallco Ranch

95% of children under 24 months have received capsules of vitamin A

Sipe Sipe

80% of children under 24 months have received capsules of vitamin A

B. Objectives of the Rapid Knowledge, Coverage and Practices Survey.

The survey is a method of gathering the indicators of pursuit of the Child Survival Project.

These indicators are used to estimate the vital statistics and understands a very important part in the pursuit and evaluation of the project.

The data gotten by this study are mainly in order to establish basal information for the level I indicators of child survival and observe the tendency of these during the life and to the final of the Child Survival Project.

This survey was designed for be used like a tool for the management of projects and their application is in order to observe its tendencies and progresses of the project, and for decision-making.

The present study was carried out in order to provide information to CSRA in the following looks:

- 1.- Knowledge of the mothers with children under two years concerning:
 - a) the threats to the child's health and
 - b) the ways of preventing illness or limit its consequences.

These practices are, the use of immunizations; appropriate diarrhea treatment; growth control; weaning and adequate feeding practices and treatment pneumonia.

- 2.- The mothers' current practices about the interventions mentioned previously.
- 3.- Key community groups in order to focus and direct educational messages and actions.
- 4.- Immunizations coverage in under 12 months children and between 12 to 23 months old children.
- 5.- Estimation of the diarrheal disease incidence and compatible symptoms with low tract respiratory infections in the previous two previous weeks focusing in the mother's practices when these illness occur.
- 6.- Mother's practices concerning the treatment of diarrhea and it dehydration and acute respiratory illness.
- 7.- Mother's practices in breastfeeding and weaning.
- 8.- Prenatal care, person who attended the childbirth and estimate of the proportion of mothers who are using some modern method of family planning.

This data gathering will help the project CSRA team to plan the activities of health; pursuit, supervision and evaluation of the project; and to value the progresses and activities of the project during its life.

The data will also serve in order to compare the outputs in future and periodic evaluations of the project.

Finally, the present study is part of a combined effort between the University of Johns Hopkins and the AID in order to have a standardized methodology for gathering basal information and pursuit an evaluation of the Child Survival Projects for the OVP.

Consequently, one of the principal objectives of this study was to train the responsible personnel of the CSRA in the preparation and execution of this technique of gathering base information.

The office of FHA /PVC/CSH of AID /Washington included this type of study as one of the requirements for the base studies and final evaluations in the Child Survival Programs.

The data analysis and presentation of this report is considerate integral part of the study, so it is an objective to be completed during the subsequent week of their execution.

C. Geographical Area and population

C.1. Mallco Ranch

Since March of 1987 APSAR and CSRA have been operating the primary health project in Mallco Ranch.

The project operates with a Hospital in Mallco Ranch and personnel that carries out home visits within the area of the project.

The personnel of the project has developed activities in:

- 1) Viloma
- 2) Chaupisuyo
- 3) Coachaca Grande
- 4) Chinchilla
- 5) Mallco Rancho
- 6) Coachaca Chico
- 7) Vilomilla

and from september 1990 in:

- 8) Sauce Rancho
- 9) Mallco Chapi
- 10) Payacollo
- 11) Q. Rancho

The following table abridges the most important characteristics of the population

Mallco Ranch (1993)

Total population	6345
# families	1510
Persons / family	4.2
Children under five years	880 (13.8% of the population)
< 5 years/ family	0.5
Children under two years	312 (4.9% of the population)
< 2 years/ family	0.20
Women in fertile age (15-49 years)	1481 (46.7% of women)
Index of masculinity (men/women)	1.00
Index of dependence	3452/ 2893= 1.19

Source: APSAR, Health Information System

C.2. Sipe Sipe

The project in Sipe Sipe began activities in April of 1992. Until then it received health attention in only from the Unidad Sanitaria de Cochabamba.

The area of the project is compound for the following communities:

- 1) Urinsaya
- 2) Ch'awarani
- 3) Siqui Siquia
- 4) Suticollo
- 5) Montenegro
- 6) Sorata
- 7) Huancarani
- 8) Caviloma
- 9) Pirhuas
- 10) Viloma
- 11) Cala Cala
- 12) Caramarca
- 13) Hamiraya
- 14) Mayca
- 15) Collpa
- 16) Sipe Sipe
- 17) Convento y Molle Molle

Sipe Sipe (1993)*

Total population	7359
# families	1872
People/ family	3.9
Children under five years	973 (13.2% of the population)
< 5 years/ family	0.5
Children under two years	482
< 2 years/ family	0.25
Women in fertile age	1631 (48.7% of women) (15-49 years)
Index of masculinity (men/women)	1.2
Index	3982/ 3376= 1.17

* Sipe Sipe is not included because a census has not been performed yet
Source: AFSAR, Health Information System

D. Schedule of activities in Bolivia

- Oct. 5 Arrival of Dra. Carmen Marin to La Paz, Bolivia
- Oct. 6 Preparation of the Taller de Líderes de Encuestas.
- Oct. 7-8 Taller de líderes de encuestas in La Paz, Bolivia
- Oct. 9 Edition of the questionnaire and preparation of it
 training of supervisors and fieldworkers
- Oct. 10 Travel to Cochabamba and Mallco Ranchu
- Oct. 11 Training of the supervisors
- 12 y 13 Training of the fieldworkers
- 14 Pilot study in Coña Coña
- 15 Evaluation of the pilot study
 Reinforcement and agreements for the fieldwork
 Logistics for fieldwork in the selected communities
 reproduction of questionnaire and necessary materials.
- 16 Planning preliminary and final tables for the results of
 Mallco Ranch and Sipe Sipe.
- 17 Preparing of the first draft of final report.
- 18 Survey in the 11 communities in study in Mallco Ranch
 Data entering of Mallco Ranch
- 19 Surveys in 30 conglomerate in the area de Sipe Sipe
 Data entering of Sipe Sipe
 Data tabulation for Mallco Ranch

- 20 Workshop with Mallco Ranch and Sipe Sipe personnel.
- 21 Data tabulation for Sipe Sipe
Data analysis conclusions and writing final report of the
study
Discussion with the local sponsor
- 22 Return to La Paz.
- 22 23 Presentation of the results to Lic. Nathan Robison
- 24 Return to Lima.

II. METHODOLOGY

A. The questionnaire

The questionnaire (see annex 2), consists of 41 questions; it was designed in order to gather excellent information on the interventions of the CSRA Child Survival Project in Mallco Ranchu and Sipe Sipe.

The questions of the questionnaire generic they were developed and selected by the office of the Program of Support in Infantile Survival to Private Voluntary Organizations of the University Johns Hopkins. At the local level, the sponsors of CSRA in combined work with Dra. Carmen Marin adapted it to the particularities of the zone.

The first two questions are related to growth control of the child.

Questions 3 to 8 are about the number of immunizations the child and her/his mother have received, also it is investigated the mothers' knowledge about antitetanic vaccination, and if the child has received oral doses of capsules of vitamin A. Questions 9 to 12 are to determine the status of breastfeeding in the population. Questions 13a-13e and investigate about child feeding. Question 14 is referred to bottle use.

Questions 15 to 23 are related to mother's practices when their child have diarrhea and their knowledge concerning the severeness of diarrhea.

Questions 25 to 29 deal with verifying the proportion of mothers who seeks medical treatment when the child has compatible symptoms and signs of pneumonia.

Questions 30 to 38 are about maternal health, strategy that CSRA is impelling in the following period.

Also, there were included three questions concerning opinions of them interviewed concerning the project, which according to the experience of the local sponsors have proportioned very useful information in previous surveys.

Final question was open and offered the population the opportunity of expressing their points of view and expectations for the promotion of the health.

When necessary the questions included "other" as an option, but it was necessary to detail the answer. We warned the fieldworkers about the importance of reducing "other" for cases really necessary, multiple examples were used.

When it was necessary to discard some questions (so the questionnaire was not too large) it was preferred to maintain questions related to practices and get hold of the questions about knowledge.

Time needed to apply the questionnaire was brief, and allowed us to finish the fieldwork as scheduled.

The questionnaire was originally written in English and subsequently translated in spanish and quechua, a very used language in the zone.

B. Sampling

Sample size required for the present study considers multiple interventions of child survival.

So sample size was determined within the requirements of the intervention that needs the biggest sample.

The formula used for sample size calculation is the following:

$$n = z^2 pq/d^2$$

Where n= sample size

Z = 95 % confidence limit = 1.96;

p= proportion of children/mothers

q = 1 - p;

and d= is the expected precision, usually about 5% to 10 %.

"p" is defined as the strategy needing the largest sample.

And, relying on the desired precision (5% or 10 %) the following samples sizes are required:

	"p"	
d	0.20	0.25
.05	246	288
.06	170	200

Replacing:

$$n = z^2 pq/d^2$$

$$n = 1.96^2 (.2 \times .8 / .05^2)$$

$$n = 246$$

"d", is the desired precision for the study.

If the objective is to find or to evaluate estimates for epidemiological studies with differences of 5% to 10%, that will give us the desired precision.

In the specific case of the child survival project of Mallico Ranch and Sipe Sipe it was assumed a prevalence of diarrhea of the 20% (Manual Household Survey: Diarrhoea Case Management, Morbidity and Mortality).

Confidence limits were calculated using the following formula:

$$95\% \text{ confidence limit} = p \pm z \sqrt{(pq/n)}$$

Where:

p= proportion in the population;

and z= is a constant according to the normal statistical curve.

C. Sample Selection

Fieldwork began very early in the morning. Teams transportation at 6 a.m., they had a break from 10:30 to 11 and finished approximately at 2 or 3 p.m.

In Mallico Ranch it was necessary to add some hours of work since many mothers were not at home because they have moved to Chapare during the time of the survey in order to perform farm work while Mallico Ranch was in time of.

The agricultural calendar motivates many times displacement of all the family or part of her and in this case did rather difficult to located enough number of mothers.

The logistics, lunch and provision of all materials occurred without difficulties, with the active participation of the full local team.

C.1 Mallico Ranch

In Mallico Ranch there exists approximately 320 children under two years old, so we decided to apply the questionnaire to all the mothers present in their houses the day of the interviews.

Fieldwork, was carried out as a "swept". Teams were mixed including two or three fieldworkers of Mallico Ranch and Sipe Sipe, so each team had a similar load of work.

The questionnaire was not applied when the child doesn't live his mother or when she wasn't present at the visit.

When there were two families with children under two years in the house, each one with their respective mothers, the questionnaire was applied to both families.

If it occurred that a mother had more than one child under two years, a coin was used in order to select one of them for the survey.

C.2. Sipe Sipe

We decided to take a sample of the population of mothers with children under two years in the area of the child survival of Sipe Sipe.

Sipe Sipe team prepared a list of all the communities in the area of the project with the total population.

Once the list of communities was complete, the responsible team prosecuted with the selection of the 30 conglomerate following the technique described in a manual of the WHO /OMS (Manual Household Survey: Diarrhoea Case Management, Morbidity and Mortality WHO, Geneva, 1989)

The area of work of Sipe Sipe includes a town and 16 rural communities in an extensive area.

