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**ASSESSMENT REPORT AND PROPOSAL FOR
MOTHERCARE PROJECT IN COCHABAMBA, BOLIVIA**

IN-COUNTRY VISIT JULY 8-27, 1990

Trip Report Number 4

MOTHERCARE ASSESSMENT TEAM

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EXECUTIVE SUMMARY

A MotherCare Project Assessment Team visited Bolivia from July 8-27, 1990. The original scope of work was to develop the final design for a MotherCare demonstration project in urban and periurban Cochabamba. At the request of USAID/La Paz a site visit to PROSALUD in Santa Cruz was also carried out to explore MotherCare project possibilities. A meeting was also held with Save the Children to discuss the initial activities involved in their MotherCare project which started in early July in Inquisivi Province.

Cochabamba Reproductive Health Project

MotherCare originally proposed a project in Cochabamba in December 1989, based on interest identified during the USAID-sponsored Reproductive Health Workshop. Project development was initiated in February 1990, at which time it was determined that a more in-depth situation analysis and project planning mission would be necessary.

During the visit reported here, the MotherCare Assessment Team worked closely with the Unidad Sanitaria/Cochabamba (the Ministry of Health Regional Office) to carry out an assessment of the maternal and neonatal health situation in Cochabamba. Assessment findings included the following:

- 1) Little is known about the factors affecting health and nutrition status of women in Cochabamba, or in Bolivia as a whole, making prioritization of problems and development of condition-specific interventions difficult. This is a particularly frustrating situation for planners and donor agencies interested in investing in maternal health improvement.
- 2) Prenatal, delivery and postnatal care are widely available in urban and periurban Cochabamba, however, the quality of care provided in both government and NGO clinics and the population's limited access to and use of that care are serious concerns that must be addressed.
- 3) Low-cost, family planning service delivery sites are very few in number. While services are provided by both NGOs and private physicians, the quality of care is often questioned and the cost to the client is considerable. Induced abortion appears to be the principal method for limiting births as well as one of the most common causes of maternal death in Cochabamba.
- 4) While government policy recently incorporated family planning as an integral part of maternal health care, public sector services are still essentially unavailable and not likely to increase dramatically over the short term. The Unidad Sanitaria considers the numerous NGO's working in Cochabamba to be a better channel for family planning services and has encouraged MotherCare to work with them to improve and expand their existing activities.
- 5) Underutilization of all types of reproductive health care and other potentially dangerous behaviors related to pregnancy and birth appear to

be serious obstacles to improving maternal and neonatal health status. Little is known about client preferences and utilization patterns and little has been done nationally or locally to encourage utilization of available services.

- 6) Cost may be one of the most serious deterrents to early and appropriate use of maternal health services. All facilities - public, private and NGO - charge similar service fees and most compete for the same pool of paying clients.
- 7) The quality of maternal care provided in public sector and NGO clinics is deficient. Clinic providers typically lack basic equipment, rarely perform or request laboratory exams due to lack of facilities or cost, do not apply risk screening criteria, infrequently refer clients to higher levels of care when problems are detected, have a poor understanding of the importance of nutrition during pregnancy and lactation and provide little problem-specific counseling or education to their clients.

MotherCare proposes a three-year project in the urban/periurban areas of Cochabamba to address the above problems. The project will be coordinated by a Resident MotherCare Technical Advisor and the Director of the Unidad Sanitaria, with the participation of a number of local organizations under MotherCare subcontracts. Project interventions will include: 1) an initial phase of formative and baseline investigation which will provide information for development and evaluation of project interventions; 2) technical assistance for the development of local financing and marketing alternatives that encourage, rather than discourage, utilization of essential maternal health services; 3) information/education/communications (IEC) interventions to increase the demand for maternal health services and encourage other positive behaviors related to pregnancy, birth and pregnancy prevention; and 4) support to selected NGOs and public sector clinics to increase the number of low-cost reproductive health/family planning service sites in the urban and periurban areas and the quality of care they provide.

Under this last component, MotherCare proposes to provide limited core support to two NGOs - ME.DI.CO. and Cruz del Sur - and training, basic equipment and IEC materials to these and other NGOs working in the city. In addition, MotherCare will offer assistance to the Unidad Sanitaria Cochabamba for an assessment that will lead to coordination of MotherCare, World Bank, UNFPA/PAHO, JHPIEGO and UNICEF support for the improvement of public sector services.

As a member of the USAID-sponsored, national Reproductive Health Subcommittees, MotherCare will share project experience with governmental and non-governmental organizations and other AID Collaborating Agencies working throughout Bolivia. If implemented as planned, with active Unidad Sanitaria involvement, this project will feed into the government's efforts to implement the National Maternal and Child Health Plan while also leading to improved coordination of bilateral and multilateral donor resources directed toward reproductive health.

(A more detailed proposal summary is contained in Part III of this report).

Concept Paper for a Study of Maternal Health and Nutrition Status

Part IV-A of this report is a concept paper developed by Dr. Pedro Rosso as a result of his work in Cochabamba. This concept paper describes a series of maternal nutrition and health status studies that could be considered if AID, MotherCare and the Government of Bolivia determine that this is desirable. If sufficient interest is expressed at the national level, this concept paper could be further developed and included either as a MotherCare project effort or as a related activity to be funded from other sources.

PROSALUD, Santa Cruz

At the request of the USAID Mission, MotherCare also conducted an initial visit to PROSALUD, a private primary health care organization located in Santa Cruz and recognized for its self-financing, to explore other project possibilities. Part IV-B of the report contains the findings of this visit. Follow-up to this visit will depend on PROSALUD interest and the availability of MotherCare funds.

Follow-up Required

Follow-up to this assessment will include the review of the Cochabamba proposal by the Unidad Sanitaria, USAID/La Paz, and the AID/Washington Cognizant Technical Officer (CTO) for the MotherCare Project. MotherCare internal review will take place simultaneously. It will also include further discussions with PROSALUD and with USAID/La Paz to determine the appropriate mix of MotherCare's long-term involvement in Bolivia.

Following proposal revision, approval will be requested for start-up activities in Cochabamba, including: 1) creation of necessary staff posts and recruitment of the Resident Technical Advisor; 2) establishment of a coordinating office for JSI/MotherCare activities; 3) technical consultancies for the hospital cost study and development of subcontracts for the qualitative studies and household survey; and, 4) further development of projects and related subcontracts with Cruz del Sur/Servifam and ME.DI.CO. The first project activity should begin by late October.

I. INTRODUCTION

A. PURPOSE/OBJECTIVES

A MotherCare Project Assessment Team visited Bolivia from July 8-27, 1990, to assess the need, feasibility and potential for a MotherCare demonstration project in urban and periurban Cochabamba, Bolivia. The team was made up of:

Team Leader:	Patricia Taylor MotherCare Long Term Projects Coordinator
Coordinator:	Lisa Howard-Grabman JSI Bolivia Representative
IEC Specialist:	Melody Trott, Ph.D. Consultant to The Manoff Group
Nutrition/Research Specialist:	Dr. Pedro Rosso, Universidad Catolica of Chile, Consultant to The Population Council
Family Planning Services Specialist:	Dr. Alfredo Guzman, Consultant to JSI

Individual scopes of work for this assignment are contained in Appendix 1.

At the beginning of the visit, the USAID Mission requested that the Team's scope of work be amended to include visits to one or two other locations in Bolivia and, that on the basis of these visits, the Team prepare an analysis of the opportunities and relative advantages of working in Cochabamba versus other areas of the country. As a result, a visit to PROSALUD in Santa Cruz was added to the work planned in Cochabamba. Given the tight time frame for our staff and consultants and their specific areas of expertise, it was not possible to make an additional site visit.

The current visit followed three previous visits to Bolivia by MotherCare Project staff and several months of work by JSI's Bolivia Representative to identify potential collaborating organizations in Cochabamba. MotherCare originally proposed a demonstration project in Cochabamba in December 1989, after participating in the USAID Reproductive Health Workshop and identifying several potential activities. The three individuals originally identified for possible MotherCare assistance were Dr. Yvonne Frank, Cruz del Sur/Serifam, Dr. Walter Salinas, Director, Maternal Child Hospital German Urquidi, and Ms. Marta Salinas Castro, former Mayor of Culture for Cochabamba (See Bolivia Trip Report #2).

In February 1990, based on USAID's positive response to the December 1989 concept paper, MotherCare's Long Term Projects Coordinator and JSI' Bolivia Representative initiated work in Cochabamba on project development (Bolivia Trip Report #3). At that time, it was determined that, of the three organizations originally proposed for assistance, only Cruz del Sur/Servifam had the organizational backing to administer MotherCare funding, and that even Cruz del Sur faced administrative and structural problems that would limit the scope and potential impact of MotherCare assistance. On the basis of these findings, MotherCare determined that a more in-depth situation analysis and project planning mission would be necessary. At that point, preparations for the current visit were initiated.

B. ACTIVITIES

After a Team Planning session and briefing with USAID Mission Advisors Sigrid Anderson and Elba Mercado, the MotherCare Assessment Team proceeded to Cochabamba where extensive discussions were held with the Unidad Sanitaria/Cochabamba Director, Dr. Roberto Vargas and his deputy, Lic. Eduardo Vexina. Following these meetings, the Team met with all of the pertinent officers within the Unidad Sanitaria, with the Director of the German Urquidi Maternal Child Hospital, Dr. Walter Salinas, and with the Director of the Investigations Division of the University Medical School (DIEMED).

Visits were also paid to the Cochabamba NGO coordinating organization, ASONGS, and to a number of ASONGS member organizations that are providing direct medical services in the urban and periurban areas of the city.

Team members also conducted field visits to two MPSSP hospitals, one health center and three medical posts in and around Cochabamba, and to three NGO clinics and one small hospital, also in the city. The PRONIMA-funded perinatal demonstration project in the Chapare region, which is receiving technical assistance from the Latin American Center for Perinatology (CLAP) in Uruguay, was also visited by one of the Team members.

Simultaneously, contacts were made with a variety of NGO and private sector organizations working in research and communications in Cochabamba. These meetings focused on identifying potential resources for the proposed MotherCare project.

As part of project development, meetings were held during and after this visit with CONAPO (Consejo Nacional de Poblacion), UNFPA (United Nations Fund for Population Assistance), PAHO, UNICEF and the MPSSP Maternal Child Health Division.

A list of the organizations visited in Cochabamba is included in Appendix 2. In addition, organizational profiles describing the activities and infrastructure of the principal NGO and communications groups in Cochabamba can be found in Appendix 4.

Following completion of work in Cochabamba and debriefing of the USAID

Mission, the Team Leader proceeded to Santa Cruz for an initial meeting with PROSALUD.

II. ASSESSMENT: MATERNAL AND NEONATAL HEALTH SITUATION, COCHABAMBA

This analysis and the recommendations it contains are derived from a number of sources including a review of the available literature, interviews with planners, investigators, donor agencies, and health providers, and site visits to clinics and hospitals in Cochabamba.

A. MATERNAL AND NEONATAL HEALTH STATUS

The urban and periurban areas of the city of Cochabamba contain approximately 403,600 of the department's 1,000,000 inhabitants. In these areas there are an estimated 91,000 women of reproductive age and 19,400 expected pregnancies per year.

Little is known about the health status of women and neonates in the urban and periurban areas of Cochabamba or about their utilization of available prenatal, delivery and postnatal care. Both maternal and perinatal mortality are known to be high, with complications of induced abortion being a leading cause of maternal mortality. Poor nutrition and traditional practices at the time of birth may also be important factors. It is believed that almost half of all pregnant women in Cochabamba receive no medical attention at the time of delivery, despite the fact that Ministry of Social Security and Public Health (MPSSP) clinics, the German Urquidi Maternal Child Hospital, the Social Security Hospital and various private, philanthropic organizations provide birthing services.

The maternal and neonatal health situation appears to be most severe for low-income families living in the city's poor neighborhoods, where job opportunities are limited and women face financial, educational and cultural restrictions that limit their access to information and services. Women's lives under these circumstances are characterized by high parity, short birth intervals and the inability to make important decisions about their own bodies. Although illegal, induced abortion has become the most common method of family planning, putting the lives and the health of many women in danger each year. Poor women are more likely to lack information about pregnancy, birth and sexuality. Because of this and their inability to pay for services, they are also most likely to receive little or no reproductive health care and to suffer abortion complications. Their births often take place at home with untrained family members or alone.

1. Maternal Mortality

The Maternal Mortality Rate (MMR) for Bolivia has been estimated at 480/100,000 live births.¹ If correct, this rate is the highest in all of Latin America. Causes of maternal mortality over a ten year period were investigated in a study at the German Urquidi Maternal and Child Hospital, the 150 bed, government referral facility for the Department of Cochabamba. Of the 70 maternal deaths studied, 94% were directly related to pregnancy or childbirth. 44% of the deaths occurred during pregnancy, 44% during the puerperium, and 11% during birth. Of the 29 deaths occurring during pregnancy, 13 (45%) resulted from complications of induced abortions. Infections, hemorrhage and abortion were the main causes of maternal mortality (Salinas, W. 1987).

2. Abortion

Complications from induced abortion have also been cited in other studies and documents as an important cause of maternal death. In 1983, G. de Murilo and Castillo estimated that 27% of maternal deaths in Bolivia were related to complications of abortion. In the cities of Cochabamba, Sucre and Trinidad, the rate of abortion has been estimated to exceed 20/1,000 women of reproductive age (15-45 years old). According to a study by the Bolivian Society of Obstetrics and Gynecology in 1986, the percent of induced abortions in single women is three times higher than that in married women, with 8% of reported abortions performed on women between the ages of 14 and 19.

These estimates make induced abortion one of the primary methods for limiting births in Bolivia. This is not difficult to understand as contraceptive use is low and abortion is much more widely available in most areas than are family planning information and contraceptives. The Bolivian Society of Obstetrics and Gynecology study mentioned above found that of 4,371 women hospitalized for complications of abortion, 77% had not used any contraception, 17% were using natural methods and only 7% had relied on a modern method. When asked why they were not contracepting, the most frequently cited reasons for nonuse were lack of knowledge or accessibility of methods (48%), the belief that contraception was not necessary (10%), and a fear of side effects (8%) (PAHO Bulletin, 22(1) 1988).

¹ The ENDES Survey of 1988 estimated a Maternal Mortality Ratio of 378/100,000 live births using both direct and indirect Sisterhood Methods of measurement; however, this is felt to be an underestimate since questions regarding the timing and cause of death were only asked for ever-married sisters. Since other studies have estimated that approximately one-third of induced abortions are performed in young and unmarried women and induced abortion is known to be a leading cause of maternal death, the MMR could easily exceed 400/100,000 live births.

3. Contraceptive Prevalence

The 1988 Demographic and Health Survey (referred to as the ENDES survey in this report) found an extremely high potential demand for family planning services. Of the 70% of Bolivian women who were not using any form of contraception, 83% either did not want to have more children or preferred to wait two or more years before giving birth.

While information specific to the city of Cochabamba is not currently available, contraceptive prevalence rates are slightly lower for the overall department than they are for Bolivia as a whole. Contraceptive prevalence rates in the Department of Cochabamba are estimated to be: No method used: (72%), calendar method (15%), IUD (5%), Pill (2%), Sterilization (2%), Abstinence (1%) and others (3%) (Salinas, W. personal communication). The total fertility rate for the department is 7.2, significantly higher than the national rate of 6.7.

4. Neonatal Morbidity and Mortality

A clear relationship has been noted between the parity of Bolivian women and the risk of perinatal mortality (G. de Murilo, 1988). Perinatal mortality in Bolivia as a whole has been estimated at 110/1,000 live births (National Plan of Child Survival and Maternal Health, 1989.) The 1981 Civil Registry shows "hypoxia, asphyxia and other respiratory infections of the fetus and newborn" to be the primary killers of neonates, followed by other infections, unspecified causes and neonatal tetanus. Civil Registry data for 1982-83 indicate that 11% of reported perinatal mortality can be attributed to neonatal tetanus (Toro, 1984). It is important to note, however, that Civil Registry figures are known to be incomplete and that actual levels of neonatal tetanus are unknown but assumed to be high overall, with regional variation related to altitude. The highest number of tetanus cases has been documented in Santa Cruz. The MPSSP in Cochabamba registered 14 neonatal deaths in 1989, though the Epidemiology Division admits that this statistic is under-reported and that the reality may be double or more (Dr. Jorge Flores, personal communication). Slow fetal growth, maternal malnutrition, and fetal immaturity have also been cited as factors in neonatal deaths (REACH, 1988).

The Unidad Sanitaria/Cochabamba has established a target for 1990 of 40% of all women of reproductive age in the Department immunized with at least two doses of tetanus toxoid for 1990. Though the MPSSP norm includes TT as an integral part of prenatal care, most TT is administered during vaccination campaigns, which are either held at fixed sites or conducted house-to-house; such national campaigns have been held three times during the past year. On the basis of service data, the Unidad Sanitaria reported that as of May, 1990, 34.5% of the annual target of 40% of women of reproductive age had been completely vaccinated.

Practices during labor and delivery and immediately following birth undoubtedly contribute to high levels of both intrapartum and neonatal death. Some of the dangerous practices noted in other parts of Bolivia include binding and pushing on the abdomen during labor; throwing the woman into the

air to speed prolonged labor; use of "pujantes" (ergometrine) during labor; cutting the umbilical cord with a piece of broken pottery and tying it with unsterilized and, at times, unwashed cloth; leaving the neonate unattended until after the delivery of the placenta; using the oldest and presumably dirtiest rags and blankets in the birthing area; and, withholding colostrum and delaying initiation of breastfeeding for 24 to 36 hours after birth.

5. Maternal Nutritional Status

The relationship between maternal nutritional status and infant growth was examined in a sample of 28 exclusively breastfed infants and their mothers in La Paz in 1976. Maternal anthropometric measurements (arm circumference and weight for height) were taken just prior to delivery and at three and six months postpartum. Anthropometric data (weight and length) were also collected on the study infants at three and six months of age. In this study, infant weight gain was positively associated with both the prenatal and the three-month postnatal maternal arm circumference and weight for height measurements. Both arm circumference and weight for height were proven to be good indicators of maternal nutritional status as well as predictors of infant growth in the study population. This is the only study that the MotherCare Assessment Team was able to find that addresses the nutritional status of Bolivian women, however, the study was not designed nor was the sample size (28 women) sufficient to generate estimates of the prevalence of maternal undernutrition nor for establishing Bolivian standards and cutoff points for maternal nutrition assessment.

As with other aspects of maternal health, the Team found that available information on the nutritional status of pregnant and lactating women is either fragmentary, indirect, or, for many nutritional indicators, non-existent. In addition, maternal nutrition receives little attention in prenatal care, despite the existence of the National Supplementary Feeding Program (PNAS) (which will be described later) and ministerial norms which include the assessment of the nutritional status of pregnant and lactating women using criteria established by CLAP. There is, consequently, a lack of information about the percentage of undernourished mothers by any criteria and almost no information on birth weight that can be used to estimate maternal nutritional status. There are also no practical criteria established for nutritional surveillance of lactating women.

Work done in different regions in Bolivia suggests a 33-45% frequency of anemia in pregnant women. The current situation in Cochabamba is unknown, although diagnosed anemia in women (mostly a clinical diagnosis with no laboratory support) has been estimated to be 12.5%. A great number of these anemias are assumed to result from iron deficiency, but studies in La Paz by Dr. R. Borht indicate that a significant proportion may be due to lack of folate. The results of these studies, however, are inconclusive.

If the suspected high rate of iron deficiency anemia in pregnancy is confirmed, it is possible that the same population will demonstrate an associated lack of zinc, since both minerals come from similar sources. Studies show that a lack of zinc can be exacerbated by a decrease in the bioavailability of this mineral caused by iron supplementation. The National

Program for Prevention and Treatment of Anemia described below aims to distribute 200 mg ferrous sulfate and .25 mg folate per day to all pregnant women.²

Another deficiency that influences pregnant women, particularly in isolated rural areas, is the lack of iodine. The importance of this problem has not been documented. However, based on a study conducted in the School of Medicine by Dr. Tirza Rivera showing that 19% of school girls suffer from goiter, it is assumed to be unacceptably high. A recently completed study showed that 3% of newborns in the German Urquidi Maternal and Child Hospital had an elevated level of Thyroid-Stimulating Hormone (TSH), an indicator of iodine deficiency.

Despite the lack of baseline information on nutritional deficiencies during pregnancy and lactation, the Ministry of Health is currently implementing a National Food Supplementation Program (Programa Nacional de Alimentación Suplementaria, or PNAS) through the BOL/PAM 2801 World Food Program and a National Prevention and Treatment of Anemia Program (Programa Nacional de Lucha Contra las Anemias Nutricionales, or PNCAN) with the assistance of UNICEF. These programs are described below in section I-B.

6. Other Infectious Diseases and Their Effects on Women and Neonates

a. Chagas Disease

The prevalence of Chagas disease, or South American trypanosomiasis, is known to be extremely high throughout Bolivia. "Nationally, 40% of the Bolivian populace are seropositive and 70 to 100% seropositivity has been demonstrated in some areas." (Bryan, R.T. and Tonn, R.J., 1990) Spread by the bite of the "vinchuca" bug, as well as transplacentally and through blood transfusions, the chronic and acute forms of the disease cause inflammation and eventually degeneration of the heart. In many cases, Chagas disease leads not only to physical weakness but also to serious heart disease and death. Studies conducted by the Universidad San Simon in the periurban area of Cochabamba have found household infestation rates as high as 40%. Little is known about the effect of Chagas on pregnancy and vice versa, or about the cumulative effects of multiple exposures over time. Chagas control efforts in Bolivia focus on prevention through vector control at the household and community levels (i.e. encouraging the killing of bugs and removal of materials in which they live from the family living area), and improving

² For a discussion of the relationship of iron and zinc see: Bioxam, D.L., et.al. "Maternal Zinc During Oral Iron Supplementation in Pregnancy; a Preliminary Study". Clinical Science 76(1). January 1989; and, Simmer, K. and Thompson, R.P. "Zinc in the Fetus and Newborn", Acta Paediatrica Scandinavica (Supplement) 319, 1985. There is speculation, but as yet inconclusive scientific evidence, that zinc may be a factor in low birth weight. See: Negger, Y.H. et. al., "A Positive Association Between Maternal Serum Zinc Concentration and Birthweight", American Journal of Clinical Nutrition, 51 (4) April 1990.

housing conditions by replacing thatched roofs and mud walls with modern building materials. While treatment exists for this disease, it is highly toxic. Also, because of the uncontrolled proliferation of the vector, in most cases treatment is futile since the victim will almost certainly be bitten again. The exception to this is the early detection and treatment of Chagas in infants and young children who are more likely to develop acute symptoms and to die from them than adults. USAID/La Paz is making Chagas disease one of its top priorities for the future.

b. Sexually Transmitted Diseases (STDs)

The prevalence of STDs in Bolivia is unknown. Studies conducted by the Fundacion San Gabriel Hospital in La Paz have found noticeably high rates of gonorrhea, syphilis, trichomonas and other unspecified reproductive tract infections. It should be noted, however, that San Gabriel's laboratory capability for differentiation of infectious agents is limited. None-the-less, this study and anecdotal information from health providers indicate that STDs may pose a threat to the health of women and the survival of their infants. This problem deserves additional study and subsequent intervention if STDs are found to be a significant maternal morbidity and/or threat to infant survival.

c. Intestinal Parasites

Studies in tropical Santa Cruz and parts of Cochabamba Department have shown extremely high rates of hookworm infestation, leading to the question: "Is the high level of iron deficiency anemia due to dietary inadequacy or to large parasite loads that deprive the body of important nutrients or to both?" This is another problem that has been proposed for study (see Part IV).

B. PROGRAMS AND SERVICES FOR WOMEN AND NEONATES

Maternal and child health services are offered in Cochabamba through the Unidad Sanitaria and its established network of health facilities, by NGO's working in the health area, and by the for-profit private sector. Several of these organizations and their programs are described in this section.

1. The Public Sector: MPSSP Unidad Sanitaria/Cochabamba

The Unidad Sanitaria is the regional office of the MPSSP. In the city of Cochabamba, the Unidad Sanitaria administers one regional hospital, 3 specialized hospitals, including the German Urquidi Maternal Child Hospital, two health centers and 14 medical posts. The Unidad Sanitaria's Operational Plan (1989-1993) and strategies follow the National Plan for Child Survival and Maternal Health. The total 1990 Unidad Sanitaria budget for the department of Cochabamba is US\$ 3,233,597, including international support. While reproductive health has received high level MPSSP support in recent months, a detailed budget analysis reveals that only US\$ 1,000 has been budgeted for special reproductive health programs in 1990. This is a powerful indicator of the lack of outside funding available at the present time for this important program.

a. Facilities

MotherCare visits to two hospitals run by the Unidad Sanitaria (German Urquidi Maternal and Child Hospital and the Hospital of Quillacollo, on the outskirts of the city), the Southern Zone Health Center and 3 medical posts, revealed that most of these establishments do not have the necessary equipment nor the trained personnel for work in maternal-child health. Health post infrastructure is precarious as there are space limitations, little or no ventilation or hygiene, and most of the existing facilities are rented. Materials and equipment necessary for quality health care (e.g. gynecologic tables, lamps, speculum, tongs, forceps and sterilizers) are not available at most establishments. Educational and motivational programs are largely absent and outreach into the community is rare. Most of the health posts have only one doctor and an auxiliary nurse; therefore, it is theoretically impossible for them to do outreach into the community and to identify and train midwives because they must also be available during working hours in their posts. However, as in most Bolivian health facilities, what is most noticeable to the visitor is the lack of patients.

b. Content of Prenatal Care in Public Clinics

Reproductive health care based on risk assessment has only recently been introduced in the MPSSP health centers and posts. This has consisted of distribution of the CLAP Simplified Perinatal History Form to all health centers and hospitals, however, no in-service training had been given on the use of these cards at the time of the MotherCare visit. Most importantly, the approach that the CLAP history encourages to clinical assessment of pregnant women and neonates (i.e. the detection, management, and referral of problems) is almost totally absent in the current system of service delivery. As a

result, the current content of prenatal care is not differentiated by risk levels and referral is infrequent. This is demonstrated by the level of attention which is normally provided by the Maternal Child Hospital, which should act as the referral facility for the Department, yet most of the deliveries in the hospital are low risk and normal.

Complementary tests and exams that should be part of routine prenatal care are rarely performed due to lack of laboratories in most MPSSP establishments and cost - outside of the German Urquidi Maternal Child Hospital there is no other MPSSP center which can do a biochemical profile or a urine exam. PAP smears for MPSSP clients are done only in the "Centro Detector de Cancer" which belongs to a private foundation and is situated in one of the Health Centers. However, even when this important screening test could or should be performed, the cost is often prohibitive for the low-income clients who normally attend public sector establishments.

MPSSP facilities also suffer chronic shortages of supplies, especially pharmaceuticals. In a recent government assessment, maternal-child health facilities in La Paz, Cochabamba, and Santa Cruz were found to have only 48% of necessary supplies. And, only 44% of these facilities were judged to have an adequate number of trained personnel (National Plan for Child Survival and Maternal Health, 1989).

c. The National Supplementary Feeding Program (PNAS)

The PNAS is a World Food Program-assisted, MPSSP program that targets pregnant and lactating women and their pre-school aged children. Originally, the program was limited to rural areas, however, in Cochabamba it is almost exclusively found in urban and periurban MPSSP clinics and district health centers. In theory, selection criteria include: weight lower than 45 Kg. for pregnant women; weight lower than 40 Kg. for breastfeeding women; the existence of undernourished children under the age of 5; an infant death; and/or morbidity due to Tuberculosis or Chagas. In practice, these criteria have been modified at the primary care level and it seems that the attending physician -- based on his or her own evaluation of the mother's nutrition/health status and home situation -- is given the power to recommend participation in the program.

Two different rations are distributed for use in the home: Ration A, for mothers with more than 3 children; and, Ration B, for mothers with less than 3 children.

The rations consist of:

Support	Weight of Monthly Ration in Kilograms	
	Ration A	Ration B
	(> 3 children)	(< 3 children)
Wheat flour	12	6
Powdered milk	4	2.5
Sugar	3	1
Cooking Oil	3	1.5
Quinoa	1.8	1
Fish (herring)	2.4	1.6
Iodized salt	1	1

This food is distributed monthly, or every two weeks, from the fifth month of pregnancy through the fifth month of breastfeeding. Receipt of the nutrition supplement is conditional upon attendance at monthly prenatal clinics and educational talks. During the January-May 1990 period, 9,147 rations were distributed in Cochabamba, for an estimated monthly program coverage of approximately 2,800 rations. 10% of the rations distributed were of type "B", and 90% were of type "A".

Neither the coverage nor the impact of this program have been evaluated.

d. The National Program for Prevention and Treatment of Anemia (PNCAN)

All MPSSP centers and medical posts reportedly offer this program. The PNCAN calls for the distribution of 200 mg. of ferrous sulphate (?? mg. elemental iron) plus 0.25 mg. of folic acid per day to every pregnant woman as a preventive regimen. Women who are found to be anemic should receive double the preventive dose, or 400 mg. ferrous sulfate per day. (When anemia is diagnosed, it is assumed that this is primarily through clinical assessment since laboratory facilities are not available in most public clinics and random chart review shows very few women with any laboratory exams during pregnancy).

This program, which is just starting, anticipates the active participation of the community through Health Committees, Mother's Clubs and other community groups. The potential beneficiary population is estimated at 13,792 women. Presently, 8,384 women in Cochabamba are reported to have received the preventive dose, with an additional 474 having received a treatment dose. (Note: It is unclear how many tablets constitute one dose, how many doses women should receive during pregnancy, and, therefore, how women are being counted.)

There is also a Supplementary Iodine program which works through commercial distribution of iodized salt and the direct administration of iodized oil pearls for the goiter endemic areas. There are no coverage statistics available for this program.

e. Problems Identified with Nutritional Content of Prenatal/Postnatal Care

As mentioned earlier, lack of baseline information makes it difficult to define the nutritional problems of pregnant and lactating women in Cochabamba. As a result, it is also difficult to recommend alternative strategies for solving specific nutritional problems. Therefore, the actions recommended below address only those factors present in Cochabamba which have been shown to affect nutrition at the community and health service levels in other countries. These include: 1) lack of nutrition information/motivation at the community level; 2) lack of knowledge about the importance of nutrition during pregnancy and lactation at the health personnel level; 3) lack of programmed actions related to maternal nutrition during pre-natal care; and, 4) the failure to target nutrition supplementation programs (PNAS and PNCAN) to those most in need.

Conversations with health promoters in Cochabamba ("Responsables Populares de Salud), suggest that the population's knowledge about the importance of an adequate diet during pregnancy and lactation is limited, general and, as a result, not motivating. The inadequate training of health personnel on the subject, the lack of nutrition-trained specialists at the primary care level, and the lack of appropriate educational materials for client counseling contribute to this reality.

Visits to primary care clinics show that the nutritional subject most frequently depicted in posters is anemia, however, the quality of the material seen was judged to be deficient in terms of clarity and appropriateness for the target population. Primary care level physicians as well as auxiliary personnel show scarce knowledge about maternal nutrition. This inhibits them from taking effective action and from educating mothers during clinic visits.

Although the National Maternal and Child Health Plan calls for the routine assessment of maternal nutritional condition through anthropometry, at present this is not routinely practiced at the primary nor the secondary care levels. While women may be weighed at intake, the providers visited during this assessment had not been trained to evaluate their weight-for-height or weight change as part of routine prenatal care. The recent introduction of the CLAP Simplified Perinatal History and the national norms for maternal child care are encouraging in this respect, but unless accompanied by training in anthropometric assessment and nutrition education/intervention they should not be expected, in and of themselves, to improve clinical practice.

Selection of women for enrollment in the national supplementary feeding program is not currently based on nutritional risk criteria linked to anthropometric indicators. As such, this program has become a kind of indirect economic subsidy for families and, as implemented, it no longer provides the direct and proportional support required to meet the increased nutritional needs of women at high risk (low weight/height or inadequate weight gain during pregnancy). A similar criticism can be made of the Prevention and Treatment of Anemia Program.

