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GUATEMALA TRIP REPORT

**REPRODUCTIVE HEALTH PILOT PROGRAM
IN
QUETZALTENANGO**

September 7 - 19, 1992

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GLOSSARY/ABBREVIATIONS

AID - Agency for International Development

ACNM - American College of Nurse Midwives

Altiplano - The Central Highlands of Guatemala in which the majority of the indigenous, Mayan speaking, very poor population of Guatemala lives. Quetzaltenango region has all but three of its health districts in the Altiplano.

APROFAM - Association Guatemalteca Pro-Familiar. The Guatemalan IPPF affiliate which provides prenatal care and family planning services, and in some places intrapartum care.

Capacitation - training

Comadrona - Guatemalan term for midwife, usually referring to TBA. Most comadronas in Guatemala are illiterate in Spanish. Many speak very little Spanish and require translation of all but most basic communication to local Mayan languages.

CUNOC - Centro Universitario de Occidente. The University in Quetzaltenango.

Enfermera - nurse

Enfermera Auxiliar - Nurses' Aide. Rough equivalent, although not as well trained, of the LPN/LVN in the U.S. Often in charge of health posts or rural health centers. Usually have one year training program after Colegio, and are often in charge of the training and supervision of local comadronas.

Enfermera Graduada - Graduate Nurse. Training program usually lasts three years after Colegio but does not confer a University degree. The rough equivalent of a hospital-based program, which is being totally phased out in the U.S.

Enfermera Partera, also **Enfermera Comadrona** or **Enfermera Obstetrica** - Nurse-Midwife. Title and post-basic training phased out in previous decade.

Enfermera Tecnica - Nurse Technician. Title more or less equivalent to an Associate Degree nurse in the U.S., but is a higher level than the Graduate Nurse.

INCAP - Instituto Nutricional de Centro America y Panama

IPPF - International Planned Parenthood Federation

Licenciado(a) - Title conferred to University Graduates

MC - MotherCare

MSPAS - Ministerio de Salud Publica y Asistencia Social, the Guatemalan Ministry of Health (MOH).

Post-Basico - Training done after the basic training of a graduate nurse.

ROCAP - AID Regional Office for Central American Projects

Rural Health Technician - Technician with four years of training in sanitation, vector control and community health. Does not at the present time have any responsibility for prenatal care, delivery or neonatal care.

SILOS - Sistemas ocales de Salud. Local Health Systems, a concept developed by PAHO/WHO to encourage decentralization of health resources. The area of Quetzaltenango was so designated by the MOH in 1989.

T.B.A. - Traditional Birth Attendant. Internationally accepted term for empirically trained local midwives.

Xela - Mayan name for the city of Quetzaltenango. Used by Guatemalans to distinguish the city from the region of Quetzaltenango.

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Many thanks to Dr. Junio Robles and to Dr. Carlos Gonzalo Gonzales of INCAP for taking their valuable time to accompany and introduce me to many people in a short period of time, and for making me feel at home in Guatemala. Their sharing of insights and previously unresolved conflicts and problems gave me great insight into the "context" of this project. Each is committed to the model of gentle, family-centered care, and the pursuit of excellence.

Acknowledgement is given to the instrumental work of Dr. Mario Mejia who has worked miracles with soap and an abiding faith in mothers. His energy is exemplary.

Dr. Baudilio Lopez of USAID has my gratitude for his invaluable advice, logistics arrangements and company. Thanks to Jane Lyons' secretary at USAID, Suzy Barrios de Fernandez, for facilitating the writing of this report, and for the arrangement of many logistics.

Many thanks to my eldest son, Stephan Jenkins, for "holding down the fort" at home and making this interesting trip possible.

EXECUTIVE SUMMARY

In order to assist with the planning of the Reproductive Health Pilot Program under the MotherCare project, Melanie Austin traveled to Guatemala September 7 - 19, 1992 as the MC/ACNM Representative to work with the USAID mission, the Ministry of Health and APROFAM to provide technical assistance in the design of a training curriculum for nurses, design of health services for the Reproductive Health Center, and the development of a proposal for the Reproductive Health Pilot Project.

During the course of the consultancy, in collaboration with Jane Lyons of USAID/Guatemala and Mary McInerney of MotherCare, the scope of work for this consultancy was changed to exclude the development of a curriculum, the design and equipping of the center, and the development of a proposal. It was agreed that all of the above activities were premature at the current stage of development of the project. Instead, a concept paper which could be used as a discussion point with the MOH and other interested parties was requested. The concept paper was to focus upon the establishment of a Reproductive Health Center for family-centered birthing which would decrease the overload in the hospital and provide a place for training nurse-midwives and nurses outside the tertiary care setting.

The need for the a Reproductive Health Program is supported by major health indicators. The population of approximately 10 million in Guatemala is projected to double within 20-25 years, since 50% of the population is under 15 years old. In recognition of distressing indicators of health status in the country, and specifically in the Altiplano (73.4/1000 infant mortality rate; 200-230/100,000 maternal mortality rate), tremendous effort has been directed toward the improvement of maternal and child health in Quetzaltenango by many organizations (including MotherCare/ACNM). The area of Quetzaltenango has many strengths which make success possible.

In July of 1990, the Quetzaltenango Maternal and Neonatal Health Project was created. This project recognized the comadrona (TBA) as an essential player in the MCH care delivery system and has been supported by MotherCare. This project is in the last year of its life, and while significant gains have been made in the attainment of these goals, many problems remain with the accomplishment of some of the objectives. Adequate training and practical experience for the nursing personnel who guide, train and supervise the comadronas has not occurred. To reinforce and restate the observations of prior MotherCare consultancies:

1. The primary provider of maternal and neonatal services will and should remain the comadrona. This means that the effective training of this group is essential for the health and well-being of mothers and babies in Guatemala.
2. In order to effectively supervise and support the comadrona, the secondary level providers of maternal and neonatal services also need to be practitioners of normal prenatal, intra-partum and post-partum care, as well as basic resuscitation and care of the normal neonate, and be able to recognize the most serious risk conditions resulting in mortality and make referrals based on agreed upon norms.
3. The tertiary care level in Quetzaltenango is neither efficient in its treatment of patients nor regularly providing humane, respectful, comfortable or culturally sensitive treatment of women. This situation contributes to patient resistance to needed referral. A comprehensive program is needed to effect change at this level.

