

MONTTEITH

RESULTS OF THE CONTRACEPTIVE PREVALENCE/MCH SURVEY
IN THE DEPARTMENT OF BOACO, NICARAGUA

Final Report

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I. INTRODUCTION

In the 1960s, family planning programs in the developing world patterned themselves after the clinic-based delivery system which had evolved in the West. These physician-oriented facilities, primarily located in urban areas, were unable to serve the bulk of the population who lived in rural, relatively isolated regions because of serious shortages of medical professionals and health facilities. In an attempt to make family planning services available to populations not reached through clinic-based delivery systems, alternative family planning delivery systems were initiated in the early 1970s. Although these non-clinical delivery systems have different names, i.e., commercial distribution, community-based, inundation and household distribution, they have the following characteristics in common:

1. They may utilize non-health personnel to provide services.
2. They do not include many screening and recording procedures previously thought essential.
3. They provide services in a non-clinical setting.
4. They attempt to make key community members part of the delivery system.
5. They are designed to minimize the barriers confronting potential clients under the clinic-based systems.

In November 1976, the Nicaraguan Ministry of Public Health (MOH), with the technical assistance of the Center for Disease Control, Family Planning Evaluation Division, initiated a community-based distribution program of its own. The program, which is designed to distribute

contraceptives and selected health supplies, utilizes indigenous midwives (parteras empiricas) as the primary distribution agent. The program includes a 5-day training course in which the parteras learn the use of a simple health kit comprising oral contraceptives, condoms, Oralyte, Mebendazole, vitamins, aspirin, and obstetric supplies. After training, the parteras sell the supplies at subsidized prices in their own communities on a commission basis. To obtain resupply, the partera returns to the health center where she was trained.

The program will be evaluated in 2 ways. First, the program is monitored on an ongoing basis through the logistics reporting system which enables the calculation of women-months of contraceptive protection distributed by the parteras. In addition, a longitudinal record is maintained in the clinics to record data on the number of new acceptors and active users reported by the parteras. As an independent measure of the impact of the program, household surveys will be used. In July-August 1977, the first of these surveys was conducted in the Department of Boaco where baseline values on contraceptive prevalence and other variables were obtained. The survey will be repeated at an appropriate time in the future to measure changes in these parameters that may be attributed to the activities of the parteras. This report addresses the findings of the baseline survey.

The Boaco Contraceptive Prevalence Survey, conducted in July and August 1977, provides information for a sample of women living in rural areas of the Department (State) of Boaco, Nicaragua, on contraceptive use, source of contraception, history of abortion, intention to use contraception, fertility rates, and use of maternal and child health services. In general, the survey findings indicate that contraceptive

use is low; only 8.2% of the ever-married women 15-44 years of age interviewed reported using an effective method at the time of the survey. Similarly, overall utilization of maternal and child health services was also low; less than 16% of the respondents stated they received prenatal, postpartum or well-baby care at the time of their last pregnancy, and only 12% delivered in a hospital or clinic. The findings suggest that the majority of Boaco's rural population is not served by the clinic-based, physician-oriented delivery system as is currently established in Boaco. The findings also indicate that a demand exists in rural Boaco for MCH and family planning services which may only be satisfied through non-traditional health delivery systems.

II. SURVEY METHODOLOGY

The Boaco Contraceptive Prevalence Survey was an area probability survey of rural census segments in the Department of Boaco. A segment was defined as rural on the basis of a number of descriptive characteristics: a population of less than 1,000 with no electricity, running water, paved streets or a "dispersed" population. Although this definition lacked precision, it was consistent with the areas in which we expected the parteras to work. The sample included 35 rural segments with a census count of 747 possible households. With this sample size, and if the prevalence of contraceptive use was found to be as high as 10%, the 95% confidence limits surrounding this estimate would be approximately 7-13%.

The Boaco Survey was to be conducted prior to the initiation of training of parteras in the Department. However, because of delays in

the release of funds for the survey, and contrary to our understanding, the MOH initiated training in Boaco during May and continued through the month of June. Therefore, to control for the adoption and use of partera-distributed contraceptives, the interview questionnaire was modified to reflect use and source of contraception prior to May 1977.

Although the census count listed 747 households in the survey areas, 874 households were found during the conduct of the survey (Table 1). Of the 647 ever-married or ever-in-union women between 15 and 44 years of age identified as eligible for interview, interviews were completed for 527 (81.5%).

Table 2 compares the age distribution of women in the Boaco Survey with that of women published in the Nicaraguan National Demographic Survey, which was conducted December 1976 to February 1978 (1). There is some difference with the Boaco Survey finding a lower percentage of women in the 20-24 age group and a higher percentage in the 40-44 age group. It is not known if these differences reflect greater than average out-migration of younger women in Boaco or age mis-reporting in either survey.