The communities are of urban rural type.

For the work in the town, it was divide in four parts using reference the central park as a reference, two conglomerates were taken in each quadrant.

For the work in the rural communities, there were organized mixed teams including two or three fieldworkers of Malloo Ranch and Sipe Sipe, so each team will have a similar load of work.

In the extensive communities which were along the highway, the extension and the distance between the center and the ends impedes to began in the center and then move toward the peripheric zones since in that case the sample would rely only on families who live close to the center of the community and on the other hand has little operativeness in the field, since an unique wouldn't be able to include families from both poles of the community.

In these cases we decided to initiate with two teams, one at each end of the community which moved toward the center.

In small communities, the technique was to arrive to the beginning of their zone of work and select the beginning house using a rotating bottle.

The second house was selected throwing a coin in order to decide if the next house was the left or the right one.

Then they continued until 9 interviews per conglomerate were completed or until there were no more children in the conglomerate.

When there were two families with children under two years in the house, each one with their respective mothers, the questionnaire was applied to both families.

If it occurred that a mother had more than one child under two years, a coin was used in order to select one of them for the survey.

D. Training of the fieldworkers and supervisors

Training of supervisors and fieldworkers was carried out. One day was used for supervisors, 2 consecutive days for fieldworkers, 1 day for pilot study and 1 day for survey revision, evaluation of pilot study and organization of the teams for the fieldwork.

Supervisors team was composed by two nurse students, two medicine students and four workers of the project.

The team of fieldworkers was conformed by 20 people who had completed second degree education so it was possible to complete the fieldwork of Mallco Ranch in a day and a half and for Sipe Sipe in another day.

The participants were:

Supervisors: Nelly Coronado, Jacqueline Velasquez, Gaby Ampuero, Benigna Aguilar, Rosa Condori, Amparo Cartagena, Demetrio Calustro, Crispin Acosta.

Fieldworkers: Maria Vargas, Gregoria Mayhua, Cintia Mondragón, Lidia Mansilla, Javier Saavedra, Corina Gonzales, Carlos Vila, Nicolás Mérida, Teresa Arnés, Teresa García, Nineth Vargas, Richard Cabrera, Richard Olguín, Reina Gonzales, Grover Quiroz, Lilian Carrasco, Boris Rojas, Celso Rojas, Natalia Dávalos.

The first day was used for negotiations about the time and commitment of the personnel of field and the participants.

The methodology of the study and the objectives of each question was discussed extensively for their better understanding.

The questionnaire was also refined in Spanish and the adaptations to the customs of the zone were done. The questionnaires was translated to quechua, a very used language in both areas.

The second day was for training the fieldworkers and supervisors doing emphasis in the questionnaire and how to fill it appropriately.

Although several days were dedicated to training the supervisors and fieldworkers, in this type of studies, you must always take in mind is that the questions should be done in it same form in order to detect the knowledge and practices of the mothers.

One of the problems that is should take in mind is that because of the different educational level of fieldworkers and the number of them it is possible that the fieldwork could introduce some bias.

However, emphasis was made during the training in order to achieve uniformity from the fieldworkers.

In this case, the practices were: in the first stage a role-play was done, a person acted as interviewed, other as a fieldworker and a third as observer.

Subsequently, practices included sessions organized in groups of 5 fieldworkers, one of them made a complete interview and the rest of them filled the questionnaire from the mother's answers, the supervisor acted as a monitor. These practices were done in spanish and quechua.

At the end of the session the monitor and the group discussed the answers and the behavior of the fieldworker.

In the last stage, a pilot study was done and each fieldworker applied 9 questionnaires.

Filled questionnaires were subsequently revised by the consultant, annotating the errors and each supervisor reinforced the deficiencies annotated in each fieldworker.

Fieldworkers interchanged questionnaires, in order to revise the work of their mate.

During training, test pilot and fieldwork they were instructed not to carry out medical services neither educational, keeping in mind the limitations about time and the objectives of the survey.

This point motivated some warning from the personnel which covered with the pertinent answers.

The responsible team of the survey, was displaced to the field in order to follow up closely the course of the interviews and resolve any accidental.

The training program was adapted from the one developed in the University of Johns Hopkins by Dr. Richard Arnold in a training session (TOT) to the people sent to give technical support to PVOs.

E. Conduction of the interviews.

The interviews were carried out in two and half serial days. on Monday 18 and Wednesday 20 of October of 1993 Mallco Ranch was done, on October 19 Sipe Sipe was done.

A great motivation was seen so much for fieldworkers like for supervisors which allowed to cover a great extension of land in the programmed days, the fieldteam moved without difficulties in the area of the project.

F. Data analysis.

Two volunteers dealt with entering the data in two computers with the program EPI /INFO 5.0; this required a day after every day of work.

This package is a software especially designed by the CDC in order to carry out studies, it is cheap, easy of managing and provides a type of simple appropriate analysis for this type of studies. The handling is simple even for people with not much experience in computers.

The tables for Mallco Ranch were introduced in a meeting of all the workteam from Mallco Ranch and Sipe Sipe, conclusions and possible explanations of them were gotten.

One of the purposes of the study was to give the necessary gear in order to adequate decision-making concerning the development of the program.

The first draft of the report included the distribution of frequencies for each one of the modules of the questionnaire.

In some cases crossed tables were done in EPI /INFO using age, in order to get indicators of second order.

Once the tables containing distribution of frequencies and crossed tabulations were finished, some other tables were printed in order to enter in the final report.

III. RESULTS

A. Mallico Ranch

A total of 213 mothers with under two years children were interviewed.

The results obtained were:

A.1 Mother's Characteristics

As is appreciated in Table A.1.1, most of the mothers are not in the group of high-risk pregnancy.

Almost 20% of them has less of 18 or more than 35 years, with most of the at risk group in the older than 35 years (18.3%).

This discovery is important from the point of view of needs and provision of contraceptive methods since the hormone derivatives are not the most suitable for the older than 35 women.

In this group, pelvic inflammatory is also a frequent illness when intra-uterine device is used. So the project should take in mind this result in order to program their requirements for family planning.

Table A.1.1.- Distribution of the Mothers according to Age Groups Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993.

Age	n	%
< 18	3	1.4
18 - 35	171	80.3
> 35	39	18.3

A.2 GROWTH CONTROL

Table A.2.1 shows the coverage of growth control, it is 79% in children older than 12 months, this percentage results high, despite the fact that this calculation has considered, only those cases when one could verify the existence of the Child Health Card in the house.

The percentage in children 12 months is still higher. The results indicate an excellent coverage of control of growth in the population of the zone.

A.2.1.- Coverage of Growth Control. Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993

	Age in months					
	0- 11		12-23		Total	
	n	%	n	%	n	%
Card present						
Yes	77	67	61	62	138	65
No	38	33	37	38	75	35
Total	115	100	98	100	213	100

Table A.2.2 shows the number of growth controls during the last year. 53% of children less than one year have received 5 controls in the last year, in 12-23 months old group, the percentage is 41% .

Table A.2.2.- Number of Growth Controls in the 12 previous months. Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993

# controls	Age in months					
	0 - 11		12-23		Total	
	n	%	n	%	n	%
0	7	9	2	3	9	6
1-5	41	53	25	41	66	48
> 5	36	38	36	56	63	46
Total	77	100	61	100	138	100

Table A.2.3 shows the number of controls of growth registered in the child's card.

It is shown that around 40% of the children have three or less weight determinations far below the 5 expected controls according to the proposed goal.

A possible explanation is that the controls are not registered in the child's card that the mother has.

Table A.2.3.- Distribution of the Number of Growth Controls in the 12 previous months. Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993.

# controls	n	%	Accumulated
0	9	6.5	6.5
1	16	11.5	18
2	18	13	31
3	13	9.4	40.4
4	13	9.4	49.8
5	15	10.8	60.6
6 or	54	39.4	100
Total	138		

A.3. IMMUNIZATIONS

Table A.3.1. shows access to immunizations, that is to say the percentage of children between 12-23 months which have received the first dose of triple vaccine.

The access is more than fifty percent and is below the percentage found in June 1992.

Table A.3.1.- Access to Immunizations in Children between 12 23 Months. Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993.

DPT1	n	%
Yes	54	55
No	44	45
Total	98	100

Table A.3.2 shows the proportion of children 12-23 months that has received third dose of antipolio vaccine.

This indicator is measuring coverage and is by far more than fifty percent.

This percentage is below that found in June 1992.

Table A.3.2.- Coverage of Immunizations in Children between 12 23 Months. Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993

OPV3	n	%
Yes	54	53
No	44	47
Total	98	100

Table A.3.3 shows the coverage of measles vaccine and is near 25% in children under two years, in the children between 12-23 months reaches 41%

Table A.3.3.- Coverage of Measles Vaccination. Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993.

Measles vaccination	Age in months					
	0 - 11		12 - 23		Total	
	n	%	n	%	n	%
Yes	13	11	40	41	53	25
No	102	89	58	59	160	75
Total	113	100	98	100	213	100

Table A.3.4 shows that the proportion of desertion of EPI is very low and significantly below that found in June 1992.

Table A.3.4.- Proportion of Desertion of the EPI. Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993

Desertion	%
Yes	5.5
No	94.4

Table A.3.5.- Doses of Vitamin A registered in the Child's Card in Children between 12-23 months. Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993

Vitamin A	n	%
Yes	14	14
No	84	86
Total	98	100

A.4 BREASTFEEDING

Table A.4.1. refers to the beginning of breastfeeding in mothers of children under 24 months. More than 70 percent of the mothers breastfed within the first 8 hours after the childbirth. This percentage is significantly higher than the one found in June 1992.

Table A.4.1.- Beginning of Breastfeeding. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993.

Hours after childbirth	n	%	Accumulated
Within the first hour	93	43.7%	43.7
During the first 8 hours	58	27.2%	70.9
More than 8 hours	54	25.4%	96.3
Don't remember	8	3.8%	100
Total	213	100.0%	

Table A.4.2. shows the feeding pattern of the child under 4 months. All the children are breastfed but breastfeeding is not exclusive. There is 40% who receive liquids, 22% receive non-maternal milk and 15% already receive solid foods.

Table A.4.2.- Feeding practices of Children under 4 months. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993.

	BF		Liquids		Milk		Solid foods	
	n	%	n	%	n	%	n	%
Yes	40	100	16	40	9	22	6	15
No	0		24	60	31	88	34	85
Total	40		40		40		40	

Table A.4.3. shows feeding pattern of children between 5-9 months, age in which a child should be already receiving several foods of maternal milk.

One of each four mothers answers she is giving solid foods to her children, the proportion who gives non-maternal milk is almost fifty percent.