As a result of discussions and observations made during this visit, it was concluded that a Reproductive Health Center Project should be initiated as a three to five year project with a phase-in time to coincide with the phase-out of the Quetzaltenango Maternal and Neonatal Health Project. This concept had general support and agreement from most sectors interviewed. The following specific recommendations are offered:

1. The establishment of an out-of-hospital birth center is essential to the provision of a place where practitioners at the secondary level of care can receive hands-on training in the delivery of humane, family centered maternity care.
2. The center should be formed in Xela (Quetzaltenango) proper. If a site other than Xela is chosen for the center, the alternative site should assure access to a similar configuration of medical and learning institutions and adequate transportation.
3. The title and class of Nurse-Midwives (Enfermera-Partera/Comadona/Obstetrica) should be resurrected. These would be nurses trained at the center who would staff the center (and others if duplicated), provide family centered care and train nurses and auxiliaries.
4. Two experienced nurse-midwives from the U.S. should serve as teachers for a one year assignment, with the goal of developing a curriculum based on previous training programs and expanded to include public and community health issues. It is anticipated that training of nurse-midwives would be completed during the first six months and that during the second six months the U.S. midwives would act as docents to the first group doing the training for a second group, also of nurse-midwives. The goal should be to replace U.S. midwives with Guatemalan counterparts during the first year of the project. These counterparts would then begin to staff the center and to train nurses and auxiliaries at the center, and at health centers around the country.
5. A very basic management information system, including prenatal and intrapartum records which are simple, checklist type, and focused on the precursors to the major causes of morbidity and mortality in Guatemala should be developed, approved and piloted in this center.
6. Changes need to be made in order to make the Hospital de Occidente a humane and safe place to deliver a baby. There are several alternatives in this regard. This may include completing, equipping and opening a "new" hospital which is standing unused. Changes may be facilitated after a site visit by key Columbia leaders to the Maternity Center in Texas run by Sister Angela Murdoch, CNM. The possibility of an exchange program to support the residency program at the hospital should be further explored.
7. Technical assistance should be provided from a health economist to assist the Ministry of Health in making projections of probable population growth, the need for additional health care personnel and their training, and projections which might allow the Center to become self-sufficient.

These recommendations were incorporated into a draft concept paper which was discussed with MOH representatives. On the basis of those discussions, the concept paper was revised in the U.S. to reflect feedback received from the MOH on the last day of the consultancy and is attached as Appendix B.

While there apparently was general agreement about recommendations for the proposed project, at the time of the visit no specific plans were made for followup.

I PURPOSE OF THE TRIP

The purpose of this trip was to work with the USAID Mission, the Ministry of Health, and APROFAM to assist with the planning of the Reproductive Health Pilot Program. The MC/ACNM Representative was to:

1. meet with representatives of USAID, MOH and APROFAM involved in the design of the Pilot Program to discuss the project proposal
2. provide technical assistance in the design of the training curriculum for nurses to include prenatal care, delivery of normal births, neonatal care, breastfeeding and postpartum family planning for the Reproductive Health Center
3. provide technical assistance in the design of the health services to be provided at the proposed center, including personnel, materials and equipment necessary for successful implementation of the project
4. collaborate with the USAID Mission to write the proposal for the Reproductive Health Pilot Program.

During the course of the consultancy, in collaboration with Jane Lyons of USAID/Guatemala and with Mary McInerney of MotherCare, the scope of work for this consultancy was changed to exclude the development of a curriculum, the design and equipping of the center, and the development of a proposal. It was agreed that all of the above activities were premature at the current stage of development of the project. Instead, a concept paper which could be used as a discussion point with the MOH and other interested parties was requested. The concept paper was to focus upon the establishment of a Reproductive Health Center for family-centered birthing which would decrease the overload in the hospital and provide a place for training nurse-midwives and nurses outside the tertiary care setting.

II BACKGROUND

Guatemala is a mountainous country in Central America. It has a population of approximately 10 million people, 2/3 of whom live in poverty and 1/2 of those live in abject poverty. With no change in economics, religious beliefs or acceptance of family planning measures, this population will likely double within 20-25 years, because 50% is under 15 years old. Approximately 70 to 80 percent of all births occur out of the hospital, attended by a comadrona, with that rate reaching 90% in the areas of rural indigenous peoples. By MOH estimates, only about 20% of all births occur in hospitals or birth centers attended by physicians or trained nursing personnel. The MOH does not expect this percentage to rise significantly in the future. The infant mortality rate in Guatemala is one of the highest in Central America at approximately 73.4/1000 live births; 1/2 of the deaths occur in the intrapartum and neonatal period. In the region of Quetzaltenango, the maternal mortality rate is approximately 200-230/100,000 live births. These rates are in accordance with figures from similar rural areas. The three most common reasons for the mortality are, in order, hemorrhage (45%), sepsis and its sequelae (35%), and toxemia (15%). The major cause of intrapartum and neonatal mortality in the first day of life is asphyxia, primarily caused by malpresentation and prolonged labor. The major causes of neonatal mortality in the second to twenty-eighth day of life are sepsis, and low-birth weight, prematurity and their sequelae.

Quetzaltenango is the country's second largest city in Guatemala with a population of approximately 200,000. The Area of Quetzaltenango is divided into 10 health districts, 7 of which are in the Altiplano. The Area has 44 health posts, 10 health centers and 2 district hospitals. The health posts are normally staffed by an enfermera auxiliar and occasionally by a rural health technician. The health centers are usually staffed by

the district health officer (usually part time), a graduate nurse, a rural health technician, a sanitation inspector and several auxiliary nurses. Most centers have several beds for emergencies and deliveries. Although there was a designated class of nurse-midwives in years past, due to resistance from the Association of Gynecologists and Obstetricians of Guatemala, this class of personnel and the training for it was dropped, and the last nurse so designated was retired several years ago.