Recommendations: The following suggestions were made by Nutrition Consultant, Dr. Pedro Rosso, for possible MotherCare response to the above problems:

1. Include messages about the importance of adequate nutrition during pregnancy and breastfeeding in the IEC interventions proposed for the MotherCare Cochabamba project;
2. Reinforce the content of mass media campaigns with conferences and the distribution of nutrition education materials at the community level (Mother's Clubs, etc.);
3. Train and motivate medical and non-medical health personnel to give accurate information and recommendations to pregnant and lactating women through a series of workshops on maternal nutrition for auxiliary personnel and physicians;
4. Develop reference materials, both technical and bibliographic, on maternal nutrition for physicians, and possibly a manual for nutrition actions at the primary care level;
5. Include norms and recommended actions related to maternal nutrition in all training and reference materials.
6. Add maternal nutritional assessment, based on weight for height, and encourage compliance with this screening procedure during each and every pre-natal visit. Given the presence of adult scales and physicians in most clinics in Cochabamba, weight for height assessment would be possible with minimal additional training and equipment. Weight-for-height charts (Rosso Chart) similar to those used in Chile and Uruguay for anthropometric assessment of maternal nutritional condition could also be introduced for this purpose. Weight-for-height measurement would help providers identify seriously underweight women and alert them to the need for immediate counseling and nutrition supplementation. It is the opinion of the MotherCare Nutrition Consultant that the current norms for anthropometric assessment - monitoring of weight gain during pregnancy - are difficult to apply and inadequate for the detection of and response to serious nutritional deficiency.
7. Explore the feasibility of establishing a nutrition referral and counseling system for pregnant women who require special diets.
8. While the Unidad Sanitaria can and should be encouraged to exercise control over the criteria for enrollment in the nutrition supplementation program and the geographic coverage of this program, these issues should also be addressed at the national level.

f. Family Planning in the Public Sector

Family planning information and services have not been available in government health facilities until very recently and, even now, they are restricted to the large government hospitals. At present, the MPSSP establishments in the city of Cochabamba, with the exception of the Maternal Child Hospital, are unable to offer more than simple information about family planning methods to their clients. They have neither contraceptives nor equipment, and personnel have not been trained for service delivery. Those MPSSP physicians interviewed confirmed that there is an unmet demand for family planning services in the communities they serve and that they would be well disposed to provide such services if they were given the required training and supplies.

The Reproductive Health Unit at the Maternal and Child Hospital was established earlier this year. It currently relies for its support on the PRONIMA III Program, which is funded by UNFPA and administered by the PAHO office in La Paz. A doctor and a nurse work in the Unit from Monday to Friday, full-time. There is no educator nor space for information or motivational activities. Neither has the Unit been able to coordinate with other establishments for patient referral due to what was explained to be opposition from the medical community. The assigned location is small and equipment had been requested but not yet received at the time of MotherCare's visit. The personnel working in this Unit expressed concern about the limited support provided for the program.

g. Referral Care: The Hospital German Urquidi

The German Urquidi Maternal Child Hospital is the government referral hospital for the department of Cochabamba. The hospital has an active pediatric department and less well-utilized maternity and neonatal intensive care units. This assessment did not look in detail at hospital care, however, a visit was made to the hospital's neonatal unit to observe the on-going Kangaroo Mother program. This program receives limited support from UNICEF. As part of it, preterm and small for gestational age infants are cared for at home by their parents once they have been stabilized in the neonatal unit and their parents have received orientation regarding the need for skin-to-skin contact, on-demand breastfeeding and other aspects of their care.

Rooming-in is apparently practiced at the hospital with all normal infants remaining with their mothers from the time of birth. While an assessment is needed of hospital practices in relation to management of high risk women and neonates and breastfeeding policies, it was not included during the present assessment visit which focused almost exclusively on community and clinic level services.

2. The Social Security System

The Social Security Hospital also provides outpatient and delivery care for insured persons and their beneficiaries. Approximately 3,900 pregnant women each year in Cochabamba are entitled to social security benefits. Social Security services were not included in this assessment.

3. The NGO Sector in Cochabamba

Private, non-profit organizations, such as Cruz Del Sur, ME.DI.CO, PROMEFA, FEPADE, and others, (see below) have been one of the only sources of family planning information and services for low-income groups. All of these organizations provide a wide array of maternal and child health services and curative care as well as family planning services; several also run small hospitals. Due to lack of resources, infrastructure and official sanction, their activities have remained small. They have, however, played a key role not only in making services available, but also in increasing Bolivian confidence in the integrity of reproductive health services that include family planning and in demonstrating that these services are desperately needed. Interestingly, perhaps because of the lack of outside resources for their work, many local NGOs are either entirely or largely self-financing, primarily through service fees.

It is expected that the following NGOs will participate with MotherCare and the Unidad Sanitaria in the proposed reproductive health project:

a. Association of Non-Governmental Organizations (ASONGS)

The Association of Non-Governmental Organizations (ASONGS) was founded in 1983, with a Board of Directors representing its member organizations. The original purpose of the organization was to facilitate the volume purchase of pharmaceuticals and clinic equipment for its 32 member organizations. ASONGS now receives financing from the German donor, Zentralgestete. They have also received financial assistance from MISEREOR in the past.

ASONGS' associates are organizations working in education, rural development and health; most of them (80%) are church affiliates. In the health sector, some members, such as the Instituto de Educacion para Desarrollo Rural (INEDER), have agreements with the Unidad Sanitaria to administer all the health services in a specific district (i.e. INEDER administers health care in the Carrasco District through the Totora Hospital which has 30 beds and the Pojo Hospital). In total, ASONGS associates have more than 60 maternity beds. Of these NGO's, none are oriented solely to family planning; however, organizations such as ME.DI.CO. and FEPADE carry out some activities in this field.

At present, ASONGS coordinates most of the community-based, primary health care services in the Department of Cochabamba. ASONGS is dedicated to community-based, primary health care. Since there are often differences in therapeutic, as well as ethical, approaches, among ASONGS members, this organization must adjust its assistance to meet the broadest of needs. To ASONGS' credit, its members recently agreed to develop a common health training curriculum for community level personnel. ASONGS also train nurses, auxiliaries and doctors. Many of ASONGS' associates, like ME.DI.CO. and COMBASE, provide prenatal and delivery care through their nurses or auxiliary nurses and, in some cases, deliveries are attended by community personnel. ASONGS' unique membership - many member organizations are affiliated with the

Catholic Church - makes its active support or direct involvement in family planning impossible. However, affiliates that want to provide family planning services are not restricted by membership in ASONGS, since ASONGS' Board of Directors does not assume a decisive role in the control of its members' actions.

ASONGS would be an excellent resource for development and dissemination of IEC methods and training on topics of prenatal care, maternal nutrition, safe home birth, and breastfeeding. The organization has excellent relations with the Unidad Sanitaria and is currently completing an inventory of all NGOs working in health in the department.

b. ME.DI.CO. (Medicina Dirigida a la Comunidad)

ME.DI.CO. is a private, non-profit institution, which was created in 1981, by an inter-disciplinary group of professionals, to offer integrated, primary health care in periurban communities of the city of Cochabamba. ME.DI.CO. received initial support from a Canadian organization (SUCO), which was used to finance a health post. Later, with the support of organizations from Sweden and the Netherlands, ME.DI.CO. was able to open four more health posts, for a total of five posts. All of the posts are located in periurban areas of Cochabamba with tremendous health needs. Each post is staffed by a physician, a nurse and three promoters from the community. All provide prenatal control and a standard well-child program. Deliveries, in some cases, are attended by the post's doctor or by the nurse and a local midwife.

In November 1989, ME.DI.CO. started family planning activities with supplies contributed by FPIA. Family planning methods supplied directly by ME.DI.CO. are limited to oral contraceptives and barrier methods. Women who elect IUD insertion are currently referred to a private gynecologist because none of ME.DI.CO.'s physicians have been trained in IUD insertion. In the near future, they plan to open a special clinic in their central office where they can refer their clients.

The Alto Cochabamba medical posts, which serves a catchment area of 14,000 inhabitants, and the Santa Barbara post, serving 7,000 to 8,000 inhabitants, were visited by the MotherCare Assessment Team. Both posts offer attention in the morning and they have moderate attendance. A consultation costs Bs. 3 and normal deliveries cost Bs. 80 to 110. For prenatal control, they have a register, kept by zone, of pregnant mothers. They also offer the supplementary feeding program, iron supplementation and the well-child "CHICOLAC" milk program for children under five years old. Their office and their health posts are rented and their infrastructure is minimal. They have no gynecological table, lamp nor sterilizer; in spite of this the work they do was judged to be of good quality and efficient.

The ME.DI.CO. headquarters is well located in a two-floor rented house and garage. They have a mimeograph, a photocopier and a computer. The administrative personnel consist of the Director and a secretary.

Based on our visits to their health posts and headquarters, knowledge of their activities and an assessment of the preparation and commitment of their

professional staff, the MotherCare Assessment Team concluded that ME.DI.CO. could, with limited assistance expand its maternal-child and family planning services in the periurban area. ME.DI.CO. was also determined to have the managerial capability to assume responsibility for a system of contraceptive supply for NGOs working in the department. They expressed their desire to explore both possibilities further with MotherCare.

c. PROMEFA (Programa Medico Familiar)

PROMEFA is a private, non-profit organization which was founded in 1988, by a group of gynecologists and pediatricians who work in maternal and child health. The group works out of a maternal and child health clinic located in La Cancha, a popular central market area in Cochabamba. They offer education, outpatient care, and they attend deliveries and emergencies on a 24 hour schedule. Deliveries are normally attended by one of the group's gynecologists and a pediatrician who are called when a woman is already in labor. The area where the clinic is located has 47,000 inhabitants. The clinic consists of three medical consulting rooms, a dental office, a delivery room and a recuperation room with two beds. In addition to doctors, PROMEFA employs a nurse who stays overnight in the office to attend to emergencies. Consultations cost Bs. 5 and a normal delivery costs Bs. 120. In the family planning field they say there is demand. IUD insertion is done by the specialists and costs Bs. 15.

The PROMEFA members have committed themselves to three-phases of institutional development. The first phase has already been completed with the establishment of the clinic in La Cancha. During their second phase of development, they plan to increase the level of maternal and child care to include additional maternity services, 10 to 15 adult in-patient beds and a pediatrics in-patient area and, tentatively, a pharmacy. Until now PROMEFA has been self-financed; however, they are now looking for resources through a donor organization to complete the second phase. They estimate this will cost approximately US\$ 27,000 to implement and \$US 35,000 in annual expenses for salaries, rent and other direct costs. The Director, Dr. Oscar Nino de Guzman, estimates that with this initial investment, the organization would be able to finance itself completely once again after approximately 18 months. In this case, external aid would no longer be necessary.

Complementary assistance to PROMEFA could benefit the organization and its beneficiaries. This might include access to low-cost commodities, some appropriate technologies, training for its staff and IEC materials. Limited support for expansion of the organization's promotional and outreach activities should also be investigated by MotherCare and/or USAID.

d. Fundacion Ecumenica Para el Desarrollo (FEPADE)

FEPADE was founded in 1978 as a non-profit, Christian organization which supports integrated rural development projects in the poorest communities of the Department. In the health sector, FEPADE conducts training for community promoters, midwives, and traditional healers. They also promote improved nutrition using the community's own agricultural products and planting of

small vegetable gardens, and they work with communities to establish primary health care services.

FEPADE has established health centers in 3 regions: Capinota, Tiraque and Vila-Vila, with a total population of about 20,000 inhabitants. Each of these centers is attended by doctors or nurses. Patients are referred to the health centers from 30 small health posts managed by health promoters. Health services charge nominal prices in accord with the economic conditions of the region; these costs are established by the Community Health Committees. Normal deliveries cost Bs. 15 to 40.

Development Associates, Inc. has assisted FEPADE with promoter and midwife training since 1981, which is when they started providing family planning information. Much of the demand created by this information campaign, however, has not been met due to a lack of equipment, commodities and clinical training. FEPADE has been limited to delivering oral contraceptives and condoms that they obtain from CIES, COF, and FPIA.

FEPADE is interested in receiving support to improve family planning service delivery in their centers and to expand community-based distribution through their promoters. FEPADE does not consider its evangelist origin an impediment to providing family planning services. Their mission, Mr. Rodrigo Aramayo said, is to improve people's living conditions in the world.

FEPADE's financial support comes from European NGO's and the Lutheran World Relief Fund. Although the organization works primarily in rural areas of the department, its inclusion in the NGO-support component of the MotherCare Project and possible use as a training resource should be given serious consideration.

e. COMBASE

COMBASE was founded in 1965. In 1973, it established the clinic and maternity hospital, "El Buen Pastor," to provide health care to low-income families. Located in the Southern Zone of Cochabamba, COMBASE offers services in medicine and general surgery, gynecology and obstetrics, pediatrics, dentistry, laboratory and pharmacy.

COMBASE operates 24 hours per day and maintains a roster of specialists. The hospital has 17 beds, a nursery and an operating room. In 1989, they attended 12,147 consultations, 565 deliveries of which 446 were normal and 119 caesarean. A high percentage of patients come from the poorer Southern Zone of Cochabamba. Twenty-two percent of their patients come from the rural areas.

When COMBASE was initially formed, its financing was supported by different international evangelist associations and World Neighbors. This funding was later discontinued due to administrative problems. The cuts in funding forced COMBASE to reorganize in order to recover its operating costs. This made it necessary to establish new rates for the different services offered. COMBASE also made agreements with different evangelical churches for the provision of health services. At present, a consultation costs from Bs. 6 to 8; a normal delivery costs Bs. 280 and a caesarean from Bs. 590 to 640. The hospital has been completely self-financing for the past five years.

The clinic's structure is modern and comfortable: there are TV Sets in each room that are expected to be used in the future for educational purposes, i.e. video presentations on health topics. Their surgical rooms are appropriate although they do not have anesthesia capability nor do they have incubators for neonatal care. COMBASE is also involved in health promoter training, especially in the rural areas.

Regarding family planning, COMBASE offers information and barrier and oral contraceptive methods. They do not do IUD insertions because of the belief that this method is abortive. The Director is very interested in the new Reproductive Health Norms established by the MPSSP since they will allow COMBASE to expand its family planning activities.

f. Cruz del Sur/Servifam

Cruz del Sur/Servifam was founded in 1979 with the purpose of offering basic health services and family planning to workers of COMACO, a building materials manufacturer with operations in several cities including Cochabamba. Cruz del Sur's founder and Executive Director, Dr. Yvonne Frank, is also one of the proprietors of COMACO. During its 11 years of activity, through one to four clinics at any given time, Cruz del Sur has offered services not only to COMACO workers but also to urban and periurban residents. Cruz del Sur's activities have been financed by Dr. Frank's personal contributions, as well as by the Pathfinder Fund through a project which will end in late 1990. Cruz del Sur's clinics charge low prices to their patients or they waive fees altogether. Clinic income has been used to support some operating expenses.

Currently, Cruz del Sur is operating only one clinic, the "Centro Medico Central" located in a building which is the property of Dr. Frank. This clinic has one consultation room. It offers maternal-child care and family planning and, in some cases, it is used to attend deliveries that cannot be referred to the Maternity Hospital.

In 1989, Cruz del Sur had 2 other clinics: the Hospital Tiquipaya which belonged to the Municipality, had equipment and personnel of the Unidad Sanitaria, and was administered and partially staffed by Cruz del Sur; and, the "Centro Medico San Antonio," in La Cancha market, which belonged to the San Antonio Cooperative. Cruz del Sur stopped administering these centers in mid 1990, when the Hospital Tiquipaya was handed over to the Municipality and the Centro Medico San Antonio to the Cooperative. For different reasons, neither organization showed interest in continuing an agreement with Cruz del Sur. (See Bolivia Trip Report #3 for additional background information on Cruz del Sur and a discussion of the effect of its efforts to obtain donated space.)

Despite the problems it has faced during the last year, Cruz del Sur is still one of the only local NGOs in Cochabamba with a proven track record, core staff trained in family planning service delivery, and the basic equipment for the provision of MCH/FP services at the primary level. With additional managerial as well as financial support it is felt that Cruz del Sur could make an important contribution to the expansion of comprehensive maternal health and family planning services.

Cruz del Sur is not yet legally registered but Dr. Frank is in the process of doing this. According to her, Cruz del Sur will likely become a private organization with a group of members, a Board of Directors, and the ability to enter into agreements with international organizations. In that way it would no longer operate as one person's property, as it has in the past. The idea is that the new organizational structure will result in the decentralization of tasks, improved management, and other conditions necessary for long-range planning and programming. If it is to survive and grow, the organization desperately needs technical assistance in financial planning and marketing, as well as a functioning information system and a more aggressive approach to IEC and community outreach.

4. The Private Sector

a. Private Physicians and Clinics

Private sector physicians, operating out of individual and group practices, have proliferated in the urban and periurban areas of Cochabamba. In 1986, there were over 600 clinics, hospitals and medical offices in and around Cochabamba city, and 821 registered physicians, including 85 obstetrician/gynecologists and 85 pediatricians. Private physicians provide all types of primary and secondary care to women, including contraceptives. Their service fees range from costly to comparable with those of the public and NGO clinics. Fees for family planning services are often high and many

private physicians do not offer a wide range of contraceptive methods due to possible bias, lack of a steady source of supply and cost.

Given the limited availability of family planning services and what may be the cultural acceptability of abortion, clandestine abortion clinics have multiplied and appear to be thriving in the urban area. Despite the high price (reportedly US\$ 100 or more), these private clinics are apparently used to some degree by all socio-economic classes. It appears, however, that poor women and those living in rural areas are more likely to resort to self-induced abortion, often with terrible consequences. This situation recently moved the Bolivian government to call for increasing the availability of family planning information and services throughout the country as an integral part of maternal and child health services.

Private sector physicians offer an interesting opportunity for increasing the number of service delivery sites. As a potential collaborating group, however, they are poorly organized, highly competitive with each other and not likely to be attracted to training programs or development-type activities unless they perceive immediate financial gain. Provision of a low-cost source of contraceptives and IEC materials to private physicians would be one way to encourage a higher quality of care and increase the availability of family planning service with minimal investment. This potential merits further investigation.

Other private sector organizations providing maternal and neonatal care include:

b. Center For the Prevention of Cancer in Women. Rural Maternal Health Program

This institution was founded in 1965, by a group of physicians who originally worked together at the University in La Paz. At the moment, the organization is based in Cochabamba and is made up of a part of the same group of physicians. The Center became a legal entity in Bolivia in 1982. The main focus of the Center is cervical cancer detection and public education. Five years ago, the Center established the "Medico Rural" program with the purpose of offering poor, rural mothers not only cancer detection, but also more integrated maternal-child medical assistance including prenatal and delivery care. For this purpose, the Center maintains two mobile medical units.

The Center has a staff of 5 doctors, an obstetrical nurse, and two psychologists. Recently, they began work in the city with the "Specialized Home Delivery Program", in which women register and for a price of Bs. 10 they receive all prenatal care. Labor and delivery are attended by the obstetrical nurse; a doctor is also on-call if there are any problems. If complications arise or the patient so desires, she is attended at a local clinic where she is transferred by the Center's ambulance. Normal deliveries cost about Bs. 200, including medication, and the Center reports a current case load of approximately 6 deliveries per month.

The Center receives financial assistance from ex-staff and volunteers who are working outside of Bolivia with the Costa Rican Social Security System

and the Universidad del Valle in Columbia and from Bread for the World (German). They originally received contraceptive commodities from the Pathfinder Fund, as well as IUD insertion kits and audio-visual materials for family planning services, however, this assistance was discontinued several years ago. They currently offer family planning information, some barrier methods and IUD insertion; very rarely, a mini-lap is done. According to the Director, Dr. Becerra, people are quite suspicious of family planning and, because of this, the Center proceeds very carefully with family planning as one of its many services. The Center would like to receive some support for its educational work in order to continue to offer this service. The Center would also benefit from a continuous supply of contraceptive commodities at low cost.

c. SOMARC - Contraceptive Retail Sales

A contraceptive retail marketing project was launched by SOMARC in 1988. This project, which is run out of PROSALUD's office in Santa Cruz, advertises and supports the subsidized sale of oral contraceptives, condoms and foaming tablets through established pharmacies in urban areas. Currently, pharmacies provide 66% of the condoms and 39% of the contraceptive pills used in Bolivia (ENDES, 1989). The principal contraceptive method of choice, however, is the IUD. IUDs are provided primarily by private sector and non-profit clinics.

For additional information on the organizations mentioned above, see Appendix 4, Organization Profiles.

C. OTHERS BARRIERS TO IMPROVED MATERNAL AND NEONATAL HEALTH AND SURVIVAL

1. Utilization of Maternal Health Care

Perhaps the most serious constraint to improved maternal and neonatal health status in Cochabamba, and in Bolivia as a whole, is the extremely limited utilization of available health services. As mentioned above, MPSSP health centers and posts (16 in Cochabamba), the MPSSP German Urquidi Maternal Child Hospital, and a great many NGO and private clinics offer prenatal, delivery and postnatal care to low-income clients. The hospital also provides delivery care and is designed to handle high risk women and neonates referred from institutions throughout the department. Use of traditional birth attendants is not a cultural norm in Bolivia, and while trained lay midwives are present in the urban and periurban areas, they attend few births.

Despite the relative availability of maternity services in and around the city, utilization is low, and large numbers of births continue to be home births with untrained attendants. In 1988, for example, the MPSSP hospital attended only 2,800 births, or an average of 7.6 per day. In 1989, this number decreased to 2,450, while the number of admissions for abortion complications rose to 508. Most (67%) of the deliveries carried out in the hospital were normal deliveries.

Use of prenatal care has also been low. A study of prenatal care at the hospital in 1988, showed that only 1,073 women attended one or more prenatal consultations. Compliance with the national norm of four prenatal visits was also low. Eighty percent of women seen for prenatal care in 1988 did not meet the established norm and the institutional average at the hospital over a seven year period was less than 2 prenatal visits per woman per pregnancy. Of 250 women studied in depth, 48% attended their first visit in the third trimester and only 26% in the first. In 1989, fewer total prenatal consultations were reported than in 1988 and only 104 postnatal consultations were reported. During the same period, the average number of clients for prenatal, postnatal and gynecological care at the hospital was only 16-17 women per day.

Outside of the hospital, prenatal control is also offered in the city's government health centers. There is some indication that utilization rates for prenatal and postnatal care have improved in these centers since the decision was made to link prenatal care and monthly food supplementation through the PNAS program (see description above). For the moment, however, this program appears to be confined to Cochabamba and the district centers, and its actual coverage is uncertain in terms of the percentage of population of pregnant and lactating women receiving supplements.

Under-utilization of prenatal, delivery and postnatal services is a problem throughout Bolivia. The ENDES Survey found that only 43% of women who gave birth between 1983 and 1988 received prenatal care of any kind. Nationally, 58% of births occurring in urban areas were attended by a doctor as opposed to 19% in rural areas. Only 20% of births occurred to women who had received at least two doses of tetanus toxoid immunization. Specific data

on type of birth attendant in the urban and periurban areas of Cochabamba are not available, but rates are assumed to be similar to or slightly lower than the urban rates cited above.

Utilization of maternity services is believed to be low for reasons of: 1) cost; 2) lack of confidence in government services; 3) periodic strikes by government workers, 4) linguistic and cultural differences between providers and clients; 5) lack of public health outreach and community promotion; and, 6) lack of understanding at the level of the woman and her family of the need for preventive care. The following sections discuss some of these problems and suspected factors in greater detail. It is important to note, however, that a systematic study of user knowledge, attitude and practice has not been conducted in Cochabamba.

2. Cultural Determinants of Utilization and Other Health Behaviors

Published references addressing the specific socio-cultural factors related to maternal health attitudes and practices were not found. However, a study was being carried out by DIEMED, with funding from USAID and technical assistance from the University of North Carolina, in the department of Cochabamba during our visit. This study focused on attitudes and experiences surrounding pregnancy and birth in rural areas of the department. Because of its rural focus, the study's findings may not be useful for understanding the periurban and urban population which is generally characterized by greater access to health services and more rapid, if still partial, assimilation of western medical beliefs and services. Despite this fact, the protocol for the study, which used depth interviews and focus groups, could possibly be adapted for use in the type of qualitative study proposed by MotherCare in Section III of this report.

In the absence of information specific to maternal reproductive health, the MotherCare Team reviewed the general literature related to health practices in Bolivia and depended on health providers and individuals working in community development for their "expert" opinions on the socio-cultural determinants of maternal and neonatal health status.

Anthropological studies conducted by Bastian and others in the Bolivian altiplano, and a number of Bolivian publications on reproductive health, have described a series of closely related social and cultural patterns which are felt to have a strong negative impact on health behaviors. Briefly summarized, these factors include: 1) isolated and culturally closed communities; 2) gender differences in desired family size; 3) curative, rather than preventive perceptions of medical care; 4) the view of birth as a natural process which can normally be managed by the individual woman and her family; and, 5) expectations that not all children will live, which contribute to high parity and long reproductive lives for women. Medical assistance is generally sought only after household and community resources are exhausted, and health-seeking behavior is strongly mediated by cost-benefit considerations. As a result, the interactions which poor Bolivian women, particularly Quechua and Aymara speakers, have with modern health services are often culturally unsatisfactory; they are also apt to have poor outcomes because they are initiated too late.

According to service providers in Cochabamba, these same national patterns characterize health seeking behavior in their region, although some changes have occurred because of migration to urban and periurban areas. Practices related to childbirth and the use of prenatal and postnatal care, however, remain fairly resistant to change. Although there is evidence to suggest that there are some increases in the use of prenatal care, especially where food supplements are tied to such care, large numbers of women still receive no medical attention at all during pregnancy and at the time of birth. In addition, recent evidence suggests that there is a trend towards poorer birth outcomes in urban and periurban areas. (Alexander, personal communication from work in progress, 1990).

3. User Perceptions and Preference

Little is known about why Cochabamba residents choose the health providers they choose. Public, NGO and private clinic fees are often similar. For the urban poor, who tend to seek emergency curative services, the marginal cost of a private doctor (5 versus 3 Bolivianos) might more than compensate the long wait and indifferent service that often characterize the public sector clinic. The personality of and the attention given by the attending physician are also cited as important factors in "capturing" and keeping clients. Pregnant women are said to choose a physician who offers them continuity of care, i.e. one that can and will accompany them through the prenatal and birth experience. This places the MPSSP system at a disadvantage because clinic physicians do not normally have hospital admitting privileges. The entire area of client preference and perceptions of quality, adequacy and acceptability of care requires further study.

4. Cost as a Deterrent to the Utilization and Quality of Maternal Health Care

The relatively high cost of maternity care is felt to be one of the principal reasons for under-utilization of institutional birthing care in the urban and periurban areas of Cochabamba. As justification for this conclusion, planners point to the fact that the number of births attended at the Hospital German Urquidi has fallen dramatically since the institution of the current fee scale in 1987. The Director of the Cochabamba Unidad Sanitaria and the Director of the Hospital German Urquidi have requested assistance from MotherCare for the study and restructuring of hospital fees and for the improved marketing of maternal reproductive health services.

In 1987, the Ministry of Health (MPSSP) initiated a local cost financing ("privatization") program which called for the establishment of fees-for-service in all MPSSP facilities. At this point, while the MPSSP continued to provide salaries and some program costs, facilities were expected to begin covering maintenance, supply and other recurrent costs through their own efforts.

It is unclear how MPSSP facility prices were originally established. Actual cost data for the respective services does not exist. Fee scales for hospitals appear to have been set by the individual facilities involved and

those for health centers and medical posts, although they were found to vary from facility to facility, were theoretically established by the respective Unidad Sanitaria. It seems probable that current prices reflect knowledge of fees charged in the private sector combined with individual judgements about the population's ability and willingness to pay.

The "Common Fund" is an important element of the government's privatization scheme and a factor that must be considered if the fee-for-service system is to be modified. In Cochabamba, up to 30% of gross receipts in each facility are allocated to the Common Fund, which was created by the GOB as a mechanism for supplementing the salaries of government employees. Common Fund proceeds are divided proportionately among employees. In theory, the Fund motivates staff to bring clients into the facility and to treat them well so they will return. In reality, the Common Fund's existence is both a stimulus for high service fees and a barrier to their reduction since employees consider any reduction in the fees or the Fund to be equal to a reduction in their own salaries.

Logically, privatization has resulted in improved expense/revenue ratios while increasing local financial control. However, it also appears to have resulted in a drop in the utilization of essential preventive and curative health services and much lower revenues than originally projected. This is exemplified by the case of the German Urquidi Maternity Hospital which in 1986, the year before privatization, reported over 4,000 deliveries. After the institution of the new fee system, deliveries fell to just over 2,500 in 1989. While other factors must also be considered when addressing the problem of utilization (quality of care, public image, competition) it seems likely that "price" has played a significant role in falling maternity case loads.

Besides reducing the volume of patients seeking institutional birth, the new fee structure also appears to have undermined the quality of care provided to prenatal clients. For example, basic laboratory tests are only rarely requested and/or complied with due to the additional cost to the patient. The same phenomenon now threatens the quality of family planning services offered through the German Urquidi Hospital, since clients are unable or unwilling to purchase necessary laboratory exams. This is particularly alarming because the majority of family planning clients in Cochabamba and throughout Bolivia choose the IUD as their method of contraception.

Fees for prenatal, postnatal, birthing and family planning care in both NGO and for-profit clinics were investigated (See Table 1). While prices vary, the similarity of MPSSP, NGO and private sector fees is striking. This similarity reflects the highly competitive health care market in Cochabamba and the relatively limited purchasing power of the majority of the population, both of which tend to keep fees relatively uniform but also higher than one might expect. The lack of comprehensive, low-cost services for the poor and indigent populations is a major problem when considering the area of maternal and neonatal care. Unless these services are made more accessible and perhaps more acceptable to the population, it is highly unlikely that utilization and the provision of quality maternal and neonatal care will improve, nor that related mortality rates will be significantly reduced.

Studies in other countries, most notably Peru and Nigeria, have recently documented the potentially negative effect that service fees can have on both the utilization and the quality of maternal health care.³ This is an area of particular interest to MotherCare and one that we would welcome the opportunity to study in greater depth through our proposed work in Cochabamba. This is also an area of serious concern to the directors of the Unidad Sanitaria/Cochabamba and the German Urquidi Maternal Child Hospital. During the course of this assessment, they requested MotherCare assistance for the analysis of maternal and infant health care cost data collected at the hospital and the development of a model for analysis of costs and revenue forecasting that can be used to establish reasonable fees in other MPSSP facilities.

³ Stanton, B. and Clemens, J. "User Fees for Health Care in Developing Countries: A Case Study of Bangladesh", Social Science Medicine (29), No. 10, 1989. Gertler, P. "Gender Differences in the Utilization of Medical Care in Peru: Implications for User Fee Policy", unpublished report of work carried out on data from Peru with support by ICRW and AID. Personal communication, C.C. Ekwempu, et.al. "The Effect of Economic Crisis on Obstetric Care in Northern Nigeria", presentation APHA Conference, Oct. 1990.

TABLE 1

SUMMARY OF PRICES BY SERVICE AND SERVICE ORGANIZATION (IN BOLIVIANOS)			
ORGANIZATION	CONSULTATION	NORMAL DELIVERY	COMP. DELIVERY
UNIDAD SANITARIA	5.00	120.00	refer
MAT HOSP GERMAN URQUIDI	5.00 - 10.00	200.00+	450.00+
ME.DI.CO.	3.00 or less	80.00 - 100.00	refer
PROMEFA	5.00	30.00 - 50.00+	refer
FEPADE	3.00 or less	15.00 - 40.00	refer
CRUZ DEL SUR	3.00	60.00	refer
CTR. PREV. OF CANCER	5.00	200.00	refer
COMBASE	6.00 - 8.00	(inc. medicines) 280.00	590.00 - 640.00

5. Competition and its Effect on the Quality of Maternal and Neonatal Care

While competition in the health care market tends to stabilize or drive prices down, increase spontaneous promotional efforts, and improve the provider's response to client perception and need, it can also be a deterrent to the quality and appropriate utilization of care.

As mentioned earlier, according to an analysis carried out by ASONGS, in 1986 there were over 600 clinics, hospitals and medical offices in the urban and periurban areas of Cochabamba and 821 physicians competing for clients and resources. This represents a physician-to-population ratio of approximately 1/450 or less. The ratio is now, in 1990, assumed to be even higher since the University medical school continues to graduate newly trained physicians at a rate that is significantly greater than the rate of population increase in the department or the city.