Table A.4.3.- Feeding Practices of Children between 5-9 months.
 Consejo de Salud Rural Andina Child Survival Project. Area of Mallco
 Ranch. October 1993

	BF		Liquids		Milk		Solid Foods	
	n	%	n	%	n	%	n	%
Yes	37	95	32	82	19	49	32	82
No	2	5	8	18	20	51	8	18
Total	39		39		39		39	

Table A.4.4 shows the proportion of children between 20-24 months that is still breastfed.

One of each three children continues receiving maternal milk in this group of age.

Table A.4.4.- Persistence of Breastfeeding in Children 20-23 Months.
 Consejo de Salud Rural Andina Child Survival Project.
 Area of Mallco Ranch. October 1993

Breastfeeding	n	%
Yes	8	33
No	16	67
Total	24	

Table A.4.5 shows the percentage of mothers who is bottle-feeding her child.

Table A.4.5.- Proportion of mothers who is using bottle to Feed her Under 24 Months Child. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993

Bottle usage	n	%
Yes	70	33
No	143	67

A.5 ACUTE DIARRHEAL DISEASE

Table A.5.1 shows prevalence of acute diarrheal disease in the two previous weeks to the interview.

The proportion of children under two who had diarrhea is 35.2, similar to that found in June of 1992 (33%)

Table A.5.1. Proportion of Children Under 24 Months that had Diarrhea During the Two Previous Weeks to the Interview. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993

EDA	n	%	Accumulated
Yes	75	35.2%	35.2%
No	136	63.8%	99.1%
No answer	2	0.9%	100.0%

Table A.5.2. shows the frequency of continuing breastfeeding in mothers whose child had diarrhea in the two previous weeks and who were still breastfeeding their children.

65.3% of the mothers whose children had diarrhea, were still breastfeeding. Also, mothers' wide majority continued giving maternal milk in the same or more frequency, this constitute one of the most recommended practices during diarrhea. This amount is higher than the observed in June 1992 and than the goal for 1996.

Table A.5.2.- Continuation of Breastfeeding during Diarrhea. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993.

Continued	n	%	Accumulated
More than before	4	8.2	8.2%
Same	42	85.7	93.9%
Less	2	4.1	98.0%
No answer	1	2.0	100.0%
Total	49	100.0	

Table A.5.3. displays the same information concerning about the mother continuing offering liquids to her child during diarrhea.

64% of the mothers gave same or more liquids to their child during diarrhea, a very small percentage stopped completely and 18.7% of children only received breastfeeding.

This percentage is similar to that observed in June 1992 and to the goal for 1996.

Table A.5.3.- Continuation of Liquids during Diarrhea. Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993.

Continued	n	%	Accumulated
More than before	13	17.3%	17.3%
Same	35	46.7%	64.0%
Less	12	16.0%	80.0%
Stopped completely	1	1.3%	81.3%
Only breastfed	14	18.7%	100.0%
Total	75	100.0%	

Table A.5.4 shows the continuation of solid foods per party of the interviewed mothers. The percentage of mothers' who continue solid foods is hardly superior to the half, which implies to insist in the recommendations to the mothers concerning this important practice during diarrhea.

This percentage is similar to that observed in June 1992 and to the goal for 1996.

Table A.5.4.- Continuation of Solid Foods during the Diarrhea. Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993.

Continued	n	%	Accumulated
More than before	5	6.7%	6.7%
Same	35	46.7%	53.3%
Less	19	25.3%	78.7%
Only breastfed	16	21.3%	100.0%
Total	75	100.0%	

Table A.5.5 displays the proportion of mothers' used oral rehydration therapy when her child had diarrhea.

The use of ORS in general is superior to 25.2 that was reported at the national level according to the ENDSA-89.

Table A.5.5.- Prevalence of Oral Rehydration Therapy Use (Any Liquid) during Diarrhea. Consejo de Salud Rural Andina Child Survival Project. Area of Mallico Ranch. October 1993

Liquid used	n	%
ORS	64	85.3
Suero Casero	72	96
Cereals based	68	90.6
Liquids, teas, mates	49	65.3

Table A.5.6. shows the signs of graveness identified by mothers' concerning acute diarrheal disease. 27.2% responded didn't know any symptoms of graveness of diarrhea. The symptoms referred with most frequency were loss of appetite, weakness /unwillingness, wasting. The other motives, the most frequently registered was "very frequent diarrhea".

Table A.5.6.- Motives referred by Mothers of Children Under 24 Months in order to Search for Aid in case of the child had Diarrhea. Consejo de Salud Rural Andina Child Survival Project/ Area of Mallco Ranch. October 1993

Reason	n	%
Don't know	58	27.2
Vomiting	33	15.5
Fever	66	21.6
Dry Mouth, sunken eyes, little urine	19	8.9
Diarrhea for more than 14 days	23	10.8
Bloody stools	5	2.3
Loss of appetite	49	23
Weakness,	50	23.5
Loosed weight	47	22.1
Others	28	13.1

Table A.5.7. displays the proportion of mothers who heard about oral rehydration salts. A large percentage of mothers has heard about them. This percentage is higher to that found in rural zones (57.1) and in valleys (68.3) according to ENDSA-89.

Table A.5.7.- Proportion of Mothers of Children Under 24 Months who has heard about ORS. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993.

Had heard of ORS	n	%	Accumulated
Yes	126	94.7%	94.7%
No	7	5.3%	100.0%
Total	133	100.0%	

From the mothers who heard about ORS, Table A.5.8. shows most of them they mentioned that the envelopes are useful for diarrhea.

Table A.5.8.- Proportion of mothers of Children Under 24 Months who knows ORS is useful for diarrhea. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993.

Knows ORS is for diarrhea	n	%
Yes	126	94.7%
No	7	5.3%
Total	133	100

Table A.5.9. display that the percentage of mothers that has used sometimes the ORS is less than the percentage who knows it is useful for diarrhea. According to mothers' opinions, frequently the child don't accept to drink ORS.

Table A.5.9.- Proportion of mothers of Children Under 24 Months that has Used ORS. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993.

Has used ORS	n	%
Yes	107	80.5%
No	24	18.0%
No answer	2	1.5%
Total	133	100

The proportion of mothers who answers correctly how to prepare ORS (one liter of water plus the contents of an envelope) is near 90%, this is a large proportion.

Table A.5.10.- Proportion of Mothers of Children Under 24 Months who Responds Correctly how Prepare ORS. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993.

Responds Correctly	n	%
Yes	117	88.0%
No	16	12.0%
Total	133	100

A.6 CONTROL OF PNEUMONIA

Table A.6.1. displays the proportion of children who had intense cough and respiratory difficulty in the two previous weeks to the interview. One of each five children had cough and respiratory difficulty the two previous weeks to the interview.

This proportion is similar to the national level (25.1) according to ENDSA-89.

Table A.6.1.- Proportion of Mothers whose Child under 24 Months had Cough and Respiratory Difficulty in the Two Previous Weeks. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993

	n	%	Accumulated
Yes	43	20.1%	20.1%
No	169	79.3%	99.4%
No answer	1	0.6%	100.0%
Total	213	100.0%	

From the mothers whose children had cough and respiratory difficulty, a high percentage (60.5%) had searched for medical aid, this percentage is significantly superior to that found in June 1992 and reasonably below the goal for 1996.

However, it should be considered also the excess in demand for medical attention that this should be occasioning, this finding suggests to insist in the recommendations for identifying alarm signs and conservative treatment.

Table A.6.2.- Proportion of Mothers who Searched for Medical Treatment for their Minor Boy of 24 Months when he had Cough and Respiratory Difficulty in the Two Previous Weeks. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993.

Searched for Treatment	n	%
Yes	26	60.5%
No	17	39.5%
Total	43	

Table A.6.3. displays the mothers' answers concerning from whom they received advice or aid when the child had cough and respiratory difficulty.

The highest percentage went to the hospital or center, related/friends or other person was the second in place.

Person/institution	n	%
Hospital or health center	14	32.6%
Pharmacy	4	9.3%
Private Physician	1	2.3%
Health Promotor	4	9.3%
Curandero	0	0 %
Partera	1	2.3%
Relative and friends	5	11.6%
Others	1	2.3%

Table A.6.4 shows the mothers' answers about symptoms and signs which evidences a severe respiratory illness. cough is the most frequent sign reported, followed by consecutive of rapid and shaken respiration. 27.7% don't know any signs and symptoms of graveness.

Only one of each five mothers recognizes rapid and shaken respiration like sign of graveness.

One must annotate that signs and symptoms of grave ARI are difficult to identify and to transmit to the mothers.

Table A.6.4.- Referred Signs and Symptoms for Pneumonia by Mothers of Children Under 4 Months. Consejo de Salud Rural Andina Child Survival Project. Area of Mallco Ranch. October 1993.

Characteristic	n	%
Don't know	59	27.7%
Rapid and agitated respiration	49	23.0%
Retractions	1	0.5%
Decrease of appetite and/o thirst	14	6.6%
Fever	37	17.4%
Cyanosis	5	2.3%
Cough	133	62.4%
Others	9	4.2%

A.7 MATERNAL HEALTH

Table A.7.1 displays the proportion of mothers' who showed the Maternal Health Card. Only a small proportion showed the card.

Table A.7.1. Proportion of Mothers of Children Under 24 Months that showed Maternal Health Card for the Last Child. Project of Child Survival. Consejo de Salud Rural Andino. Area of Mallco Ranch. October 1993.

Has maternal control card	n	%	Accumulated
Yes, she showed	10	4.7%	4.7%
Yes, but she didn't show	41	19.2%	23.9%
Yes in the hospital	6	2.8%	26.8%
No	155	72.8%	99.5%
No answer	1	0.5%	100.0%
Total	213	100.0%	

Table A.7.2. displays the number of dose of tetanic toxoid the mother has received. A small number of mothers has received TT.

Table A.7.2.- Number of Dose of TT received by Mothers of Children Under 24 Months. Project of Child Survival. Consejo de Salud Rural Andino. Area of Mallco Ranch. October 1993.

# dose	n	%	Accumulated
One	2	20.0%	20.0%
Two	5	50.0%	70.0%
More than two	3	30.0%	100.0%
Total	10	100.0%	

Table 7.3. displays the mothers' answers concerning to whom the protection is conferred from TT. One of each four mothers answered to the mother and other of each four responded that to the child or both. A little more than the half didn't know to whom.

Table A.7.3.- Answers of Mothers of Children Under 24 months about to Whom TT Protects. Project of Child Survival. Consejo de Salud Rural Andino. Area of Mallco Ranch. October 1993.

Answer	n	%
The mother	59	27.7%
The child	15	7.0%
Both	26	12.2%
Other or don't know	113	53.1%

Table A.7.4. shows the mothers' answers about how many doses of vaccine are necessary for tetanus protection. Most of them responded they didn't know, although 23.5% responded correctly that two dose are necessary.

Table A.7.4.- Answers of Mothers of Children Under 24 months about the Number of Dose needed to Protect to the Neonate of the Tetanus. Project of Child Survival. Consejo de Salud Rural Andino. Area of Mallico Ranch. October 1993.