There are 2 district hospitals in the area of Quetzaltenango. The largest is in the city of Quetzaltenango itself, the Hospital Nacional de Occidente. It has approximately 340 total beds, 35 of which are postpartum, 20 neonatal "intensive" care, 9 labor beds (end to end), and 2 delivery tables (non adjustable). This hospital is in deplorable condition (see report from Dr. Roberto Sosa, January 1991). A brand new hospital was built and is standing on the edge of the city, where it has remained, unopened, for the past 15 years. Apparently, lack of elevator, kitchen and other equipment prevents it from opening. However, for the purposes of the expansion of MCH beds, it has the same capacity as the existing hospital.

In recognition of the distressing indicators of health status, tremendous effort has been directed toward the improvement of Maternal and Child Health and its indicators by many organizations (including MotherCare/ACNM, USAID, ROCAP, Project HOPE, INCAP, MADRE, UNICEF, PAHO/WHO) in the recent past. In 1989, the MOH officially designated the area of Quetzaltenango as a SILOS, or local health area, and authorized INCAP in the region to develop innovative and model programs in the area which could be replicated in other areas. An instrumental KAP study was conducted by Dr. Barbara Schieber of INCAP and evaluated by Dr. Barry Smith and Pam Putney, CNM (Pritech and USAID/Washington, 1989), which yielded preliminary results in the identification of the most striking risk factors, and the effectiveness of prior training of TBAs. Dr. Smith and Ms. Putney made recommendations to change the model of training TBAs from a didactic, ethnocentric, western model of lectures (and other methods depending upon the participants' literacy), to a more participatory, adult education based model. Recommendations were also made to change the training to include a more "case management" focus, with an emphasis on the care of women with the most significant "risk events" as they occurred, rather than more general "risk factors." The rationale for this more "Guatemalan" model was the constrained capacity of the official health services to accept the large numbers of referrals necessitated by the use of the more general PAHO/WHO guidelines based on age, parity, and other general risk factors.

In July of 1990, INCAP and Mothercare created the Quetzaltenango Maternal and Neonatal Health Project. The specific objectives of this project can be found in the body of the agreement, which included a study to determine the causes of mortality, establishment of norms, improvement of communication between health care providers, training of TBAs in less didactic ways, and assessment of the impact of the project.

This project recognized the TBA as an essential player in the MCH care delivery system and has been supported with various forms of technical assistance from MotherCare. This project is in the last year of its life, and while significant gains have been made in the attainment of its goals, many problems remain with the accomplishment of some of the objectives. Norms are not consistently used in any area except the care of the neonate in the hospital. Dr. Mejia has made significant reductions in the rate of sepsis by the enforcement of the hand washing policies and the introduction of equipment and supplies to facilitate their use. He has made several significant changes in hospital practice to make the atmosphere more "user friendly," including installing a window in the neonatal unit, encouraging women to hold and breastfeed their hospitalized neonates, and removing the cribs from the post-partum unit so as to encourage bonding. Although specific norms for the treatment of women with high risk conditions in the hospital have been developed by or under the direction of Dr. de Leon, they are specifically directed at hospitalized women, do not involve an actual "system" of referral, and almost never result in a counter-referral. The documentation of treatment, referral, and outcomes of high-risk women remains a dream. Although many individuals are conscientious about such referral and documentation, its use is spotty. Many forms have been proposed, most of which require nothing more than a check-off system to complete, but none has been officially adopted, and resistance remains because of habit, time constraints, and a limited understanding of

how the information will be used to benefit the participant. Documentation in a system which does not require literacy has not even been proposed. Almost no feedback is received by the referring party, except when given by the patient or her family. Good, clear, and respectful communication among all elements of the referral system is problematic as are the originally identified problems of transportation, cultural and class bias and discrimination, language, and economics.

Adequate training of the nursing personnel who guide, train and supervise the comadronas has not occurred. Although the norms and protocols have been revised and disseminated, no practical experience has been given to enfermeras auxiliares in actual labor support, normal delivery, postpartum support and "hands-on" experience with recognition and primary treatment of high-risk cases. Although approximately 30 enfermeras graduadas have received a post-basico training course in Maternal and Child Health nursing, most are not practicing in a health center, and those who are posted in the health center have the total responsibility for running the health center, in addition to participating in prenatal care and delivery. Those who received this training were required to attend only 5 births during their training. The Escuela de Enfermeria in Quetzaltenango must send its students to the other district hospital in Totonicopan outside of Quetzaltenango because of conflicts with the needs of the residents and interns in the Hospital de Occidente. They are able to rotate only two nursing students at any one time through the labor and delivery area at the Hospital de Occidente. The current curriculum of the Escuela de Enfermeria Auxiliar does not contain a component in observing normal prenatal care, delivery and newborn care, because of lack of place to provide the practical experience, although the school is considering revising its curriculum to include these components in the coming semester. A creative solution which the school has tried in the past has been to rotate students through local health posts where they participate in home visits for the purposes of prenatal, postpartum and neonatal care. This does not give the students any active experience observing or participating in normal births or their sequelae.

III DESCRIPTION OF ACTIVITIES

The timing of this visit was, by serendipity, somewhat unfortunate, in that it coincided with one of the important national holidays for Guatemala (September 15, Independence Day), which also coincides with the fiesta of the patron saint of Quetzaltenango. This meant that many of the personnel were out of town on holiday, or unwilling to meet on their days off. Because of this situation, and the long travel time between Guatemala City and Xela, the effective working time with Guatemalan counter-parts was cut down from 9 days to 5. Contact was made, however, with representatives of all of the important sectors involved in the planning of this project (see lists of persons and institutions contacted, Appendix A), due to the tireless efforts of Drs. Junio Robles and Carlos Gonzalo Gonzales of INCAP in Xela and Suzy Barrios de Fernandez, Jayne Lyons, and Dr. Baudilio Lopez of USAID in Guatemala City.

Time was also spent by this consultant at the AID Mission in Guatemala City reviewing the history and accomplishments of the Quetzaltenango Maternal and Neonatal Health Project, so that the design of the Xela Maternity center would complement and further the goals of this worthy project. Many recommendations have been made by prior consultants, some of which have been tried and met with failure. It is hoped that this review and its summary in this paper will result in the new project having a new approach to old suggestions, and that the project will incorporate previously proposed forms, norms, and curricula which were not made available to this consultant prior to departure from the U.S.