The majority of clinics in Cochabamba are one or two room offices where clients may be offered a wide range of services, including in some cases abortion and/or contraception. In such medical offices, practicing physicians may lack training in one or more of the services they offer. Lack of physician preparation is widely felt to be a problem with private sector family planning services. According to sources in Cochabamba, many providers who offer IUD insertion, for example, have not received special training in this technique.

Physicians and facilities under these conditions are also more likely to recommend unnecessary exams or treatment simply to increase their revenues. This undoubtedly results in the dilution of family resources available for

health care, while also reinforcing the population's perception that medical care is expensive and, because of this, something to be procured only in emergency situations.

The intense competition in Cochabamba also leads to inadequate continuity of care and may result in lower rates of referral than are desirable. Both government and NGO programs appear to contribute to this problem because of their fear that clients will be lured away and lost if referred to another provider. Anecdotes indicate that clients may be "stolen" from within organizations as well by staff physicians interested in treating them in their private clinics for personal gain.

With the MPSSP's entry into the fee-for-service health care market in 1987, the competition and conflict between the public and private sectors seems to have increased, making coordination and cooperation difficult. Since there is so little distinction in this setting between public, private and NGO target populations, it is very likely that those in most need of care, the very poor, are not seeking and/or receiving it. It is also likely that very little preventive care is being provided both because it is less lucrative than curative care and because the population is unwilling to pay until they perceive a serious health problem.

D. PROGRAMS PLANNED FOR COCHABAMBA

1. World Bank

The World Bank will provide over \$US 20,000,000 to the Government of Bolivia for health sector development in the urban areas of La Paz, Cochabamba and Santa Cruz during the next five years. In Cochabamba, Bank support will be used for construction of new health centers and medical posts, thus resolving some of the infrastructure problems mentioned in Item B above. There is also some funding available for management support, but it is not clear how this will be utilized. Despite the fact that this project is several years old, actual construction has not yet started in Cochabamba. As we understand it, there is no support for maternal or infant specific programs, nor for clinical training. It is unclear whether equipment will be provided for newly constructed clinics.

2. UNFPA/PAHO - New Maternal and Child Health Project

UNFPA has funded the PRONIMA program, a maternal and infant health improvement project with the MPSSP for a number of years. PRONIMA has been administered and directed by PAHO. During 1990, UNFPA funded PRONIMA III, which they consider to be a bridge between PRONIMA II and a new project. PRONIMA III had a very small budget (\$150,000-200,000) that was devoted to continuation of activities started under PRONIMA II. Currently, the PRONIMA III project is working in the Chapare District of Cochabamba and providing limited assistance to the German Urquidi Maternity Hospital in staff salaries for the Reproductive Health Unit.

A tripartite assessment team was recently in Bolivia in preparation for the new project; their findings and recommendations are contained in the UNFPA report, "Informe de la Mision de Revision Del Programa y Formulacion de Estrategias: Bolivia". While the details of the new project are as yet undefined, recommendations are for a much larger commitment that would include IEC type activities, training and other service improvement inputs. Instead of funding activities in one district in each department as was done under PRONIMA II, the team has recommended that the new project aim at a wider audience (i.e. strengthen national or department-wide programs).

PAHO advisors are currently preparing the plan for the new project with the MPSSP. The project will reportedly target mothers, children and adolescents, and concentrate its efforts in the area of reproductive health. It is expected to begin in 11 districts, probably one district per department as with PRONIMA, and to add 11 new districts each year over a four year period. Each district will be involved in the planning of its own subproject through participation of the respective communities, and the Health Area and Unidad Sanitaria staff. At the central level, the project objectives are very broad and leave much room for the districts to define their own local priorities.

According to the current plan, public sector health professionals working in those districts chosen during the assessment phase of the project will be

trained at 5 training centers in obstetrical risk assessment and patient management. (One of these centers will be located at the Maternidad German Urquidi in Cochabamba). A five-day TBA training is also planned. Training is not anticipated to begin until approximately 1 year to 18 months after project initiation. In MotherCare's meeting with PAHO Advisor, Lic. Cristina Gardel, she expressed interest in coordinating training efforts, if the scheduling can be agreed upon. In addition to formal training, non-formal training of women at the community level is also envisioned through the use of educational packages which will be developed. PAHO may collaborate with UNICEF in this area. Again, this is an area of common interest that will be further explored.

PAHO is also planning to introduce a new, single use, "safe birth kit" which is significantly smaller than the earlier UNICEF metal satchel. PAHO also expressed interest in coordinating distribution of these kits with MotherCare and the Unidad Sanitaria/Cochabamba. However, the number of kits and the intervention districts have not yet been determined. It is possible that PAHO could distribute the kits through the MotherCare Project in the urban and periurban areas of Cochabamba even if these districts are not selected for PAHO intervention. This will ultimately depend upon the availability of kits.

PAHO expects that the districts chosen for this project will spend the first 6 months carrying out a form of needs assessment, then 1 year to 18 months programming their activities, and the remainder of the project implementing their chosen interventions. The meaning of "programming" is unclear in this context as is the reason for such a long period prior to start-up of activities.

PAHO recently distributed reproductive health education packages of slides and videos to the various Unidades Sanitarias. The contents of these kits were not discussed.

MotherCare will maintain contact with the UNFPA Representative, Mr. Reiner Rosenbaum, and PAHO Maternal Child Health Advisors, Dr. Daniel Guttierrez and Lic. Cristina Gardel, during the project development process in order to determine areas for collaboration and those of potential overlap.

3. JHPIEGO

MotherCare has also been in contact with the Johns Hopkins Program for International Education in Gynecology and Obstetrics (JHPIEGO). JHPIEGO plans to work in close coordination with PAHO on the training of providers in family planning service delivery, and the establishment of reproductive health training centers throughout the country. While Cochabamba will be included in JHPIEGO's support, it is not yet clear what this will mean in terms of training for MPSSP clinicians, or whether this training will include other levels of provider (auxiliaries, promoters). According to JHPIEGO, there are no plans to include NGO providers in the JHPIEGO training. Again, MotherCare will maintain close contact with JHPIEGO as they develop their plan for Cochabamba.

III. PROPOSAL: COCHABAMBA REPRODUCTIVE HEALTH PROJECT

A. SUMMARY

Bolivia's health statistics reflect its status as one of the poorest countries in the Latin American region: maternal mortality is estimated at 480/100,000, perinatal mortality at 110/1,000, and, child mortality at 169/1,000 (National Plan for Child Survival and Maternal Health, 1989). While encouraging advances have been made in young children's health through child survival programs, data indicate that maternal and neonatal health status have not improved significantly.

This three-year project proposes a comprehensive approach to the reduction of maternal and neonatal morbidity and mortality in the urban and periurban areas of Cochabamba, Bolivia's third largest city. The project addresses several of the factors believed to contribute to these problems, including: the failure of women and their families to recognize and seek medical care for problems during pregnancy, delivery, and the neonatal period; extreme underutilization of prenatal, postnatal and trained delivery care; the limited availability of contraceptive services and information to couples who wish to postpone or limit child-bearing; and, the poor quality of routine prenatal and postnatal care, i.e. no systematic assessment of pregnant women and neonates nor a functioning referral system for those at high risk.

The MotherCare Cochabamba Project will benefit the estimated 91,000 women of reproductive age living in the Cochabamba area, of whom approximately 19,400 experience a pregnancy each year. The project will 1) increase the awareness and utilization of all reproductive health services, with special emphasis on the use of obstetric and family planning services by women at high reproductive risk; 2) increase the practice of other maternal health behaviors that encourage positive outcomes including the use of "Safe Birth" kits for home births, the immediate initiation of exclusive breastfeeding at birth, and the use of child-spacing methods; 3) increase the number of clinic locations providing low-cost child-spacing information and services as an integral part of maternal health care; and, 4) improve the quality and coverage of maternal and neonatal care available at clinic and referral levels. Research studies attached to the project will provide important baseline information to local and national planners. Project managers will be encouraged to develop and test new strategies for reaching women with important information and services and for modifying existing maternal health and child survival programs (supplementary feeding programs, anemia prevention programs, tetanus immunization, prenatal/postnatal care, etc.) to improve their effectiveness.

MotherCare will develop, implement and evaluate this project with the Unidad Sanitaria/Cochabamba and a select group of NGOs that are currently working in maternal and infant health in and around the city. Project inputs can be divided into four components as follows:

- Component 1 Formative, Baseline and Final Studies designed to determine the importance of specific maternal health behaviors and problems and the factors associated with them, as well as the effect of

project interventions on selected indicators. These will include: 1) a qualitative study on behavioral topics using focus groups and in-depth, structured interviews; 2) an initial household survey to measure baseline knowledge, attitude and practice related to maternal and neonatal health and the use of available health services; and 3) a final household survey to measure project effect.

Component 2 A study of the costs and pricing alternatives for maternal and neonatal services at the German Urquidi Maternal Child Hospital which is expected to lead to pricing and marketing interventions that will encourage, rather than discourage, the utilization and quality of available maternal health care.

Component 3 Information, education and communication (IEC) interventions using a social marketing approach, which will include the development of educational and/or promotional messages, materials for health professionals and families at the community level, media campaigns and other strategies for reaching women and their families with critical reproductive health information. Training for public-sector and NGO providers to improve counseling skills and use of IEC materials is also anticipated.

Component 4 Support for NGOs and public sector clinics to expand the number of service sites offering low-cost reproductive health/family planning services and to improve the coverage and the quality of those services. MotherCare proposes to provide limited core support to two NGOs as well as training, basic equipment and IEC materials to these and other NGOs currently working in the city. In the public sector, MotherCare will work with other donor and collaborating organizations (UNFPA/PAHO, JHPIEGO, UNICEF, World Bank) on the development and implementation of in-service training courses and on the provision of low-cost equipment and technologies to up-grade clinic services.

A final evaluation meeting, will result in documentation of project results and recommendations for expansion and replication in other areas of Bolivia.

While a duration of three years is planned, annual review meetings will be held to assess project progress and to revise the next year's workplan based on need and funding available. The project will be supported by MotherCare through a combination of central AID monies and a USAID/La Paz buy-in to the MotherCare Project. The total local cost budget for the project is estimated at US\$ _____. 60% of the MotherCare Bolivia Projects Coordinator's time and 80% of a Resident MotherCare IEC Advisor's time, and approximately _____ person months of additional technical assistance will also be provided to the project. The total estimated project budget is expected to vary according to the availability of funds, the needs identified and the problems encountered in project implementation.

B. BACKGROUND/PROBLEM DESCRIPTION

Little is known about the health and nutrition status of women in Cochabamba, or in Bolivia as a whole, making prioritization of problems and development of condition-specific interventions difficult. It is known that abortion-related complications are an important cause of maternal death, and it can be assumed from knowledge of Bolivia's economic and food production situation that many women are nutritionally at-risk during pregnancy and lactation. Outside of these facts, however, very little is known about the actual problems that affect Bolivian women and their newborns. It is therefore an important goal of the proposed MotherCare project to collect and provide information about maternal and neonatal problems to local and national policy makers.

The MotherCare assessment of the maternal and neonatal health situation in the city of Cochabamba found prenatal, delivery and postnatal care services to be widely available, with physician-to-population and clinic-to-population ratios extremely low, and intense competition for the relatively small pool of paying clients. Many private clinics and all public clinics provide prenatal and postnatal care, and a growing number of private clinics offer birthing and family planning services. Many of these same clinics also offer abortion services. Our conclusion is that the number of prenatal/postnatal and delivery sites in the city is more than sufficient. The most serious problems, and those that MotherCare will address, are the limited availability of low-cost family planning services, the quality of the obstetric care currently provided in both government and NGO clinics and, most importantly, the population's limited access to and use of available care.

The number of low-cost, family planning service delivery sites are very few in number and they are limited in the types of contraceptive information and service provided. As a result, induced abortion appears to be the principal method of limiting births as well as one of the principal causes of maternal death and disability. Until recently, family planning services were provided only through private clinics and by a limited number of NGO's. Because of the growing demand for and the limited availability of these services, and the cost of contraceptives on the open market, family planning service fees in both private and NGO clinics are uniformly high. Access to methods is limited even in NGO clinics, where staff often lack training, contraceptive methods, and equipment. Physician bias towards the IUD and away from all other temporary methods also appears to play a role in method mix. This leads to the conclusion that, although family planning services are available in the private and NGO sectors in Cochabamba, they are often of poor quality and may not be accessible to low-income clients because of cost.

While government policy recently incorporated family planning as an integral part of maternal health care, public sector services are essentially unavailable and not likely to increase dramatically over the short term. The new Reproductive Health Unit at the government's German Urquidi Hospital has had a slow start due to lack of funds and opposition from the medical community. This situation may improve with the planned input of UNFPA/PAHO and the JHPIEGO projects, but active outreach and promotion are not expected

due to fear of negative public reaction. The Unidad Sanitaria, while interested in training its clinic personnel in family planning counseling and referral, does not foresee providing direct family planning services in MPSSP clinics in the near future. The Unidad Sanitaria considers the numerous NGO's working in Cochabamba to be a better channel for family planning services and has encouraged MotherCare to work with them to improve and expand their existing activities.

In Cochabamba, despite the availability of modern medical care, a large proportion of all births are still attended at home by untrained family members. In areas where the national supplementary feeding program is not available, underutilization of prenatal and postnatal care are also serious problems. Underutilization of all types of reproductive health care, coupled with other potentially dangerous behaviors related to pregnancy and birth, may be the most serious obstacles to improved maternal and neonatal health status. This is particularly true in terms of the use of institutional delivery care and trained birth attendants. While some traditional birth attendants in Cochabamba have been trained through the PRONIMA project, their use is not wide-spread nor is it part of traditional cultural practice. The reasons for underutilization are assumed to include cultural and linguistic barriers between providers and clients, long waits and client perceptions of poor quality in public clinics, a curative rather than preventive understanding of health care, and the relatively high costs of care available through public, private and NGO clinics. Very little systematic information has been collected addressing patterns of utilization, behaviors and the perceptions and preferences of women and their families. The MotherCare Project will facilitate collection of this information and use it to develop a communications/social marketing strategy designed to increase awareness as well as utilization of all reproductive health services.

Cost is a potentially serious deterrent to early and appropriate use of maternal health services and, as such, it deserves special attention. There is substantial evidence that the arbitrary institution of service fees in all MPSSP facilities has had an extremely negative effect on the utilization of prenatal and birthing services by those most in need. The rationale for current fee scales has been seriously questioned by the Directors of both the Unidad Sanitaria and the German Urquidi Maternal Child Hospital. At their request, MotherCare will provide technical assistance to the Unidad Sanitaria through this project for the analysis of costs, and the development of pricing and marketing alternatives for maternal and neonatal services at the referral hospital level. This effort will go hand-in-hand with social marketing/IEC interventions designed to increase service utilization.

The quality of obstetrical/gynecological care provided in public and NGO clinics is a constant concern recognized not only by MotherCare but by other donor agencies as well. Facilities typically lack basic equipment and most key staff have received training in neither risk assessment, including maternal nutritional assessment, nor family planning. Necessary laboratory exams are almost never performed for prenatal and family planning clients due to lack of laboratory facilities and, where facilities are available, to the cost to clients. Client counseling and education on topics of reproductive health is limited due to lack of training and materials. While program

guidelines call for targeting those most in need of assistance (i.e. women with nutritional deficiencies), food supplementation, and to some extent iron and folate supplementation, are treated as family subsidies and not as scarce resources that should be used with those in greatest need of attention in order to optimize their effect. In the area of services, MotherCare efforts will focus on: 1) improving the quality of IEC materials and counseling; 2) up-grading prenatal and postnatal care in NGO clinics and, in conjunction with other donor agencies, in public clinics, and; 3) introducing and evaluating the effectiveness of low-cost diagnostic technologies that could potentially improve the quality of care.

For a more in-depth discussion of these problems, please see Part 2 of this report: Assessment of Maternal and Neonatal Health and Nutrition Situation, Cochabamba.

C. GOAL AND OBJECTIVES

1. Beneficiary Population

The MotherCare/Cochabamba Reproductive Health Project will be implemented in the urban and periurban areas of the city of Cochabamba (total population: 403,600 inhabitants with approximately 91,000 women of childbearing age and 19,400 pregnancies per year). While all fifteen geographic areas of the city will be affected by project interventions, four selected health areas will be studied in-depth both to facilitate the design of interventions and the measurement of project outcomes.

2. Duration

The Project will begin on or about November 1, 1990 and end on or about September 30, 1993, for a total duration of 35 months.

3. Goal and Objectives

The long term goal of this project is the reduction of perinatal, neonatal and maternal mortality in the urban and periurban areas of Cochabamba. The objectives or expected outcomes related to this goal are:

- 1) At the level of the woman and her family, to increase the awareness and utilization of all reproductive health services and to increase the practice of other positive maternal and neonatal health behaviors:
 - Increase early recognition of problems during pregnancy, delivery and postpartum, and appropriate action by women and their families when these occur;
 - Increase the target population's use of preventive prenatal care, and postnatal care;
 - Increase the use of institutional delivery care, particularly in cases of high obstetrical risk;
 - Increase the number of home deliveries attended by trained personnel and those in which "Safe Birth" techniques and/or kits are used;
 - Increase the target population's knowledge and use of family planning methods;
 - Increase the percentage of women who start breastfeeding within the first hour of the neonate's life, who breastfeed exclusively and who carry on without supplements, during the first four to six months of the infants life.

- 2) At the level of the health services, to increase the availability of family planning information and services as an integral part of comprehensive maternal health care and to improve the quality and coverage of prenatal, postnatal and delivery care provided to women at community, clinic and referral levels:
- Increase the percentage of pregnant women who are assessed according to the CLAP Simplified Perinatal History Form and managed according to established norms.
 - Increase the percentage of women receiving an adequate preventive dose of iron/folate therapy during pregnancy;
 - Increase the number of trained providers and the number of service delivery points (clinics) providing low cost contraceptive services;
 - Increase the percentages of all women of reproductive age and of all pregnant women who have received at least two doses of tetanus toxoid;
 - Increase the percentage of women who have ever participated in PAP screening for cervical cancer;
 - Increase the percentage of pregnant women who are screened for anemia, Chagas Disease, and specific STDs during pregnancy, and of IUD clients who are screened for infections, STDs and cervical cancer prior to IUD insertion. (Screening implies that those who are detected will also receive appropriate treatment and/or supervision for existing conditions.)
- 3) At the planning and policy levels, to improve the access of local, national and donor agencies to information related to maternal and neonatal health and nutrition improvement and the use of that information for program planning and evaluation:
- Increase the amount of reliable information about the prevalence and importance of specific maternal and neonatal conditions, the behaviors related to these conditions and the factors associated with both;
 - Enable MPSSP planners to use a financial forecasting model to determine the cost and the cost recovery potential of maternal and neonatal care at various levels of service utilization;
 - Recommend tested IEC and fee-for-service interventions that are shown to impact maternal health behaviors and utilization of reproductive health services;
 - Recommend tested modifications in existing maternal and neonatal health and child survival programs (supplementary feeding programs,

anemia prevention programs, immunization, prenatal control, etc.) that have been shown to improve their effectiveness.

- The transfer of lessons learned and materials developed by the Cochabamba MotherCare Project to other public and NGO sector programs in Bolivia.

The above-mentioned objectives are consistent with those established in the Plan Nacional de Supervivencia y Desarrollo Infantil y Salud Materna, the Plan Operativo of the Unidad Sanitaria in Cochabamba for the period 1990-1993, and the objectives of the MotherCare Project. Quantifiable behavioral and health status objectives will be established for each of the project interventions once actual prevalence data have been collected.

D. STRATEGY

The MotherCare Cochabamba Reproductive Health Project will address a number of the factors that are presumed to be affecting the survival of women and neonates in a setting in which modern health services are widely available but poorly utilized and frequently of poor quality. MotherCare proposes the creation of a demonstration area, where experimentation will be encouraged and specialized technical assistance will be provided at critical stages in the design and evaluation of interventions. The designation of such an area will allow for the collection of in-depth information about the problems of women and neonates and the socio-cultural-environmental factors associated with these problems. The development of interventions based on this information will lead to locally-appropriate solutions to maternal and neonatal health problems. It will also promote the involvement of local planners and managers in the development and testing of interventions and thus strengthen their overall management capability. MotherCare favors the creation of an accessible and highly visible demonstration project area because such an area will lend itself to frequent observation by national level policy-makers, donor agencies and other interested parties and thereby facilitate the transfer of lessons learned.

The MotherCare Cochabamba Project will have four principal components dedicated to the objectives described in the previous section:

- 1) Formative, Baseline and Final Investigations will produce information necessary for the prioritization of problems, the design of interventions addressing those problems, and, in the case of the Household Survey, as a base upon which to measure the project's outcomes. This component of the project will include:
 - a. Qualitative Study of Women's and Community's Knowledge, Attitude and Practice Related to Maternal and Neonatal Health Care and Utilization of Available Health Services;
 - b. Baseline Household Survey of Maternal Health Service Utilization, Knowledge and Practices Related to Pregnancy, Birth and the Immediate Postpartum Period;
 - c. Final Household Survey to Measure the Effect of Project Interventions on Selected Maternal and Neonatal Health and Nutrition Indicators.
- 2) A Study of the Costs and Financing Alternatives for Maternal and Neonatal Health Services at the Maternal Child Hospital German Urquidi. This study will provide information for the modification of fee scales, and the packaging and marketing of services towards the goals of increasing utilization and cost recovery and improving the quality of the care provided.

- 3) Information, Education and Communication (IEC)/Social Marketing Interventions which will include the development of educational and/or promotional messages, materials for health professionals and families at the community level, media campaigns and other strategies for reaching women and their families with critical reproductive health information. IEC interventions will be designed to increase demand for institutional delivery in high risk and emergency cases, for the use of "Safe Birth" kits and trained birth attendants in the home, and to encourage changes in other behaviors related to pregnancy, birth and pregnancy prevention. Training for public-sector and NGO providers to improve counseling skills and use of IEC materials is also anticipated.

- 4) Support for NGO and Public Sector Services to increase the number of service sites offering low-cost, integrated reproductive health/family planning services and to improve the quality of those services. MotherCare proposes to provide limited core support to two NGOs - ME.DI.CO. and Cruz del Sur/Servifam - and training, basic equipment and IEC materials to these and other NGOs currently working in the city. In the public sector, MotherCare will work with other donor and collaborating organizations (UNFPA/PAHO, JHPIEGO, UNICEF, World Bank) on the development and implementation of in-service training courses and on the provision of low-cost equipment and technologies to up-grade clinic services. An initial assessment and joint planning sessions with the Unidad Sanitaria/Cochabamba, UNFPA/PAHO and JHPIEGO are proposed to determine the level of input required and the potential sources of this input.

These strategies are described in greater detail in the following sections.

E. COMPONENT 1: FORMATIVE, BASELINE AND FINAL INVESTIGATIONS

1. Objectives for Investigations

The proposed research will provide information on the biological and social factors which influence maternal and neonatal health and the utilization of modern health services. Many of these are already recognized by health planners and service providers in the Cochabamba District, however, the information available to them is either fragmentary, outdated or anecdotal. At present, there is no systematic data available on the health status of women and neonates (including mortality rates, levels of infectious disease, etc.); nor has information been collected to document utilization of, preference for, or access to health services.

In order to establish project priorities for intervention and to direct the subsequent development of those interventions, quantitative and qualitative information is needed about maternal health problems, service utilization patterns, and client perceptions and preferences. For this purpose, a rapid qualitative study, a household survey, and a clinical study of maternal health and nutrition status are proposed. Specific objectives of this research are to:

1. Provide the Unidad Sanitaria, NGO's and other health services with an **estimate of users and non-users** of maternal and neonatal health services, their characteristics and the reasons for use and non-use of specific alternatives.
2. Estimate the **prevalence** of anemias (iron/folate), gonorrhea/syphilis, Chagas, and other nutritional deficiencies and infectious diseases in reproductive age women.
3. Collect detailed information on existing maternal and neonatal health **practices/behaviors**, and on the nature and the importance of medical, cultural and economic barriers, as well as incentives, to improved health status for mothers and their infants.
4. Provide information that will enable the Unidad Sanitaria and the NGO's to determine **priorities** for intervention as well as **strategies** for improving maternal health behaviors.

The household surveys and qualitative studies which are described below will be conducted in selected areas of the Cochabamba District. Besides providing important maternal and neonatal health information, they will also provide information for improving the response of the Unidad Sanitaria/Cochabamba to more general health needs. For a discussion of the final survey see Section I: Evaluation Plan. of this proposal.

2. Qualitative Study

Focus Groups

Based upon the prioritization of project objectives, a list of topics for in-depth study will be developed. Focus Groups and structured interviews will then be conducted to clarify the specific areas of interest and to gather information which does not lend itself to a questionnaire format. The information collection during this phase of qualitative research will provide useful information for the development of the household survey protocol described in the next section of this proposal and for the subsequent development of the project's IEC and training interventions.

The total number of focus groups cannot be determined at this time as this will depend upon the number of topics to be explored; however, for the purpose of this proposal, 10-15 focus groups with 7-10 participants in each are assumed.

Possible areas to be explored through focus groups might include knowledge, attitudes and practices surrounding prenatal, delivery and postnatal care of mothers and infants; cultural and economic factors which influence the choice of birthing sites and attendants; nutritional practices during and after pregnancy, including maternal diet and infant feeding; and, attitudes toward abortion and sexually-transmitted diseases. Factors which influence the use of modern health care and family planning services might also be explored, as well as ideas as to how utilization can be improved.

The possible composition of the focus groups is outlined below, however, this will change depending on the prioritization of project objectives:

1. Groups composed of members of Clubes de Madres or recipients of the supplementary feeding program (PNAS). Participation of members of these groups in health programs is fairly well understood, thus only one group is recommended as a control.
2. Groups of men whose wives are of childbearing age, in order to collect information on male attitudes about family size, use of health services, family planning and birth practices. Other areas of interest may also be identified in the area survey.
3. Groups of women who have recently experienced a birth, drawn from different urban and periurban areas and linguistic and cultural groups. Participants should have at least one child and have had a pregnancy within the last twelve months. Groups should be structured for homogeneous language and culture of the participants. Groups of users and non-users of specific services could be formed.
4. Several groups of contraceptive users, if possible.
5. A group of women delivering at the maternity hospital.

6. A group of teenage women (15-19), should also be considered.

All the focus group sessions should be tape recorded and transcribed. The protocols for the structured interviews described below should be developed from this material.

The total estimated time needed for the execution, transcription and analysis of focus group data is eight weeks. The level of effort is estimated at 8 person months as follows:

3 facilitators at 30 days each for training, field work, and data cleaning
2 transcribers at 15 days each
1 Project Director at 2 person months

Structured Depth Interviews

Depth interviews will also be carried out with 40-50 women (and an undetermined number of males) to clarify and/or expand on reproductive health information. These interviews will be carried out prior to and simultaneously with the focus group sessions described above.

The time and level of effort required have not been calculated because the need for this type of interview will only be determined upon completion of a technical consultancy for this purpose.

Implementing Organizations

Three local organizations identified by the MotherCare Assessment Team have experience in qualitative research; they are CIAES, AVE and DIEMED. All three will be given consideration in the award of a subcontract for the qualitative research described above.

AVE's strengths and weaknesses are described below in the IEC Component section of this proposal. AVE has carried out countless numbers of group discussions on specific themes and has done some good qualitative "research" at the community level without being aware of the formal techniques for doing focus groups and structured interviews. The group does not, however, have a health professional on staff.

CIAES is a relatively new group, less than two years old, with eleven members from different disciplines. One of the members, an anthropologist and professor of public health, has carried out several formal focus group studies on health-related topics that were published in Bolivia. This group has not yet received financial assistance from international donors but they have submitted two proposals to MotherCare for qualitative studies. The level of training of the personnel is high, as is the motivation to prove themselves as an organization.

DIEMED is the research and training division of the University San Simon Medical School. While DIEMED staff have been involved in focus groups, it was the Assessment Team's impression that the organization's strength lies in the area of survey and clinical research and not qualitative investigation. However, this may be a misperception.

In order to select the appropriate subcontractor, MotherCare will develop the proposed protocol and workplan for the studies and issue these in RFP format. AVE, CAIES and DIEMED will be invited to submit proposals detailing their approach, workplan, technical and administrative capabilities and budget for the work described. MotherCare will evaluate the proposals and award the contract to the winning organization(s). Technical assistance will be provided to the subcontractor at the start-up and during the analysis of the studies to insure technical quality and adherence to the agreed protocol.

3. Household Surveys/Baseline and Final

An initial Household (HH) Survey will be conducted in four health areas of urban/periurban Cochabamba, with a sample of approximately 1600 households and 1200 women of reproductive age, of whom 520 are expected to have experienced a pregnancy during the 24 months prior to the interview. A subsample of currently pregnant women will also be selected and interviewed.

The final design of the HH Survey will be defined with MotherCare technical assistance prior to start-up of survey activities. For the purpose of this proposal, the following design has been assumed:

Data to be Collected

Part 1 of the survey questionnaire will collect simplified, socio-demographic information, including family size and composition, economic status, health and sanitary conditions, and family use of health services. Information on media access (radio, television) and participation in community groups will also be collected. Part 2 of the survey will be administered to all women of reproductive age who have ever been pregnant in the sampled households. It will focus on specific information related to reproductive history and maternal health status. Part 3 of the survey will be administered to all women who have experienced a pregnancy during the 24 months prior to the interview to collect information on morbidity during pregnancy, use of prenatal and delivery services, birth practices, and knowledge, attitude and practice surrounding maternal and perinatal health. Part 4 will be administered to currently pregnant women, only. (See Table 2: List of Potential Variables to be Measured in Household Survey).

Sampling Procedure

Sampling for the Household Survey will be carried out in three stages:

- Stage 1: Health Areas: To insure that the sample has a high concentration of MPSSP beneficiaries, four (out of fourteen) low-income health areas will first be selected. These health areas should be representative of the geographic and linguistic characteristics of the low-income urban and periurban communities, as well as the number and type of MPSSP and NGO facilities that serve them. The Unidad Sanitaria is presently considering Beato Salomon (pop. 7,300) and Tiquipaya (pop. 8,200) in the northern sector of Cochabamba, and Alalay (pop. 22,000) and Cerro Verde (pop. 24,000) in the south for the survey. Criteria for selection of the four health areas will be developed together with MotherCare prior to implementation of the survey.
- Stage 2: Households: A cluster sampling technique is proposed for selection of households. The number of clusters to be chosen, the size of the clusters and the sampling procedure will depend

on the final determination of sample size requirements. (See Tables 2 and 3). Natural boundaries or units of population (blocks, neighborhoods, etc.) and population density will be important considerations in development of a selection protocol. The cluster sampling technique offers a number of logistical advantages over a traditional random sample, particularly where enumeration of households has not been carried out, as is the case in Cochabamba. For example, if the study requires 1,600 households to obtain data on enough current and previous pregnancies, and the average number of households in a block is 40, then the study would require 40 clusters (i.e., blocks), with universal sampling of all households within the cluster.

- Stage 3: Women of Reproductive Age: Part 2 of the survey questionnaire will be administered to all women of reproductive age from the households sampled above. Sample sizes will be established to guarantee that at least 1,200 women of reproductive age are included in the survey.
- Stage 4: Women Who Have Experienced a Pregnancy During Last 24 Months: Part 2 and Part 3 of the questionnaire will be administered to this subsample. Approximately 520 women (44%) are expected in this category.
- Stage 5: Currently Pregnant Women: Parts 2, 3, and 4 of the protocol will be administered to all currently pregnant women. Between 120 and 170 currently pregnant women (10%-14%) are expected in this subsample.

Sample Size Estimates

Tables 3 and 4 set forth the probable variables of interest to MotherCare and the minimum sample sizes required to determine initial prevalence as well as effect size post-intervention. It should be noted that the expected changes shown in Chart 4 are extremely conservative. This is to insure that sample sizes are sufficient for measuring even small changes as a result of project interventions. Specific objectives for behavior change and increases in service coverage are expected to be significantly higher than the changes shown in this Chart.

In order to measure change in selected behavioral and health status indicators, minimum sample sizes of 1,200 women of reproductive age and 500 women experiencing a pregnancy within the past two years have been established. This will allow for measurement of change in contraceptive prevalence (all methods), use of institutional birthing care/trained attendants and safe birth techniques or kits, and other important variables. It will also allow for estimates of prevalence of specific conditions and problems during pregnancy.