Answer	n	%
None	17	8.0%
One	34	16.0%
Two	50	23.5%
More than two	1	0.5%
Don't know	111	52.1%
Total	213	

Table A.7.5. displays the proportion of mothers that showed maternal attention card of the last child's pregnancy. Only 15% showed the card and 8.9 said it was in the hospital.

Table A.7.5. Proportion of Mothers of Children Under 24 months who have Maternal Attention card of The last child's Pregnancy. Project of Child Survival. Consejo de Salud Rural Andino. Area of Mallico Ranch. October 1993

Has Prenatal Control Card	n	%	Accumulated
Yes, showed	33	15.5%	15.5%
Yes, didn't show	54	25.4%	40.8%
Yes, in the Hospital	19	8.9%	49.8%
No	107	50.2%	100.0%
Total	213	100.0%	

Table A.7.6. shows the proportion of mothers that had at least one prenatal control in the last child's pregnancy.

Table A.7.6.- Proportion of Mothers of Children Under 24 Months that has Had An or rather Prenatal visits before the Birth of the Last Child. Project of Child Survival. Consejo de Salud Rural Andina. Area of Mallico Ranch. October 1993.

# Controls	n	%
One or more	32	97.0%
None	1	3.0%
Total	33	100

Table A.7.7. displays who cut the umbilical cord during the birth of the last child. The proportion of births attended to by personnel of the project is rather less than a third, although added to personal other of health it totals 57.8 percent, remaining 42.2% without attention for trained personnel.

An important percentage is attended to by the husband or family women.

Table A.7.7. Person who cut the cord in the Birth of the Last Child. Project of Child Survival. Consejo de Salud Rural. Area of Mallco Ranch. October 1993

Person	n	%
Herself	3	1.4%
Husband	31	14.6%
Female relative	29	13.6%
Male relative	13	6.1%
Partera	11	5.2%
Personal of the project	66	31.0%
Other health personal	57	26.8%
Don't remember	2	0.9%
No answer	1	0.5%
Total	213	100

Table A.7.8 displays the answers of mothers' about the time that one could wait the placenta to leave without harm to the mother. More than half of the mothers' responded correctly and 44.1 don't know or responded wrong.

Table A.7.8.- Answers of Mothers of Children Under 24 Months about the Time that one could Wait the Placenta to Leave before the Mother is in Risk of Death. Project of Child Survival. Consejo de Salud Rural. Area of Mallco Ranch. October 1993

Time	n	%	Accumulated
An hour or less	119	55.9%	55.9%
More than an hour	28	13.1%	69.0%
Don't know	66	31.0%	100.0%

Table A.7.9 show 8% of the mothers is pregnant.

Pregnant	n	%	Accumulated
Yes	17	8.0%	8.0%
No	195	91.5%	99.5%
No answer	1	0.5%	100.0%
Total	213	100.0%	

Table A.7.10 shows the mothers' answers about the desire of having other child in the following two years. Only 6.7% responded affirmatively.

Table A.7.10.- Distribution of the Mothers according to if she desire to Have Other Baby in the Following Two Years. Consejo de Salud Rural Andina. Area of Mallco Ranch. October 1993

Answer	n	%
Yes	13	6.7%
No	177	90.8%
Don't know	4	2.1%
No answer	1	0.5%
Total	195	100.0%

Table A.7.11 displays the percentage of mothers' who affirm is using a method in order to avoid pregnancy.

Table A.7.11.- Proportion of Mothers of Children Under 24 Months that doesn't desire to Have Child in the Next Two Years or is not Sure and Uses Contraceptive Methods. Project of Child Survival. Consejo de Salud Rural Andina. Area of Mallco Ranch. October 1993

Is using a Method	n	%
Yes	156	85.7%
No	26	14.3%

Table A.7.12 shows the method used by the mothers desire to avoid pregnancy.

Rhythm and the breastfeeding were the methods most frequently used, both are of low efficacy.

Use of the most effective modern methods pills and intra-uterine device was quite low.

This result supports the initiative of the project to offer services for contraceptive use although they should revise the proposal of promoting exclusive breastfeeding as a contraceptive method given its debatable efficacy and the fact this group of women not only has the desire of avoiding a pregnancy but are also doing something about it.

Table A.7.12.- Distribution of Mothers of Children Under 24 Months that don't desire to Have a Child in the Next Two Years or Are not Sure according to Contraceptive Method Actually Used. Project of Child Survival. Consejo de Salud Rural. Area of Mallco Ranch. October 1993

Method	n	%	Accumulated
AQV	0	0	0
Hormonal intramuscular	1	0.7	0.7
Hormonal oral	0	0	0.7
IUD	24	15.7	16.4
Diaphragm	0	0	16.4
Condoms	0	0	16.4
Spermicide	0	0	16.9
Breastfeeding	42	27.5	43.9
Rhythm	52	34	77.9
Abstinence	29	19	96.4
Coitus interruptus	1	0.6	97.4
Other	4	2.6	100
Total	153	100	

Table A.7.13 shows what number of mothers that is using methods responded in favor the project offers them. However almost 30% didn't respond. This result suggests that although there is implicit acceptance to the offer of methods, there is a considerable percentage of women that is undecided.

Table A.7.13.- Distribution of Mothers of Children Under 24 Months according to if She Desire the Project Offers Some Contraceptive Methods. Project of Child Survival. Consejo de Salud Rural. Area of Mallco Ranch. October 1993

Answer	n	%
Yes	141	66.2%
No	10	4.7%
No answer	62	29.1%
Total	213	100

A.8 HEALTH PROGRAM'S IMAGE

This section treats about the image of the program according to it referred by the mothers.

Table A.8.1 shows the attentions received by the families of children under two years.

Medical attention at the hospital was the most frequent. Home visits were in second place. One of each five mothers answered their family had not received attentions during the previous year to the interview.

Table A.8.1.- Type of Attention Received by the Mother or Someone of their Family in the Previous Year. Project of Child Survival. Consejo de Salud Rural. Area of Mallco Ranch. October 1993

Attention	n	%
None	42	19.7%
Attention at the health center	0	0
Attention at the Hospital	118	55.4%
Attention at the home	25	11.7%
Home visit	97	45.5%
Weight, height, vaccination campaign	50	23.5%

Table A.8.2. shows the mothers' opinion concerning the received attentions, most of the interviewed mothers qualified as good the attention.

Table A.8.2.- Qualification of the Mothers with Children Under 24 months of the Attention Received from the Project. Project of Child Survival. Consejo de Salud Rural Andina. Area of Mallco Ranch. October 1993

Qualifying	n	%
Excellent	5	2.8
Good	168	94.3
Fair	4	2.2
Bad	1	0.7

A.9 KEY INDICATORS

Table A.9.1 show the key indicators key, in June 1992, October 1993 and the goal for 1996.

The indicators of some strategies have increased significantly, for example, acute diarrheal disease and acute respiratory infection and breastfeeding.

Others have been maintained for example, proportion of mothers that give liquid or solid foods in same quantity to their child with diarrhea

The others have diminished in example, immunizations, but the most probable explanation is underregistration.

Table A.9.1.- Summary of Key Indicators of the Project of Child Survival. Consejo de Salud Rural Andina. Area of Mallico Ranch 1992, 1993 goal for 1996.

	jun 92	oct 93	goal 96
Breastfeeding and Feeding Pattern			
1) % of children under 24 months who began breastfeeding during the first 8 hours after birth	61 (55-67)	70.9 (65-76)	--
2) % of children under 4 months who is exclusively breastfed	--	50 (45-55)	67
3) % of children 5-9 months who receive solid foods according to the mother	--	82 (76-88)	--
4) % of children 20-23 who is still breastfed	--	33 (28-38)	--
Growth and Development			
5) % of children who has at least one weight determination in the twelve previous months	97.2 (95-99)	93.5 (88-98)	--
6) % of children who have a Child Health Card at home	80 (75-85)	65 (60-70)	--
Immunizations			
7) % children 12- 23 m who received DPT1	75 (67-82)	55 (50-60)	90
8) % children 12-23 m who received OPV3	79 (72-86)	53 (48-58)	90
9) % children 12-23 m who received measles vaccination	82.4 (76-89)	41 (36-46)	90
10) desertion proportion	13.6	5.5	--

Acute Diarrheal Disease

11) % children with diarrhea who received same or more

- breastfeeding	81 (73-89)	93.9 (89-98)	75
- liquids	66 (56-76)	64 (59-69)	75
- solid foods	55 (45-65)	53.3 (48-58)	75

during the diarrhea

12)% children under 24 with diarrhea in the last two weeks who received	--	ORS 85.3 S. Casero 96 S. Cereal 90.6 Liquids 65.3	75
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Control of Pneumonia

13) % mothers of children with cough and respiratory difficulty who searched for medical treatment	25 (12-38)	60.5 (55-65)	75
--	------------	--------------	----

Maternal health

14)% mothers of children under two years who has Prenatal Care Card for the last child	39 (33-45)	15.5 (10-19)	75
--	------------	--------------	----

15)% mothers of children under two years who has at least one prenatal control	39.8 (34-46)	97 (93-99)	--
--	--------------	------------	----

16)% mothers of children under two years who has received two doses of TT	2 (0.3-3.7)	3.7 (2.5-4.2)	--
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17)% mothers of children under two years who don't desire or is not sure to have a child in the next two years and is using a modern contraceptive method	--	16.4 (12-21)	--
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Vitamin A

18)% children 12-23 m who have received oral doses of vitamin A.	--	14 (8-19)	95
--	----	-----------	----

B. Sipe Sipe

In Sipe Sipe a total of 254 interviews to mothers with children under two years were done.

The results are in the following tables.

B.1 Mother's Characteristics

Table B.1.1. according to the mother's age distribution, the higher percentage that age of risk in pregnancy, is in the more than 35 years group.

Table B.1.1.- Distribution of mothers of children under two years according to age. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Age	n	%
10- 18	4	1.6%
18- 35	194	76.4%
35 or more	56	22.0%
Total	254	100.0%

B.2 GROWTH CONTROL

The module of control of growth is investigating the coverage of growth control in Sipe Sipe.

The Table B.2.1. shows the holding of Carne de Salud Infantil. Most of the mothers showed the card and a small percentage said they had it at the hospital.

Table B.2.1.- Coverage of Growth Control. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Holds Card	n	%	Accumulated
Yes, shows	141	55.5%	55.5%
No, in the Hospital	20	7.9%	63.4%
Other document	1	0.4%	63.8%
No	40	15.7%	79.5%
Yes, didn't show	52	20.5%	100.0%
Total	254	100.0%	

Table B.2.2. shows the number of growth controls in the 12 previous months to the interview.

Most of the children 12-23 months, had 6 or more weigh controls registered card. Children under one year, can not such a number of weigh controls, the numbers are distributed from 1 to 4 controls.

This result indicates an uniform coverage in the controls carried out to the children.