Time was also spent in Guatemala City interviewing personnel from various sectors of the Ministry of Health, introducing the ideas contained in the attached concept paper and determining their acceptability, as well as visiting two urban institutions where maternal care is provided.

This consultant had participated in the development of a curriculum for a similar training program in Nicaragua in 1985. Fortunately, an updated copy of this curriculum was available, and one copy each was

left with a representative of the University in Xela, the Nursing School, the Chief of Nursing of the Hospital and INCAP, with a request to those persons to review, cut, add to and revise it during the course of the next months. It is hoped that this curriculum will provide a "jumping-off place" and a basis for discussion at future meetings. Since this curriculum was developed for another purpose, its use "as is" would preclude inclusion of previous developed curricula both in and out of the country, and is not recommended.

The project is in its infancy. Only one meeting of all of the sectors has taken place. The basic ideas of a birth/training center, and the scope of work for this consultant came out of that meeting. This consultant introduced many of the ideas contained in the attached concept paper about the Center in Xela for the first time to personnel of the Ministry of Health in meetings held during this consultancy. The ideas contained in the attached concept paper, left in previous draft form with the USAID Mission in Guatemala City, need to be assimilated and agreed upon by the many players before a curriculum would be in any way useful. Several substantive modifications of the concept paper (including location and level of personnel) could result from dialogue between the sectors which could alter the concept considerably. Since the location has not been decided, a list of equipment seemed very premature. After discussion with the personnel in the USAID Mission in Guatemala City, including Jane Lyons and Dr. Baudelio Lopez, as well as Mary McInerney of MotherCare, the scope of work was modified to exclude the development of a curriculum, and technical assistance in the actual set-up of the center. Instead, the focus of the interviews was on the feasibility and desirability of the establishment of the Center, and gathering suggestions as to how best to accomplish this goal. Additionally, the idea of staffing the Center with nurse-midwives and making its focus that of providing full-scope service out of the hospital and simultaneous hands-on training for nurses was introduced.

The attached concept paper, which was developed during this visit, is a summary of the ideas which were introduced, enthusiastically received and intensely discussed by all parties contacted during this consultancy. It is the product which was requested by the USAID staff in Guatemala City as a substitute for the curriculum and equipment list. A draft copy of the concept paper was left with the USAID Mission in Guatemala City. It was later revised in the U.S. to reflect feed-back received from the MOH on the last day of the consultancy and is attached as Appendix B.

IV FINDINGS/RESULTS/CONCLUSIONS/RECOMMENDATIONS

Because of the constraints mentioned in the last section, and the very early stage of the design this project, two of the goals of the consultancy, the development of the curriculum and the design of the health services required, were not able to be accomplished. Although sufficient time did not exist to meet and reach agreement on a complete curriculum, general recommendations as to the content and general outline of the curriculum are included. The peculiar configuration of circumstances did allow time to review most recent efforts in the area, to see the direction and goal of these efforts and to put the observations made into a frame-work.

Tremendous amounts of time, energy, expertise, and money have been spent in the recent past to address the substantial health problems of women and neonates in the Quetzaltenango region, partly because the area has the many strengths mentioned in the above background which make success possible. The strength, enthusiasm, and insight of the staff of the local INCAP office, and the study in progress regarding factors leading to mortality and the effectiveness of TBA training have raised the general consciousness about the importance of TBAs. The fact that the area has been designated a SILOS means that official support is being given to try innovative ideas for possible replication. The ideas mentioned here were generally received with enthusiasm, and described as "urgent," and not merely "desirable".

Understandably, because of the multi-factorial nature and overwhelming volume of the problems needing redress, complete solution is not near at hand. While tremendous strides have been made, many goals will

probably not be met by the time the Quetzaltenango Maternal and Neonatal Health Project winds down in July of 1993. Many prior consultants have made similar observations, and this consultant would like to reinforce and restate these, most notably those of Pam Putney and Diana Beck in their recommendations following their training in March of 1991, and those of Susan Colgate Goldman following her trip in July of 1991.

Recommendations for Systemic Improvement of Maternal and Neonatal Services

1. Comadrona Recognized as the Primary Provider of Care

Given the projected doubling of the population and the restricted resources likely to be available in the next 20 years, the primary provider of maternal and neonatal services will and should remain the comadrona. This means that the effective on-going training and reinforcement of this group is essential for the health and well-being of mothers and babies in Guatemala. The comadrona deserves and should receive respect, support, and gratitude for her essential role in the health team. This can be accomplished by many different models of training, but coordination of training activities, basic goals and objectives based on the risks associated with mortality, and a referral, data collection, and feedback system is essential (region-wide and country-wide). One basic form for non-literates should be identified, promoted and used in the supervision of TBA activities by their direct supervisors. The Mayan language, rather than Spanish, should be used for training. Respectful discussion of old practices should also be a part of every training, and only the practices proven dangerous should be discouraged. Training activities and close supervision and reinforcement of trained behaviors need to be the responsibility of nursing personnel and supported by all organizations, governmental and non-governmental, working in MCH. Plans should be made to follow on the present INCAP training program with continuous activity of the same nature. Training done thus far should be evaluated periodically for effectiveness and changed as necessary.