The total number of households (1600) to be included in the study was estimated as follows:

If we assume that the total population of the four areas selected in Step 1 above is 61,500, and that 5% is the annual fertility rate, then we would expect approximately 3,075 pregnancies in any given year.

If we then assume an average family or household (HH) size of 5 people per HH, this leads to an estimate of about 12,300 HH in the four areas, of which 90% will have at least one female of reproductive age.

If births are distributed evenly throughout the areas and households, approximately 22% of HHs (3,075/12,300) will experience a birth each year.

Given these estimates, and the assumption that in 30% of the households sampled women will either be unavailable at the time of interview or unwilling to respond, it will be necessary to visit about 1,600 HH, where 1,440 women (90%) of reproductive age reside, and where 1,200 (70%) of them will be available for interview. In this sample of 1,200 women it is expected that 530 (44%) will have been pregnant during the past 24 months, and that 120-170 (10-14%) will currently be pregnant, knowledgeable of the fact and willing to discuss the pregnancy with an interviewer.

Level of Effort

Approximately 88 person months over an 8 month period have been calculated for planning, implementation and analysis of the Household Survey, if the proposed design is followed. The level of effort has been estimated as:

Direction and Data Analysis:

1 Director - 8 person months	=	8
1 Programmer - 2 person month	=	2
1 Data Entry Person - 4 person months	=	4
1 Secretary - 6 person months	=	6

Field Work:

20 interviewers - 3 person months each	=	60
2 field supervisors - 4 person months each	=	8
(2.5 p.mos. for field work;		
1.5 p.mos. for coding/		
cleaning data)		

Total person mos.	88
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TABLE 2

LIST OF POTENTIAL VARIABLES FOR INCLUSION IN HOUSEHOLD SURVEYS

Part 1: Socio-Demographic Data on All Households Sampled

Family size and composition by sex and age
Access to media (radio, TV; working condition of)
Home/land ownership/income
Presence or absence of sanitary facilities (water, toilet)
Illness during past ___ week/month, by age of individual, type of
illness, reported action

Part 2: All Women of Reproductive Age Who Have Ever Been Pregnant

General:

- Age
- Linguistic group
- Origin (district, urban/rural)
- Length of Residence in Cochabamba City
- Education level
- Employment/for wages

Reproductive history including #pregnancies, #live
and still births, #infant deaths, #miscarriages, #induced
abortions (if possible), birth interval of last child

Knowledge of danger signs during pregnancy/birth/puerperium and
appropriate action

Family Planning

- Ever use, method
- Current use
- Desire more children/desire delay next birth

Nutritional Status

- arm circumference
- weight
- height
- weight for height according to standard

Morbidities

- current problems reported by type

TABLE 2 (Continued)

LIST OF POTENTIAL VARIABLES FOR INCLUSION IN HOUSEHOLD SURVEYS

Part 3: All Women Who Have Experienced a Pregnancy During the Past 24 Month
Period

For Last Pregnancy:

Use of prenatal care

- time since birth
- # of prenatal visits by type of provider(s)
- timing of first visit
- reason for seeking care
- cost for all prenatal visits
- problems, if any and action reported
 - specific problems to be investigated:
 - miscarriage
 - bleeding
 - fainting/weakness

Birth practice and use of care

- place of last birth
- type of attendant
- reason for choosing place and type of attendant
- cord care technique
- cost of delivery
- problems, if any, and action reported
 - specific problems to be investigated:
 - still birth/maternal death-
 - time of death
 - perception of cause
 - prolonged/obstructed labor
 - malpresentation
 - excessive bleeding

Postnatal practice and use of care

- initiation of breastfeeding (#hours after birth)
- prelacteal feed
- duration of exclusive breastfeeding
- duration of breastfeeding, age at introduction of other liquids and solids, type and frequency given
- postnatal visit (woman/infant)
- problems, if any, and action reported
 - specific problems to be investigated:
 - mortality - time of death
 - perception of cause
 - signs/symptoms reported
 - prematurity
 - low birth weight
 - maternal infection (w/fever)

TABLE 2 (Continued)

LIST OF POTENTIAL VARIABLES FOR INCLUSION IN HOUSEHOLD SURVEYS

Part 3: All Women Who Have Experienced a Pregnancy During the Past 24 Month Period (Continued)

Beneficiary of specific maternal health programs
(prevention of anemia, supplementary feeding, tetanus
immunization, cancer screening: Pap Smear)
length of participation (# times)

Tetanus immunization status

Part 4: All Currently Pregnant Women

Same as above, but include the following for all currently pregnant women

For current pregnancy:

Gestational age

Use of prenatal care

- # of prenatal visits by type of provider(s)
- timing of first visit
- reason for seeking care
- problems, if any and action reported
- current participation and length of participation in MPSSP nutrition programs or other supplementary feeding program

Behaviors

- smoking, alcohol, coca or other drug use
- diet: eating more, less, same

Nutritional Status:

- hemoglobin
- anthropometry - weight, height, weight for height, and arm circumference

Morbidity: (if possible to take bloods and perform exam)

- Chagas
- Malaria
- Edema of feet, legs, hands, face
- Other problems - by clinical exam, if possible
blood pressure
hemoglobin/hematocrit

Reported Birth Practice

- stated choice for place of birth
- stated choice of attendant
- reasons for choosing place and type of attendant

TABLE 3
 SAMPLE SIZE TABLES FOR COCHABAMBA
 CROSS-SECTIONAL PREVALENCE SURVEY

Variable	Baseline Prevalence	Absolute Level of Accuracy	Confidence Interval	Sample Size ¹ p≤.05
Nutritional Deficiencies				
Fe anemia	34% ²	±5%	29%, 39%	345
	30%	10%	20%, 40%	81
	20%	±2.5	17.5%, 22.5%	983
Folate def	10%	2.5%	7.5%, 12.5%	553
Weight <45 kg	20% ³	±5%	15%, 25%	246
	10%	±2.5%	7.5%, 12.5%	553
Zinc def	15%	±2.5%	12.5%, 17.5%	784
Iodine def	19% ⁴	±2.5%	16.5%, 21.5%	946
	15%	±5%	10%, 20%	196
Sexually Transmitted/Infectious Diseases				
Syphilis or Gonorrhoea	prob 1-10%			
	1%	±0.5%	0.5%, 1.5%	1,521
	5%	±2.5%	2.5%, 7.5%	292
Chagas	65%	±10%	55%, 65%	87
	20%	±5%	15%, 25%	246
Prenatal/Intrapartum Care				
Last birth interval <2 years	prob. ~30%	±10%	20%, 40%	81
No prenatal care	36%	±4%	32%, 40%	579
Prenatal care, ≤20 weeks gest	prob <10%			

¹ These sample sizes should be increased by 50% to account for refusal to answer, and to compensate for the sampling error associated with cluster sampling. The household survey sample size should be based on the largest required sample size for non-clinical indices; the clinic based sample should be a systematic subsample of those included in the household survey, and should be based on the largest required sample size for clinical (iron deficiency anemia defined by hematocrit, maternal weight, zinc deficiency, syphilis screened by VDRL, etc.) indices. Transportation will be provided (or study participants reimbursed for transportation costs) to and from central clinics on days set for obtaining clinic based data.

² Regional estimate used from MotherCare anemia update review article; country specific data not available.

³ Estimated from available Guatemalan and Colombian data.

⁴ As per statistics cited by Rosso for school age girls.

Variable	Baseline Prevalence	Absolute Level of Accuracy	Confidence Interval	Sample Size p≤.05
Trained birth attendant	43%	±5%	38%, 48%	377
Adequate cord care				
2 TT	26%	±3%	23%, 29%	821
Pregnancy Complications/Risk Factors				
Last born still alive	85% ⁵	±2.5%	82.5%, 87.5%	784
Failure to progress	prob <10%	±2.5%	7.5%, 12.5%	553
Malpresentation	prob <5%	±1% ±2.5%	4%, 6% 2.5%, 7.5%	1,823 292
Antepartum bleeding	7.5%	±2.5%	5%, 10%	426
Excessive post-partum bleeding	prob 1%-5%	±1%	1.5%, 3.5%	936
Neonatal/Postnatal Events				
Prelacteal feed	75% 90%	±5% ±5%	70%, 80% 85%, 95%	288 138
Postnatal visit	25% 50%	±5% ±5	20%, 30% 45%, 55%	288 384
Low birth weight ⁶	15%	±1.5	13.5%, 16.5%	2,176
Stillbirth, NMR ⁷	6% ⁸	±1%	5%, 7%	2,167
GYN Screening/Birth Control				
Pap smear	5%	±2.5%	2.5%, 7.5%	292
Currently use any birth control	18%	±2%	16%, 20%	1,521

⁵ Estimated from UNICEF 1987 child mortality rate.

⁶ To be assessed prospectively.

⁷ To be assessed retrospectively, through elicitation of reproductive history.

⁸ Assuming combined rate = 1.35% of NMR.

Variable	Baseline Prevalence	Absolute Level of Accuracy	Confidence Interval	Sample Size $p \leq .05$
Use modern method birth control	5%	$\pm 2.5\%$	2.5%, 7.5%	292

TABLE 4
**SAMPLE SIZE TABLES FOR COCHABAMBA
 PRE/POST PROJECT EVALUATION**

Variable	Pre Program Prevalence	Post Program Prevalence	Effect Size	Sample Size ¹ p≤.05
Fe anemia	34% ²	26%	25%	513
	30%	22.5	25%	538
No prenatal care	36%	27%	25%	416
Prenatal care, ≤20 weeks gest*	25%	31%	25%	877
Trained birth attendant	50%	62.5%	25%	246
Adequate cord care*	65%	81%	25%	118
Maternal peri-partum problems attended*	50%	60%	20%	97
Prelacteal feed*	75%	65%	15%	328
	90%	80%	12.5%	195
Postnatal visit*	25%	50%	100%	57
	50%	75%	50%	57
Iron-folate supplement	30%	50%	67%	93
2 TT	25%	40%	60%	151
Pap smear*	5%	10%	100%	424
Recognize clean birth kit*	10%	20%	100%	195
Know danger signs in pregnancy*	10%	20%	100%	195
	50%	75%	50%	57
Know danger signs of delivery*	10%	20%	100%	195
	50%	75%	50%	57
Currently use any birth control	18%	25%	39%	538
Use modern methods*	5%	7.5%	150%	1,458

* Sample sizes based on guessed pre- and post-program estimates.

¹ These sample sizes should be increased by 50% to account for refusal to answer, and to compensate for the sampling error associated with cluster sampling. Sample size for the pre/post project evaluation should be based on the index which requires the largest sample size. Pre-project prevalence of these indices will be assessed during the initial cross-sectional survey.

² Regional estimate used from MotherCare anemia update review article; country specific data not available.

The variables found in these lists will be reduced to those determined to be of greatest importance and use to government and NGO program planners and to the MotherCare project. In addition to MotherCare's concern for the eventual measurement of project effects, we are also concerned that the projects we support have data collection components that allow for comparison across projects. Determination of the final list of variables for inclusion in the initial Household Survey will be made by MotherCare in consultation with local planners at the time of the protocol development.

4. Potential Implementing Organization and Technical Assistance Requirement

The MotherCare Assessment Team identified DIEMED as the only local research organization in Cochabamba with the expertise and organizational ability to execute the proposed household surveys. Based on their unique capability, MotherCare proposes to subcontract with DIEMED for the initial survey, and based on DIEMED's performance, for the final survey as well. The development of a study protocol, workplan and budget, and conversion of these to a subcontract, will require a MotherCare site visit in January 1991. MotherCare proposes to award the subcontract by March 15, 1991. Technical assistance will also be required from MotherCare during the development of survey questionnaires, shortly after the start-up of field data collection and at the end of each of the studies for analysis of the data collected.

F. COMPONENT 2: COST STUDY OF MATERNAL AND NEONATAL SERVICES

1. Introduction

Under-utilization of maternity and reproductive health care must be addressed from the perspective of services (pricing, quality, availability) as well as from that of the potential client. Through the proposed study, MotherCare will assist the MPSSP to: 1) assess the costs of maternal and neonatal care within the government referral hospital; 2) prepare revenue projections under different scenarios of pricing and utilization; and, 3) adjust prices so as to attract clients and improve service quality while achieving a satisfactory equilibrium between costs and revenues. This study will complement and be complemented by parallel studies (described below) to determine patterns of health service utilization and user perceptions.

The study will be carried out in the German Urquidi Maternal Child Hospital, the government referral hospital for the Department of Cochabamba. As part of the study, technical consultants will work with counterparts from the Unidad Sanitaria to cost and develop alternative financial projections for the maternal/reproductive health services provided at the hospital. This information will be used by the Unidad Sanitaria, the Hospital administration and the employees' union to modify user fees and fee-scales. Through their participation in this activity, counterparts will be trained to use the same methodology for financial analysis to carry out similar analyses in other MPSSP facilities.

2. Objectives

This study and the proposed pricing intervention will contribute to MotherCare Project and Unidad Sanitaria objectives that call for:

- 1) increasing utilization of essential maternal and reproductive health services, particularly by those with danger signs during pregnancy;
- 2) improving the quality of reproductive health services, (i.e. by including essential laboratory and diagnostic exams in service packages and/or by making them more accessible through fee reductions); and,
- 3) achieving the Hospital's local cost financing goals and service targets by the end of the three year project.

The financial model used in this study will also be provided to the Unidad Sanitaria and their staff and consultants will be given orientation as to its use for similar analyses in other MPSSP facilities.

The results of MotherCare technical assistance will include:

1. An analysis of the direct and indirect costs of reproductive and neonatal health services provided by the Hospital German Urquidi (prenatal, postnatal, normal delivery, cesarian delivery, neonatal care, family planning, abortion and pregnancy complications);

2. Recommendations and financial projections to facilitate the Unidad Sanitaria's and the MPSSP's reformulation of fees scales and improved marketing of government services;
3. A forecasting model that can be used by the Unidad Sanitaria and the MPSSP for the future analysis of costs, establishment of fees, and projection of revenues in district hospitals and health centers;
4. For MotherCare, a framework for the calculation and analysis of maternity and other reproductive health care costs that can be applied in other situations during the life of the project.

Various suggestions made during the project development visit for pricing and improved marketing of reproductive health services will be explored through this study. They include:

- Lowering prices for essential prenatal and emergency obstetric care;
- Using sliding fee scales and developing criteria for assessing a patient's ability to pay;
- Offering packages of services for a fixed price, including basic laboratory exams when these are required for adequate quality of care;
- Offering pre-payment plans for institutional births, perhaps in conjunction with the supplementary feeding program.
- Marketing strategies tied to public health objectives, such as offering the first prenatal or postnatal visit free of charge and/or offering low cost screening (Pap Smear, hematocrit) free of charge to bring potential clients into services.
- "Bundled" marketing strategies in which a series of preventive services are offered for a fixed price - i.e. 4 prenatal visits plus 2 postnatal visits, or IUD insertion plus two follow-up exams and an annual Pap Smear.

The Unidad Sanitaria/Cochabamba feels that the proposed study must be carried out prior to the reformulation of service fees and the development of an effective strategy for marketing maternity and other reproductive health services. While MotherCare consultants will be available following completion of the study to assist with work on a revised marketing plan for the hospital, the Directors of the Unidad Sanitaria and the Hospital will take primary responsibility for applying the study's findings and recommendations at the local level.

2. Level of Effort and Proposed Activities

Two MotherCare Consultants will work with one or more local counterparts assigned by the Unidad Sanitaria/Cochabamba to carry out the work described below. The study will require approximately 9 person weeks of MotherCare Consultant time. Two Senior Financial Analysts will be required. Consultants will spend three weeks in Cochabamba in November 1990, during which time they will work with Unidad Sanitaria counterparts to analyze cost information from the Hospital German Urquidi, to develop a forecasting model that can be used to assess costs and revenues under a variety of scenarios and to make recommendations for pricing and marketing of essential services. A follow-up visit will be carried out in January by one of the Consultants to conduct a two-to-three day workshop to prepare Unidad Sanitaria counterparts to carry out similar analyses on their own in the future.

The Consultants will:

1. Consultant 1 (5 working days in Cochabamba): Assess the information that has been collected on hospital costs by the Unidad Sanitaria and develop a workplan and framework for the analysis; discuss these with the Directors of the Unidad Sanitaria/Cochabamba and the German Urquidi Maternal Child Hospital; meet with counterparts and provide orientation for the preparation and analysis of the cost information.
2. Consultant 1 and Consultant 2 (10 working days each in Cochabamba):
Work with local counterparts to analyze hospital cost information; prepare initial financial projections (revenue forecasting, breakeven analysis) using alternative pricing scales and considering 40%, 70% and 90% of capacity for the hospital's maternity and other reproductive health services.

Prepare and submit written recommendations to the Directors of the Unidad Sanitaria and the Hospital German Urquidi. This will include a comparison with the current situation and a written analysis of the financial projections according to various scenarios.

Assist the Unidad Sanitaria and the Hospital Directors to revise fee scales and develop plans for the marketing of hospital services. This could be accomplished either through a workshop or through more exclusive meetings during which findings and recommendations of the cost study are presented, alternatives are discussed and a plan of action is developed.
3. Consultant 1 or 2 (5 working days in Cochabamba): Conduct a 2-3 day workshop for Unidad Sanitaria counterparts to prepare them to conduct this type of assessment on their own; review the use of the financial tools and forecasting models developed for this project. While local counterparts will be involved in every step of the

hospital study, this follow-up is felt to be necessary to reinforce new financial planning skills and to address any problems that might come up when applying the forecasting model to other facilities. This follow-up visit would be most effective if it were timed so that the MotherCare Consultant could assist counterparts to analyze and interpret new data collected by them at another MPSSP facility. For this reason, this follow-up visit has been scheduled for 2-3 months after the first visit.

4. Preparation, travel time, and report preparation. (Total of 15 person days for both Consultants)

The above work is scheduled to begin in late October, with analysis and planning assistance to be carried out in Bolivia during the month of November and the follow-up workshop scheduled for February or March of 1991.

3. Time Frame

Study of Maternal and Reproductive Health Care Costs
Cochabamba, Bolivia
September 1990 - January 1991

	Sept.	Oct.	Nov.	Dec.	Jan. later
1. Preliminary discussions and orientation in Bolivia (5 days)		X			
2. Processing and analysis of cost data and financial planning exercise (1.5 wks)			XXX		
3. Presentation of findings and recommendations (1.5 days)			X		
4. Assist Unidad Sanitaria and Hospital prepare marketing strategy (1.5 days)			X		
5. Train local counterparts to use forecasting model. (5 days)					XX
6. Report preparation and submission			XX		XX

G. COMPONENT 3: INFORMATION, EDUCATION & COMMUNICATION (IEC)

1. Health Topics For Information, Education and Communications Interventions

Based on the realities described in the Background Section, initial improvements in maternal and neonatal care in Cochabamba must be generated at the individual and community levels. Therefore, health topics selected for possible IEC activities are directed to improving maternal management of pregnancy and childbirth, within the context of the cultural and economic constraints that influence women's health seeking behavior.

Priority health topics selected for IEC intervention have been chosen according to this criteria, and have the following objectives:

1. Improve the conditions under which pregnancy and childbirth are most often carried out, particularly those associated with home delivery; this will involve increasing knowledge at the community level about safe/hygienic birthing practices;
2. Increase community and individual awareness of danger signs during pregnancy and the need to seek medical care and comply with referrals;
3. Increase timely utilization of prenatal and postnatal care;
4. Increase awareness of contraceptive methods and service delivery points;
5. Increase practice of positive health behaviors, including early initiation/establishment of breastfeeding and birth-spacing; and,
6. Increase the quantity and improve the quality of information provided to clients in maternal and neonatal health services in both the public and the NGO sectors.

The following sections describe possible areas of focus for Social Marketing/IEC interventions. The MotherCare Assessment Team identified the need for more IEC interventions than are feasible within the three-year time frame of the Cochabamba project. While all are thought to be serious problems worthy of intervention, it is expected that the initial research will help to clarify the priority that should be given to each. It is also probable that some of the proposed IEC interventions (particularly those aimed at tetanus and anemia) should be combined, rather than approached separately; others, (especially breastfeeding and birth spacing) may be developed in conjunction with other family planning projects working in the larger USAID/La Paz Reproductive Health Project.

a. Safe Home Birth

The estimates of women who deliver at home in the Cochabamba area vary from 60% to 80%, although there are no accurate data available on the actual number of home births or their outcomes. There is also a great discrepancy in the views of health professionals about the continued use of home delivery, particularly for high risk birth, considering the apparent wide availability of institutional maternity care. Cost and/or cultural barriers are usually cited as causal factors for the small percentage of institutional births.

Practices during labor, delivery and immediately following birth undoubtedly contribute to high death rates in mothers and neonates. Interviews with mothers and health personnel suggest that lack of knowledge about availability and location of low-cost health care, or how to improve birth outcome in extreme poverty conditions, also play important roles, particularly among migrants. Reported increases in first-time prenatal visits during the last trimester of pregnancy to determine if fetal position is normal, for example, supports the argument that mothers need and want more information regarding safe home birth.

b. High Risk Indicators for Mothers (self-analysis)

Prenatal care in Cochabamba health clinics and posts usually consists of one or two visits by the mother late in pregnancy. Field visits to clinics also indicate that for various reasons such as under-staffing and lack of training, prenatal care is often cursory. Chart entries are normally limited to initial registration data, weight and distribution of iron and folic acid tablets, if available. There is little or no screening for high risk mothers, and little or no referral if problems are identified. The latter seems related to the reluctance of mothers to acknowledge risk, especially after one or more pregnancies, and refusal to accept referral counseling.

In this context, awareness of high risk birth indicators and the development of measures for self-analysis could contribute substantially to improved birth outcomes. Such a strategy would also involve families and communities in this process, increasing knowledge about the health of a pregnant woman and bringing social pressure to bear on the decision to seek a medical opinion or to comply with referral, if recommended.

c. Breastfeeding and Birth Spacing (tied to the PNAS and the Nino Sano Programs)

The largest exception to the lack of regular pre- and postnatal care are mothers enrolled in the PNAS supplementary food program sponsored by the World Food Program. Through this program, pregnant women and their families receive approximately 60 pounds of food per month for a total of ten months (five months preceding and five months following birth). Compliance with requirements for 10 months of clinic visits is reported to be high, although there is little attempt by health clinic staff (and less enthusiasm by mothers) for using visits as educational opportunities. Both find the educational materials available in clinics outdated, irrelevant, or non-

existent and the topics (e.g. need for tuberculosis screening or better nutrition through the four food groups) very boring.

Mothers are interested, however, in information which has a direct impact on the health of their child, and most participate willingly in the Unidad Sanitaria's Nino Sano (Well-Child) program. Breastfeeding practices, however, are not included in this program, despite the fact that breastfeeding is declining in the urban and periurban areas and that some common breastfeeding practices (such as withholding colostrum and introducing supplementary foods as early as the first week) can place neonates at risk. Mothers who attend clinics are natural targets for better education in this area, particularly if they understand that, when properly practiced, breastfeeding can be a deterrent to pregnancy.

Mothers who go to clinics willingly express interest in spacing or limiting their pregnancies. Most, however, do not use or even appear to understand that family planning is a means to that end. When asked about their previous pregnancies, they usually count abortions, as well as living and dead children. The MPSSP Child Survival and Maternal Health Plan (1989-1993) includes family planning as an integral component of reproductive health services. Despite the recent official sanction of family planning, the Unidad Sanitaria is somewhat hesitant to move quickly into this area due to political concerns relating to the policies of the Catholic Church and public opinion. Nevertheless, birth spacing is now an acceptable health intervention for which there is little information and high demand. Because of this demand, the Unidad Sanitaria will slowly phase in education and possibly family planning services.

The regularity of clinic visits associated with the PNAS and Nino Sano programs present good opportunities for developing and testing breastfeeding and birth spacing information for the large number of mothers who do not use other reproductive health clinic services. The emphasis of such an educational effort should be on the initiation of exclusive breastfeeding within 1 hour of delivery and the continuation of exclusive breastfeeding through 6 months of age. Simultaneous efforts will be required to educate clinic personnel about the benefits and correct practice of exclusive breastfeeding as a child-spacing method. It will also be important to emphasize the need for health providers to prescribe non-estrogenic contraceptive methods that do not interfere with breastfeeding, once other liquids and foods are introduced to the infant's diet.

d. Tetanus and Anemia

Despite the lack of reliable and valid information on neonatal tetanus and maternal malnutrition and anemia in Cochabamba, health workers perceive the need for better community health information and more targeted interventions in these two areas. Good cultural information on neonatal tetanus already exists for Bolivia (REACH Reports, Bolivia, 1988, 1989). Anemia, for which there is less information, will be included in the in-depth maternal and child health survey planned in four areas of Cochabamba. Both will provide necessary information for planning appropriate IEC strategies to increase awareness and demand for these services.

Personnel at the Unidad Sanitaria have expressed particular interest in anemia and neonatal tetanus and would like to see them included in the project's communications effort. Anemia and tetanus interventions and education can be effectively incorporated into other activities, such as prenatal care and the food and iron supplementation programs.

2. Possible Media Strategies By Intervention

A number of strategies are suggested which would promote the health activities discussed above. They are designed to supplement the Social Communications strategy of the Unidad Sanitaria, as outlined in the 1990 Operational Plan for Cochabamba. To date, however, no funds have been released for 1990 activities and there is no regular IEC employee to implement activities once funds are released. The Health Education Unit is currently staffed by a part-time volunteer.

The activities described below, therefore, are designed as stand-alone, phased interventions. Selection and sequencing of specific interventions will be decided upon completion of baseline quantitative and qualitative research which are planned for the initial phases of the project.

MotherCare will collaborate with Population Communication Services in the development of IEC messages and materials.

a. Radio Campaign in Spanish and Quechua on Safe Home Birth

The use of radio in public education has a long history in Bolivia, although in recent years, local radio stations in Cochabamba have almost ceased to include public service advertising in their programming. This is due to lack of demand for such radio time, despite its relatively low cost. Television is now common, even in rural areas, and Cochabamba has seven channels. Advertisers have taken their business to this evening-oriented media. Radio, however, remains the most common form of daytime information and entertainment, and is strongly recommended as a media which might be used in conjunction with several of the health interventions suggested above.

At present, safe home birth appears to offer particularly attractive opportunities for the development of a radio campaign, as it might be combined with UNFPA/PAHO plans to distribute a "Parto Limpio" (safe birth) kit for use in home delivery. Final decisions about the contents and the cost of the kit (currently estimated to be about \$1.00) are still pending, but UNFPA/PAHO predicts that kits should be ready for distribution in 1991. Cochabamba's participation in the distribution program has been confirmed.

A radio campaign to promote the distribution and use of kits is suggested as a relatively simple mechanism to test the efficacy of this medium for community education in Cochabamba. The major target population of this type of campaign would be periurban and urban families in all 15 Cochabamba health areas. Project measures of impact would be limited to users in the four intensive study areas who do not currently use clinic services for pre- and postnatal care. Messages for a media campaign, distribution of the kits and an evaluation strategy should be developed with UNFPA/PAHO. This may be facilitated by their interest in testing a radio marketing strategy in a limited area.

Possible evaluation strategies could be developed around applications for kits based on radio messages. Another might be based on a strategy of first

prenatal visit to a public sector clinic at no cost in the four project areas. Although self-selecting, respondents would provide some measure of campaign effectiveness. This strategy might also be useful to UNFPA/PAHO in evaluating kit usage.

Two additional possible themes for mass media campaigns are tetanus toxoid vaccination linked to vaccination campaigns and/or use of prenatal services, and iron and folic acid supplementation linked to the PNCAN.

A level of effort cannot be determined at this time. Development of this type of activity will require social marketing technical assistance.

b. Materials for Mothers and/or Groups For Self-Assessment of High Risk Birth

This activity proposes the development of simple counseling materials which could be used by non-literate or non-Spanish-speaking women in self or group assessment of high risk pregnancy. Indicators should be simple in order to provide women with an unambiguous measure of whether they should or should not seek further assessment at the area health clinic. Although more complicated, some indicators of anemia might also be included in this effort, as well as a self evaluation and treatment strategy for mothers who show no other high risk signs, but live in areas geographically inaccessible to health services. Educational messages regarding anemia should be linked to the Unidad Sanitaria's iron and folic acid supplementation program. The Unidad Sanitaria/Cochabamba is already exploring the development of materials of this type, therefore, the proposed MotherCare activity would complement their work.

Two of the four intensive study health areas could be used as test areas and the other two could be used as controls for evaluation of this strategy. The study design could be developed around a sample of pregnant women in the first (or possibly even second) trimester of pregnancy identified through questions in the Household Survey described above.

Development and use of this strategy implies some community-level training and follow-up with community groups, midwives, influential family members and mothers. It will also demand improvement in the Unidad Sanitaria's patient referral system and a review of the cost of services.

c. Breastfeeding and Birthspacing Counseling As Part Of the Nino Sano Function of the Unidad Sanitaria

Two types of materials could be developed under a strategy to expand the use of better breastfeeding practices and to provide women with information about birth spacing and/or family planning.

1. Information for mothers based on simple, appropriate language and materials which can be taken home, on topics such as:
 - Breastfeeding

Materials should focus on information and tips for better breastfeeding, especially benefits to the infant's health. Emphasis should be on "good" breastfeeding behavior already practiced and provide positive messages about changing harmful behaviors (i.e. withholding colostrum from newborns and introduction of liquids and solids other than breastmilk in the first six months). Other interventions which have been suggested as "natural companions" to this activity by Unidad Sanitaria personnel should be limited or temporarily avoided (e.g. growth monitoring). Like most birth-related behaviors, breastfeeding practice is very difficult to change, and the enthusiasm of clinic health personnel could overwhelm mothers, confound messages and have a negative, rather than positive effect.
 - Birthspacing

In spite of widespread women's interest, family planning is an extremely sensitive political topic in Bolivia. Therefore, the design of information sent home with mothers should be carefully considered and should stress health benefits to the newborn, as well as the reversibility of most methods. All information should include locations where family planning counseling and methods are available, as well as an indication of the cost of each method. (It might also be worthwhile to include the costs associated with illegal abortion).

Messages and materials should also reinforce the link between breastfeeding and birthspacing, i.e. the birthspacing effects of immediate initiation and continuation of exclusive breastfeeding from birth through 6 months of life.
2. Information and training for clinic staff should be coordinated with the training to be provided under the training Component of the USAID/La Paz Reproductive Health Project. The current strategy is to provide IEC training for key health personnel in the Cochabamba urban/periurban areas.

d. Educational Slide or Video Materials To Be Used For Maternal Education at Larger Clinics Where Women Must Wait For Services

This activity was suggested by the Chief of Cochabamba's Southern Health District and has been supported with some enthusiasm by heads of larger clinics, where patients must wait for services. Any of the health themes recommended under Interventions (B.1 above) would probably be adaptable to an activity of this type. The availability and maintenance of equipment is the major problem associated with this type of activity. Other costs are apt to be low. Measurement of impact should be assessed.

e. Training Video For Physicians and Medical Students

The purpose of this activity is to sensitize service providers to patient's cultures and their perceptions of medical care to improve both quality and utilization of clinic services. It is strongly supported by the Director of the Maternity Hospital, and would be useful for partially addressing issues of quality of care. Currently, health personnel's lack of sensitivity to clients' needs, has a noticeable, if not measured impact on utilization of Unidad Sanitaria health services.

f. IEC Materials for Non-governmental Organizations (NGO's)

There are a large number of NGO's working in health in Cochabamba. The Unidad Sanitaria has placed heavy emphasis on the role which they will play in complementing public health services. Many of these organizations are affiliated under "ASONGS-Cochabamba", an association of NGO's which coordinates their relations with each other and the Unidad Sanitaria.

Most of the NGO's working in maternal and child health are small, and their limited resources go directly into services. ASONGS has identified the need for health education materials at the community level, where most of these organizations work. Such materials would expand the quality of care provided, and would have the secondary benefit of standardizing information and making it consistent with national health norms.

The MotherCare Project Social Marketing Component will provide technical assistance for the development and testing of counseling and training materials that can be used by both public sector and NGO health providers involved in the provision of maternal and neonatal health services. The final versions of materials will be reproduced locally. Materials will be made available to the affiliates of ASONGS either free or at a reduced cost; they could also be made more widely available if sold to the private, for-profit sector at cost.