Table B.2.2.- Number of Growth Controls in the 12 previous months. Consejo de Salud Rural Andina Child Survival Project.
Area of Sipe Sipe. October 1993

# controls	0-11		12-23	
	n	%	n	%
0	6	7.6	8	12.6
1	15	19.2	2	3.1
2	12	15.3	10	15.8
3	14	17.9	7	11.1
4	12	15.3	12	19
5	8	10.2	5	7.9
6 or more	11	14.1	19	30.1
Total	78		63	

B.3 IMMUNIZATIONS

The immunizations module is evaluating the access and coverage of immunizations in children under two years.

Table B.3.1 shows access to immunizations, measured by the percentage of children who has received the first dose of triple vaccine. The coverage is rather close to 40 percent in children less than one year old and increases in 12-23 months group.

Table B.3.1.- Access to Immunizations. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

DPT1	n	%	n	%
Yes	61	42.3	60	55
No	83	57.7	50	45
Total	144		110	

Table B.3.2 shows coverage of immunizations measured as the percentage of children who has received OPV3. The proportion in the children 12-23 months reaches around 40 percent.

Table B.3.2.- Coverage of Immunizations. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

OPV3	n	%	n	%
Yes	34	23.6	47	42.7
No	110	76.4	63	57.3
Total	144		110	

Table B.3.3 shows the coverage of measles vaccination in the children 12-23 months old.

Table B.3.3.- Coverage of Measles Vaccination. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Measles Vaccination	12-23 months	
	n	%
Yes	45	41
No	65	59
Total	110	

Table B.3.5 indicates the proportion of desertion of the EPI, that relates that proportion of children who began their triple vaccine and didn't finish.

The proportion of desertion of the EPI has diminished from 35.7 found in June 1992.

Table B.3.5.- Proportion of Desertion of EPI. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Desertion	%
Yes	17.1
No	82.9

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B.4 BREASTFEEDING

The module of breastfeeding is related to evaluate the effect of the activities toward promotion of exclusive breastfeeding.

Table B.4.1. shows the initiation of breastfeeding according to the mothers' of Sipe Sipe answers. 67.7% of the mothers began breastfeeding before eight hours from the birth. This percentage is higher than that obtained in June 1992.

Table B.4.1.- Beginning of Maternal Nursing. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Hours after birth	n	%
During the first hour	100	39.4%
During the first eight hours	72	28.3%
More than eight hours	76	29.9%
Don't remember	2	0.8%
No answer	4	1.6%
Total	254	100.0%

Table B.4.2 shows the proportion of children less than four months old who are lactating exclusively. This proportion is similar to that found in Mallco Ranch.

Table B.4.2.- Exclusive Breastfeeding in Children Under 4 months old. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

	n	%
Yes	22	48
No	23	52

Table B.4.3 shows feeding pattern of children under 4 months, according to the mother's reference. All the children under four months receive breastfeeding, 40 percent receives liquids, 25% other milks and 14% receive solid foods.

Table B.4.3.- Feeding Patterns of Children Under 4 Months. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993.

	BF		Liquid		Milk		Solid Foods	
	n	%	n	%	n	%	n	%
Yes	45	100	18	40	11	25	6	14
No	0	0	25	60	34	75	39	86
Tot	45		45		45		45	

Table B.4.4 shows feeding pattern of children 5-9 months. A tall percentage receives maternal milk and a 83 percent already receives solid foods.

Table B.4.4.- Feeding Pattern of Children 5-9 months. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

	BF		Liquid		Milk		Solid Foods	
	n	%	n	%	n	%	n	%
Yes	45	94	38	79	26	54	40	83
No	3	6	10	11	22	46	8	17
Tot	48		48		48		48	

Table B.4.5 shows the proportion of children 20-23 months who is still breastfed. This percentage is quite low.

Table B.4.5.- Persistence of Breastfeeding. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

	n	%
Yes	4	17
No	19	83
Total	23	

Table B.4.6 shows the proportion of mothers who is bottle-feeding. Only 38 percent of mothers uses bottle to feed her child.

Table B.4.6.- Number of mothers Bottle-Feeding her Child Under 24 Months. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993.

	n	%
Yes	96	38
No	156	61.6
No answer	2	0.4
Total	254	100

B.5 ACUTE DIARRHEAL DISEASE

The module of acute diarrheal disease evaluates the prevalence of diarrhea and the handling that does the mothers of the consumption of maternal milk, liquids and solid foods for their children during the diarrhea.

Table B.5.1 shows the proportion of children who had diarrhea during the last two weeks. One of each three children had diarrhea in Sipe Sipe in the two previous weeks.

Table B.5.1.- Prevalence of EDA in the two previous weeks. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Yes	85	33.5%
No	166	65.4%
Don't know	2	0.8%
No answer	1	0.4%
Total	254	100.0%

Table B.5.2 shows mothers' practices about diarrhea during the diarrhea of their child.

More than 70% of mothers continued breastfeeding her child during the diarrhea, this is similar to the percentage found in June 1992.

Table B.5.2.- Continuation of Breastfeeding during the Diarrhea. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Continues Breastfeeding	n	%	Accumulated during EDA
More	5	5.9%	5.9%
Same	54	63.5%	69.4%
Less	8	9.4%	78.8%
Stopped	1	1.2%	80.0%
Breastfed only	16	18.8%	98.8%
No answer	1	1.2%	100.0%
Total	85	100.0%	

Table B.5.3. shows the proportion of mothers who continued giving liquids to her child during diarrhea. The result is 68,2 percent and is similar to that gotten in July 1992.

Table B.5.3.- Continuation of Liquids during Diarrhea. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Continued	n	%	Accumulated liquids
More	20	23.5%	23.5%
Same	38	44.7%	68.2%
Less	10	11.8%	80.0%
Stopped	5	5.9%	85.9%
Breastfed only	11	12.9%	98.8%
No answer	1	1.2%	100.0%
Total	85	100.0%	

Table B.5.4 shows how the mothers fed their children during diarrhea. 60 percent of the mothers continued giving foods to the child. This percentage is similar to that found in July 1992.

Table B.5.4.- Continuation of Solid Foods during the Diarrhea. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Continued solid foods	n	%	Accumulated
More	4	4.7%	4.7%
Same	47	55.3%	60.0%
Less	16	18.8%	78.8%
Stopped	2	2.4%	81.2%
Breastfed only	15	17.6%	98.8%
No answer	1	1.2%	100.0%
Total	85	100.0%	

Table B.5.5 shows the treatments used by the mothers when her child had diarrhea. In general, the use of liquids during diarrhea was high but ORS or suero casero overcome hardly the 10 percent.

Table B.5.5.- Prevalence of Use of Oral Rehydration Therapy (Any Liquid) during Diarrhea. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Used	n	%
None	20	23.5%
ORS	9	10.6%
Suero casero	2	2.4%
Cereal based solutions	17	20.0%
Liquids, teas, mates	37	43.5%
Antidiarrheal or Antibiotics	17	20.0%
Other	9	10.6%

Table B.5.6 show the reasons identified by mothers as a danger for her child during diarrhea. One of each four mothers answered they didn't know. Table B.5.6 - Reasons referred by Mothers of Children Under 24 Months in order to Search for Aid during the Diarrhea of her Child. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Reason	n	%
Don't know	60	23.6%
Vomits	38	15.0%
Fever	55	21.7%
Dry Mouth, sunken eyes, urine little	11	4.3%
Diarrhea more than 14 days	49	19.3%
Bloody stools	6	2.4%
Loss of appetite	54	21.3%
Weak, without appetite	61	24.0%
Weight loss	59	23.2%
Others	32	12.6%

Table B.5.7 shows the proportion of mothers who knows about ORS. Mothers' percentage who has listened about ORS it reaches 60%. Table B.5.7 - Proportion of Mothers of Children Under 24 Months who has heard about ORS. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Heard about ORS	n	%
Yes	153	60.2%
No	101	39.8%

Table B.5.8 shows the proportion of mothers who have listened about ORS and their answers about its usefulness. Most of the mothers answered it is useful for diarrhea.

Table B.5.8 - Proportion of mothers of Children Under 24 Months who know ORS is used for diarrhea. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

ORS is for diarrhea	n	%
Yes	142	92.8%
No	9	5.9%
No answer	2	1.3%
Total	153	

Table B.5.9 shows the percentage of mothers that has used ORS. The number of mothers who answered they are used for diarrhea, was less than the number who had used them during the diarrhea of their child.

Table B.5.9.- Proportion of mothers of Children Under 24 Months that has Used sometimes ORS. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Has used ORS	n	%
Yes	117	76.5%
No	35	22.9%
No answer	1	0.7%
Total	153	

Table B.5.10 shows the proportion of the mothers who answers correctly that ORS is prepared using a liter of boiled water and an envelope of ORS. The percentage of mothers who answered correctly is high.

Table B.5.10.- Proportion of Mothers of Children Under 24 Months that Responds Correctly how to Prepare ORS. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

	n	%
Yes	128	83.7%
No	25	16.3%

B.6 CONTROL OF PNEUMONIA

The module of control of pneumonia is to explore if mothers of children under 24 months are searching for aid when her child is in danger of pneumonia.

The proportion of Children who had cough and respiratory difficulty was 15 %, this proportion is similar to the percentage found in Mallico Ranch and lower than that found in similar zones of the country, as mentioned in ENDSA-89.

Table B.6.1 show the proportion of mothers who searched for medical treatment when her child had cough and respiratory difficulty. This percentage is higher than that found in July 1992.

Table B.6.1.- Proportion of Mothers that Searched for Medical Treatment for her Child Under 24 Months when he had Cough and Respiratory Difficulty in the Two Previous Weeks. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993.

Searched Treatment	n	%
Yes	27	69.2%
No	12	30.8%
Total	39	

Table B.6.2 shows from which person or institution the mother received aid when her child was sick with severe cough and respiratory difficulty. The higher percentage went to the health center or hospital and in second place to relatives or friends.

Table B.6.2.- Person or institution from which the mother received aid for her Child Under 24 Months when he had Cough and Respiratory Difficulty in the Two Previous Weeks. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Person/institution	n	%
Hospital or health center	14	35.9%
Pharmacy	0	0
Private physician	1	2.6%
Health promoter	5	12.8%
Curandero	0	0
Partera	1	2.6%
Relatives and friends	7	17.9%
Others	1	2.6%

Table B.6.3 shows which signs and symptoms the mothers refer as of danger so that her child has pneumonia. Most of the mothers identify cough as a sign of graveness, one of each four doesn't know and one of each fifth identify fever or agitated respiration.