2. Auxilliary and Graduate Nurses' Supervision and Support of Comadronas

In order to effectively supervise and support the comadrona, the secondary level providers of maternal and neonatal services also need much more effective training and supervision. Again, curricula based on adult learning principles should be used for the auxiliary and graduate nurses for the two-fold purpose of more effectively transmitting the information, and modelling the teaching methods to be used to train TBAs. This means that every nurse should receive hands-on experience in normal prenatal, intra-partum, and post-partum care, basic resuscitation and care of the normal neonate, recognition of the most serious risk conditions associated with mortality, and referral based on agreed upon norms. Without hands-on experience with the heavy responsibility associated with attending a birth, the knowledge of risk factors will remain theoretical and therefore imperfectly understood. Likewise, experience with the teaching and technologies involved in family planning is essential for the survival of this country and its natural resources. In addition, these nurses need training in principles of adult education, supervisory skills, the principles of cross-cultural understanding and respect, and orientation to a basic data collection system. If the TBAs do not feel respected and treated as a comrade by the nurse, or they feel that her own knowledge base is weak and not based upon experience, there will continue to be problems with the revelation of errors, or discussion of problems. The nurse should be trained that she also has something to learn from the association with TBAs. One data collection system should be decided upon which includes data collection from TBAs as well as the basic medical history. The agreed upon form should accompany every patient through prenatal care, labor, delivery, post-partum and family planning choice, as well as include data on referrals and counter-referrals as done. Such forms exist and need to be used.

3. **Improvement of the Tertiary Level of Care**

The tertiary care level needs to be made more efficient in its treatment of patients, more family-centered in its approach, more conscientious about data collection and conscious of the need for it and uses of it, more respectfully accepting of referrals and more ready and willing to make counter-referrals. That the comadrona is an essential part of the health team should be included in the basic training of interns and residents. Modelling of this behavior is the only method of effective attitude adjustment. The facility needs to be made more "user-friendly", including encouraging the presence of family members, heating the delivery rooms, doing deliveries in bed, except when forceps are required, providing for privacy, safety and comfort in the delivery room when forceps or vacuum extraction is necessary, finishing the second delivery room so as to be able to do C-sections without having to travel through open corridors and courtyards, and providing training for operating room nurses in the placement and monitoring of spinal and epidural anesthesia for long and difficult labors and deliveries and for c-sections. As an alternative to this, consideration should be given to pushing forward with the opening of the new (now 15 year old) hospital, with the assumption that these problems were solved in the design of the new facility. As it is at the present time, the labor and delivery unit does not provide for humane, respectful, comfortable or culturally sensitive treatment of women. As long as women are treated as a "case" instead of as a person, they will be reluctant to voluntarily use the services, which prolongs the time and increases the effort necessary to make a safe referral from the country-side. Although the technical training of residents in high-risk deliveries is beyond the scope of the proposed Center, the training center could also be used to train medical residents in normal birth under the guidance of the nurse-midwives. Having the Center model respectful treatment of comadronas and participate in data collection, referral and counter-referral based on norms could substantially influence the attitudes of physicians in training. Although agreement has not been reached with obstetricians that this would be desirable, they recognize the need for more sites for training.

In keeping with the framework of these observations, conclusions, and recommendations made by previous consultants and reinforced by own, and acknowledging the suggestions of the many local experts spoken to in the course of this consultancy, I recommend the establishment of the Xela Maternity Center as a 3-5 year project with a phase-in time to coincide with the phase-out of the Quetzaltenango Maternal and Neonatal Health Project.

Recommendations for a Reproductive Health Pilot Project

1. **Establishment of a Maternity Center**

It appears that the establishment of an out-of-hospital birth center is essential to the accomplishment of several of the previously mentioned recommendations for improvement of maternal and neonatal services. Primarily, and most importantly in the long run, it would provide a place where practitioners at the secondary level of care can receive hands-on training in the delivery of prenatal, intra-partum and post-partum care to essentially normal women, and in the basic resuscitation, stabilization and care of the neonate, breastfeeding support, and family planning teaching and technology. This kind of proctored, in-depth training is not possible in the present hospital site due to conflict with the need to train residents and interns. The site needs to be in Xela proper, because the transportation problems to and from San Carlos Sija would necessitate an ambulance and a driver. Setting up the transport system would pose logistical problems, as well as problems with handling emergencies before the client arrived at the hospital. Its presence in Xela would put the center close to the support of the organizations who would need to sponsor and support it, and make a larger population, necessitated by the training aspect of the center, more likely.

If a site other than Xela is chosen for the Center, the alternative site should assure access to a similar configuration of medical and learning institutions and adequate transportation. Such an alternative site should be chosen soon so that preparatory work, such as has already taken place in Xela, could occur quickly in the alternative location. The establishment of the Center requires some decisions and follow-up in the near future:

- a. The concept of this Center, with special attention paid to its replicability in other locations, should be integrated into the planning, goals and objective of the MOH and its MCH division. The dual purposes of the Center to decrease the overload at the crowded hospitals and to more adequately train nursing personnel must have as their primary goal the reduction of infant and maternal mortality.
- b. A committee needs to be formed with the following representation:
 - University Health Sciences Program
 - OB/GYN Department Chair of the Hospital
 - Nursing School
 - Auxiliary Nursing School
 - Chief of Neonatology
 - Chief of Nursing at the Hospital
 - Area Chief of Nursing Services
 - Local and possibly national level personnel in MSPAS, APROFAM, INCAPThe function of this committee would be to begin preparations for the establishment of the Center, make final decisions regarding such matters as the curricula, possible inclusion of short-term courses for general practitioners, courses introducing new and innovative family planning technologies, training family planning nurse-practitioners and neonatal nurse specialists, etc. In general, the committee would serve as an advisory body to the Center.
- c. A short workshop in teamwork might be appropriate for this group, and was suggested by a potential member. Recognizing that this group would represent those who have had difficulty communicating in the past and who hold the key to improving communication regarding the referral system and treatment of primary level practitioners, I think such a workshop might be very useful.
- d. A site needs to be chosen for the center. Possibilities might be the under-utilized health center in Xela, a private home or commercial building in Xela, or a similar structure in another locale. Either would need to be refurbished, but would probably cost less than the transportation and communication logistics of putting the Center at San Carlos Sija.
- e. Technical assistance will be needed at a future date to prepare lists of required equipment, supplies and low-level health technology, and in the design of the center refurbishment.