Family planning is not included in this proposal as a separate topic for materials development. This is primarily because it is anticipated that family planning-specific materials will be available to project participants through the national Reproductive Health Project supported by USAID/La Paz.

3. Implementation

This project component anticipates several phases of activity:

- 1) Strategy Development: This will involve the interpretation of the findings of initial quantitative and qualitative investigations, the definition of behavior change objectives, formulation of potential messages and a media plan. Strategy development could take place shortly after completion of the qualitative studies and the household survey.
- 2) Message Testing and Media Development: The content, language and clarity of proposed messages and materials must first be tested with the intended audience. This will be done through individual interviews, focus group discussion, trials of desired behavior by the target audience, etc. This process is repeated until there is a reasonable probability that messages and materials will be well-accepted and acted upon.
- 3) Materials Production: Once finalized, print and mass media materials will be produced in quantity.
- 4) Training of Health Providers and Other Communicators: If face-to-face delivery of messages or use of IEC materials is required, educator/communicators will have to be trained in both content and delivery. Client education materials will be transferred to public-sector and NGO providers through short in-service workshops that include supervised practice. In addition to teaching public sector and NGO providers to use new IEC materials and to reinforce messages transmitted through mass media, IEC training will improve provider counseling skills and sensitivity to cultural and linguistic factors related to client understanding and compliance with the advice given. See Table 5 for an estimate of the number of public sector and NGO providers that will be trained in IEC methods and materials.
- 5) Booking of Radio/TV time, if required.
- 6) Implementation of the social marketing campaign through the defined media.
- 7) Evaluation of the coverage and target population's understanding of a campaign. This could be assessed through a mini-survey of the intended audience and may be repeated for each campaign and/or during campaigns for fine-tuning of the chosen strategy.
- 8) Evaluation of the effect of the overall IEC strategy on specific behaviors. Measurement of attainment of behavioral objectives will be incorporated into the overall project evaluation, as described in Part V - Evaluation Plan.

In Cochabamba, several sets of IEC messages and materials are anticipated, with each constituting a mini-campaign. Mini-campaigns will be developed consecutively, but activities may overlap at various times during the overall project.

4. Possible Implementing Organizations

It is proposed that implementation of the selected IEC activities be through a substantial subcontract with an existing NGO in Cochabamba. This organization would coordinate all activities, including work orders, with other institutions working in media or IEC, with technical assistance from a MotherCare Resident Advisor. The local organization judged to have the greatest capability to manage this work is Audiovisuales Educativas (AVE).

AVE, a Cochabamba-based NGO which has been supported with grants from the Interamerican Foundation (IAF) for the last eight years, is recommended as the prime subcontractor for IEC activities to be conducted under this project. AVE's current IAF funding will end in early 1991, and the organization is actively looking for other support. AVE's current work is concentrated in the area of audiovisual materials development (slides and accompanying cassettes), but AVE also has experience with other IEC media such as radio, video and some print materials.

When fully staffed, AVE employs three full-time educators, a production manager and two co-directors who have substantial experience in multi-media projects. AVE's support from IAF has enabled them to equip both a sound studio and a darkroom. Several advantages to working with AVE are that AVE: 1) has good relations with the professional staff of the Unidad Sanitaria; 2) has experience working closely with an international donor; and, 3) orients its work to social and community education projects in the periurban and rural areas.

AVE's main drawback is the lack of staff expertise in social marketing and the lack of health specialists.

Development of the proposed video for physicians, if this becomes part of a communications strategy, could be subcontracted separately. Cochabamba's former Mayor of Culture, Martha Salinas, has experience in video production and she has already submitted a proposal to MotherCare for this activity which could be considered.

The IEC Component will be developed with and supervised by the MotherCare Resident Technical Advisor, who will be contracted by The Manoff Group. This individual will contribute approximately 80% of his/her time to the Cochabamba MotherCare Project over a period of 30-32 months. (See job description and qualifications, Appendix 5.)

H. COMPONENT 4: NGO AND PUBLIC SECTOR SERVICES SUPPORT

1. Overview

The Services Support Component of this project will increase the population's access to low-cost, comprehensive reproductive health services, while also improving the quality of care provided. This component of the project will provide support to selected NGO's that are currently providing reproductive health care, especially family planning services, to low-income groups in Cochabamba. It will also provide an as yet undetermined amount of support in terms of in-service training and equipment to public sector clinics in Cochabamba, in coordination with other donor and collaborating agencies.

2. NGO Support

As mentioned in the Background section of this proposal, the principal problems facing NGOs are: 1) lack of a consistent, low-cost source of equipment and supplies, especially contraceptives; 2) inadequate training in family planning case management and IUD insertion; and, 3) lack of educational materials focusing on maternal and neonatal health topics. All of the NGO's that are currently offering family planning services could benefit from technical and material assistance to improve the quality of their services.

MotherCare Project assistance to NGOs will result in:

1. A low-cost, dependable contraceptive supply system for NGO's working in family planning;
2. Improved access to and quality of educational materials available to NGO's;
3. Maternal reproductive health programs initiated in all participating NGOs, which include community outreach, education and counseling, prenatal and postnatal care and family planning.
4. Continuous, low-cost, family planning service delivery in a minimum of 15 NGO clinic sites throughout the city.

To achieve these results, the MotherCare Project will:

1. Provide support to ME.DI.CO. for the creation of a revolving contraceptive supply system for qualifying NGOs and, potentially, private providers.
2. Introduce a standardized information/reporting system to NGO's and provide technical assistance, if necessary, to monitor NGO and Unidad Sanitaria services.

3. Provide in-service training for NGO physicians (20), nurses (10), and nurse auxiliaries and promoters (30-40) in IEC techniques and the use of materials related to maternal and neonatal health and nutrition. (See Component 3, above).
4. Provide in-service training for 20 NGO physicians in IUD insertion.
5. Provide in-service training for physicians, nurses and auxiliaries and promoters, at appropriate levels of complexity, in prenatal and postnatal care.
6. Equip selected NGO clinics (ME.DI.CO., Cruz del Sur, PROMEFA, FEPADE) with the minimum necessary to raise the quality of care provided to an acceptable level as defined by the MotherCare Project.
7. Provide core funding for the expansion of maternal reproductive health services provided by Cruz del Sur and ME.DI.CO.

3. Expansion of ME.DI.CO.'s Services and Establishment of a Low-Cost Contraceptive Supply System

Lack of low-cost contraceptive commodities limits the number of institutions that offer family planning services and encourages overpricing in the private sector. A solution to this would be the existence of a reliable distribution channel of contraceptive commodities at low cost for NGO's and private clinics. ME.DI.CO. was identified by the MotherCare Project Design Team as the potential site for a contraceptive supply system that could help to meet this need.

After visiting all of the NGO's working in family planning in Cochabamba, it was our assessment that ME.DI.CO. was the most appropriate to assume this responsibility and that the organization could do so with the addition of a minimum of new personnel.

It is proposed that ME.DI.CO. start this system by supplying several NGOs for 4-6 months, while financial controls and a logistics system are planned and put into place. Private sector organizations, like the Centro de Prevencion del Cancer de la Mujer, could also be initial clients of ME.DI.CO.'s supply system. Then, based upon this experience, ME.DI.CO. could expand its distribution to other private clinics and hospitals, if this is found to be desirable and feasible.

In return for training and the right to purchase contraceptives at subsidized prices, NGO's and private sector facilities would enter into an agreement with ME.DI.CO. Such an agreement would require participating organizations and individuals to provide contraceptive services, according to established norms, at below-market, fixed rates that make these services more accessible to the underserved. They might also be asked to agree to periodic

site visits for inventory control and observation of the quality of their services.

In order to establish this distribution network, ME.DI.CO. will need the following assistance:

1. Revolving stock of contraceptives;
2. Technical assistance to establish inventory control system;
3. Educational materials;
4. Training in the use of standardized information/reporting system (developed for USAID Reproductive Health Project);
5. Check lists and training for inventory and quality control; and,
6. One staff person to coordinate the distribution network and related training.

ME.DI.CO. could also be assisted to expand its community outreach activities and to increase the number of hours staff spend in the communities.

MotherCare proposes to develop a detailed workplan for the establishment of the contraceptive supply system, as well as a plan for the expansion of ME.DI.CO.'s reproductive health services, during the first 3-6 months of activity in Cochabamba. The level of support will be determined on the basis of this plan and the availability of funding to MotherCare over the period of the Cochabamba Project.

4. Expansion of Cruz del Sur/Servifam Services

Cruz del Sur has submitted a proposal to MotherCare for the support of two community health centers in periurban zones of the city. The clinics will be located in buildings that the newly structured organization will buy for this purpose. The new Santa Cruz/Servifam organization will be made up of four doctors who will work and have a share in the ownership and management of the centers. Clinic services would emphasize maternal-child care and family planning with outreach into the community through staff and promoters. Cruz del Sur has requested initial support to cover the costs of basic equipment and salaries until the clinics begin to recover their own costs.

Cruz del Sur has received technical assistance from the AID-FPMT Project for strategic planning leading to the development of this plan. The specifics of the plan, however, require additional attention. MotherCare proposes to work with Cruz del Sur during the first quarter of this project to further develop their project proposal. This will include an analysis of the costs and revenue generating potential for the proposed clinics, and modification of the staffing pattern and facility design to guarantee as high a degree of cost-recovery as possible. It will also include a detailed project/workplanning session to develop the schedule against which activities

will be carried out, the service targets for the clinics and the final subproject budget. The level of support for Cruz del Sur/Servifam will be determined on the basis of the workplan developed and the funding available to MotherCare over the life of the Cochabamba Project.

5. In-Service Training

a. For NGO Providers

MotherCare will support training for NGO providers in reproductive health education and counseling, prenatal and postnatal assessment, and family planning clinical skills. During an initial needs assessment activity, MotherCare will identify NGO staff interested in participating in training and nominate them for planned training programs. Besides planning and conducting in-service training programs with local subcontractors, MotherCare will also coordinate with JHPIEGO/PAHO to arrange for high quality family planning clinical training for participating NGOs.

The goals for in-service training of health providers will be to:

1. Improve the identification of high risk pregnancies, deliveries and neonates;
2. Increase referrals and the quality of care, including the information and education provided to high risk women and neonates;
3. Improve the providers' understanding of their clients perceptions and expectations and, thereby, the cultural acceptability of the services and advice they provide.

The content of in-service training would potentially include:

- o risk screening and referral for pregnant women (identified physicians will undergo training in the identification and management of high risk pregnancy and delivery);
- o postnatal care, lactation management and birth spacing methods; and,
- o counseling/IEC skills development (selected physicians will undergo clinical training including IUD insertion);

While further work is required to better define the types of personnel to be trained, the organizations from which they will come, the exact content of training, and the number of participants proposed from each level, the following summary of potential training courses gives the reader an idea of the effort required:

Physicians and Registered Nurses

Course 1: Prenatal Care

- Indicators of high risk pregnancy (including the use of the CLAP prenatal care form)
- Management of high risk pregnancies and deliveries (problem solving/referral)
- Maternal nutrition and use of anthropometry
- How to use educational materials on these topics

Course 2: Postnatal Care

- Postpartum care and high risk situations for the newborn and the mother
- Breastfeeding
- Methods of birth spacing (what they are, how they work, advantages and disadvantages, contraindications, voluntary selection of method, etc.)
- Use of forms and information systems designed to track client use of birth spacing methods
- How to use educational materials on these topics

Clinical Training in Temporary Family Planning Methods (rotations of 4 weeks for GPs/refresher course for Ob/Gyns)

- Practice in counseling on all family planning methods
- Observation of IUD insertions done by certified professionals;
- Insertion of 20 IUD's under supervision;
- Observation and practical experience with management of complications (pills, IUD's, etc.)

(Due to the small case load and the politically sensitive nature of family planning in Bolivia, the clinical training would be conducted in phases, with groups of five participants each in four week rotations.)

Auxiliary Nurses/Educators/Promoters (50-60)

Course 1: Prenatal Care and Delivery at the Community Level

- How to recognize danger signs in the pregnant woman, including use of maternal anthropometry (arm circumference tape)
- Referral of women with high risk pregnancies
- Maternal diet during pregnancy and lactation
- "Safe birth" techniques in the home
- How to use educational materials on these topics

Course 2: Postnatal Care at the Community Level

- Postnatal care of the mother and newborn
- Breastfeeding
- Birth spacing methods
- Where to go for contraceptive methods
- How to use educational materials on these topics

b. Public Sector Providers

MotherCare's assessment identified the need to up-grade prenatal and postnatal care, including family planning information and services, in both public and NGO clinics. Through Component 3 above, MotherCare will provide IEC materials and training to both MPSSP and NGO providers.

Support for training courses related to prenatal/postnatal care and family planning for public sector (MPSSP clinic and hospital) providers is not included in this proposal at this time because it is anticipated that such training will be at least partially covered under the UNFPA/PAHO, JHPIEGO or World Bank projects.

MotherCare proposes to work with the Unidad Sanitaria and the other agencies involved to conduct a training needs assessment in three skill areas (prenatal/postnatal care, family planning, and client counseling/IEC) during the first six months of the MotherCare Project. MotherCare could then contribute to the development of standard training curricula on these topics by providing appropriate technical assistance. It is anticipated that support for in-service training seminars and practicums for public sector providers will be provided by the other donor and collaborating agencies. If this is not the case, MotherCare's ability to absorb such training costs would depend on their priority in the overall project and the availability of funding.

The estimated requirement for public sector in-service training in the city of Cochabamba is approximately:

Maternity Hospital: 30 Physicians (Specialists)
20 Registered Nurses
50 Auxiliary Nurses

Unidad Sanitaria: 20 Physicians (General Practitioners)
15 Nurses
40 Auxiliary Nurses

TABLE 5

SUMMARY OF NUMBER OF PERSONNEL BY TYPE AND SERVICE ORGANIZATION							
ORGANIZATION	OB/GYN	PED	NEON	G.P.	NURSE	AUX	PROM
UNIDAD SANITARIA	-	-	-	20	15	42	-
MAT HOSP GERMAN URQUIDI	16	10	4	-	20	60	-
ME.DI.CO.	2	-	-	3	5		15
PROMEFA	2	2	-	2	-	2	-
FEPADE	-	-	-	2	3	-	60
CRUZ DEL SUR	2	2	-	2	2	-	2
CTR. PREV. OF CANCER	2	-	-	-	2	-	-
COMBASE	4	3	-	2	-	8	6
TOTAL	28	17	4	31	47	112	83

PED= Pediatrician NEON= Neonatologist G.P.= General Practitioner
 AUX= Auxiliary Nurse Prom= Health Promoter

c. Potential Training Organizations

The Universidad San Simon Medical School and the Hospital German Urquidi both have resource persons that could, with technical assistance, conduct training in obstetrical risk assessment and management, and family planning. Plans for the UNFPA/PAHO project include the establishment of a reproductive health training center at the hospital. Training at the community level for health promoters and midwives could be delivered by FEPADE with technical support from Development Associates, Inc. FEPADE already has several years of experience with this type of training and is a good local resource. AVE, CENSED, Centro Portales, FEPADE, and ASONGS have all developed and conducted training for community level educators/promoters that could also be applied to this project's training activities.

There are also resource persons and organizations in La Paz and Santa Cruz that could be contracted to prepare and conduct portions of the above training courses, and/or MotherCare consultants could deliver training directly. Though more difficult to implement, enlisting local resource persons and groups to meet training needs would help to develop the local capability to conduct future training without MotherCare assistance.

Assuming that Cochabamba-based organizations will undertake the theoretical and practical training of health personnel, MotherCare will

provide technical assistance to them for the design of training curriculum and "training of trainers".

Some members of the faculty of the University of San Simon's medical school have also expressed interest in expanding the medical school curriculum to include more information on reproductive health. This interest should be followed-up and, if it remains strong, technical assistance should also be provided to help the University with the development of this curriculum. The benefits to the area of Cochabamba, and to Bolivia, in the future would be well worth the effort.

6. Introduction of Appropriate Clinical and Diagnostic Technologies

There is a recognized need in the public sector as well as in the private NGO sector for basic equipment. While MotherCare will provide equipment for several NGOs, it is expected that additional funding will be required to address the same needs in public sector clinics. Again, MotherCare input will be based on an initial assessment of needs and it will be closely coordinated with that of UNFPA, PAHO, JHPIEGO, the World Bank and others.

In addition, MotherCare is interested in working with the Unidad Sanitaria to introduce and test the cost-effectiveness of various low-cost clinical and diagnostic technologies developed by PATH under the AID-sponsored HealthTech Project and by other manufacturers. These include the: 1) PATH Strip for detection of proteinuria in pregnancy; 2) a low-cost hemoglobinometer for detection of anemia at the clinic level, 3) the color-coded infant weighing scale for detection of low birth weight at community and clinic levels, 4) infant warming devices that take the place of the traditional incubator, and 5) newborn resuscitation equipment. MotherCare will, in conjunction with the training need assessment mentioned above, assist the Unidad Sanitaria to determine the need for and potential location of these low-cost technologies in both public and NGO clinics. According to the needs identified and the available funding, MotherCare will then provide required items and training in their use. An evaluation of their contribution to the quality of maternal and neonatal services will also be scheduled to determine future needs.

7. Referral

The Unidad Sanitaria will work with local NGOs and private sector providers to establish a referral system for PAP tests and vaginal exams for detection of cervical cancer, STDs and other infections. Due to women's preference for IUD's, this service must be made available in order to limit the number of IUD complications and simultaneously to avoid a potential backlash against this contraceptive method. These services should also be made available as a routine part of prenatal care.

While the Unidad Sanitaria will refer clients from its clinics to the Hospital's Reproductive Health Unit for family planning services, referrals to NGO clinics and from NGOs to the Hospital are also anticipated.

A systematic, "regionalized" perinatal referral system in urban Cochabamba would lead to more rational allocation of public and private sector resources and the potential creation of such a system will certainly be explored by MotherCare. Based on experiences in other countries, however, our current assessment is that a highly structured referral system could be expected to fail in the highly competitive health care market of Cochabamba because it would be opposed and/or ignored by many providers. Consequently, this project may be restricted to strengthening and reinforcing referral arrangements already in place (most NGOs and clinics have preferred referral facilities) for attention to high risk women and neonates and emergency deliveries. Changes in public sector policies to encourage referral and counter-referral between its clinics and hospitals should also be explored.

8. Monitoring/Coordinating Reproductive Health Services

The Unidad Sanitaria is responsible for the allocation of scarce government and, in many cases, donor agency resources in Cochabamba. The Unidad Sanitaria is hampered in this effort by lack of information about the services available and the deficiencies in those services. Information is also needed at the national MPSSP, USAID and MotherCare levels to monitor and evaluate the effectiveness of the outside resources provided. Therefore, all NGO and MPSSP clinics providing reproductive health services and receiving assistance through the MotherCare and USAID Reproductive Health Projects will provide a standard services report to the Unidad Sanitaria. The Unidad Sanitaria will also require a system for compiling and analyzing routine data on reproductive health services. The need for such a system was expressed by the Director of the Unidad Sanitaria during the MotherCare assessment.

MotherCare would be pleased to work with another AID Cooperating Agency, in the event that one is identified by USAID/La Paz, to provide assistance for the development of this element of the health management information system. Or, if no other organization is identified, to provide this type of assistance directly to the Unidad Sanitaria under this project.

I. EVALUATION PLAN

1. Activities

Annual project review and planning meetings will take place at Project Months 10 and 22 and final project evaluation will be carried out between Project Months 33-36 (ideally, 3 months before the project end).

Annual project review meetings will assess project progress and recommend changes in project strategy, if necessary, to achieve the overall and specific project objectives. An annual workplan and budget will be prepared at that point for submission to MotherCare, USAID/La Paz and AID Washington. The final evaluation will document project experience and outcomes and make recommendations for future modifications and expansion of activities.

The MotherCare Cochabamba Project will be evaluated on the basis of information from a variety of sources, including routine service statistics, pre and post-tests for all training activities, and a comparison of the baseline and final Household Survey results.

2. Indicators and Methods

Routine Service Statistics: The Unidad Sanitaria will be assisted in the collection and analysis of routine service statistics from all of its health centers and medical posts, as well as the Hospital German Urquidi, and from the participating NGOs. It is very likely that service statistics will be taken directly from the CLAP Simplified Perinatal History Form and a standard reporting form adopted for all projects participating in the USAID Reproductive Health Project. NGO facilities will be required to use these forms as well, and to report in a way that is similar to that developed for MPSSP clinics. Data from these sources will allow for the continual monitoring of service delivery and for analysis of trends in utilization by type of service. If required, MotherCare will provide technical assistance to the Unidad Sanitaria and the NGOs involved in the project for the development of this monitoring system.

Pre and Post Tests for Training: All training efforts supported by MotherCare will be evaluated through pre and post tests of trainees at the time of training. Observation of a subsample of trainees will also be carried out 6-8 months after training. Results of pre and post test will be used to improve training content and methodology, and for identification of additional training needs.

Baseline and Post-Intervention Household Surveys: Desired changes in the target population's knowledge and health behaviors, including the utilization of prenatal, trained birthing and postnatal services, and coverage of priority services (TT immunization, iron/folate distribution, prenatal care, institutional birth) will be measured through a repeat of the Household Survey as described earlier in this proposal. Indicators of project outcome will be carefully selected to reflect specific behavioral and service coverage objectives, and only those indicators that can be measured with a relatively

small sample size (i.e. women who have given birth in the previous 24 months) will be addressed in the survey. Given the project's short time frame, relatively small changes are anticipated in many variables of interest making them statistically difficult to detect. In other cases, the frequency of expected events (i.e. perinatal deaths) is relatively rare and, therefore, change is difficult to measure without prohibitively large sample sizes (2,000 births or more) and long term involvement.

Given these limitations, project evaluation will focus on measurement of changes in knowledge, attitude and practice, particularly the utilization of available maternal reproductive health services in the urban and periurban areas of Cochabamba. To the degree possible, it will also measure changes in maternal and neonatal conditions that are known to lead to poor outcomes, including low birth weight, maternal undernutrition and anemia. While the timeframe and resources preclude evaluation of the project's direct impact on mortality, trends in perinatal and neonatal mortality can be measured and documented over the life of the project and MotherCare will explore ways for doing this as part of the initial programming and development activities. The list of indicators to be measured for change will be determined during this period, as well, on the basis of the Household Baseline Survey findings and the specific objectives determined for project interventions.

3. Potential for Operations Research

The project will provide a number of opportunities for developing and testing modifications in project interventions (i.e. low-cost diagnostic technologies) and national programs (i.e. improved targeting of nutrition supplementation and anemia prevention and treatment programs). The potential for this type of operations research could be explored during the first year of project activity and included in the second year's workplan if desirable and feasible.

4. Dissemination of Project Findings and Recommendations

There are several methods that may be used in Bolivia to disseminate this project's experience and findings. At the national level, the Unidad Sanitaria is in the position to affect policy through its interactions with the central and regional levels of the MPSSP. Additionally, representatives from the Cochabamba Project will sit on the IEC, Research and Services Subcommittees of the USAID-funded bilateral Reproductive Health Project where experience gained in Cochabamba can be shared with other Ministry and NGO representatives. (PAHO, CONAPO, and UNFPA also sit on the national reproductive health coordinating committee to which these subcommittees are tied). PROCOSI, the USAID-funded umbrella organization for child survival programs may be another avenue for dissemination to the NGO community.

Continued contact and coordination with other international donors such as UNFPA, PAHO, UNICEF and the World Bank will help to keep these donors informed about the MotherCare Cochabamba Project and its findings.

Within Cochabamba, ASONGS provides a good forum for NGO's to learn about the experiences of its members. Due to the sensitive political nature of

family planning and the large percentage of ASONGS members who belong to the Catholic Church, ASONGS may not be the optimal choice for any family planning related findings; however, other maternal and neonatal health findings would be welcome as topics for ASONGS monthly newsletter and/or seminars and workshops.

J. COLLABORATION WITH OTHER DONOR AND AID COOPERATING AGENCIES

1. Training/Equipment

As mentioned above, the potential for collaboration with a variety of donor and AID Collaborating Organizations exists in Cochabamba. UNFPA/PAHO are in the planning phase of their new project and it appears that JHPIEGO's input under the USAID Reproductive Health Project will also be tied to that project. There is no indication yet as to whether these projects can or will include assistance for urban and periurban Cochabamba. Close coordination of training and equipment inputs with UNFPA/PAHO and JHPIEGO and their local subcontractors, as well as UNICEF, will be critical to the rational development of the proposed MotherCare interventions and use of limited resources.

The AID Family Planning Management Development Project (FPMD, formerly FPMT) has also been involved in providing management training to MPSSP regional offices, including the Unidad Sanitaria/Cochabamba, and in providing assistance in strategic planning, organizational development, etc. to the non-governmental family planning organizations receiving AID assistance. In this vein, FPMD has provided extensive technical assistance to Cruz del Sur/Servifam during the past year. MotherCare will coordinate its proposed assistance in Cochabamba with that provided by the FPMD Project towards the development of improved management capabilities.

2. IEC/Social Marketing

The Population Communication Services (PCS) Project, another USAID Collaborating Organization, has identified a number of organizations with which it will work under the USAID Reproductive Health Project. During the past months, MotherCare staff and PCS Representatives have discussed several ways in which our projects complement each other as well as areas in which there is potential overlap. While no specific activities are planned in Cochabamba, the development of family planning messages and materials is one area of potential programmatic overlap.

Under Components 1 and 3 above, MotherCare proposes to carry out formative and baseline research and to use this research to develop a Cochabamba-specific IEC strategy. This effort will focus primarily on increasing awareness of beneficial health behaviors during pregnancy and the utilization of available health service during pregnancy, delivery and the postpartum period. Since PCS will be focusing on the development of child-spacing and family planning messages and materials, MotherCare does not anticipate repeating this effort. On the contrary, research findings and materials developed as part of the Cochabamba and the SCF/Inquisivi MotherCare Projects will be made available to PCS and the other participating organizations through the national IEC Reproductive Health Subcommittee. It is expected that the reverse will also take place. Since IEC campaigns

planned by UNICEF could also overlap with the proposed effort, MotherCare will coordinate with that organization, as well.

3. Operations Research

The Population Council's INOPAL Program will receive a substantial buy-in for the development of operations research activities under the USAID Reproductive Health Project. INOPAL currently plans to locate an advisor in Bolivia who will coordinate their work. MotherCare has been in contact with Population Council Representative in Peru, about the potential for collaboration in Cochabamba. MotherCare currently estimates that a substantial amount of research-specific technical assistance will be required in Cochabamba and will work with The Pop Council to determine how best to meet this need. As Pop Council is one of the principal subcontractors to JSI for the MotherCare Project, we do not anticipate difficulties coordinating nor obtaining the technical assistance required.

K. PROJECT STRUCTURE AND ADMINISTRATION

MotherCare will work with the Unidad Sanitaria-Cochabamba to plan and execute this Project.

1. Staffing

In order to properly support its activities in Bolivia, JSI/MotherCare will establish a coordinating office in La Paz headed by a MotherCare Bolivia Projects Coordinator. The individual proposed for this position is Lisa Howard-Grabman, currently JSI's Bolivia Representative. Ms. Howard-Grabman will be responsible for the administration of project funds and the procurement, processing and supervision of all subcontracts to local firms. She will be responsible for all MotherCare financial records and reports. She will also coordinate requests for and provision of technical consultancies to MotherCare Projects in Cochabamba, in Inquisivi Province (SCF), with ENFE and in any other locations added to the MotherCare portfolio. She will act as the principal liaison between MotherCare and USAID/La Paz, other multilateral and bilateral donor agencies, and the Government of Bolivia. She will also coordinate MotherCare input to the Reproductive Health Services Committee. These functions will require approximately 60% of her time. Her remaining time will be spent providing direct technical assistance to the Services Support component of the Cochabamba Project and to the SCF Inquisivi project. The Bolivia Projects Coordinator will be supervised by the MotherCare Long Term Projects Coordinator. (In the event that the Bolivia Projects Coordinator works on other JSI activities, her time and office costs will be prorated accordingly, as is JSI's policy.)

The MotherCare Bolivia Projects Coordinator will establish an office in La Paz which will be staffed by herself and an administrative assistant/translator. One of the first tasks of the Coordinator will be to obtain legal registration for JSI in Bolivia, and to process all other agreements necessary for normal operations.

Day-to-day management of the Cochabamba Project will be the responsibility of a MotherCare Resident Technical Advisor who will reside in Cochabamba. The Resident Technical Advisor will provide technical assistance for the development of the project's IEC component and act as the on-site project director. In addition to technical IEC development, his/her job description will include local planning and coordination of project inputs in conjunction with the Unidad Sanitaria and the participating NGOs. The Unidad Sanitaria will assign a counterpart who will work directly with the Resident Technical Advisor. The Resident Technical Advisor will sit in the Unidad Sanitaria or in another local NGO to be identified by the Unidad Sanitaria. S/he will be responsible for the day-to-day financial management of the Cochabamba project's funds and for supervision of the technical aspects of local subcontracts.

The MotherCare Bolivia Projects Coordinator will work with the Technical Advisor and the local subcontractors to meet JSI documentation and reporting

requirements, produce all necessary financial reports for JSI and the Government of Bolivia, and manage all project procurement.

2. Subcontracts

A portion of the total budget for Cochabamba will be sub-contracted to those organizations selected to participate in the project. Selection of organizations will proceed according to the needs identified with the Unidad Sanitaria and local NGOs. The right to select the participating organizations will be reserved for MotherCare as well as the decision to establish the budgetary amounts assigned to each one of them. The selection process will be competitive and will be based on a detailed assessment by MotherCare of the organization's ability to carry out the required actions. At present, local subcontracts are anticipated for initial qualitative, household and clinical studies, and for IEC materials development and production. Two additional subcontracts to Cruz del Sur and ME.DI.CO. are also proposed for the expansion of their family planning services.

3. Annual Workplan and Budget

The budget allocation will be determined annually and re-evaluated quarterly. An annual workplan and budget will be developed by the Bolivia Projects Coordinator and the Cochabamba Resident Technical Advisor, in collaboration with Unidad Sanitaria and NGO counterparts. These will be submitted at least three months prior to the anniversary date of project start-up for MotherCare, USAID/La Paz and AID Washington approval. Once approved, the annual workplan and budget will be implemented locally. Bolivia MotherCare staff will be authorized to obligate and expend funds within the parameters of the approved plan and budget. Any additional activities or expenditures required will be submitted to the MotherCare Project Director for approval at least 30 days prior to proposed expenditure. Both requests for changes in the plan and budget and approvals will be in writing.

4. Reporting

The Bolivia Projects Coordinator and the Resident IEC Advisor will submit a quarterly progress report to MotherCare and USAID/La Paz. Quarterly reports will review progress towards completion of the approved workplan, proposed protocols and results of any studies carried out, status of all subcontracts and subcontracted activities, problems encountered, and proposed activities and staff travel plans for the next quarter.

The Bolivia Project Coordinator will submit monthly financial reports to MotherCare according to standard JSI procedures. MotherCare Bolivia staff will provide guidance to all subcontractors for the preparation of their progress and financial reports; however, responsibility for timely submission of required reports rests with the subcontractor.

5. Counterpart Contribution

The Unidad Sanitaria/Cochabamba, the German Urquidi Maternal and Child Hospital and the NGOs participating in the project will provide space and office support for the Resident Technical Advisor. They will also provide the on-going services, through their staff and facilities, that are so important for the success of this demonstration project. Each of these entities will take responsibility for the support and supervision of the maternal and child services of their organizations and partners.

IV. OTHER ACTIVITIES

A. CONCEPT PAPER: STUDY OF MATERNAL HEALTH AND NUTRITION STATUS

The following concept paper was developed by Dr. Pedro Rosso on the basis of his work on the MotherCare Assessment Team. Because the Team's focus was the area of Cochabamba, the concept paper was written as if the studies would be carried out in that area. Subsequently, it was decided that the types of studies proposed address policy issues that are more pertinent to the national level. Therefore, the concept paper is presented here for comment and MotherCare, USAID/La Paz and AID Washington determination as to whether these studies, or studies like them, would be of interest.