Table B.6.3.- Referred Signs and Symptoms identified as Pneumonia by Mothers of Children Under 24 Months. Consejo de Salud Rural Andina Child Survival Project. Area of Sipe Sipe. October 1993

Characteristic	n	%
Don't know	65	25.6%
Agitated Respiration	58	22.8%
Retractions	5	2.0%
Loss of appetite and/or thirst	23	9.1%
Fever	52	20.5%
Cyanosis	5	2.0%
Cough	167	65.7%
Others	4	1.6%

B.7 MATERNAL HEALTH

The module of maternal health evaluates the coverage of prenatal care, antitetanic vaccination in order to prevent the neonatal tetanus, attention of the birth and birth spacing.

Table B.7.1 shows the proportion of mothers who has immunizations card. A very small percentage of mothers has the card.

Table B.7.1.- Proportion of Mothers of Children Under 24 Months who Showed Maternal Health Card for the Last Child.
Project of Child Survival. Consejo de Salud Rural Andino. Area of Sipe Sipe. October 1993

Showed the Maternal Health Card	n	%	
Yes	14	5.5%	5.5%
Yes, not verified	46	18.2%	23.7%
Yes in the Hospital	3	1.2%	24.9%
No	189	74.7%	99.6%
No answer	1	0.4%	100.0%
Total	253	100.0%	

Table B.7.2. shows the number of doses of TT received by the mothers interviewed in Sipe Sipe. Given mothers' scarce number that has card of prenatal vaccination, it is not possible to conclude nothing about the number of doses.

Table B.7.2.- Doses of TT Received by Mothers of Children Under 24 Months.
Project of Child Survival. Consejo de Salud Rural Andino.
Area of Sipe Sipe. October 1993

	n	%	
1	5	38.5%	38.5%
2	3	23.1%	61.5%
3	4	30.8%	92.3%
5	1	7.7%	100.0%
Total	13	100.0%	

Table B.7.3 shows the mothers' answers concerning who the antitetanic vaccination protects. Most of them answer not to be acquainted with to whom confers protection the TT. Almost six of each ten mothers doesn't know how many doses are necessary in order to protect the child of the tetanus.

# dose	n	%
None	24	9.4%
One	31	12.2%
Two	52	20.5%
More than two	4	1.6%
Don't know	143	56.3%
Total	254	

Table B.7.3.- Answers of Mothers of Children Under 24 months about to Whom TT confers protection. Project of Child Survival. Consejo de Salud Rural Andino. Area of Sipe Sipe. October 1993

Answer	n	%
The mother	65	25.6%
The boy	11	4.3%
Both	19	7.5%
Other or don't know	59	23.2%
Total	254	

Table B.7.4 shows the proportion of mothers' that has prenatal control card of the last child. A small number of mothers' showed the control card of the pregnancy of the last child.

Table B.7.4.- Proportion of mothers of children Under 24 months that has Prenatal Control Card of the pregnancy of the Last Child. Project of Child Survival. Consejo de Salud Rural. Area of Sipe Sipe. October 1993

Yes	27	10.6%
Has, she don't show	42	16.5%
No, in the Hospital	12	4.7%
No	173	68.1%
Total	254	

Table B.7.5. shows that most of the mothers who have a prenatal care card and have one or more prenatal visits. This percentage is similar to that found in June 1992.

Table B.7.5.- Proportion of Mothers of Children Under 24 Months that has Had at least One Prenatal visits before the Birth of the Last Child. Project of Child Survival. Consejo de Salud Rural. Area of Sipe Sipe. October 1993

# Controls	n	%
One or more	26	96.3%
None	1	3.7%

Table B.7.6. displays the characteristics of the attention of the childbirth as the proportion of childbirths that was attended to by health personnel, it was 64 %. The percentage of childbirths was attended to personnel of the project was 24.

Table B.7.6.- Distribution of Mothers of Children Under 24 Months according to Person that Tied and Cut the Umbilical Cord in the Last Childbirth. Project of Child Survival. Consejo de Salud Rural Area of Sipe Sipe. October 1993

Person	n	%
Herself	5	2.0%
Husband	24	9.4%
Female relative	42	16.5%
Male relative	4	1.6%
Partera	16	6.3%
Personnel of the project	61	24.0%
Other health personnel	102	40.2%
Don't remember	0	0

Table B.7.7 shoes that most of the mothers respond correctly concerning the time that one could wait so the placenta to be expulsed without danger for the mother occurs.

Table B.7.7.- Answers of Mothers of Children Under 24 Months about the Time that one could Wait the Placenta to Leave before the Mother is in Risk of Death. Project of Child Survival. Consejo de Salud Rural. Area of Sipe Sipe. October 1993

Time	n	%
An hour or less	154	60.6%
More than an hour	23	9.1%
Don't know	77	30.3%

Table B.7.8 displays the distribution of mothers' according to their desire of having a child in the next two years. The majority of them doesn't desire to have other child and less of 10% answered yes.

Table B.7.8.- Proportion of Mothers of Children Under 24 Months that doesn't desire to Have a Child in the Next Two Years. Project of Child Survival. Consejo de Salud Rural. Area of Sipe Sipe. October 1993

	n	%
Yes	22	9.4%
No	198	85.0%
Don't know	13	5.6%

Table B.7.9 shows the proportion of mothers that doesn't desire to have a child and is using some method in order to avoid the pregnancy. One of each four mothers is actively attempting to delay a pregnancy.

Table B.7.9.- Proportion of Mothers of Children Under 24 Months that doesn't desire to Have a Child in the Next Two Years or is not Sure and Uses a Contraceptive Method. Project of Child Survival. Consejo de Salud Rural. Area of Sipe Sipe. October 1993

Uses a Methods	n	%
Yes	171	81.0%
No	40	19.0%

Table B.7.10 shows the distribution of the methods used by the mothers. The proportion of couples actually using modern methods is quite small. Most of them uses low efficacy methods, in example: rhythm and breastfeeding.

This result as age distribution of the mothers is of great aid in order to program the demand of contraceptive methods.

Table B.7.10.- Distribution of Mothers of Children Under 24 Months who doesn't desire to Have a Child in the Next Two Years or is not Sure according to Contraceptive Method Actually used. Project of Child Survival. Consejo de Salud Rural. Area of Sipe Sipe. October 1993

Method	n	%
AQV	3	1.5%
Hormonal intramuscular	0	0
Hormonal oral	1	0.6%
IUD	6	3.5%
Diaphragm	0	0
Condoms	0	0
Spermicide	0	0
Breastfeeding	70	40.9%
Rhythm	53	31.0%
Abstinence	33	19.3%
Coitus interruptus	0	0
Other	5	2.9%

B.8 HEALTH PROGRAM IMAGE

This module attempts to capture the opinions of the population concerning the received attentions and their quality.

Table B.8.1 shows the attentions the mothers refer have received on behalf of the project. One of each four mothers referred have received no attention.

Table B.8.1.- Type of Attention Received by the Mother or Some of their Family in the Previous Year. Project of Child Survival. Consejo de Salud Rural. Area of Sipe Sipe. October 1993

Attention	n	%
None	63	24.8%
Consultation in the health center	16	6.3%
Consultation in the Hospital	105	41.3%
Consultation of the personnel of health in their home	27	10.6%
Home Visit	93	36.6%
Weight/vaccination campaign	74	29.1%

The Table B.8.2 shows the qualification given by the mothers to the received attentions. Although almost 70% qualified them as good, 22 percent didn't respond.

Table B.8.2.- Qualification of the Mothers with Children Under 24 months of the Attention Received on behalf of the Project. Project of Child Survival. Consejo de Salud Rural. Area of Sipe Sipe. October 1993

Qualifying	n	%
Excellent	7	2.8%
Good	174	68.5%
Fair	12	4.7%
Bad	4	1.6%
No answer	57	22.4%

B.9 KEY INDICATORS

Table B.9.1 shows the key indicators in June 1992, October 1993 and the goal for 1996.

The indicators show an improvement concerning the year 1992 in beginning of maternal nursing, immunizations, growth and development, control of pneumonia. Also there is a maintenance of the levels in acute diarrheal disease. Also, it is observed that remain low the indicators of maternal health and vitamin A.

Table B.9.1.- Summary of Indicators Key of the Project of Child Survival. Consejo de Salud Rural. Area of Sipe Sipe 1992, 1993 and nominative for 1996.

	jun 92	oct 93	goal 96
Breastfeeding and Feeding Pattern			
1) % of children under 24 months who received breastfeeding during the first 8 hours after birth	56 (50-62)	67.7 (62-77)	--
2) % of children under 4 months who is exclusively breastfed	--	48 (43-53)	67
3) % of children 5-9 who received solid or semisolid foods as referred by the mother	--	83 (78-88)	--
4) % of children 20-23 who is still breastfed	--	17	--
Growth and Development			
5) % of children who has at least one weight determinations in the previous 12 months.	31 (25-36)	50 (45-55)	--
6) % of children who have Child Health Card at home	34 (28-40)	55 (50-65)	--
Immunizations			
7) % of children 12-23 m who has received DPT1	15.8 (9-22)	55 (50-65)	67
8) % of children 12-23 m who received OPV3	17.5 (11-22)	42.7 (37-47)	67
9) % of children 12-23 m who received measles vaccination	21.7 (14-29)	41 (36-46)	67
10) proportion of desertion	35.7	17.1	--

Acute Diarrheal Disease

11) % of children who had e
diarrhea and received the same
or more

- breastfeeding	78 (69-87)	70 (65-75)	60
- liquids	62 (52-72)	68 (63-73)	60
- solid foods during diarrhea	57 (47-67)	67 (62-72)	60

12) % of children Under 24 months who had diarrhea during the last two weeks and received ORT	--	ORS 10.6 S.Casero 2.4 S.Cereal 43.5	50
--	----	---	----

Control of Pneumonia

13) % of mothers of children who had cough and respiratory difficulty and seek medical treatment	15.3 (6-24)	69.2 (64-74)	50
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Maternal health

14) % of mothers of children under 24 months who have Prenatal Care Card of the Pregnancy of the last child	12	10.6 (8-16)	40 (5-15)
--	----	----------------	--------------

15) % of mothers of children under 24 m who have at least one prenatal visit	93.5 (90-96)	96.3 (93-99)	40
--	-----------------	-----------------	----

16) % of mothers of children under 24 months who has received two TT doses	2.6 (0.7-4)	61.5 (56-66)	--
--	----------------	-----------------	----

17) % of mothers of children under 24 months who doesn't or is not sure desires to have another child in the next two years and is actually using a modern contraceptive method	--	5.9	--
--	----	-----	----

Vitamin A

18) % of children 12-23 m who have received oral doses of vitamin A	--	12.7 (6-17)	80
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CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

A. MALLCO RANCH

A.1 Immunizations

A significant decrease in the indicators of immunization coverage is observed, although there exists incoherence between this decrease and a maintenance of the proportion of desertion in low levels, the previous suggests that the most probable explanation is that the vaccine administered is registered in the cards and notebooks of use of the project team, but the card the mothers have at home don't have the vaccine information.

A.2 Diarrheal Disease Control Program

There is a clear increase in the proportion of mothers' giving adequate treatment to diarrhea. The proportion of mothers' proportion using oral rehydration therapy continuing giving maternal nursing during diarrhea has increased significantly.