2. **Training of Nurse-Midwives**

The title and class of Nurse-Midwife (Enfermera-Partera/Comadrona/Obstetrica), should be resurrected, and this should be the first level trained by the center in the manner described above. Although the primary health care worker of the secondary level should remain the enfermera auxiliar, replication of their training should not depend on outside personnel, and nurse-midwives could be responsible for the clinical aspect of the training of auxiliares. The very obvious need for trained personnel over the next 10-20 years, and the incapability of any school of medicine and residency program to keep up with the demand for trained rural personnel, supports the need for this mid-level practitioner and the services and training he/she could provide. This practitioner should be freed of other duties in the health center, and her main function should be prenatal care,

deliveries referred by the TBAs not needing hospitalization, referral and counter-referral of high-risk patients, simple perinatal epidemiology of her health center area, participation in local and regional planning of MCH care, and responsibility for the training, direct supervision, and data collection, including morbidity and mortality follow-up, of the enfermeras auxiliares and comadronas of her area. Without this level of trained personnel, the ongoing training of the existing enfermera auxiliar will need to be dependent on foreign nurse-midwives and/or physicians.

- a. This idea needs to be introduced to the Ministry of Health whose concurrence is essential in three ways:
 - i. Replacements need to be found for the enfermera/partera in training. The last post-basic course given caused the closure of several health centers for the duration of the course. Great effort should be made to continue to staff the health centers with a nurse and a nurse-midwife, so that this job is possible to do.
 - ii. This position should have a higher authority, title, responsibility and pay scale than the regular position of graduate nurse.
 - iii. Provision also needs to be made for the housing, feeding and sustenance of the students while they are in training.
- b. The first course at the health center should be given to nurses who have already received post-basic training in Maternal and Child Health nursing. This first group would be trained as enfermera-parteras, and become the docents for a second group, also of enfermeras-parteras. By the second year of the project, there would be a core group of well-trained nurse-midwives who could replicate this training in other areas of Guatemala, to the student nurses in both programs, and become docents to residents and interns in the performance of normal, non-interventive, gentle, family-centered birth.
- c. The curriculum should be centered around normal anatomy and physiology, prenatal care, recognition and primary management of high-risk conditions before birth, including malpresentation, pre-eclampsia, bleeding, premature labor and IUGR; labor management, including recognition and primary management of problems which develop in labor, such as prolonged labor and premature rupture of membranes, and the medical and non-medical management of pain; delivery, including the primary management of an unexpected breech, prolapsed cord, shoulder dystocia; basic CPR for adults; the management of the puerperium, including the primary management of post-partum hemorrhage and sepsis; basic resuscitation, stabilization and early care of the neonate; and the primary support of early breastfeeding. The introduction of and basic teaching for acceptance of various family planning technologies is essential. In addition, the course should include very basic courses in the principles of epidemiology and statistics, with an emphasis on perinatal epidemiology and how statistics have a practical application in their center. Courses in cultural sensitivity, teamwork and team-building, basic health center management, principles of community and primary health, adult education principles and practical application, and community mobilization and social change should be included, since these nurses will also be role-modelling a new and essential mid-level practitioner role. This course, with the additional course content, should be given university credit, and a degree of "Enfermera Tecnica" should be awarded through the University for the completion of this course. Extensive technical assistance will be required to pull together this curriculum to be based on previously developed and/or taught curricula, including that of the post-basico course already taught through the nursing school, and to create and energize a working team of representatives from the nursing school and university to make the degree possible.
- d. Changes should be made in the curricula of both the enfermera graduada and the enfermera auxiliar to include a basic course in midwifery, in a model which works very well in Belize.

- e. The center, especially if it is able to be replicated in other areas of Guatemala, should become an essential link in the basic training of both level of nurses because it will provide a place for docented experience outside of the hospital, where most of the births in Guatemala will continue to occur in the next 20 years. The second year of the project should have as its goal to provide docented experience, through Guatemalan nurse-midwives for the hands-on performance of prenatal care, normal deliveries, and post-partum maternal and child support for essentially normal women for basic nursing students.

3. Resident Advisors to Support the Project

Two experienced nurse-midwives from the U.S. should serve as the first teachers, practitioners and role-models for the delivery of family-centered care at the secondary level. I think that it should be seen as a one year assignment, with the goal being to complete a training of trainers during the first six months and to act as docents to the first group doing the training for a second group. An additional goal should be to replace U.S. midwives with a Guatemalan counterparts during the first year of the project. Two will be required in order to make this a humane and possible assignment for the nurse-midwives. It might be advantageous to time their arrival several months before the anticipated first course, so that they could serve to pull together the final version of the curriculum and serve as a catalyst and impetus to the group to solve logistic and other problems which might arise at the last minute with the Center itself.

4. Management Information System and Evaluation of the Project

A very basic patient and management information system, including prenatal records which are simple, checklist type, and focused on the precursors to the major causes of morbidity and mortality in Guatemala should be developed, approved and piloted in this center. There will be a need for an evaluative phase of this program, and a double purpose could be achieved with piloting a simple system. The system would keep track of the data from the center for comparison to a similar region. In order to make it scientifically sound, a "control area" without the training center could also be used to compare data and pilot the forms. The piloting of a system in a center such as this would also provide more control to assure that it was correctly used, and provide a central place where problems with the forms and their use could be found and discussed, and the form modified with oversight form the advisory committee. If the advisory committee had oversight, this might also assure more "buy-in" to the form from the committee's participants.

5. Improved Quality of Care at Hospital de Occidente

Much more work needs to be done to make the Hospital de Occidente a humane and safe place to deliver a baby. Several alternatives are proposed:

- a. Efforts should be made to complete, equip, and open the "new" hospital. Whatever problems it may have, it could certainly be no worse than the one in use now, and has the potential to be far better.
- b. The physicians who will be working with this project need education and orientation to the role of a nurse-midwife, and the performance of a gentle birth outside of a hospital setting. I recommend a site visit to the U.S. to any one of a number of such centers, the closest probably being the Maternity Center in Texas, run by Sr. Angela Murdoch, CNM, who is a past president of the ACNM, and presents a powerful, independent, warm, and Spanish-speaking role model. The participants to the Texas (or other) site visit should include:

Dr. Heberto de Leon
Resident to be chosen by Dr. de Leon
Dr. Junio Robles (INCAP)
Dr. Carlos Gonzalo Gonzales (INCAP)
Lic. Lidia Marina Reyna Cifuentes
Lic. Clara Luz Barrios
Enf. Carmen Matzuy de Robles
Jefe de Ciencias de Salud CUNOC
Representative from APROFAM (self-pay)

- c. More in depth site visits should be arranged for the physicians on the above list, based on interest and the need for further training, to prepare physician docents who could provide training and role-modelling of family-centered physician care of the higher-risk patients. Both Dr. Gonzales and Dr. Robles have expressed great interest in this, have been intimately connected with the TBA training, are advocates of gentle birthing, and have teaching skills and interest. Dr. de Leon has expressed great desire for programmatic support for the residency program, and an exchange program with a residency program in the U.S. Such a possibility should be further explored.