1. Problem Statement

It is widely believed that maternal nutritional status in Bolivia is precarious; however, the almost complete lack of baseline health and nutrition status indicators for pregnant and lactating women makes it extremely difficult to document and address this problem. In addition, the various components of the problem are poorly understood, making it difficult to develop strategies that can be expected to have a meaningful effect on maternal and neonatal outcomes.

A parallel problem is that while existing MPSSP programs theoretically focus on improving maternal nutrition, their approach, coverage and impact are unclear. For example, the failure of the National Supplementary Feeding Program (PNAS) to apply nutritional criteria, (i.e. anthropometric indicators) for selection of program beneficiaries makes this program a kind of indirect economic subsidy for families. At the same time, because of this, the program fails to provide support based on women's nutritional needs, particularly those at highest risk (low weight/size).

A similar criticism can be made of the Prevention and Treatment of Anemia Program (PNCAN), which supplies ferrous sulphate and folic acid to every pregnant woman. The conceptual basis and techniques of this strategy are debatable. At present, most scientists believe that there is no valid reason for supplementing iron to all pregnant women, especially when this supplementation could diminish the bioavailability of zinc. This point of view is reflected in current FAO/WHO and the National Academy of Sciences recommendations. The argument which states that indiscriminate supplementation is justifiable due to high rates of anemia is also debatable since information is scarce, outdated and non-representative.

In order to improve the above-described situation, it is recommended that MotherCare:

1. Carry out a series of studies to obtain baseline information about women of low weight/size. women who suffer from lack of iron and folic acid, the impact of the Supplementary Food Program and the impact of the Prevention and Treatment of Anemia Program;

2. Assess the costs and benefits of both programs, once the previous study is concluded;
3. Develop standards of care for pregnant women with low weight for height or inadequate weight gain, which call for targeted food supplementation and educational interventions designed to raise the woman's nutritional status to a healthy level;
4. At the primary level, carry out exams which diagnose the existence of nutritional anemia (hematocrit or hemoglobin), in accordance with the standards of the Prevention and Treatment of Anemia Program; and,
5. Assess the costs and benefits of the exams mentioned in #4, comparing the advantages of serial exams of hematocrit or hemoglobin in pregnant women, in order to treat only those women who develop anemia, versus the current indiscriminate protocol.

2. Proposed Research on the Pregnant/Breastfeeding Woman's Nutritional Condition

Although extensive research on maternal nutrition is probably not within the scope of the Bolivian Reproductive Health Project, the relative lack of information on pregnant and lactating women's nutritional status in Cochabamba is of great concern to Cochabamba's health professionals. If alternative funding could be secured from the A.I.D. Office of Nutrition or another donor agency, research on the following nutritional indicators is recommended:

- 1) characteristics of the dietary intake of pregnant/breastfeeding women;
- 2) nutritional condition of pregnant/breastfeeding women;
- 3) impact of the Supplementary Feeding Program (PNAS);
- 4) impact of the Anemia Prevention and Treatment Program; and,
- 5) impact of the Iodine Deficiency Prevention Program.

It would be of great interest to obtain information on each of these topics which would allow a definition of the magnitude of the problem and the efficiency of the current programs. Following, the specific areas of interest are described:

- 1) Characteristics of a diet for a pregnant/breastfeeding woman
 - a. Average ingestion per day of food and nourishments
 - b. Adequate ingestion regarding recommendations
 - c. Rejection and preference of food
- 2) Nutritional condition of the pregnant/breastfeeding woman
 - a. Adequate weight/size
 - b. Weight increase during pregnancy and adjustment of weight increase related to the initial weight/size
 - c. Frequency of specific deficiencies
- 3) Impact of the Supplementary Feeding Program
 - a. Use of food distributed by the program, including:
 - perception of its nutritive importance
 - usual preparation methods
 - intra and extra-familiar transference (sale, exchange)
 - b. Daily ingestion percentage of food contributed by the program
 - c. Daily ingestion increase over pre-pregnancy or previous to food delivery levels attributable to the program
 - d. Nutritional status by the end or around the 6th month of breastfeeding
 - e. Characteristics of the new born, including:
 - percent of premature births
 - percent of fetal growth delay
 - anthropometric characteristics
 - f. Program beneficiaries' adherence to health controls
- 4) Prevention/Treatment of Anemias Plan
 - a. Anemia frequency at the beginning of pregnancy
 - b. Anemia frequency by the end of pregnancy
 - c. Anemia frequency during breastfeeding
- 5) Iodine Deficiency Prevention Program
 - a. Goiter frequency in pregnant/breastfeeding women
 - b. Goiter frequency associated to diminished iodine intake
 - c. Goiter frequency in newborns

The alternatives for design of the proposed studies are limited since several supplementation programs are already operating. Therefore, it is not possible to establish comparison groups chosen by chance. On the other hand, since inclusion or exclusion implies social, cultural and biological differences between individuals, it seems very difficult to establish those groups in which the most important confounding variables are properly controlled. In addition, for practical and financial reasons, the implementation of a parallel study on sexually-transmitted and parasitic diseases would be worthwhile. These latter are of special interest for the impact they have on the maternal nutritional condition.

Studies will target pregnant/breastfeeding women who reside in the four areas of intensive study where the project will be implemented. In accordance with estimated population figures for each one of these areas, the number of

pregnant women who could participate in the different studies would be as follows: Tiquipaya: 405/year; Beato Salamundo: 365/year; Cerro Verde: 1,200/year; and, Alalay: 1,100/year.

Study 1: Characteristics of dietary intake for pregnant and lactating women and modifications due to the Supplementary Feeding Program

The target group for this study will be pregnant and breastfeeding women according to the following requirements: 1) age: 20-35 years; 2) married or stable union; 3) live with their husband/partner independently; 4) consume food only in their homes; 5) suffer no chronic diseases, including parasites, which can influence food ingestion; and, 6) weight/size relation corresponding to 95-110% of standard weight.

"Responsables de Salud" from the areas of study will identify pregnant women who will be invited to participate in the study. Those who choose to participate will be referred to the health office for a physical examination which will include: anthropometry, thorax x-ray, parasites exams, biochemical blood screening, urine and blood tests. These exams will enable the researchers to discard chronic diseases such as TB and others. If the mother has parasites, she will be treated and if a control exam results negative, she will be included in the study. A total number of 80 women will be pre-selected in this way.

The pre-selected women will be interviewed in their homes by interviewers who will also obtain samples for the alimentary/nutritional ingestion evaluation. In the first interview, mothers will be told about the kind of study they are participating in and the kind of measuring to be done. Household conditions and motivation for participation will also be evaluated. If all these factors are positive, the woman will be selected and offered a compensation of Bs. 50 at the completion of the study. The study will begin with 65 selected women. In this way, a minimum of 50 cases can be assured for the final data analysis. Contribution by each geographic area for this sampling will be as follows: Tiquipaya: 9; Beato Salomon: 7; Cerro Verde: 26; and, Alalay: 23. Sampling selection will be staggered so that interviews can be conducted during any season.

The first measuring will preferably be taken within the 12th and 14th week of pregnancy. If this is not possible, all measurements will be done during the 15th-16th weeks. The second measuring will be within the 6th-7th months of pregnancy and the third one in the 4th month of breastfeeding. The interviewer will arrange with the mother three possible dates, corresponding to Tuesday-Wednesday-Thursday of the chosen week and then will select a random day to conduct the interview.

Observations will be qualitative and quantitative. The qualitative studies will include questions about preference rejection of certain food; knowledge about the nutritive importance and beliefs and myths about food considered favorable/unfavorable for a pregnant or breastfeeding woman.

The quantitative observations will consist of measuring, by differential weight, those foods consumed during the day and the determination of their composition in a sample equivalent of 10% of all ingested food.

Results from the previous measurements will answer specific questions presented in sections 1 and 3 above regarding characteristics of a diet for pregnant/breastfeeding women and impact of the Supplementary Feeding Program.

These studies can be done by the Nutrition Laboratory at the School of Science and Technology and by the Program for Food and Natural Products at the University of San Simon. These entities, under Dr. Phillippe Chevalier's direction, have carried out a similar study to establish the daily nutritional intake of undernourished children.

Statistical analysis of these types of studies is principally descriptive and Dr. Chevalier has experience in this subject. It is useful to analyze different correlations of variables as a way to prove coherence and validity of measurements. For instance, correlations between calculation of a daily intake of certain foods based on a food index and values derived from direct measurings of the obtained samples, etc.

Study 2: Impact of the Supplementary Feeding Program, the Prevention and Treatment of Anemia Program and the Iodine Deficiency Prevention Program on the Nutritional Status of Pregnant/Breastfeeding Women and Newborns

The main objective of this study is to obtain baseline information about real maternal nutritional status and impact of the current programs designed to improve it. This kind of study design should use random sampling of subjects to groups with and without intervention. Unfortunately, this alternative is not possible since these programs are already operating. It is not possible to apply a cohort design since an individual's inclusion in or exclusion from the Supplementary Food Program can be due to practical norms or to a subjective decision on the part of the health provider. For this reason, and because of the field conditions where the study will be implemented, it seems to be impossible to obtain comparable groups. Neither is it possible to make comparisons with "historic controls" because of lack of records for those individuals who could participate. There is only one alternative which seems practicable, at least for assessment of impact of the current programs: use a comparison design of pre- versus post-treatment for discontinuous variables. In this way, the influence of physiological changes due to pregnancy on some variables, can be controlled. Another factor to be considered is that the feeding supplementation effects, as much as iron and iodine supplementation in a population of pregnant women, are known. Therefore, the study is not designed to prove the existence of these effects, but to measure their impact in the current conditions under which programs operate in Cochabamba.

The pre- versus post-treatment design proposed to assess maternal variables is not applicable for measuring effects in newborns. Another comparison alternative, i.e., the impact of the program evaluation based on time in the program, would necessarily expand the sampling size and include a

much larger number of measurements with the resulting additional costs. Thus, it is proposed to limit baseline information gathering to characteristics of newborns in participating mothers as a way to obtain information which is not presently available about neonatal health indicators.

The study will be done in pregnant women (including those participating in the dietary intake program) who can be recruited during the first 5 months of the study, that is, before the beginning of supplementation (potentially 1,280 women). The "Responsables de Salud" will identify pregnant women in the region and motivate them to participate in order to get a good representation of samples for the general pregnant population of low incomes in the city as well as those from the diverse marginal areas of the project. The only condition for exclusion from the study will be a gestational period superior to 16 weeks. In all cases, pre-natal care will be provided according to norms set by the MPSSP. Additionally, researchers will take measurements of: weight, size and arm circumference. Based on weight for height, women will be classified in accordance with the following areas of risk: low weight, appropriate weight, high weight and obesity.

Since the real coverage of the Supplementary Food Program is unknown, it is not possible to estimate the number of women recruited for the study who will benefit from it. If only 50% of the recruited population received supplementation, approximately 640 women would benefit. Under these conditions, among them a minimum of 30-35% (estimated based on Chilean experience) would correspond to women with low weight for height. This total (approximately 200 women) would allow us to establish with statistical validity if exposure to the Supplementary Food Program decreases the percentage of low weight mothers at the end of pregnancy with respect to the initial figures.

In a sub-sample selected randomly, blood samples will be taken from 200 women to measure: hemoglobin concentration, iron serum, serum ferritin and folic acid.

Those cases of anemia or lack of folic acid revealed by the required exams will be treated in accordance with the standard protocol of National Plan for Prevention and Treatment of Anemia.

In the same sub-sample, presence of goiter will be determined through palpation of the thyroid gland and in all positive cases, a sample of urine will be taken to determine iodine scarcity.

Measurement of the total sample and of the sub-groups will be repeated in the 8th month of pregnancy and in the 4th month of breastfeeding.

In all newborns, information about birth weight, gestational age, and, when possible, length and cranial circumference, will be obtained.

Based on the previous studies it will be possible to establish percentages of: 1) low weight for height at the beginning and end of pregnancy and at the end of breastfeeding; 2) anemia; 3) women with clinical iron and folic acid deficiencies; 4) women suffering from goiter, with or

without current iodine scarcity; 5) impact of the Supplementary Feeding and Preventive/Treatment of Anemia Programs on previous indicators; and, 6) impact of the Iodine Supplementation Program and fortification with iodized salt in the same population.

The arm circumference measurement and its maternal weight for height relation will enable health providers to establish a cutoff point for this variable in the Bolivian population. This information could be applied in the future to the evaluation of maternal nutritional status in other areas of Bolivia.

Measurements in newborns will establish their anthropometric characteristics, frequency of newborns with a birth weight lower than 2500 grams, and percentage of children who are small for their gestational age. An average weight for newborns, frequency of low birthweight and fetal growth delay will be established for each one of the maternal categories of weight for height at the beginning and at the end of pregnancy.

Study 3: Study on Parasites and Sexually-Transmitted Diseases in Pregnant Women

Drawing upon the established organization from the previously described studies, a parallel study is proposed to determine frequency of Chagas, parasites and STD's in pregnant women.

For these purposes, from the same group of 200 pregnant women who will participate in the research on anemia, samples will be taken for detection of: 1) Chagas antibody; 2) STD's; and, 3) intestinal parasites.

These studies will establish the magnitude of each one of these problems and the medical team will then treat positive cases.

Studies 2 and 3 can be carried out by the Division of Medical Investigations (DIEMED) of the Universidad San Simon. However, consultancies to provide additional expertise and supervision will be necessary during the operational design phase, data collection and data analysis. Likewise, for iron serum, serum ferritin and folic acid measurements it will be necessary to provide technical assistance to establish the appropriate techniques and their periodical quality control (either in laboratories in La Paz, Bolivia or in Santiago, Chile).

3. Estimated Duration of Studies: (Nrs. 1 - 3)

1. Operational planning, personnel training, questionnaire and clinical protocol development: 3 months
2. Subject recruitment, sampling and follow-up: 12 months.
3. Data analysis and technical reports development: 3 months.

Total Duration: 18 months

4. Estimated Budget

Personnel

<u>Position</u>	<u>Time</u>	<u>Contract (months)</u>	<u>\$US</u>
1. Physician (Coordinator)	100%	18	9,000
2. Interviewers (10)	100%	2	6,000
3. Responsables de Salud (8)	100%	12	9,600
4. Laboratory Auxiliaries (5)	100%	12	18,000
5. Secretary (1)	100%	18	5,400
6. Technician/operator computers (1)	100%	6	1,800
7. Driver (1)	100%	12	1,800
8. Consultants (2)	100%	1	10,000
<u>Sub-total</u>			61,600
<u>Equipment</u>			
Not requested			---
<u>Insumos</u>			
Glass material and reactives for laboratory exams			20,000
Analisis de composicion de alimentos			5,000
<u>Sub-total</u>			25,000
<u>Operational Costs</u>			
Patients payment (Bs. 2750)			875
Transport			1,000
Telephone, Fax			1,500
Office materials, photocopies			3,000
Miscellaneous			1,500
<u>Sub-total</u>			7,875
Total Direct Costs			94,475
Administrative Expenses UMSS (8%)			7,558
Total (18 meses)			102,033

5. Potential Implementing Organization/Cochabamba

University of San Simon: Material Resources

School of Medicine: The material resources that could be useful in studies to obtain baseline information and in the evaluation of interventions are the following:

Laboratories: The laboratories affiliated with DIEMED are small, are located in inadequate space, improvised as laboratories, and have an infrastructure with movable furniture and equipment which is fairly precarious. A large part of the equipment comes from countries of Eastern Europe and often have flaws which are corrected by a technical team that works only for the School of Medicine.

Weighing these deficiencies, one must realize that all of the measurements for the baseline studies will require hematology and parasitology diagnosis including the diagnostic tool of radioimmunoassay.

The nutrition and food program laboratories have a physical layout which is much superior to the above laboratories and they are well equipped for studies of food composition, including vitamins and minerals. The Food Program laboratory has access to a Bomb calorimeter and a Spectrum Photometer of Atomic Absorption.

Between both laboratories, one could carry out all the measurements of vitamins required for the diagnosis of nutritional status.

Computation: DIEMED has 5 personal computers of different types, 2 of them have memory capacity sufficient to analyze data bases of medium size. The availability of statistical software packages is also adequate.

For management of large databases and more difficult statistical analysis, the computers of the Population Program could be used.

B. PROSALUD, SANTA CRUZ

1. Purpose of Visit

MotherCare was asked by USAID/La Paz to investigate the potential for a collaborative effort with PROSALUD. Areas identified by USAID as being of interest included: 1) a recent finding that one of PROSALUD's lowest levels of service is in the area of maternal and post-natal care; 2) the early termination of breastfeeding and introduction of other foods as weaknesses in the PROSALUD population and possible PROSALUD's own orientation; and, 3) a 1989 evaluation by FPIA that indicated that PROSALUD had not done enough to integrate family planning into their services.

One day was spent with PROSALUD staff in Santa Cruz learning more about their operations and exploring the above issues. As the availability of funding for MotherCare activities outside of Cochabamba and Inquisivi is still uncertain, it was decided that an introductory visit would be sufficient to detect areas of common interest and possible collaboration.

2. Background/Findings

PROSALUD was founded in 1985 by a group of health professionals in order to provide preventive health care to the low and middle income populations of Santa Cruz. The hypothesis was that a self-financing service organization could provide both preventive and curative primary health care and survive on its own resources. Originally funded by USAID, PROSALUD has gradually assumed a larger and larger portion of its own operating costs. Remaining USAID assistance for PROSALUD ends in late August 1990, at which time the organization will assume 100% of its direct and indirect costs.

PROSALUD currently has 10 functioning primary health care clinics operating in periurban and rural communities of Santa Cruz. Three clinics were established with the help of municipalities, one was built by PROSALUD and six new clinics were constructed on community-donated land with assistance from the Fondo Nacional de Emergencia.

All of the clinics have essentially the same physical lay-out and services, including a reception/administration area, 2-3 consulting rooms, a birthing and recovery room with 3-4 beds, an odontology room, a nursing and sterilization area, a specimen collection room and a training/meeting area. There is one laboratory for every two clinics. Paid clinic staff includes a director (a general practitioner), a nurse, an administrator and several nurse auxiliaries. The clinic also offers obstetrics/gynecology and pediatric services and a dentist on-site; these non-salaried specialists are paid a percentage of their clients' receipts. (For example, the standard fee for a birth is approximately 100 Bolivianos - 45 Bolivianos for PROSALUD, 45 Bolivianos for the attending physician and 10 Bolivianos for medicines and other supplies.)

PROSALUD has been able to achieve a high degree of clinic cost-recovery through the development and use of a computerized management information system and a business approach to pricing and setting targets for its services. Each year, break-even cost and revenue projections are developed for the organization as a whole and for each of its clinics. On the basis of these projections, clinic staff set service and revenue targets which are monitored on a monthly basis. To meet targets and generate additional business for their clinics, staff conduct home visits and other health/clinic promotional activities in their surrounding communities. Preventive services, most of which are offered free, are also used to bring people into the clinics.

In the area of maternal and neonatal services, PROSALUD offers pre-natal, birthing and post-natal care including vaccination and well child care, and family planning counseling and methods (pills, condoms, IUD's). At the first pre-natal visit, the client is charged 8 Bolivianos for a consultation with the obstetrician and additional fees for laboratory exams; three subsequent pre-natal consultations, including TT immunization, are provided free upon request. PROSALUD's target number of pre-natal visits per woman is four. In 1989, over 1,000 new pre-natal clients were registered by PROSALUD clinics. A more in-depth analysis would be necessary to determine what percentage this represents of the target population of PROSALUD clinics; however, given the cultural and financial barriers to institutional birth and the stiff competition for clients, this can be considered a laudable achievement.

As mentioned above, the charge for a normal birth is 100 Bolivianos. Post-natal care for the mother is free. At birth the infant is registered in the clinic's well-child program and the mother encouraged to return for the first well-child visit which is also free. While a very high percentage of infants are registered in the well-child program, PROSALUD service data shows that a much lower percentage of women are seen for a post-natal check-up. This problem was mentioned by USAID and PROSALUD and is deserving of additional investigation. It is very possible, as we have seen in other circumstances, that women do indeed return with their infants for post-natal care but they are either not examined themselves or that they are examined but not counted separately because mother and infant are treated as a single unit.

PROSALUD's rate of completed tetanus immunization among its pre-natal clients is significantly higher than that reported by the MPSSP. However, staff still report problems convincing women to take the immunizations. Confusion with Depo-Provera, rumors about sterilization, and other misconceptions are, in some cases, barriers to acceptance. While PROSALUD staff state that they make a concerted effort to completely immunize every woman, they cannot as they rightly point out, force a woman to be immunized. Earlier problems with missed immunization opportunities appear to have been primarily related to MPSSP guidelines that stated tetanus immunization should be started only after the 5th month of pregnancy. Since those guidelines were changed to include all women of reproductive age, PROSALUD has retrained and oriented its staff and believes that all are now aware of the need to check every woman's immunization status at every contact.

Because of the pressure to cover its direct costs as well as indirect costs, PROSALUD must charge for the majority of its diagnostic services. As a result, and as we observed in other parts of Bolivia, this is sometimes a deterrent to the quality of pre-natal care because laboratory exams are an additional cost that may not be acceptable to the client. PROSALUD's Medical Director stated their desire to establish package prices for services that would include the consultation fee plus basic exams. These fees, however, would be considerably higher than the 5-8 Bolivianos currently charged for a consultation and could deter women from seeking any type of care. This is a problem that probably has no easy solution given PROSALUD's need to cover its own costs.

All high risk pregnancies and births are referred to the MPSSP hospital. Because PROSALUD staff do not have admitting privileges and there is no feedback system, these high risk clients are often lost to the PROSALUD system. For this reason, PROSALUD has little information about the results of the high risk cases it has detected and referred.

PROSALUD is currently using the CLAP Perinatal History Form in all of its clinics. At their request, Dr. G. de Murillo (MPSSP, Maternal and Child Health Division) recently conducted a training course for PROSALUD physicians on the use of the form, and the identification and management of high risk pregnancies and births. PROSALUD was very pleased with the training and plans to request more in the future. They are also interested in setting up a system for the routine analysis of some of the key items of information collected on the CLAP forms.

PROSALUD has also taken steps to improve staff knowledge of the importance of breastfeeding and ways to encourage it. The Bolivian Breastfeeding Group has supplied their information pamphlet for all of the clinics and they recently conducted a training session in Santa Cruz. PROSALUD's staff feels that this has had an impact on their physicians and that the previous practices and subtle and not-so-subtle recommendations that discouraged women from breastfeeding will become a thing of the past. In two of the clinics visited, physicians stated emphatically that bottles were no longer permitted. A good sign.

PROSALUD's family planning program has been funded until recently by FPIA, however, it appears that this support has been or will be terminated shortly for reasons unrelated to PROSALUD's performance. IPPF is also providing support and may increase that support. PROSALUD's FPIA-supported project started in December 1988, for an expected duration of 5 years. Under this project, PROSALUD has provided contraceptive counseling and methods to its clientele, including pills, condoms, foaming tablets, foam and IUD's. One female promoter, trained by FPIA, has also been assigned to each clinic. Promoters conduct home visits to promote family planning as well as the other preventive health services provided by PROSALUD. FPIA has recommended that these promoters also distribute barrier methods in the homes, however, it is not clear whether this is actually taking place.

FPIA has provided training for PROSALUD promoters and physicians (both general practitioners and gynecologists are being trained in IUD insertion),

free contraceptives, promoter salaries and a small proportion of the general practitioner's salaries, and related administrative costs. PROSALUD charges the following prices for IUD insertion in its clinics:

IUD insertion - Rural Clinics	14 Bol. - Pap Smear
	20 Bol. - Insertion

	34 Bol. - Total
	= \$ 10.90 US

Urban Clinics	8 Bol. - Consultation
	14 Bol. - Pap Smear
	30 Bol. - Insertion

	52 Bol. - Total
	= \$ 16.60 US

According to FPIA, it has been recommended that the above charges be reduced and that a package price for IUD insertion of approximately 15 Bolivianos or US \$ 4.80 be substituted to make this service more accessible. It is unclear whether PROSALUD has accepted this recommendation. It should be mentioned that while all who can pay are asked to do so, one of PROSALUD's policies is that if a client is unable to pay the full charge for a necessary service, the fee is either reduced or waived in order to make the service accessible.

As MotherCare has found in other areas of Bolivia, PROSALUD "lives" in an environment of intense competition. Perhaps because it has been subsidized by an outside donor, the resentment from both the private and public medical communities is often intense and, on a number of occasions, it has posed serious problems for the organization. That PROSALUD has been able to survive and grow in this environment is a tribute to its management and the quality of the attention it provides to the community.

3. Potential for Collaboration

Several project ideas came up during my visit that could be of future interest to MotherCare and PROSALUD. There is also the possibility of subcontracting PROSALUD to meet the needs of other MotherCare projects in Bolivia and elsewhere in Latin America. The possible types of collaboration discussed include:

- a. A study of health status and morbidities during pregnancy. PROSALUD has the potential, using existing or routinely collected data, to answer a number of questions that have not been addressed in Bolivia. The first is the question of anemia in pregnancy. Little is known about the prevalence and types of anemia in pregnancy, related factors (i.e. parasite burden), and the cost/effectiveness of the standard iron/folate distribution program. For the Santa Cruz population, PROSALUD could certainly shed light on the problem. PROSALUD staff also expressed concern over the incidence of STD's, especially syphilis, and the

possible study of this. Rates of pre-eclampsia, gestational diabetes, etc. could also be of interest since there is no Bolivian data and very little international information available on these morbidities of pregnancy. For this type of study, it is my understanding that basic laboratory tests would have to be subsidized for those who are unable to pay while special tests would have to be fully subsidized. Outside of this, it is expected that PROSALUD would also need technical assistance for the study design and data analysis.

- b. Study of low birth weight. A study of birth weights in their clinic population and related maternal factors was proposed by PROSALUD. While this could contribute to the general knowledge of maternal and neonatal health problems in tropical Bolivia, such a study would be more informative if the birth weights in the PROSALUD clinic population could be compared to those in the community, i.e. those who deliver at home or in other facilities. PROSALUD clinics would, for example, miss most high risk births since these are referred. We did not discuss PROSALUD's ideas for this study in any great detail so it is difficult to say exactly what might be possible or to what degree PROSALUD's population reflects normal births in the community at large. If PROSALUD's clientele is representative, and we could prove this, existing data alone might be enough.
- c. A possible communications/mass media campaign to increase knowledge about specific maternal/neonatal health topics and to encourage the use of PROSALUD's maternal health services. This is the type of effort that might be directed at increasing use of post-natal services, if this is found after analysis to be a utilization problem versus a simple error in counting. MotherCare has the expertise through the Manoff Group to work with PROSALUD on a campaign of this type, but it would have to focus on a particular problem covered by the MotherCare mandate. Since our mandate is rather broad, this should not pose a serious problem.
- d. MotherCare subcontracting of PROSALUD expertise in training, pre-market studies, logistics, service delivery and information systems. MotherCare would be happy to consider PROSALUD for any subcontracts or technical consultancies that may be necessary in conjunction with our projects in Bolivia and elsewhere in Latin America.

For the moment, Items 1-3 are purely ideas. If it becomes apparent that MotherCare has additional assistance available for Bolivia and PROSALUD is interested in a collaborative effort, we will ask for a concept paper reflecting their interest. Item 4, need not wait; as soon as there is a need that appears to fit PROSALUD capabilities, MotherCare will be happy to discuss the possibilities with Dr. Cuellar.

3. Conclusions

Collaboration with PROSALUD on a MotherCare-supported effort is highly desirable for a number of reasons. First, PROSALUD is well-organized and it has a steady clinic clientele and a well-developed program of community outreach that is uncommon in Bolivia. Administratively PROSALUD could be expected to carry out any project with the minimum of outside control and monitoring. PROSALUD has the potential to carry out a study of maternal morbidity during pregnancy and this is of particular interest to MotherCare. PROSALUD could also be a very effective channel for social marketing related to maternal and neonatal health improvements, and potentially produce tested messages and materials that could be disseminated through other organizations.

The only negative factors that should be considered when weighing investments in PROSALUD versus other areas of Bolivia are 1) the advanced nature of PROSALUD's maternal and neonatal services, which in contrast to those of other parts of Bolivia could be considered excellent, and the less severe need for intervention in urban Santa Cruz when compared to other parts of Bolivia; and, 2) the non-generalizability of service delivery interventions that would be developed and carried out by this highly successful and very unique organization.

If PROSALUD requests MotherCare support, both positive and negative factors should be considered in light of MotherCare, PROSALUD and USAID objectives for that support and the funding available for it. Follow-up with PROSALUD will be the responsibility of the MotherCare Bolivia Projects Coordinator. It will focus on identifying common areas of interest and the parameters for possible MotherCare support.

V. FOLLOW-UP REQUIRED

Follow-up to this assessment will include:

1. Review of the Cochabamba assessment findings and project proposal by the Unidad Sanitaria, USAID/La Paz, and the AID/Washington Cognizant Technical Officer (CTO) for the MotherCare Project. MotherCare internal review will take place simultaneously.
2. Proposal revision and submission of first year workplan and budget for approval.
3. Start-up of Cochabamba Project activities by late October including:
 - a. Creation of necessary staff posts and recruitment of the Resident Technical Advisor;
 - b. Establishment of a coordinating office for JSI/MotherCare activities;
 - c. Technical consultancies for the hospital cost study;
 - d. Development of subcontracts for the qualitative studies and household survey; and,
 - e. Further development of projects and related subcontracts with Cruz del Sur/Servifam and ME.DI.CO. and possible technical consultancies related to these projects.
3. Further discussions with PROSALUD and with USAID/La Paz to determine the appropriate mix of MotherCare's long-term involvement in Bolivia.

APPENDICES

APPENDIX 1

SCOPE OF WORK FOR ASSESSMENT TEAM

BOLIVIA/COCHABAMBA REPRODUCTIVE HEALTH PROJECT

SCOPE OF WORK PROJECT DEVELOPMENT TEAM

July 9 - 28, 1990

Background:

This project will be carried out in the urban and peri-urban areas of Cochabamba with two primary objectives: 1) enhancing the availability and the quality of maternity and family planning services through a network of private clinics; and, 2) changing maternal health behaviors, including the utilization of available reproductive health services, through an information, education and communications (IEC) intervention. A baseline study and an initial phase of qualitative investigation will provide critical information for the development of service and communications interventions. The project also offers possibilities for operations research.

MotherCare will work directly with the Regional Office of the Ministry of Health in Cochabamba to plan and implement the communications component of the project. A private NGO, Cruz del Sur, has been identified for the services component, and the University of San Simon and a local research organization, CIAES, will probably play the leading roles in evaluation and research activities. This demonstration area will be funded under the USAID/Bolivia Reproductive Health Project and project staff will participate in national subcommittees set up to coordinate and disseminate the findings from such projects at the national level.

Team Scope of Work:

The Project Development Team will address all three elements of the project - communications, service and evaluation/research. Team members will meet individually with each of the organizations that might be involved in the project and coordinate a project planning exercise with the MOH and the key organizations to determine the design of the overall project and its components. The result of this exercise will be a proposal and budget to MotherCare. It is anticipated that the initial baseline and qualitative research elements will be fully developed and ready for funding by the end of the Mission.

Team Members:

1. Melody Trott, PHD: Communications/Qualitative Research Specialist

The Consultant will:

- a. Meet with the MotherCare Senior Communications Advisor, Marcia Griffiths (Manoff Group) prior to travel to Bolivia for an orientation to the communications and formative research methodologies applied by MotherCare.

- b. Review documentation and interview key health care providers on maternal and neonatal health and nutrition conditions and health seeking behaviors in Cochabamba, to assist decision-making about the principal focus areas to be addressed through the proposed project.
- c. Identify key individuals and organizations with expertise in qualitative research and communications and prepare a written assessment of their organizational and technical capabilities.
- d. With the potential collaborating organizations, identify the information that will be needed : formulate the educational and service components of the proposed project.
- e. Work with potential collaborating organizations to develop a plan and budget for the qualitative research component of the Cochabamba project.
- f. With potential collaborating organizations, develop a plan and budget for the communications/IEC component of the overall Cochabamba project.
- g. Assist the JSI Country Representative to prepare the final project proposal and budget for submission to MotherCare and USAID/Bolivia.
- h. Prepare a Trip Report and submit to the MotherCare Coordinator within 15 days of completion of travel. Report will include a brief description of activities during the trip and the products mentioned above.