Also the proportion of mothers' who is giving the same or more liquids and solid foods has maintained.

A high percentage of mothers' has heard about ORS and they declare correctly how to prepare it, but a lower percentage refers they have used them.

Acute Diarrheal Disease prevalence in the two previous weeks is similar to that found in June 1992 (one of each three children under two years)

A.3 Control of Pneumonia

The percentage of mothers who searched for medical treatment has increased significantly.

Treatment was searched frequently in the Hospital. The proportion of cases with severe cough and respiratory difficulty is similar to that of June 1992 (one of each five children under two years)

A.4 Growth and Nutrition Program

The number of registered controls in Child Health Card was far below that programmed, although 65% of mothers showed her child's card. In this case, also the most probable explanation is need of registration.

A.5 Maternal Health

The proportion of mothers' who showed Maternal Health Card diminished significantly. The proportion of mothers' proportion who has received two doses of TT was maintained same.

A considerable percentage of mothers' (85%) referred takes care in order not to get pregnant, but the most used methods utilized are rhythm and

breastfeeding both low efficacy methods.
Modern methods are more effective but they are used only in 16% of couples

A.6 Vitamin A Program

Only 14% of children 12-23 months had registered have received capsules of vitamin A.

B. Sipe Sipe

B.1 Immunizations

The coverage indicators of immunizations have improved notably in Sipe Sipe. The increase is to the double or more than double. Proportion of desertion has also improved. The goals for 1996 they seem reasonable and still would be overcome by the team of the project.

B.2 Acute Diarrheal Disease Control Program

The diarrheal prevalence is similar to that of June 1992, the proportion of mothers' giving same or more breastfeeding, liquids and solid foods has maintained. A high percentage of mothers has heard about ORS, they know it is useful for diarrhea and they say it is used sometimes.

However, the proportion of mothers' who used ORS when their children had diarrhea in the last two weeks was lower. Liquids, teas and mates are the most utilized during diarrhea.

B.3 Control of Pneumonia

The proportion of mothers' who searched for medical treatment when her child had cough and respiratory difficulty increased significantly.

B.4 Growth and Nutrition Program

The proportion of children who has card and registered weights has also increased significantly.

B.5 Maternal Health

A very small number of mothers' has prenatal care card and this percentage has not modified concerning June 1992, although the percentage who has received two doses of TT has increased significantly.

B.6 Vitamin A Program

The proportion of children who has registered the ingestion of vitamin A capsules is very low. In this case, to difference of Malloco Ranch, it is not the need of registration the most probable explanation, since all the indicators requiring registration in the card have shown improvement.

Although there could exist a lack of selective registration, there would be useful to investigate with the personnel of the project other explanations.

C. RECOMMENDATIONS

- C.0 To articulate the activities of the [areas] of highland and valleys, keeping in mind the importance of a coordinated work in technical terms, but maintaining autonomy and proper characteristics of each area.

The workshop carried out for the preparation of the Rapid Survey has demonstrated success in the articulation and standardization of criterions for a concrete activity, once it has the objectives very well defined.

Concretely from the Project of Cochabamba, the extension of area and the different evolution time of Mallico Ranch and Sipe Sipe make little operative the current organization structure. It is suggested that each area has a responsible coordinator and a third person is in charge of articulation of technical aspects and conduction of both areas.

- C.1 To define concrete activities for each strategy and proposing a limited number of indicators clearly expressed, easily quantifiable and obtainable. The key indicators proposed by CSSP should be included, besides those the project team consider convenient.
- C.2 To concentrate in those strategies in process of achievement, leaving those already achieved in stage of maintenance targeting the effort of the personnel, their time and the assigned budget, an example of successfully achieved strategy is immunizations, in the other extreme we can find growth control and maternal health.
- C.3 For each strategy, to carry out a limited number of clearly defined activities able to be evaluated using the indicators mentioned in 1.
- C.4 To define a limited number of basic messages for each activity of each strategy, so it would be feasible to demonstrate progresses.
- C.5 To get priorities on the strategies, activities and basic messages according to the progresses demonstrated by the project.
- C.6 To utilize the Health Information System provided by the project in order to getting the indicators mentioned in 1 and be able to monitor the project.

Immunizations

- C.7 Census based strategy has demonstrated effectiveness in improving coverage, access and getting low desertion in the work areas. Team efforts and time can be reoriented for example programming home visits so three visits are performed for children 12-23 months old and stimulating the families to assist to growth control after the child is two years old.

The visits would carry out the same activities of weight and height determinations in children less than one year old. Older children

would be attended in campaigns.

Acute Diarrheal Disease Control Program

- C.8 The activities are guided to provide adequate treatment, however, they results they don't show the performed actions carried out they have an effect in the population. The prevalence of diarrhea is similar to national results (one of each three children under two years had an diarrheal episode during the two previous weeks) ORS and suero casero use rates are higher than those for the national level (25.2 y 8.3 for children under two years) If we compare the percentage of mothers who knows ORS in rural areas (57.1) and valleys (68.3) we find there is a higher knowledge in the work area.

However the project should contemplate the factors which could be limiting their effects, in example absence of potable water, hygiene practices, cultural. Control or eliminating these factors should be considered by the project.

- C.9 Activities can be reoriented toward prevention, saying since there is knowledge of the treatment adequate, the emphasis should be given in decreasing diarrheal incidence for which the project should propose adequate activities.

Control of Pneumonia

- C.10 The symptoms suggestive of pneumonia are less frequent than acute diarrheal disease 24 to 33 percent in Sipe Sipe and 17 against 33 percent in Malloco Ranch. These results are similar to the national average (25.1) in under two years), keeping in mind that because of the characteristic of the zones it would be expected an average above the national level. This comparison suggests that the prevalence of pneumonia in the work area is lower than that of comparable zones where there is no ongoing intervention. The percentage of mothers' who searched for medical treatment in Malloco Ranch was 60% and in Sipe Sipe was %. Both results are higher than the obtained at the national level. However one must annotate that the basal evaluation in Sipe Sipe showed similar results to those obtained in Malloco Ranch when the intervention was ongoing.

It should be annotated also there exist differences between one or another zone which are not reflected in their socioeconomic or health indicators.

- C.11 CS-9 proposes to increment the percentage found to triple in Malloco Ranch and Sipe Sipe, which implies 5 times the national average. It is recommended to revise this goal, keeping in mind the educational level, the economical and cultural capacity of the population which block the demand of health services.

Growth and Nutrition Program

- C.12 The CS-6 has completed successfully the proposed activities. We will recommend for the next stage that the activities are guided to the evaluation of the effect of the activities executed in terms of pursuit of the growth, besides the execution of weighing using the proposed frequency.

We are saying the weight and size controls are ongoing as programmed but the situation has not reported nutritional status for the children under two years old.

Although the project consolidate and reports regularly the SVEN and it consolidates the anthropometric data gathered, it should be taken in mind that this consolidated utilizes weight for age and doesn't distinguish wasting or stunting.

Wasting and stunting have a different distribution, frequency, seasonal variation, and prevalence according to age and different strategies of intervention which implies to use the available information for a proper nutritional diagnosis more precise and the proposal of strategies adequate to the results.

In this way it would be possible to document the benefits of the activities guided to improve the infant nutritional status.

- C.13 Activities proposed by CS-9 should express concretely a criterion of adequate weight gain according to the age of the child.

- C.14 Nutritional rehabilitation is conditioned to the fact the prevalence of 2nd and 3rd degree malnutrition justifies the cost of initiating services targeted to them to a given cost.

- C.15 It is recommended to define well guided strategies for prevention rather than treatment of nutritional problems.

An interesting alternative would be to provide day care services for the children 12-18 months to guarantee a balanced timely and hygienic diet and an adequate stimulation for development. It is well-known mothers carry their small children to the field in conditions of insufficient diet, shelter, hygiene and attention, given that agriculture is a hard work.

In children 6-18 months it is recommended to add to breastfeeding a diet in adequate quality, quantity, and hygiene in order to guarantee an adequate growth.

From other side, according to the project results growth is adequate until the 6 months of life approximately.

A day care service should stimulate the collaboration of the mothers in the maintenance, operation and administration of the service, which will be an strategy tool able to be permanent beyond the inclusion of the child in the service.

In fact, the project has already enough materials in order to begin a service of this nature.

Initial demand would be satisfied with the current finance, evaluating the implicit demand not satisfied and the possibilities of covering it progressively.

Maternal health

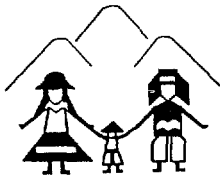
- C.16 The promotion of institutional childbirth is an activity in which the project has demonstrated success.
The proportion of institutional childbirths gotten is 57.8% and generally occur in the hospital of the project. According to ENDESA-89, in rural zones 23% of the childbirths were attended to by personnel of health and in the valleys the percentage was 43.7.
- C.17 About prenatal care it should be reinforced that for this and other activities which imply the use of two cards, that in hold of the mother should be actualized as soon as possible.
- C.18 About coverage of TP. It is small using the criterion of holding of a card. It should be annotated that because of the system of work, the mothers rely on other card in the health center, and in this case the coverage is been underestimated.
However, it is advisable to promote card holding at the home, additional to the one existing in the establishment.
- C.19 The need of promote birthspacing in mothers with small children, by means of the use of modern effective methods.
It is recommended to offer several methods so the couple is able to select their choice.
Exclusive breastfeeding has important limitations in respect to their efficacy, so its promotion must be made noting their limitations.

Vitamin A

- C.20 Little effort has been assigned to this strategy from the project, CS-6, proposed activities like distribution of the capsules of vitamin A according to the norms of the Ministry of Health, this activity has been ongoing.
- C.21 CS-9, maintains this activity adding a survey for vitamin A consumption and the elaboration of educational material.
The proposal should be stated explicitly in terms of recommendations 1, 2 3 so it would be possible to achieve success at the end of the period.
This implies decision-making about reassignment of the priorities and the effort between this strategy and the residual.

APPENDIX IV.

CORRESPONDENCE WITH DR. CARMEN MARIN REGARDING MALLCO RANCHO
AND SIPE SIPE SURVEY FINDINGS AND THEIR INTERPRETATION



ANDEAN RURAL HEALTH CARE

Promoting Hope Through Health Since 1983

**ARHC health programs
in Bolivia:**

Carabuco Health Area
on the Altiplano
31 villages
9,000 people

Ancoraimas Health Area
on the Altiplano
51 villages
14,000 people

Mallco Rancho-Sipe Sipe
Health Area
Near Cochabamba
25 villages
18,500 people

Montero Health Area
near Santa Cruz
8 barrios
11,000 people

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1633 Palm Circle
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February 7, 1994

Carmin Marin, MD, MPH
Consultant, PVO Child Survival
Support Program
Institute for International Programs
Johns Hopkins School of Hygiene and
Public Health

Dear Dr. Marin:

I want to take this opportunity to thank you for your guidance and help with Andean Rural Health Care's cluster sample surveys this past fall. All in all, the whole process went quite well, everyone seems to feel. I am still working on the final report.