5. **Technical Assistance from a Health Economist**

Some serious changes in the design and training of health personnel and facilities are proposed in these recommendations. Because it is envisioned that the proposed model will help to reduce maternal and neonatal mortality, technical assistance from a health economist is recommended to:

- a. assist the Ministry of Health in making projections of probable population growth and the relative cost of:
 - i. providing for the increased numbers of mid-level practitioners, including total costs of training, and for providing for two nurses in each health center
 - ii. providing training and support for the number of resident physicians it would take to care for the same population
 - iii. caring for the projected numbers of complicated cases, based on current morbidity and mortality statistics, in the existing hospital structure
- b. assist the project in a cost projection of refurbishing and staffing the "Maternity Center" and exploring options which might allow this center to become economically self-sufficient.

V **FUTURE PLANS**

Since this project is in the early stages of pre-planning, no definite plans or projections were made for future activities. Prior to the establishment of the Maternity Center, work will need to proceed in country to make sure that the plans, goals and objectives of the center are congruent with those of the national and local Ministry of Health. Though no major objection was raised and there was general agreement as to the advisability and urgency of the training, more specific agreement as to timelines, location and format will need to be obtained among all participating parties. A general agreement on the concept will be necessary from donor agencies, and exploration of the actual role, duties, title, and salary of the graduates will need to be undertaken so as to more fully assure the Center's sustainability and replicability.

When the project is further developed, further technical assistance, probably in the form of further consultancies from the U.S., will be needed to develop and achieve consensus on the more extensive curriculum and to further its credit towards a university degree. A consultancy might be helpful to galvanize

action with busy people and get the working committee together. Technical assistance will need to be provided to design, and equip the center, once the basic decision about location is made. Technical assistance will probably be required to decide upon the appropriate data forms and collection system for the center and its feed-in system. Technical assistance will be required from a health economist, as outlined in the report. If the project is to be designed to phase-in with the phase-out of the current project, these technical consultancies should probably occur in the Spring of 1993.

APPENDIX A

Persons Contacted and Institutions Visited

Dr. Oscar Tarragon Director Hospital General de Occidente Quetzaltenango	Lic. Else Marina Garcia Gonzalez Director Escuela de Auxiliares de Infirmery Quetzaltenango
Dr. Mario Mejia Neonatologist Hospital General de Occidente Quetzaltenango	Lic. Lidia Marina Reyna Cifuentes Director Escuela de Emfermeria de Occidente Quetzaltenango
Dr. Victor Manuel Rodas Jefe de Depto. de Pediatria Hospital General de Occidente Quetzaltenango	Lic. Abel Lopez Piedrasanta Director Centro Universitario de Occidente Quetzaltenango
Dr. Heberto de Leon Jefe de Depto. de Gineco-Obstetricia Hospital General de Occidente Quetzaltenango	Enf. Aurelia Enfermera de Baso Centro de Salud San Carlos Sija
Enf. Carmen Matzuy de Robles Jefa de Infirmery Hospital General de Occidente Quetzaltenango	
Dr. Junio Robles Co-Investigador Maternal Neonatal Health Project INCAP Quetzaltenango	Dr. Carlos Gonzalo Gonzales INCAP Quetzaltenango
Lic. Clara Luz Barrios Enfermera Jefa de Area de Salud Quetzaltenango	Dr. Lopez Director CEPAR (Centro de Partos) APROFAM Guatemala City
Dr. Juan Jose Arroyo Jefe de la Unidad de Salud Reproductiva MSPAS Guatemala City	Dr. Zoel Leonardo Director Servicios de Salud MSPAS Guatemala City
Dr Manuel Lou Unidad Salud Reproductiva MSPAS Guatemala City	

Dra. Maria H. Lou de Forbes
Director
Centro de Salud Periferica
Zona 7
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Sra Sara Gomez
Estudiante de Enfermeria
Puesto de Salud
Zona 7
Guatemala City

Dr. Medina
Director
Salud Materno-Infantil
MSPAS
Guatemala City

APPENDIX B
Concept Paper
Quetzaltenango Maternity Center
Melanie Austin, RN, CNM, MPH

According to current projections, the population of 10 million people who live in this beautiful, mountainous Central American nation will likely double within 20-25 years. Fifty percent of the country's population is under 15 years old. Only about 20% of all births occur in hospitals attended by physicians or trained nursing personnel. The MOH does not expect this percentage to rise significantly in the future. Approximately 70 to 80 percent of all births occur out of the hospital, attended by a comadrona, with that rate reaching 90% in the Altiplano, most of the area of Quetzaltenango. Quetzaltenango is the country's second largest city with a population of approximately 200,000, and has one of the area's hospitals, Hospital Nacional de Occidente. A brand new hospital was built and is standing on the edge of the city, where it has remained, unopened, for the past 15 years. However, for the purposes of the expansion of Maternal and Child Health beds, it has the same capacity as the existing hospital. The infant mortality rate in Guatemala is approximately 73.4/1000 live births; 1/2 of the deaths occur in the perinatal period. In the region of Quetzaltenango, the maternal mortality rate is approximately 200-230/100,000 live births. The most common reasons for the mortality are hemorrhage, sepsis and its sequelae, and toxemia. The major cause of perinatal mortality is asphyxia from malpresentation and prolonged labor. The major causes of neonatal mortality are sepsis, low-birth weight, prematurity and their sequelae.