2. Dr. Pedro Rosso: Epidemiologist/Maternal and Neonatal Health and Nutrition

The Consultant will:

- a. Review documentation and interview key individuals on maternal and neonatal health and nutrition conditions and services in Cochabamba, to assist decision-making about the principal focus areas to be addressed through the reproductive health project.
- b. Identify key individuals and organizations with expertise in maternal and neonatal health and nutrition and quantitative research and prepare a written assessment of their organizational and technical capabilities.
- c. With potential collaborating organizations, identify the baseline information that will be needed to formulate the project's educational and service components and measure their effects. Develop a written plan and budget for the baseline research component of the Cochabamba project.

- e. Work with potential collaborating organizations to develop an initial project plan, providing specific input to those elements addressing prenatal nutrition and neonatal care.
 - f. Prepare written recommendations for potential operations research topics that could be explored through the project and identify the individuals and organizations that might be involved in these studies.
 - g. Prepare a trip report (in Spanish) and submit to the MotherCare Coordinator prior to departure from Bolivia. Trip report will include a brief description of activities in Bolivia as well as the above mentioned products.
3. Dr. Alfredo Guzman Changanauqui: Obstetrician/Gynecologist/Family Planning Service Specialist

The Consultant will:

- a. Review documentation and interview key health care providers on maternal health and family planning conditions and services in Cochabamba to assist decision-making about the focus areas to be addressed through the project.
- b. Review Cruz del Sur's plan for the expansion of its clinics and services and assess the feasibility and desirability of the activities and inputs proposed.
- c. Visit and assess other maternal health/family planning service programs in Cochabamba addressing location, coverage, organizational and technical capabilities.
- d. Recommend an appropriate strategy to MotherCare for working with existing organizations in Cochabamba to increase the availability and acceptability and improve the quality of maternity and family planning services.
- e. Work with potential collaborating organizations to develop a plan and budget for the maternity/family planning services component of the Cochabamba project.
- f. Prepare a Trip Report (in Spanish) and submit to the MotherCare Coordinator prior to departure from Bolivia. Report will include a brief description of activities during the trip and the products mentioned above.

Coordination:

The in-country work of the Project Design Team will be coordinated by JSI Bolivia Representative, Lisa Howard Grabman, who has done most of the preparatory work for the Mission. Pat Taylor, MotherCare Long Term Projects

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Coordinator will conduct a Team Planning Meeting in La Paz prior to start up of work in Cochabamba. She will accompany the team during the first week in country. Ms. Howard Grabman and Ms. Trott will complete preparation of the draft project plan and budget prior to Ms. Trott's departure from Bolivia.

APPENDIX 2

LIST OF CONTACTS

UNIDAD SANITARIA DE COCHABAMBA

Dr. Roberto Vargas, Director
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Lic. Eduardo Vexina, Dep. de Salud Comunitaria (educacion)
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CRUZ DEL SUR

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GERMAN URQUIDI MATERNAL CHILD HOSPITAL

Dr. Walter Salinas
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(042) 40511 (domicilio)
(042) 29333 (consultorio)

CENTRO DE INVESTIGACION, ASESORIA Y EDUCACION EN SALUD (CIAES)

Lic. Eduardo Vexina
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Dr. Roberto Vargas
Dr. Evaristo Venegas Bertu
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COMBASE

Dr. Jose Velasques
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Sra. Julia Vargas, Co-Director
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ME.DI.CO

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INFANTE

Sra. Patricia Vargas
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CENTRO PORTALES

Sra. Ruth Salinas, Asistente al Director
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Juan de la Cruz Torres 1513
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SANTA CRUZ:

PROSALUD

Dr. Carlos Cuellar, Director
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Santa Cruz, Bolivia
Tel. 49477, 36823 (FAX 36823)

LA PAZ:

UNFPA

Mr. Reiner Rosenbaum
Representative
Casilla , La Paz
()

CONAPO

Mr. Rene
Director
Casilla , La Paz
()

PAHO

Dr. Daniel Gutierrez
Lic. Cristina Gardel
Casilla , La Paz
()

MINISTERIO DE PREVISION SOCIAL Y SALUD PUBLICA

Maternal Child Health Division
Dr. Miguel Angel Ugalde, Director
Dr. Alberto G. de Murilo, Reproductive Health
Casilla , La Paz
()

UNICEF

APPENDIX 3

SCHEDULE OF MEETINGS, COCHABAMBA

TEMARIO DEL EQUIPO DE MOTHERCARE

- 8 de julio - Llegada de Dra. Melody Trott, Dr. Pedro Rosso y Lic. Patricia Taylor en La Paz
- 9 de julio - Planificacion del Trabajo
- 10 de julio - Planificacion del Trabajo
14:00 - 15:00 - Reunion a USAID/La Paz/HHS con Sigrid Anderson y Elba Calero
15:30 - 16:30 - Reunion con Proyecto de Supervivencia Infantil
- 11 de julio, miercoles
8:10 - 9:00 - Viaje a Cochabamba
10:00 - 12:30 - Reunion con Dr. Roberto Vargas, Director de la Unidad Sanitaria
12:30 - 14:00 - Almuerzo
14:00 - 15:00 - Reunion con Lic. Marta Salinas, Dept. de Educacion y Comunicaciones
14:00 - 15:00 - Reunion con Dept. Materno-Infantil
15:30 - 16:30 - Reunion y visita con Dr. Walter Salinas a la Maternidad German Urquidi
- 12 de julio, jueves
08:30 - 09:30 - Reunion con Dept. de Epidemiologia
09:30 - 10:30 - Reunion con Dept. de Nutricion
11:00 - 12:30 - Reunion con Dr. Luis Morales de la Universidad de San Simeon, Division de Investigaciones
12:30 - 14:00 - Almuerzo
14:00 - 15:30 - Reunion con C.I.A.E.S.
15:30 - 17:00 - Reunion con ASONGS
Presentacion de los resultados del inventario de las ONG's
20:00 - 21:30 - Reunion con Dr. Becerra, Centro Contra El Cancer
- 13 de julio, viernes
08:30 - 17:30 - Visita a Punata con Centro Contra El Cancer
09:00 - 11:00 - Reunion con AVE
09:00 - 12:00 - Reunion y visita a MEDICO
11:30 - 12:30 - Reunion con CENSED
12:30 - 14:00 - Almuerzo
14:00 - 16:30 - Reunion con PROMEFA
14:30 - 16:30 - Reunion con Centro Portales

15 de julio, domingo

- Llegada de Dr. Alfredo Guzman

16 de julio, lunes (dia feriado)

- Reunion del equipo

- Visita por Cochabamba y sus barrios

17 de julio, martes

09:00 - 12:30 - Visita y reunion a Cruz Del Sur con Dra. Yvonne Frank

09:00 - 12:30 - Visitas a los puestos y centros de salud
identificados por la Unidad Sanitaria

12:30 - 14:00 - Almuerzo

14:00 - 16:30 - Visita a la Maternidad German Urquidi. Reunion con Dr.
Walter Salinas, Director (servicios y investigaciones)

18 de julio, miercoles

08:30 - 10:30 - Reunion del equipo con Dr. Roberto Vargas y otros miembros
de la Unidad Sanitaria para compartir informacion recogida
hasta la fecha y para planificar una reunion entre
representantes de todos los grupos involucrados y el
equipo. La Unidad Sanitaria coordinara el proceso de la
planificacion del proyecto en esta reunion.

10:30 - 12:30 - Tiempo libre para preparar documentos, visitar algunos
lugares, reunir, etc.

12:30 - 14:00 - Almuerzo

14:30 - 16:30 - Reunion de planificacion con representantes de todos los
grupos involucrados, coordinada por la Unidad Sanitaria
con asistencia del equipo de MotherCare.

19 de julio, jueves

09:00 - 17:30 - Reuniones con organizaciones y departamentos
indicados.

20 de julio, viernes

08:30 - 17:00 - Reuniones pendientes, preparacion de documentos, etc.

17:15 - Al aeropuerto y vuelo a La Paz

APPENDIX 4

COCHABAMBA: ORGANIZATION PROFILES

ORGANIZATION/PROGRAM PROFILE

1. **NAME:** Asociacion de Organizaciones No Gubernamentales (ASONGS)
2. **ADDRESS:** (Mailing) Casilla
(Street) Pasaje San Rafael 264
Telephone: (042) 29851
3. **DIRECTOR:** Dr. Fernando Rocabado
4. **TYPE OF ORGANIZATION:** non-profit, non-governmental
5. **STAFFING:**

Directorate of President, Vice President, Secretary and Treasurer and technical support team of 4-5 people, secretary.

6. **PRIMARY PURPOSE AND TYPES OF ACTIVITIES:**

The Association of non-Governmental Organizations (ASONGS) was founded in 1983 with a Directory in order to facilitate the purchase of Technical and Coordination Equipment for its 32 member organizations. Since its inception, ASONGS has expanded its role to include professional training workshops for its members in various health and management topics of interest to its affiliates. ASONGS also produces a monthly newsletter which is circulated to its members and others who are interested.

7. **ACTIVITIES/SERVICES:**

ASONGS' associates are organizations working in education, rural development and health; most of them (80%) are church affiliates. In the health sector, some members, such as the Instituto de Educacion para Desarrollo Rural (INEDER), have agreements with the Unidad Sanitaria to administer all the health services in a specific district (i.e. INEDER administers health care in the Carrasco District through the Totora Hospital which has 30 beds and the Pojo Hospital). In total, ASONGS associates have more than 60 maternity beds.

At present, ASONGS coordinates most of the primary health care services in Cochabamba. ASONGS is dedicated to community personnel's training in health, but the problem is that each NGO has its own focus which makes for differences in therapeutic, and sometimes ethical, approaches. Recently, they agreed to develop only one training curriculum for this level of personnel. They also train nurses, auxiliaries and doctors. ASONGS' associates provide pre-natal and delivery care through their nurses or auxiliary nurses and, in some cases, deliveries are attended by community personnel. The Coordinator of ASONGS, Dr. Fernando Rocabado, believes that some of their affiliates that want to provide family planning services could do so since ASONGS' Directory, in spite of being mostly ecclesiastic groups, does not assume a decisive role in the control of its members' actions.

ASONGS produces and circulates a monthly newsletter and members meet once a month to plan and discuss activities. ASONGS has carried out more than five technical workshops on topics ranging from diarrheal disease to nutrition to supervision.

8. ACHIEVEMENTS:

ASONGS has continued to meet its original objectives and has expanded to serve more needs of its members. The expansion into training and information dissemination is a great achievement.

9. FACILITIES/EQUIPMENT/OTHER RESOURCES:

ASONGS is located in a spacious house with room for offices, training sessions and workshops. They have a mimeograph to produce their newsletters and a photocopier, typewriters and other necessary office equipment. They also have training related equipment such as flip charts, blackboard, etc.

10. FUNDING SOURCES/ANNUAL BUDGET:

ASONGS now receives financing from the German donor, Zentralgestete. In the past, they received financial assistance from MISEREOR.

Family Planning: Of its NGO members, none is oriented solely to family planning. However, organizations such as ME.DI.CO., COMBASE and FEPADE carry out some activities in this field. Because many of ASONGS' members are church-run, family planning is a sensitive topic and one not likely to be addressed by ASONGS directly. However, ASONGS as an organization believes that its members should have total autonomy in deciding which services they will offer.

Prenatal Care: As an organization, ASONGS does not deliver services. However, they do train promoters and auxiliary nurses in primary health care and prenatal care is one component in this training. The training curriculum was not available during this visit.

Birthing Care: Same as Prenatal Care above.

Outreach: ASONGS produces a monthly newsletter on topics of interest to its members and with a summary of past and future activities. Its monthly meetings allow members to share experiences and problems and to plan future activities. Training often focuses on educational methods and health promotion.

ORGANIZATION/PROGRAM PROFILE

1. NAME: COMBASE
2. ADDRESS: (Mailing) Casilla 869, Cochabamba
(Street) Avenida 9 de Abril, esquina Haiti
Telephone: (042) 32767; 33043
3. DIRECTOR: Dr. Jose Velasquez
4. TYPE OF ORGANIZATION: non-profit, non-governmental
5. STAFFING:

The following personnel work at COMBASE:

DIRECTORATE

Lic. Salvador Sanabria
Lic. Ivo Velasquez U.
Roberto Chavez
Efrain Flores
Guillermo Work
Velia de Bustillo
Ing. Remigio Ancalle

President
Vice President
Treasurer
Secretary
Public Relations
Representative
Representative

Dr. Jose Velasquez U.
Aida Pereira Q.
Edgar Oropeza
Roberto Vera

Clinic Director
Administrator
Director White Home
Administrator White Home

CLINIC PERSONNEL

Administration

Lic. Freddy Pedrozo M.
Dr. Toribio Martinez
Ing. Gerardo Caceres
Cristina Chacon A.
Julieta Diaz G.
Mirtha Ledezma V.
Jose Sossa
Octavio Aspiz
Santiago Chila
Sofia Nina
Aleja Molina

Accountant
Legal Advisor
Computer Technician
Computer Technician
Secretary
Cashier
Chauffeur/Messenger
Janitor
Porter
Cook
Laundry

Medical

Dra. Miriam Aranibar
Dra. Rosario Severich
Dra. Malvina Escalera
Dr. Hernan Quiroz T.

Biochemist/Pharmacy
Biochemist/Pharmacy
Biochemist/Pharmacy
General Medicine

Dr. Ruben E. Munoz R.	Surgeon
Dr. Jorge Villarroel	OB/Gyn
Dr. Ruben Munoz F.	OB/Gyn
Dr. Ricardo Antezana	OB/Gyn
Dr. Oscar Lizarazu	OB/Gyn
Dr. Victor Hugo Quiroga	Pediatrician
Dr. Jose Velasquez U.	Pediatrician
Dr. Antonio Zambrana	Pediatrician
Dra. Jenny Zambrana	Anesthesiologist
Dr. Lino Loayza	Anesthesiologist
Dr. Jaime Herbas	Anesthesiologist
Dr. Roberto Guardia	Pathologist

Paramedical

Ma. Benita Diaz G.	Auxiliary Nurse
Adela Meneses	Auxiliary Nurse
Irma Medrano C.	Auxiliary Nurse
Herlinda Roman A.	Auxiliary Nurse
Emilia Numbela G.	Auxiliary Nurse
Aidee Meneses	Auxiliary Nurse
Maruja Arias	Auxiliary Nurse
Isabel Amaya	Auxiliary Nurse
Ana Duran	Support Staff
Rosario Guzman	Support Staff
Felipa Claros	Support Staff

White Home Rehabilitation Staff

Zenobia V. de Avila	Accountant
Lic. Maria Torrico	Social Worker
Roberto Quiroga	Educator
Leonor S. de Quiroga	Educator
Jeronimo Vincentty	Educator
Victoria de Vincentty	Educator
Francisco Aquino	Educator
Maria de Aquino	Educator
Lic. Mirtha Martinez	Psychologist
Valentin Campos	Porter
Joaquina de Nina	Cook
Ana de Solano	Cook
Rene Cordoba	Outreach Educator
Elsa Grootjans	Physician
Enrique Choque	Mechanic
Fermin Rocabado	Carpenter

6. PRIMARY PURPOSE AND TYPES OF ACTIVITIES:

COMBASE was founded in 1965 and in 1973 it incorporated the clinic and maternity hospital, "El Buen Pastor," created to provide health care especially to families of scarce resources. COMBASE also operates and manages an orphanage for children.

7. ACTIVITIES/SERVICES:

COMBASE offers services in medicine and general surgery, gynecology and obstetrics, pediatrics, dentistry, laboratory and pharmacy. COMBASE operates 24 hours per day and maintains a roster of specialists. In 1989, they attended 12,147 consultations, 565 deliveries of which 446 were normal and 119 cesarean. A high percentage of patients come from the poorer South District of Cochabamba. Twenty-two percent of their patients come from the rural areas.

8. ACHIEVEMENTS:

COMBASE has achieved full self-financing after having been funded by outside agencies for many years. COMBASE did this successfully by revamping its pricing and cost structures and by limiting its staff to only that which is necessary to provide quality care to its clients. Despite the necessary raises in service prices, COMBASE has managed to keep prices low enough to serve poor, periurban clients.

9. FACILITIES/EQUIPMENT/OTHER RESOURCES:

The clinic's structure is modern and comfortable: there are TV sets in each room that are expected to be used in the future as educational means through video presentations on health topics. Their surgical rooms are appropriate although they do not have anesthesia machines nor do they have incubators in the neonates' room. The clinic is equipped with ultrasound, oxygen, respirator, vaporizer, autoclave and oxygen. There are 17 beds. The laboratory can carry out basic blood and urine analysis as well as PAP smears. They do tests for gonorrhea, syphilis, parasites, immunology and pathology exams.

10. FUNDING SOURCES/ANNUAL BUDGET:

As of 5 years ago, the clinic has been self-supporting in spite of its low-cost services. The clinic has 17 beds, a nursery and an operating room. When COMBASE was initially formed, its financing was supported by different International Evangelist Associations and World Neighbors, which was later no longer continued due to administrative problems. The cuts in funding forced COMBASE to recover their operating costs. This made it necessary to establish new rates for the different services which were offered. COMBASE also made agreements with different Evangelist Churches for the provision of health services.

Family Planning: COMBASE offers information on family planning, oral contraceptive and barrier methods. They do not do IUD insertions because of the belief that this method is abortive. They are interested in the new Reproductive Health Norms being established by the MPSSP since this will allow COMBASE to expand its activities in the family planning area.

- Prenatal Care:** COMBASE's gynecologists offer prenatal care at its clinic but no formal risk screening system is in place. Basic lab tests for confirmation of pregnancy, analysis of protein in the urine, STD's and hematocrit level in the blood are all done at the clinic. They are able to do cesarean sections at the clinic and only highly complicated cases are referred to the Maternity Hospital. They are considering training local birth attendants to attend births in the rural areas from which 22% of their clients come. They would then act as the referral center for cases that were more difficult. Basic history and physical forms with no checklists are used. It is up to the physician to determine what s/he wants to record. The gynecologists' training varies and it was unclear as to whether they follow any systematic protocol.
- Birthing Care:** Births are attended at the clinic. In 1988, 510 normal births and 123 cesarean births were delivered at the clinic. An obstetrician and an auxiliary nurse normally attend the birth. Oxygen is available for resuscitation.
- Outreach:** COMBASE used to do more community outreach than it does now because of the cost cutting that it had to do to stay financially solvent. However, COMBASE does coordinate with the MPSSP to carry out immunization campaigns in its area of influence. The Director has continued a training program for health promoters and would like to get back into active community education and outreach. Educational materials are scarce. Several posters on topics such as breastfeeding and nutrition are hanging in the clinic and the staff is preparing to show educational videos in its waiting and patient rooms. However, they mentioned that they did not have access to many good videos.
- Prices:** A consult costs from Bs. 6 to 8; a normal delivery costs Bs. 280 and a cesarean from Bs. 590 to 640.

ORGANIZATION/PROGRAM PROFILE

1. **NAME:** Cruz del Sur
2. **ADDRESS:** (Street) 1140 M. de Aguirre (COMACO)
Telephone: (042) 42441; 42477
Fax: (042) 42441
3. **DIRECTOR:** Dr. Yvonne Frank
4. **TYPE OF ORGANIZATION:** for-profit, private sector
5. **STAFFING:**

Executive Director, 2 gynecologists (part-time), 1 pediatrician (part-time), 1 nurse (full-time), additional consultants available depending on need.
6. **PRIMARY PURPOSE AND TYPES OF ACTIVITIES:**

Originally created to respond to the health needs of the Executive Director's family-owned cement company employee's health needs, Cruz del Sur now seeks to provide low-cost health services to indigent population in the urban, periurban areas of Cochabamba.
7. **ACTIVITIES/SERVICES:**

Cruz del Sur has gone through various stages of development from operating one to four clinics at any given time during the last ten years. It now operates one clinic in the market area of Cochabamba. Cruz del Sur now offers basic health care and primary health care to its target population including IUD insertion, emergency birth delivery (if not complicated), prenatal and postnatal care, supplementary child feeding program through 2 nursery schools that it manages. Cruz del Sur is now trying to redefine its structure and range of activities.
8. **ACHIEVEMENTS:**

Cruz del Sur has provided low cost services to the indigent periurban and urban population of Cochabamba for the last 10 years. It was one of the first health organizations to provide family planning services to its clients.
9. **FACILITIES/EQUIPMENT/OTHER RESOURCES:**

Cruz del Sur is furnished with the basic equipment necessary to provide primary and basic curative care. It has a gynecological table, sterilizer, microscope, dentistry equipment, minor surgical instruments, IUD insertion kits, family planning commodities (condoms, pills, IUDs, jelly) and a large area that could serve as administrative offices, if necessary. The clinic is located in an unused factory that belongs to

the Executive Director. A nursery school is attached to the same building.

10. FUNDING SOURCES/ANNUAL BUDGET:

Cruz del Sur has received financial support from USAID for the last four years through the Pathfinder Fund. It has also received technical assistance in institutional development from Management Sciences for Health. The remainder of its funding comes from the Director's personal funds and from the cement company. Cruz del Sur has had arrangements in the past with the MPSSP and Cooperatives for clinic space which cut down on overhead costs.

- Family Planning:** Cruz del Sur offers family planning services including pills, IUDs and condoms. Its gynecologist was trained in family planning through the Pathfinder Fund. There is no laboratory back-up at Cruz del Sur. Clients must be referred to other labs for tests. Some educational outreach has been done in the past, but without educational materials, nor in any systematic way.
- Prenatal Care:** Prenatal care is offered. No specific system of risk assessment is used and history and physical forms are blank pages which depend upon the physician's comments which were observed to be few and lacked much important information. Any lab tests must be referred to other labs and this often means losing the client to another provider (or even the doctor working at Cruz del Sur may refer the client to his own practice). No high risk screening tool is used.
- Birthing Care:** Births are only attended in non-complicated, emergency situations at the clinic. When Cruz del Sur occupied the Hospital Tiquipaya until recently this year, normal births were delivered there. In the remaining clinic, this is not as common. Complicated births are referred to the Maternity Hospital. Equipment available for this service is minimal. They have not worked with TBAs.
- Outreach:** Cruz del Sur has done some outreach in the past through talks to community, church and school groups. They have very few educational materials and the outreach strategy was not systematic, nor routine.
- Prices:** The price of a normal medical consultation is Bs 3. For a normal birth, Cruz del Sur charges Bs 60.00. IUD insertion is Bs 15.00. Many clients cannot afford to pay even these relatively low prices.

ORGANIZATION/PROGRAM PROFILE

1. **NAME:** Fundacion Ecumenica Para el Desarrollo (FEPADE)
2. **ADDRESS:** (Mailing) Casilla 1260, Cochabamba, Bolivia
(Street) Juan de la Cruz Torres, 1513
Telephone: (042) 31376
3. **DIRECTOR:** Wifram Inaholsa
4. **TYPE OF ORGANIZATION:** non-profit, non-governmental

5. **STAFFING:**

FEPADE's health staff consists of one doctor, 3 nurses and the communities contribute one promoter each for a total of 70.

6. **PRIMARY PURPOSE AND TYPES OF ACTIVITIES:**

FEPADE was formed to meet the following objectives:

- 1) contribute to change in the conditions of life in peasant communities through a process of liberation;
- 2) provide technical assistance and training in native human resources in the fields of health, agriculture, cooperation and community organization with the purpose of self-development;
- 3) support the organization of peasant communities as a primary factor in the implementation of integrated development;
- 4) investigate the national reality in the qualitative function of institutional work and support the theory of development and popular education.

7. **ACTIVITIES/SERVICES:**

FEPADE works in three provinces (Capinota, Tirake, Bila Bila) with a total of 70 communities in the marginal and rural areas of Cochabamba with a total population coverage of approximately 20,000. FEPADE assists campesinos with agricultural development, health and community organization. In the health sector, FEPADE works at the primary level training community promoters and birth attendants in prenatal, normal delivery and postnatal care, family planning, child survival interventions and nutrition based on local availability of foods. The nutrition component is linked to the agricultural component to encourage production of nutritious foods for family consumption. Each community has a promoter who works out of a health post. FEPADE also works at the secondary care level in three health centers attended by registered nurses.

In addition to its work in the field, FEPADE offers training workshops and courses to health promoters and birth attendants every three months.

8. ACHIEVEMENTS:

FEPADE has trained over 100 promoters, has incorporated traditional healers into its programs, has trained over 30 birth attendants, is working in 70 communities with strong community support, and has managed to integrate its three sector components well.

9. FACILITIES/EQUIPMENT/OTHER RESOURCES:

FEPADE has community built and maintained health posts in every community, three health centers of a higher level, though still very basic, and training centers in all three regions. Training is also done in Cochabamba city at FEPADE's training center in the city. Clinical equipment is limited to the very basics necessary for primary care and basic curative care.

10. FUNDING SOURCES/ANNUAL BUDGET:

FEPADE is, and has been, funded by a number of international donor organizations including USAID with technical assistance from Development Associates, Inc., PAHO, and the Lutheran Relief.

Family Planning: FEPADE is providing education to campesinos in family planning and about half of the promoters distribute condoms and pills. They do not have staff trained to do IUD insertions and must therefore refer clients to the city. This is not the optimal situation as the cost is high and many women are afraid to go into the city so no service is delivered. FEPADE would like to train its doctor and possibly its registered nurses in IUD insertion so that they can respond to the demand that they are generating through educational efforts. If they did this, they would need to coordinate with a laboratory for lab back-up.

Prenatal Care: Health promoters have been trained in basic prenatal care but details on the training curriculum were not available at the time of this visit. There is some screening for risk but what the screening is was not clear. Complicated births are said to be referred to the Maternity Hospital. Nutrition education is carried out in conjunction with the agricultural component. Consumption of locally available, nutrition food is promoted.

Birthing Care: FEPADE trains birth attendants to deliver home births that have few or no complications. Statistics on the number of births attended by these birth attendants were not available at the time of this visit. Complicated births are referred to the Maternity Hospital. No equipment for resuscitation is available.

Outreach: FEPADE's promoters actively reach out to the community to educate its members on primary health care topics including

nutrition, maternal and child health, and family planning. They do have some educational materials, although these could probably be improved upon and expanded.

Prices:

Prices of above services depend on the location. In Tirake, women will pay from Bs 30 to Bs 40 for a normal delivery. Health post visits are minimal Bs 2-3, often with nothing paid. In Capinota and Bila Bila, normal deliveries are Bs 15 to 20.

ORGANIZATION/PROGRAM PROFILE

1. **NAME:** Medicina Dirigida a la Comunidad (ME.DI.CO)
2. **ADDRESS:** (Mailing) Casilla 2761, Cochabamba
(Street) Calle La Paz, corner of Calle Baptiste
Telephone: (042) 44603
3. **DIRECTOR:** Dr. Jorge Quiroga
4. **TYPE OF ORGANIZATION:** non-profit, non-governmental
5. **STAFFING:**

Director, secretary, 5 doctors (2 gynecologists, 3 general practitioners), 5 nurses, 1 dentist full-time and 1 pediatrician part-time. (The posts are staffed by a physician, a nurse and 3 promoters from the community).
6. **PRIMARY PURPOSE AND TYPES OF ACTIVITIES:**

ME.DI.CO. was founded in 1981 with the purpose of providing integrated medical services, health education, promotion and prevention to the marginal areas of Cochabamba under a primary health care strategy. All of the posts are in periurban areas of Cochabamba with great health needs.
7. **ACTIVITIES/SERVICES:**

ME.DI.CO runs five health posts in the periurban areas of Cochabamba (Santa Barbara, Alto Cochabamba, Condebamba, Beato Salomon and Champarrancho). Its major focus is on primary health care with much emphasis on educational outreach and community involvement in health promotion. The post facilities are very basic. ME.DI.CO. works with existing community groups such as mother's clubs and has helped to form health committees which select people to be trained in health promotion. ME.DI.CO. participates in many of the MPSSP programs such as immunization, food supplementation, well-child program, prenatal care and iron supplementation.

During this assessment the post of Alto Cochabamba whose catchment area contains 14,000 inhabitants and is located on one of Cochabamba's outlying hills was visited. The Santa Barbara post with 7,000 to 8,000 inhabitants was also visited. Both posts offer attention in the morning and they have a moderate attendance.
8. **ACHIEVEMENTS:**

ME.DI.CO. has trained three promoters per community where it works. The promoters provide basic educational outreach in health and notify the health post personnel if anyone in the community needs health assistance.

They follow pregnancies and assist with mobilization of the community for vaccination campaigns, etc. ME.DI.CO.'s biggest achievement is that it is providing services to the poorest people in the periurban areas and its educational focus has helped to increase promotional health activities.

9. FACILITIES/EQUIPMENT/OTHER RESOURCES:

Both premises are rented and their infrastructure is minimal. They have no gynecological table, lamp nor sterilizer; in spite of this the work they do is efficient within their limitations.

The headquarters are well located in a two-floor rented house equipped with a garage. They have a mimeograph, photocopier and computer.

10. FUNDING SOURCES/ANNUAL BUDGET:

ME.DI.CO. received initial support from a Canadian organization (SUCO). This support was used to finance a health post. Later, with the support of organizations from Sweden and the Netherlands, they opened 4 more health posts, for a total of 5 posts.

Family Planning: In November 1989, ME.DI.CO. began family planning activities with supplies contributed by FPIA. However, methods supplied directly by ME.DI.CO. are limited to oral contraceptives and barrier methods. Women who elect IUD insertion are referred to a gynecologist because none of ME.DI.CO.'s physicians has been trained in family planning. In the near future, they plan to install an office in their central office where they can direct their clients. They would very much like to train their physicians in full temporary family planning methods. An interesting thing to note here is that ME.DI.CO. has had greater success with condom distribution than most other organizations. They attribute this to the active education that they offer and the men's desire in their areas to be the one of the couple to "control" sexuality.

Prenatal Care: Prenatal care is carried out once a week at each health post. It is linked with the supplementary food and iron programs. No risk screening tool is used and information collected on pregnant women's health status is minimal. The woman's weight is taken, she is examined by the gynecologist or by a nurse and her due date is estimated. Nutritional education is provided along with the food supplements. No lab tests are performed. If the gynecologist thinks that this is necessary, the woman is referred to a laboratory. ME.DI.CO. keeps a register, per zone, of pregnant mothers which allows health personnel to be aware of upcoming births.

Birth Care: ME.DI.CO. does attend normal births at its health posts. However, due to the small number of staff and the fact that staff are not at the clinic 24 hours a day, many births are delivered in the home or elsewhere. ME.DI.CO. estimates that approximately 70% of the women that they see for prenatal care opt for institutional birth, be it at ME.DI.CO.'s own health post or at another clinic or hospital. ME.DI.CO. staff will also go to the woman's home to assist with her delivery, if called. Deliveries are attended by the post's doctor or by the nurse and the area's midwife. Only very basic equipment is available. Complicated deliveries are referred to the Maternity Hospital.

Outreach: ME.DI.CO.'s outreach into the communities where it works is very strong. In several of its sites, the communities have constructed the health post and have worked closely with ME.DI.CO. to choose promoters who were trained by ME.DI.CO. in basic primary care and educational methods. Though ME.DI.CO. has few educational materials, it has created some with the communities. Through its work with vaccination campaigns, the well-child program and various other activities, ME.DI.CO. reaches many of the people in its catchment area.

Prices: A consultation costs Bs. 3 and normal deliveries cost Bs. 80 to 110.

Summary of Visit:

Based on the visit to the health posts and the headquarters, through the knowledge of their activities and the quality of their professionals, we believe that this could be a potential organization for maternal-child care and family planning services in the periurban area, with support of MotherCare. It also could be the agency to assume control of the logistic system of contraceptive commodities for the Cochabamba District. The latter was discussed with Dr. Quiroga to determine ME.DI.CO.'s level of interest and availability for this role. Dr. Quiroga said they would be capable and willing to take on this responsibility, but we believe that their personnel should be reinforced with a person who could supervise the logistics and the necessary information system.