In the process, I have come up with some questions and comments for you. A prompt reply would be greatly appreciated since we are approaching the deadline to have this in. My comments and questions arise from the document which you prepared which summarizes the findings from the cluster sample surveys carried out in October in Mallco Rancho and Sipe Sipe.

I. Comments on calculation of immunization coverage rates.

First, I would like to make a comment. It appears that you have calculated immunization coverage solely on the basis of documentation on the growth chart kept in the home by the mother. This is the same approach used by Marcello Castrillo when he led the prior survey in Mallco Rancho in 1991. Why not also go back to the

vaccination records at the health center which are more accurate and up to date? When I was in Mallco Rancho and in Sipe Sipe in November, I had the staff go back to the health folders at the health center and update the questionnaire immunization data if appropriate for those children who were included in the survey. This led to a 20-30% higher coverage rate than you reported. The relevant comparisons are shown below.

Mallco Rancho Immunization Coverage Data

	original cluster sample survey data	"updated" cluster sample survey data
% children 12-23 mo who received DPT1	55%	85%
% children 12-23 mo who receive OPV3	53%	81%
% children 12-23 mo who received measles	41%	74%
dropout rate	5%	5%

Sipe Sipe Immunization Coverage Data

	original cluster sample survey data	"updated" cluster sample survey data
% children 12-23 mo who received DPT1	55%	75%
% children 12-23 mo who receive OPV3	43%	66%
% children 12-23 mo who received measles	41%	63%
dropout rate	17%	13%

Although I don't have the relevant data in hand, I think the same argument could be made for Vitamin A administration as well as growth monitoring. You report, for instance, that 14% of the children in Mallco Rancho 12-23 months of age had received a dose of Vitamin A during the previous six months. I would suspect that this is a major underestimation of the real situation although we did not have time to go back and recalculate this. The findings of the cluster sample survey with respect to how many nutritional monitorings the child had in the previous 12 months also is likely to be an underestimate unless that child's growth chart at the health center is reviewed and additional information updated to the questionnaire before it is analyzed.

II. Questions about the accuracy of the results regarding Mallco Rancho.

There are several tables with results I was not able to confirm from my own analysis of the survey data which was given to me in November when I was in Mallco Rancho and in Sipe Sipe. For instance, in your Table A.5.7. (p. 31) you report that 94.7% of mothers (126/133) had heard of ORT. It is not clear to me where the numerator or the denominator data came from. My analysis indicates that 132 mothers had heard of ORT and that there were 212 mothers participating in the survey. Thus, there should be, according to my analysis, 62% (132/212) of the mothers who had heard of ORT.

For Tables A.5.8 through A.5.10 you continue to use 133 as the denominator even though there were 212 mothers in the survey. You do not explain this in the text. Are these the mothers who had heard of ORT? What is the rationale for including only them in the calculation of ORT knowledge and use rates?

In Table A.6.4., your title indicates that the data is for children under 4 months of age. I presume you meant under 24 months of age since there were only 46 children under 4 months of age participating in the survey and your responses to this question go as high as 133.

My data for the continuation of breastfeeding during diarrhea differs substantially from yours (see your Table A.5.2. on p. 29). You indicate in this table and in Table A.9.1 (p. 42) that 93.9% (46/49) of the children with diarrhea continued to receive just as much or more breast milk during their episode of diarrhea. My analysis of the data I have indicate that this should be 91% (50/55).

In Table A.5.3, your numbers agree with mine. However, in Table A.9.1 (p. 42) you state that 64% of the children received the same or more liquids during their episode of diarrhea. My interpretation of this result is somewhat different. Since 14 children with diarrhea were only breastfed, as shown in Table A.5.3, these should not be included in the denominator. My view is that this should be 79% (48/61) of the children with diarrhea who were receiving liquids other than breast milk received just as much or more than normal the amount of non-breast milk liquids during that episode of diarrhea.

In a similar vein, you indicate in Table A.9.1 (p. 42) that 53.3% of the children with diarrhea received just as much or more solid food during the diarrhea. 15 children with diarrhea were not receiving solid food, so it seems to me that they should not be included in the denominator for this calculation. In my view, this percentage should be 68% (40/59).

I am unable to reproduce your results of Table A.5.5. According to the analysis of the data which I have, the raw numbers of children with diarrhea who received the following therapies are as follows:

1. oral rehydration salts	10
2. home-based ORT	3
3. cereal-based solutions	11
4. liquids or teas	27

If one defines use of ORT as the percentage of children less than 24 months with diarrhea during the past two weeks who were treated with ORT (defined as packets of ORT salts), then I compute an ORT use rate of only 14% (10/74). If one defines ORT use as ORT packets, home-based ORT or cereal-based solutions, then the ORT use rate I calculate is 30% (22/74). If one defines ORT use as the use of ORT packets, home-based solutions, cereal-based solutions, or other liquids or teas, then the ORT use rate I calculate is 61% (45/74).

Your results to Table A.7.1 do not agree with the findings I have obtained.

maternal control card	Dr. Marin	Dr. Perry
yes, she showed	10	33
yes, but she didn't show	41	54
yes, in the hospital	6	19
no	155	106
no answer	1	0
<hr/> TOTAL	<hr/> 213	<hr/> 212

Similarly, for Table A.9.1., you indicate on p. 42 that 15.5% of the mothers had a prenatal card for the last child. I am unable to determine how you arrived at this. My analysis indicates that 50% (106/212) of the mothers had a card verified or said that they had one at home or in the health center which was not verified. If only the mothers with verified prenatal cards are included, this would be 16% (33/212). This is the same percentage you give on page 42.

For the percentage of mothers who had at least one documented prenatal control, it seems to me that in place of the 97% which you have in Table A.9.1 (p.42), which I presume is 32/33, the more appropriate statistic would be that in which the denominator is all the mothers in the survey (212), or 15% (32/212). However, I think this is a questionable result just as the immunization coverage is unless one goes back to the health center and looks into the health center records and the family health folder for the most accurate information available.

Your data for number of TT doses received by mothers does not agree with mine. You state in Table A.7.2 that there were 10 mothers with at least one TT immunization. Two of these had only one, 5 had only 2, and 3 had more than 2. My analysis indicates that there were 8 mothers with at least one TT immunization, 4 with at least two, and only one with more than two. I calculate the percentage of mothers with two doses of TT to be 2% (4/212) and you calculate in Table A.9.1. (p. 41) 3.7% (I presume this is 8/212).

Finally, you indicate in Table A.7.11 that 86% of the mothers are using a method of contraception. Could you specify what you consider to be a method? Are you including all mothers who are breastfeeding?

The results I obtain in analyzing feeding practices of children 5-9 months of age are somewhat different from yours. According to the data I have, 98% (40/41) of the children 5-9 months of age are receiving semi-solid or solid food. Your analysis (Table A.4.3, p. 28, and Table A.9.1, p. 41) indicates that 82% (32/39) are receiving solid or semi-solid food.

Similarly, for the percentage of children 20-24 months of age who are still breast feeding, you indicate in Table A.4.4 (p. 28) that 33% (8/24) of these children are still breastfeeding (also shown in Table A.9.1, p. 41). My analysis of the data I have indicates that 25% (5/20) of children 20-24 months of age are still breastfeeding.

III. Questions regarding results of the Sipe Sipe analysis

In Table B.5.2, you refer to the number of children with diarrhea who were being breastfed and the amount of breast milk they received during the episode of diarrhea. My results are somewhat different. These differences are shown below. In addition, you have as the fifth row of this table "breastfed only." I presume you meant to say "not being breastfed."

Continuation of Breastfeeding in Sipe Sipe Among Children With Diarrhea

	Dr. Marin	Dr. Perry
more	5	4
same	54	48
less	8	16
stopped	1	2
breastfed only	16	
stopped breastfeeding		15
no answer	1	1
	<u>85</u>	<u>85</u>

As a consequence of the above differences, you have reported in Table B.9.1 that 70% of the children with diarrhea were receiving the same or more breast milk

during their last episode of diarrhea. My analysis indicates that this should be 85% (52/61), excluding the children who weren't being breastfed from the analysis.

Our data are exactly identical for the continuation of liquids during diarrhea (your Table B.5.3). However, in Table B.9.1, you give as the percentage of children receiving the same or more liquids as 68%. I presume this is 58/85. I would argue that those who are breastfeeding should not be included in the denominator. This would change the percentage to 79% (58/73).

The situation is identical for the case of administration of solid foods in the presence of diarrhea (your Table B.5.4). Our raw numbers are exactly the same. However, in Table B.9.1 you indicate that 67% of the children continued as much or more solid food intake during the episode of diarrhea. I can't determine how you calculated this. I would argue that the appropriate calculation should be 60%, which is also what an interpretation of your Table B.5.4 would yield.

In your analysis of the numbers of children 5-9 months of age who are receiving solid or semi-solid foods, you show in Table B.4.4 that 83% (40/48) were in this category. My analysis indicates that 91% (63/69) should be in this category. Your findings on this are also shown in Table B.9.1, p. 60.

Concerning the percentage of mothers in Sipe Sipe with a maternal card, our raw numbers (yours shown in Table B.7.4) are exactly the same. You show in Table B.9.1. (p. 61) that 10.6% of the mothers had a maternal health care (presumably 27/254). I would argue that it would be more appropriate to give the mothers the benefit of the doubt in this case, and include those who said they had a card but did not show it. This would change the percentage of mothers with a card to 32% (81/253).

Concerning your Table B.7.2, we both agree that 8 mothers received two or more TT immunizations. However, in Table B.9.1, you list the % of mothers with at least two doses of TT to be 61.5% (8/13). It seems to me that the denominator should be 253 rather than 13, making the percentage only 3% (8/253).

Just as in the Mallco Rancho analysis, it seems to me that your tables B.5.8 -10 use the wrong denominator in calculating the percentages. You use 153, which is the number of mothers who had heard about ORS. In my view, the

denominator should be the total number of mothers in the survey.

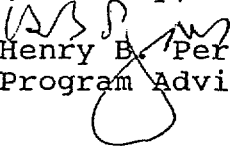
For both the Mallco Rancho as well as the Sipe Sipe analyses, there were a number of other minor differences which did not result in a significant difference in the result. I have not listed them here.

It may be that some of our differences are conceptual, or that I am making an error of some sort in my calculations. In any event, independent corroboration of findings is worth the effort, I think, since it strengthens the accuracy of the results.

The absolute deadline for getting my final report to Washington is March 31. The sooner you can get back to me, the sooner I can try to get all of this straightened out.

Thanks for all your help and assistance.

Sincerely,


Henry B. Perry, MD
Program Advisor

cc David Shanklin
Nat Robison
Dory Storms
David Newberry