Resources Available to Improve Maternal and Neonatal Health

Tremendous effort has been directed toward the improvement of Maternal and Child Health and its indicators by many governmental and non-governmental organizations in Quetzaltenango in the recent past. The area has many strengths which make success possible, including the presence of a university with a medical school, an OB/Gyn residency program, a nursing school, an auxiliary nursing school, a school of social work, and a local INCAP office. The nursing personnel are anxious to receive more training. There already exist alliances between the sectors necessary for a multi-factorial approach to problem-solving.

Problems Contributing to Maternal and Neonatal Mortality

1. The current facility of the Hospital de Occidente is overcrowded and inadequate to the demands of patient load and modern obstetrics.
2. The population growth rate is very high and likely to overwhelm even the new hospital facility within 2-5 years.
3. The maternal and neonatal mortality rates are unacceptably high, but have the possibility to be lowered by methods and technologies currently available in the country.
4. Although much effort has been made to train, retrain and refresh the training of the comadronas, adequate training of the nursing personnel who guide, train and supervise the comadronas has not occurred. Although the norms and protocols have been revised and disseminated, no practical experience has been given to enfermeras auxiliares in actual labor support, normal delivery, postpartum support and "hands-on" experience with recognition and primary treatment of high-risk cases.
5. Although approximately 30 enfermeras graduadas have received a post-basico training course in Maternal and Child Health nursing, most are not practicing in a health center, and those who are have the total responsibility for running the health center and are not solely responsible for maternal and infant health.

6. Nursing students from both schools receive little or no training or hands on experience in birth, puerperium, and newborn care because of inadequate space and numbers of trained docents.

Recommendations to Improve the Health Care of Women and Children and Decrease Mortality and Morbidity

1. The primary provider of maternal and neonatal services will and should remain the comadrona. This means that the effective training of this group is essential for the health and well-being of mothers and babies in Guatemala.
2. In order to effectively supervise and support the comadrona, the secondary level providers of maternal and neonatal services also need much more effective training and supervision. This means that every nurse should receive hands-on experience in normal prenatal, intra-partum and post-partum care, basic resuscitation and care of the normal neonate, the recognition of the most serious risk conditions resulting in mortality, and referral based on agreed upon norms.
3. The establishment of an out-of-hospital birth center is essential to the accomplishment of these goals. Primarily and most importantly in the long run, it would provide a place where practitioners at the secondary level of care could receive hands-on training in the delivery of prenatal, intra-partum, and post-partum care to essentially normal women; basic resuscitation, stabilization and care of the neonate; breastfeeding support; and family planning teaching and technology. The center should be established in Xela proper, or in another similar location in Guatemala which could provide access to a similar configuration of health and learning institutions, be close to the organizations which sponsor and support it, and have a sufficient population base for the training aspect of the center.

Decisions and Actions That Need to Be Taken by the MOH and Donors to Implement the Recommendations

1. The MOH should approve the establishment of the maternity center and identify the site. In addition, the Cooperation of the Ministry of Health needs to be obtained for the following activities and responsibilities:
 - a. The primary purpose of this Center would be to reduce infant and maternal mortality through reduction of hospital caseloads and intensive training of mid-level practitioners. These goals should be integrated with the goals of the MOH and its MCH division to assure that the training program would be replicable throughout Guatemala.
 - b. Replacements need to be found for the enfermera-partera in training.
 - c. The position of enfermera-partera should have a higher authority, title, responsibility and pay scale than the regular position of graduate nurse.
 - d. Provision also needs to be made for the housing, feeding and sustenance of the students while they are in training.
 - e. Changes need to be made in the curricula of both the enfermera graduada and the enfermera auxiliar to include a basic course in midwifery, with hands-on performance of prenatal care, normal deliveries, and post-partum maternal and child support for essentially normal women.

- f. A very basic management information system, including prenatal records which are simple, checklist type, and focused on the precursors of the major causes of morbidity and mortality in Guatemala should be developed, approved and piloted in this center.
 - g. A committee needs to be formed with the following representation: University Health Sciences Program, OB/GYN Department Chair of the Hospital, Nursing School, Auxiliary Nursing School, Chief of Neonatology, Chief of Nursing at the Hospital, Area Chief of Nursing Services, and a local or possibly national representative of MSPAS, APROFAM, INCAP. The function of this committee would be to begin preparations to implement the above objectives, to act as advocates for the training program, to make final decisions regarding such matters at the curricula, and to serve as an advisory body to the center.
 - h. The first course at the health center should begin with nurses who have already received post-basic training in Maternal and Child Health nursing. This first group should be trained as enfermera-parteras, and become the docents for a second group, also of enfermeras-parteras. By the second year of the project, there would be a core group of well-trained nurse-midwives who could provide maternity service at the Center and other health centers and replicate this training in other areas of Guatemala, to the student nurses in both programs. In addition, the nurse-midwives could become docents to residents and interns in the performance of normal, non-interventive, gentle, family-centered birth. This course, with the additional course content, could be given university credit, and if at all possible, a degree of "Enfermera Tecnica" should be awarded through the university for the completion of this course.
2. The international donor community should become involved in the project and be willing to provide support for the following parts of the center:
- a. A site needs to be chosen for the center. Possibilities might be the under-utilized health center in Xela, a private home or commercial building in Xela. If another location is chosen, the alternative site should be chosen soon so that preparatory work, such as has already occurred in Xela, can be done at the alternate site as soon as possible. Technical assistance will be needed to prepare lists of required equipment, supplies, and low-level health technology, and in the design of the Center's refurbishment.
 - b. Two certified nurse-midwives from the U.S. should be identified to begin the Center, develop the first curriculum based upon previously developed curricula, provide the first year of teaching, and provide other technical assistance as needed.
 - c. Technical assistance is needed in the studies and MIS systems necessary to evaluate the effectiveness of the training and the Center itself.
 - d. The provision of technical assistance from a health economist is needed to design and implement studies which would assist the Ministry of Health in
 - i. making projections of probable population growth
 - ii. determining the relative cost of caring for the increased numbers with mid-level practitioners or providing training and support for the number of resident physicians it would take to care for the same population
 - iii. projecting the cost of caring for the projected numbers of complicated cases in the existing hospital structure
 - iv. assessing the feasibility of self-sufficiency for the Center.