ORGANIZATION/PROGRAM PROFILE

1. NAME: AVE
2. ADDRESS: Casilla 2938 Street: 0987 C. Lanza
3. DIRECTORS: Julia Vargas & Manuel Molina
4. TYPE OF ORGANIZATION: non-profit, non-governmental
5. STAFFING:

2 Co-directors (1 with experience in radio and theater; 1 with experience in photography, video and cinema) full-time additional staff of 4 with expertise in community research (focus group-type), development of slide presentations, training in audiovisual materials production (predominantly slides and cassettes) and use of audiovisual materials, sound production.
6. PRIMARY PURPOSE AND TYPES OF ACTIVITIES:

AVE's organizational objective is to educate the population living in the peripheral areas of Cochabamba about themes that affect the population through a participatory methodology of audiovisual materials production. AVE's activities include: participatory research on specific themes of interest to communities through "round table discussions" (focus groups) and individual interviews, production with the community of slide and audio materials, training of community members in productions and use of materials and methods of presentation of these materials. AVE has also begun to work in the area of evaluation of the impact of the materials and its methodologies.
7. DESCRIBE ACTIVITIES/SERVICES (type, location, scope, target groups)

AVE's target groups are selected from community members in the periurban areas of Cochabamba. Past target groups have included: women's groups, teenage drug and alcohol abusers, agricultural groups, school children, etc. AVE normally works with one community area at a time, but has done work with many communities in the periurban area on several themes. Presentations of AVE's slide/cassette shows take place in many parts of the urban and periurban areas via NGO's and other interested groups. AVE trains representatives from other organizations in presentation methodology. Training includes use of audiovisual equipment, how to present the topic before the show and how to lead a discussion session after the show.
8. ACHIEVEMENTS:

AVE has completed more than 20 slide presentations on topics ranging from nutrition to family planning to chagas (see list attached). Each set of slides was developed after a period of participatory qualitative research

with the community in which AVE worked. AVE conducts workshops in materials production and presentation on average every three months. AVE is now producing a video. Previous staff experience includes three years of radio work with Radio San Rafael.

9. FACILITIES/EQUIPMENT/OTHER RESOURCES:

AVE's office contains a secretariat with office equipment including a computer, typewriter, etc. AVE is equipped with a photography laboratory, sound studio, training room with blackboard and breakout rooms, slide projectors, video player. Though AVE as an organization does not possess a video camera, it does have access to one that is personally owned.

10. FUNDING SOURCES/ANNUAL BUDGET: (previous experience with international donor assistance)

AVE has been funded for the previous nine years by the Interamerican Foundation.

Family Planning: AVE has produced two slide/cassette shows that focus on family planning and are directed at teenage/adult audiences. Additionally, AVE has produced a slide/cassette show entitled "Sexualidad y Mucho Mas" and one entitled, "De Donde Vengo?" which teaches young children about how babies are born.

Prenatal Care: No work in this area yet.

Birthing Care: No work in this area yet.

Outreach: Promotional/educational and outreach activities are carried out routinely through presentations of the slide shows and through training for NGO staff and other interested people. AVE works with other NGO's and community groups to disseminate the educational information contained in its audiovisual materials. In addition to the audiovisual materials produced, AVE has developed training curricula for workshops, a pamphlet which is a guide to AV materials presentation, a small number of pamphlets on educational themes and they are now working on a video.

Budget: Each project that AVE undertakes varies in price depending upon the theme and the amount of work that is necessary to develop a theme. Some projects can be done relatively quickly (a couple of weeks) and others have taken up to two years. AVE's total annual budget for all work is \$35,000 to 40,000.

ORGANIZATION/PROGRAM PROFILE

NAME: Centro Pedagogico y Cultural de Portales
Fundacion Simon I. Patino y Pro-Bolivia

ADDRESS: Avenida Potosi, 1540
MAIL: Casilla 544 ,Cochabamba , Bolivia
Tel (042) 43137, or
Case postale 182-1211
Geneva, 25, Switzerland

DIRECTOR: E. Bolle-Picard
Ruth Salinas (Co-Director)

TYPE OF ORGANIZATION: Non-Profit Foundation

PRIMARY PURPOSE AND TYPE OF ACTIVITIES:

Philanthropic, primarily oriented to education, development and promotion of Bolivian culture

ACTIVITIES AND SERVICES:

The Centro Pedagogico y Cultural de Portales is one of four large activities supported through the Foundation. Its primary function is educational, and resources are divided into two main areas: promotion of Bolivian literature and support for specialized documentation centers (i.e. children's libraries) and support for the diffusion and preservation of Bolivian culture, primarily in the areas of music and dance.

The Foundation also supports the Albina R. de Patino Pediatric Center, which provided services and does research in child health. This Center was not visited as a resource for media and IEC expertise. The possible inclusion of this center in the services component of the Cochabamba Project, however, will be explored at a later date. Other major Foundation activities include:

- The Center for Agricultural Research and Genetic Engineering, Pairumani, Bolivia
- A Model Farm at Pairumani, Bolivia

FACILITIES, EQUIPMENT AND RESOURCES:

The Centro Portales in Cochabamba has a large physical plant and is completely equipped for community and teacher education. maintenance of libraries and support of professional research centers.

FUNDING SOURCES:

Activities of the Cochabamba Center and other facilities are fully funded through the Simon I. Patino Foundation, based in Geneva. Grant support for specific activities has also been received from USAID/La Paz, OEA, CERLALC (Colombia) and UNESCO.

Information about the annual budget of the Foundation was not available.

SUMMARY OF VISIT:

Health activities of this Foundation is limited to pediatric care, principally in the periurban areas of Cochabamba. They apparently do no prenatal or birthing care, and no family planning, although there are some training activities for health personnel in the diagnosis and treatment of childhood illness.

The utility of the Centro Portales to the MotherCare Cochabamba Project would be in the area of materials production, and, possibly, research related to the development and testing of materials. Drawbacks to the use of their services would be that contracting for any substantial pieces of work would probably have to be done through Geneva. The Foundation seems so well funded that it is likely it would not be interested in small pieces of work coordinated through another Cochabamba organization. In summary, the facilities and capabilities of the Centro Portales appear excellent, but the feasibility of working with this organization in the development and execution of the MotherCare Project in Cochabamba seems small.

ORGANIZATION/PROGRAM PROFILE

NAME: Centro de Servicios Para Desarrollo (CENSED)

ADDRESS: Casilla 1862
Cochabamba, Bolivia

DIRECTOR: Maria Elena Canedo U.

TYPE OF ORGANIZATION: Non-Profit Center for Public Education

PRIMARY PURPOSE AND TYPE OF ACTIVITIES:

Development of materials for community (popular) education, with strong orientation to political issues which affect Bolivia's rural poor (e.g. Agrarian Reform).

ACTIVITIES AND SERVICES:

Activities are primarily limited to the publication of materials, particularly in serial format, although the organization has had some agreements for production of oral materials to be used in radio presentations for local stations in rural areas. This latter activity has usually been in conjunction with publication of materials related to a particular issue and/or geographic region. CENSED also maintains a small library of materials related to social issues in Bolivia which is available for public use, and sells its own publications.

STAFFING:

CENSED has a permanent staff of six, and contracts with other individuals as necessary for research.

FACILITIES, EQUIPMENT AND RESOURCES:

In addition to the library, CENSED has a permanent staff artist and equipment for video, slide and audio cassette production. Artistic layout for their materials are done in-house, but actual production of pamphlets and graphic materials is contracted.

FUNDING/ANNUAL BUDGET:

CENSED sells its materials to the general public. It has also done contract work with the Bolivian Ministry of Education for production of community education materials. Some additional support has been received from national and international donors, although the Director was not specific about these resources. Figures on the annual budget of this organization were not available because the amount of work varies by year.

SUMMARY OF VISIT:

CENSED is a woman-owned and managed publishing organization dedicated to the production of quality public education materials. It is now in its eighth year of operation.

Most materials, including those prepared for rural radio stations (radios campesinos) are directed to political/social issues which affect the life of the rural (and, more recently, urban) poor (e.g. small farmers, miners, women and urban families). Exploitation of these groups is a common theme and many are feminist in orientation. Raising social consciousness about these issues and generation of self-esteem about rural and ethnic heritage also seems to be an important component of CENSED materials.

The quality of CENSED work is excellent and they have good experience with large-scale production of printed materials. They produce an average two publications a month, primarily in series. These normally include one national publication (approximately 6000 copies) and 5-7 regional publications (1,500 -2,000 copies each).

At present, this organization has done no work on health, but is particularly interested in women and family issues. They are openly willing to work in the area of family planning, as well as reproductive health. Unlike many public-oriented organizations, CENSED has an impressive lack of fear about approaching difficult political and social issues like family planning and, as such, should be considered an important potential resource in this project.

This organization probably does not have a sufficiently broad technical base or the management capability for oversight of the IEC component of the MotherCare Project in Cochabamba. However, they should be considered for design and production of materials which are related to women's reproductive health and family planning.

CENSED would probably be an excellent contact for the Johns Hopkins University Population Communications Services (PCS) Project, which will also be working in Bolivia under the USAID/La Paz Reproductive Health Project.

ORGANIZATION/PROGRAM PROFILE

1. NAME: Programa Medico Familiar (PROMEFA)
2. ADDRESS: Casilla 1854, Cochabamba, Bolivia
Street: 25 de Mayo, 184 piso 2, oficina 1
3. DIRECTOR: Dr. Oscar Nino de Guzman
4. TYPE OF ORGANIZATION: non-profit, private
5. STAFFING:

6 doctors (gynecologists, pediatricians, general medicine and dentist) all part-time (3 hour shifts per day); 2 auxiliary nurses full-time.
6. PRIMARY PURPOSE AND TYPES OF ACTIVITIES:

PROMEFA's primary purpose is to deliver high quality MCH services to indigent Cochabambinos. PROMEFA provides primary health and basic curative health services to needy families in the area of La Cancha.
7. DESCRIBE ACTIVITIES/SERVICES (type, location, scope, target groups)

PROMEFA targets lower income families in the market area of Cochabamba known as "La Cancha". This area's total population is estimated at 47,000. In addition to basic curative and primary health care, PROMEFA coordinates with the Unidad Sanitaria to carry out vaccination campaigns and the Well Child Program. PROMEFA also runs a "Chicolac" program which distributes milk to children ages 1 to 5.
8. ACHIEVEMENTS:

PROMEFA's major achievement is that it delivers basic health services, including primary health care, to clients at a reasonable price. PROMEFA views its development in phases and assesses its first phase as successful (outpatient care). During its first two years of existence, PROMEFA delivered services to approximately 3,000 clients per year.
9. FACILITIES/EQUIPMENT/OTHER RESOURCES:

PROMEFA's clinic is equipped with all the basic necessities for outpatient care and emergency inpatient care: autoclave, 1 dressing table, 1 gynecological table, 1 birthing table, adult and infant scales, 2 beds, dental chair, oxygen, baby warming table, stove to prepare milk, telephone, water tank, basic surgical instruments, etc. PROMEFA does not have a respirator.

10. FUNDING SOURCES/ANNUAL BUDGET: (previous experience with international donors)

PROMEFA is financed by its client fees and by voluntary staff time given by its members.

Family Planning: PROMEFA provides family planning services to its clients. 20-25% of clients have selected the IUD. The other preferred method is condoms. Virtually no pills have been prescribed. PROMEFA's staff goes out into the community to give talks on family planning. PROMEFA works with community groups in the Cancha area. The two gynecologists on the staff have received FP training during their specialization training. Normal screening for IUD insertion includes a PAP smear at low cost. FP methods are purchased on the local market. PROMEFA has not experienced any major complications to date. They do wish to expand their FP services and could benefit from assistance with procurement of FP supplies and educational materials.

Prenatal Care: PROMEFA does provide prenatal care service at its clinic but it did not appear to be at any fixed time. PROMEFA uses a standard obstetrical form (not the CLAP form) so it is difficult to say what the standard prenatal visit consists of, other than weight, PAP screening, and blood pressure. Women are assessed for risk and are referred to the Maternity Hospital, but it wasn't clear what constituted "risk". As PROMEFA doesn't routinely do deliveries at its clinic, most pregnant women are referred anyway. Only emergencies are delivered at the clinic and some of them are eventually referred as well because the clinic is not equipped to handle major complications.

Birthing Care: PROMEFA does not offer delivery as a routine service, but does attend emergency births about once or twice a month at its clinic in the Cancha. The physician who is at the clinic at the time attends the birth. PROMEFA's OB/Gyn's are called in if necessary.

Outreach: PROMEFA's staff go out once or twice a week into the community to visit community groups where they give talks on topics such as family planning, nutrition, etc. There is no one whose responsibility it is specifically to coordinate this effort. They do not have educational materials.

Prices of above services: Consult: Bs 5; Delivery: Bs 30-50

ORGANIZATION/PROGRAM PROFILE

1. NAME: Centro de Prevencion Contra El Cancer de la Mujer.
Programa Medico Rural
2. ADDRESS: Avenida Heroinas E-0464 4to Piso
Cochabamba, Bolivia
3. DIRECTOR: Dr. Ramiro Becerra Marquez
4. TYPE OF ORGANIZATION: non-profit organization
5. STAFFING: 5 doctors (gynecologists, anesthesiologist,
oncologist), obstetric nurse, 2 psychologists
6. PRIMARY PURPOSE AND TYPES OF ACTIVITIES:

The Center was originally established in 1965 by university professors in La Paz who were interested in detecting and treating cervical cancer in the poor, rural population at low cost. The Center has expanded its activities to include home birth assistance by an obstetrical nurse and gynecologist and family planning.

7. ACTIVITIES/SERVICES:

The Center works primarily in the surrounding rural areas of Cochabamba for its cancer control work, but has recently included the urban and periurban areas for its home birth program.

Family Planning: The Center offers many family planning services including IUD insertion, pills, condoms, and minilap. The gynecologist who delivers these services has received training in FP in the U.S. and in various South American countries including Colombia, Chile and Costa Rica. He is a specialist in infertility. There is laboratory back-up for family planning as the Center is very well equipped to do PAP tests and other microscopic screening for some STD's, etc. The major problem that they have faced is the small number of clients. They are interested in doing more educational outreach to inform communities about the services and options.

Prenatal Care: The Center recently began a "home birth" program which includes prenatal care in the package of services offered. The consultations are done in the home or at a local clinic by the obstetrical nurse. If there are complications, the gynecologist is called in. Laboratory tests are performed (PAP, some STD screening, urinalysis, etc.) at the clinic. Some risk screening is done but it is unclear what method is used. Cesarean sections are referred to the maternity hospital. The major promotional incentive used is that the health professional will come to your home with a fully equipped ambulance and will deliver you at home, if possible, or will transport you to the local clinic. The services are packaged for one price, Bs 210.00 (Bs 10.00 for

inscription) which includes all medicines and services. As the program is new, client load is not yet high.

Birthing Care: As part of its home birth program, the Center does attend births, either in the home or they transport the woman to the local clinic. The program is new and client load is still low...about 10-15 deliveries per month. The obstetric nurse attends the labor and calls the OB/Gyn if necessary. Basic equipment is available for normal deliveries. Complications are referred to the Maternidad German Urquidi.

Outreach: The Center has a very active outreach program for its PAP screening campaigns. They work with local authorities to coordinate their campaigns and they usually see a large percentage of women of reproductive age in the rural communities where they work. They would like to do more promotion and outreach for their birth and family planning programs and do not have the necessary educational materials to do this successfully.

Prices of above services:

PAP smear: free during campaigns or Bs 5.00 for normal screening.
Prenatal care registration Bs 10.00 and Bs 200.00 for normal birth and postnatal care. IUD insertion Bs 15.00.

8. ACHIEVEMENTS:

The Center has carried out active cervical cancer screening programs in rural areas of Cochabamba at no cost to the client for a PAP test. It is one of the only service providers that can treat cervical cancer in the Cochabamba department. The home birth program is innovative and seems to be gaining clientele despite its relatively high cost of Bs 200 (including medicines). The Center coordinates well with local government officials and syndicates. The quality of its services appears to be high.

9. FACILITIES/EQUIPMENT/OTHER RESOURCES:

The Center maintains 2 fully equipped mobile vans/ambulances for work in the rural areas and its home birth program. The Director's office, where patients are referred if they test positive for cervical cancer, is well equipped with the basic equipment necessary to do cervical surgery including anesthesia, gynecological table, angle lamp, surgical instruments, microscope, slides, and basic pharmaceuticals.

10. FUNDING SOURCES/ANNUAL BUDGET:

The Center is partially funded for its screening and rural health programs by Brot Fur Die Welt. (German Bread for the World) and by individual contributions from past associates who have established practices in Costa Rica and the U.S. Interns who have been trained at the Center also make personal contributions. In the past, the Center received some contraceptive commodities from the Pathfinder Fund. The

rest of its operational costs are funded by income generated through its services. An important aspect of this organization's design, is the personal financial motivation of its participating members. While screening and other public health services are provided at low cost to the Center's clients, if curative care is necessary (i.e. surgical intervention for cervical cancer and other reproductive morbidities), these services are provided at market rates by the individual physicians through their private practices. The total annual budget was not revealed during these visits.

ORGANIZATION/PROGRAM PROFILE

1. NAME: Universidad Mayor de San Simon
Division de Investigacion y Extension en Medicina
(DIEMED)
2. ADDRESS: Escuela de Salud Tecnica
Avenida Aniceto Arce
Cochabamba, Bolivia
3. DIRECTOR: Dr. Luis Morales
4. TYPE OF ORGANIZATION: non-profit, governmental
5. STAFFING:

The Division of Investigations and Extension of the School of Medicine (DIEMED) was created recently and presently the majority of its members belong to distinct departments of the School of Medicine.

It wasn't possible to quantify the qualified technical personnel and auxiliary personnel. As can be appreciated in the list of personnel below, together it covers a wide range of medical specialties, such as endocrinology, gastroenterology, infectious diseases, nuclear medicine, pediatrics, nutrition and others.

The personnel demonstrate much motivation and enthusiasm. Unfortunately, it wasn't possible to obtain copies of their curricula vitae, and, therefore, it is not possible to evaluate their post-graduate training and list of publications. The only material that provides indirect information about these aspects are the on-going and projected research projects and some preliminary and final reports on investigations which have already ended. These documents reveal that, in general there is an insufficient capacity to formulate and execute research proposals. The various studies reveal serious methodological flaws in design and analysis of the information gathered.

The personnel of the Public Health and Social Medicine Department were not interviewed. This department consists of 18 physicians with training in public health and epidemiology. The great majority of personnel hold half-day contracts with the School of Medicine and the other half-day is dedicated to work at the Unidad Sanitaria or at the technical schools for paramedical training.

This group of professionals does not have a tradition of research in their area and only one of them has had training in biostatistics, and his time is dedicated to residency training.

The Nutrition Laboratory of the Biology Department (College of Science and Technology) consists of the following personnel: Ms. Amalia Antezana,

specialist in Bromatology; Ms. Silvia Castellon, specialist in biological evaluation of foods; and Ms. Martha Rivero, chemical technician. In addition, three post-graduate students work in this department.

Only Ms. Antezana was present during this visit. She demonstrated good technical capability and much interest in designing a group study of nutritional problems for the health of the country.

The general impression is that this is a professional group of good quality that works seriously and with dedication.

Dr. Samuel Siles is the only professional who works for the Program for Food and Natural Products. He works in collaboration with several post-graduate students of different backgrounds from the College of Science, principally chemistry.

Dr. Luis Morales	Endocrinologist- Geneticist
Dr. Ruben Arandia	Pediatrician
Dr. Fanor Balderrama	Epidemiologist
Dr. Jose H. Bermudez	Epidemiologist
Dr. Walter Crespo	Epidemiologist
Dra. Tirza Rocabado	Endocrinologist
Dr. Ricardo Morgenstern	Gastroenterologist
Lic. Gonzalo Mariscal	Computer Technician
Lic. Milena Ros	Planner
Dr. Juan de Dios Salazar	Obstetrician
Dr. Javier Salinas	Hematologist
Dr. Edgar Sejas	Pediatrician
Dr. Ricardo Sevilla	Pediatrician
Lic. Lourdes Zalles	Immunologist
Dr. Javier Saavedra	Endocrinologist
Dra. Ada Armaza	Pediatrician
Dr. Justino Delgado	Pediatrician
Dr. Jose Marquina	Obstetrician
Dra. Rosalia Sejas	Pediatrician
Dra. Elizabeth Torrico	General Practitioner
Dr. Pedro Fernandez	Pathologist
Dra. Elizabeth La Fuente	Pathologist
Lic. Evaristo Venegas	Immunologist
Dr. Hugo Albornoz	Biochemist
Dra. Daisy Camargo	Parasitologist
Dra. Yolanda Crespo	Parasitologist
Lic. Maria Zapata	Bacteriologist
Dra. Edith Osinaga	Bacteriologist
Dr. Felipe Chevalier	Nutritionist

6. PRIMARY PURPOSE AND TYPES OF ACTIVITIES:

The principal objective of DIEMED is to stimulate research activities in the School of Medicine through the support of the laboratory infrastructure,

coordination of activities of its members, fundraising and development of projects together with international organizations and foreign universities, undergraduate and post-graduate exchanges and organization of national and international scientific events.

7. DESCRIBE ACTIVITIES/SERVICES:

The Public Health group does not carry out its own research projects, but several of its members collaborate in parasitology projects such as Leishmaniasis and Chagas.

The School of Medicine also has a "Center for Population Education" (CEP) whose objectives are to provide personnel and infrastructure. There was not enough time to evaluate this center. This group appears, at least potentially, as a useful resource for future demographic studies. According to information from Dr. Luis Morales, the CEP has the best computational capability of all the groups.

The majority of the research undertaken by the nutrition team is related to composition of food and the development of protein sources of vegetal origin. Several of these studies are being analyzed and others have been presented in technical reports.

The nutrition laboratory conducts studies on nutrient composition of foods commonly used in Bolivia and, in addition, sells its services (quality control and others) to some of the local industries.

8. ACHIEVEMENTS:

10 agreements to collaborate with other institutions
In 1988, completed 5 major studies on various health topics
In 1989, completed 7 major studies on various health topics
Developed 9 research projects for 1990
Organized more than 5 major workshops/conferences

9. FACILITIES/EQUIPMENT/OTHER RESOURCES:

School of Medicine: The material resources that could be useful in studies to obtain baseline information and in the evaluation of interventions are the following:

Laboratories: The laboratories affiliated with DIEMED are small, are located in inadequate space, improvised as laboratories, and have an infrastructure with movable furniture and equipment which is fairly precarious. A large part of the equipment comes from countries of Eastern Europe and there are maintenance problems which are corrected by a technical team that works only for the School of Medicine.

The measurements included in the recommended clinical studies will require hematology and parasitology diagnosis including the diagnostic tool of radioimmunoassay. Given this fact a more careful appraisal of the quality of available equipment would be necessary prior to any study implementation.

The nutrition and food program laboratories have a physical layout which is much superior to the above laboratories and they are well equipped for studies of food composition, including vitamins and minerals. The Food Program laboratory has access to a Bomb calorimeter and a Spectrum Photometer of Atomic Absorption.

Between both laboratories, one could carry out all the measurements of vitamins required for the diagnosis of nutritional status.

Computation: DIEMED has 5 personal computers of different types, 2 of them have memory capacity sufficient to analyze data bases of medium size. The availability of statistical software packages is also adequate.

For management of large databases and more difficult statistical analysis, the computers of the Population Program could be used.

10. FUNDING SOURCES/ANNUAL BUDGET: DIEMED has been funded by various international donors including UNICEF, USAID, the University of North Carolina, UNFDAG/Gilead Church, PAHO, World Health Organization, etc. The annual budget total was not available.

Outreach: DIEMED routinely coordinates studies and student internships in rural and periurban communities.

Summary

The University of San Simon can provide all the human and material resources necessary in order to carry out proposed baseline studies. However, the majority of its faculty have little experience in conducting clinical and epidemiological studies and will require qualified technical support and supervision for the implementation of the studies that the project requires.

The capability of the group to manage information and to carry out statistical analysis is insufficient. It will be necessary to provide technical assistance to design and analyze the studies that are undertaken.

APPENDIX 5

COCHABAMBA: JOB DESCRIPTIONS

JSI/MOTHERCARE BOLIVIA PROJECTS COORDINATOR

The JSI/MotherCare Bolivia Projects Coordinator will be responsible for the general technical and administrative oversight of MotherCare Projects in Inquisivi with Save the Children, in Cochabamba with the Ministry of Health and selected NGO's, the Mobile Health Train Project with COBREHS and the National Railroad (ENFE), for coordination of support to the USAID Reproductive Health Subcommittee and for all other MotherCare and JSI supported activities in Bolivia. Specific duties within each project are described below:

Save the Children, Inquisivi (20% time)

- Member of project implementation committee
- Provide technical and administrative assistance as necessary
- Coordinate activities with PROCOSI and other local organizations
- Maintain a link between this and other MotherCare Projects in Bolivia and in other countries to share information and lessons learned
- Monitor administration of the project to ensure compliance with MotherCare Project guidelines
- Liaison with MotherCare/DC
- Assist in identifying needs for technical assistance
- Assist with preparation of scopes of work
- Assist with documentation of the project

Cochabamba (60% time)

- Provide technical and administrative oversight
- Provide technical and administrative assistance for services component of project, as appropriate
- Draft RFP's for MotherCare/DC approval in cases where bidding is necessary
- Participate in selection of subcontractors
- Draft subcontracts for all components of the project for submission to MotherCare/DC
- With Resident Advisor, determine technical assistance needs
- Coordinate technical assistance with MotherCare/DC
- Provide logistical support for all consultancies including in-country travel and hotel arrangements, secretarial support, scheduling, etc.
- Monitor subcontractor budgets and compliance with scopes of work
- Approve and process financial disbursements to subcontractors, etc.
- Track all project expenditures
- With Resident Advisor, write quarterly and annual reports
- Coordinate with MotherCare/DC for all procurement including clearing of equipment through customs
- Schedule and arrange for meetings of the Services/Training Reproductive Health Subcommittee

- Serve as liaison to Reproductive Health Committee for IEC
- Serve as project liaison with USAID and other donors
- Oversee work of Resident Advisor and Secretary
- Serve as liaison with MotherCare/DC

ENFE Mobil Train Project (10% Time)

- Provide technical and administrative oversight for COBREHS
- Monitor reports and project progress
- Approve and process financial disbursements
- Assist with documentation of the project
- Serve as project liaison with ENFE
- Serve as project liaison with USAID/La Paz
- Assist in development of future budget and program plans
- Participate in evaluation, audit and close-out of project

OTHER (i.e. PROSALUD, Santa Cruz) (10% time)

- Coordinate logistics of technical assistance
- Assist with development of research project proposal
- Draft subcontract for MotherCare/DC approval
- Monitor subcontract progress and financial reports
- Approve and process financial disbursements
- Serve as liaison between projects, MotherCare/DC and USAID/La Paz
- Assist with documentation of results and production of final report

IEC ADVISOR/COCHABAMBA PROJECT

The IEC Advisor will plan, coordinate and manage the IEC component of the MotherCare Project in Cochabamba, Bolivia. S/he will also provide on-going technical input for the development and evaluation of Mother-level educational materials by the SCF MotherCare Project in Inquisivi Province, and provide additional technical assistance as needed to other PROCOSI and Reproductive Health Subcommittee members for IEC materials development and communications/social marketing campaigns related to maternal and neonatal health and nutrition.

Cochabamba Reproductive Health Project (80%)

The IEC Advisor will reside in Cochabamba and act as the local project director and counterpart to local agencies involved in the project. This will include liaison with MotherCare and Manoff Group headquarters staff, other Cochabamba project staff, USAID/La Paz, local MOH and NGO staff, local subcontractors, local and international consultants, etc. Specific duties are described below:

- Monitor qualitative research in Cochabamba, which will be on-going when the Advisor enters Bolivia.
- Work with the local subcontractor to plan/manage/assist/advise/train local subcontractor(s) to conduct focus group discussions, in-depth interviews, and observational studies on KAP about maternal health problems and preventive and curative actions, including health service utilization.
- Oversee the analysis of the qualitative research and extract implications for IEC.
- Play the lead role in making the detailed plan for the IEC component of the overall project strategy, coordinating discussion at the Strategy Development Workshop.
- Work with local individuals/subcontractors to devise messages, materials, and media plans.
- Contract for/oversee/interpret and make appropriate revisions based on pre-testing of messages and materials.
- Oversee the management of the ongoing public education activities, including mass media (e.g., radio and television), print (e.g., posters), and interpersonal (training and educational aids for health personnel, community leaders, etc.)
- Design/manage/interpret/ and make appropriate revisions based on ongoing IEC monitoring and periodic monitoring studies.
- Work with the research advisor/consultant to design the IEC portion of baseline and final evaluation surveys.

SCF MotherCare Project: Inquisivi Province (10-15%)

- Work with SCF staff and PROCOSI advisors to interpret findings from their retrospective case control and mother's group needs assessments and to translate these findings into a Mother-level communications strategy for implementation under the project.

- Provide expert technical assistance to SCF and PROCOSI Advisors during the development of IEC messages and materials, their field testing and use in Inquisvi.
- Assist with the evaluation of IEC efforts in the Inquisivi area and reformulation of strategies and materials.

Other Responsibilities (5-10%)

- As requested by other PROCOSI and Reproductive Health Committee member organizations and approved by USAID/La Paz, provide expert technical advice for the development of IEC materials and social marketing efforts related to maternal and neonatal health improvement.
- Coordinate with PCS and other Collaborating Agencies working in communications and social marketing.
- Participate in all Reproductive Health IEC Subcommittee meetings as the MotherCare representative.

Qualifications

- Masters degree or equivalent experience in communications, public health, maternal and child health.
- Minimum of five years experience working in public health IEC in Latin America.
- Good understanding of principles of social marketing.
- Work style - excellent team player, but able to take leadership role; culturally sensitive; appreciates importance of training and skills transfer.
- Language - minimum of FSI 3 in Spanish, good speaking and writing ability in English. Quechua desirable but not required.

APPENDIX 6

POTENTIAL STUDY OF MATERNAL MORBIDITY AND NUTRITIONAL STATUS DURING PREGNANCY

The following section describes a clinical study that could be developed and carried out in one or more sites in Bolivia to assess maternal health and nutrition status during pregnancy. It is drawn from the concept paper presented in Section IV. of this report and presented here for discussion.

Clinical Study of Maternal Health and Nutritional Status

A clinical study of pregnant women is proposed in order to establish prevalence estimates for specific health and nutrition problems during pregnancy. This study will involve clinical examination and laboratory exams of...(Option 1: All pregnant women identified through the household survey who will be paid a small incentive to attend a special prenatal control at their nearest clinic)... (Option 2: All new prenatal clients arriving at selected clinics will be invited to participate in the study, free of cost, with a small incentive offered.) Approximately 400-500 pregnant women will be included in the study in each of the chosen sites.

The information to be collected through this study will include:

Control Variables:

- Age of mother
- Age of gestation
- Education of woman or socio/economic level
- Current participation and length of participation in MPSSP nutrition programs or other supplementary feeding program
- Gestational age
- Current employment/formal or informal sector, wage or non-wage

Nutritional Status:

- hemoglobin
- hematocrit
- folate
- zinc
- iodine deficiency
- anthropometry - weight, height, weight for height, and arm circumference

Morbidity:

- Chagas
- Malaria
- STDs
- Intestinal parasites
- Other problems - clinical exam
blood pressure
edema
etc.

Exams will be carried out and laboratory samples will be taken in selected clinics with on-going prenatal care programs by physicians trained for this purpose. In Cochabamba, laboratory analysis could be performed by the Universidad San Simon, under DIEMED. In Santa Cruz, CENETROP could perform these exams and in La Paz, a laboratory would have to be identified. Technical assistance and quality control could be performed by the IIN (Peru) or the Universidad Catolica de Chile, if an appropriate level of assistance is not available in Bolivia.

The results of this clinical study would provide prevalence estimates only; as designed it is not intended for use in the evaluation of project interventions nor will it allow for factor analysis in relation to maternal and infant outcomes. Sample sizes can therefore be kept relatively small. See Table 2 in Section III of this report for sample size estimates for measurement of the variables in question.

Information on the prevalence of conditions that are currently presumed to be problems will be used by national and regional planners and the MotherCare Project to determine priorities for intervention. Given the scarcity of resources for maternal and neonatal health intervention, this study will be an important step towards rationalizing the programming and use of MPSSP and donor resources.

This study protocol could be developed for implementation in one or more sites in Bolivia (e.g. Cochabamba, La Paz, Santa Cruz). Results would provide the first step towards establishing national prevalence estimates that could be used as reference points for future intervention and measurement of trends over time.