Since only 1 woman per household was selected for interview, each respondent's probability of selection is inversely proportional to the number of eligible respondents in the household. In order to make estimates of proportions and means, weighting factors have been applied to account for these unequal probabilities. In the tables that are presented in this report, percentages are based on the weighted number of observations, but the unweighted number of cases are shown.

III. SOCIOECONOMIC-DEMOGRAPHIC BACKGROUND

The Department of Boaco is located in the North-Central region of Nicaragua and covers an area of 4,982 square kilometers. Primarily mountainous, the principal economic activities of the Department are cattle and agriculture.

As of December 1975, the population of Boaco was estimated to be 76,104, which made Boaco the third smallest Department in Nicaragua in terms of population (1). Of this population, 75% was classified as rural. With a density of 15.3 persons per square kilometer, Boaco was the third least dense Department in the country. The population of Boaco is relatively young (51% are less than 15 years of age), and the dependency ratio* is 1.1. Over two-thirds (68.7%) of the population is illiterate, and in the rural areas this figure increases to 81% (2).

Because both births and deaths are seriously under-reported in Boaco, vital records cannot be used to estimate vital rates in the standard fashion. For example, in 1975 the crude birth rate (CBR), crude death rate (CDR), and infant mortality rate were estimated to be 28.0, 4.6, and 45.4, respectively (3). For the 1970-1973 period, Morris reported the CBR and CDR for all of Nicaragua to be 43.0 and 9.3, respectively (4). Since Boaco is primarily rural, it would be expected to have a CBR higher than the national figure of 43.0.

The 1977 Boaco Survey was designed primarily to measure contraceptive prevalence, and the sample is not large enough to make precise estimates

*Ratio of population under 15 and 65 years of age or older to the population 15 to 64.

of demographic rates. However, it is possible to attempt fertility estimation based on the general fertility rate (GFR). Using information on the marital status and age-sex distribution of the population from a recent census or large-scale survey, the CBR can be estimated. This method will yield CBR and GFR estimates, but not a total fertility rate and age-specific fertility rates. Using data from the 1977 survey in combination with data on the population of rural Nicaragua by sex, age group, and marital status from the National Demographic Survey, Anderson estimated the CBR in Boaco to be 49.7 per 1,000 population (5). An estimated 95% confidence interval for the CBR ranges from 42 to 57.

Recent estimates by the United Nations place the CDR in Nicaragua at 14 per 1,000 (United Nations, "Provisional Vital Statistics Report," October 1977). Using data from the Boaco Survey on the proportion of children not surviving by age of mother, Anderson also estimated these rates to be consistent with a CDR of 17 per 1,000 and an expectation of life of approximately 48 years (5).

These estimated demographic rates have rather wide confidence intervals, and the lack of internal consistency calls into question the quality of the data on surviving children in the Boaco Survey. Nevertheless, a CDR of 17 and CBR of 49 would give rural Boaco an annual rate of natural increase of 3.2%, which would double the population in just over 20 years if there were no migration.

IV. CURRENT CONTRACEPTIVE USE

The Boaco Survey found that 8.2% of ever-married (or in union) women 15-44 years of age were using an effective means of contraception (Table 3). The most prevalent method was oral contraception (4.3%), followed by the injection (1.4%), and the IUD (1.2%). The use of methods with little or no efficacy does not appear to be common in rural Boaco. More than 5% of the women interviewed reported "prolonged lactation" as their current method. If lactation is considered a method of contraception, it would be the most prevalent method used in rural Boaco (5.3%). However, it is considered here as a separate category because, in an individual case, ovulation may return at any time whether a woman is breast-feeding or not. It is possible that the category, lactation, includes women who were breast-feeding at the time of the interview and not using another method of contraception, regardless of whether or not lactation was intended to prevent conception.

Table 4 shows that the percent of women who were currently using effective methods of contraception was higher among women 1) 25-34 years of age, 2) who had attended school (71.7% of the women interviewed had never attended school; only 2.6% had completed primary school or attended secondary school), 3) who had 2-3 living children, and 4) who lived in segments adjacent to a pueblo. A higher contraceptive prevalence also appears to be associated with the use of maternal and child health services at the time of the respondent's last pregnancy. As Table 5 shows, the use of contraceptives was twice as great among women who had utilized prenatal, postpartum, and well-baby services than among those who had not. Where the respondent last delivered also appears to be a

factor in whether a woman chooses to use a method or not. Almost 18% of the respondents who last delivered in a hospital or a clinic were currently using an effective method of contraception compared to 7.6% for women who delivered at home or in the house of a midwife.

Besides current practice of effective methods, Table 3 also presents the percentage of respondents who knew of the different methods of contraception and who had ever used these methods. With the exception of oral contraceptives (57.2%), less than 50% of the respondents knew of effective means of contraception, and only 9.6% had ever used these methods, including orals. In an independent analysis, Chen found that 73% of the respondents knew of at least one effective method. However, only 20.6% of these women ever used these methods, and of those women who had ever used, slightly more than half (55.7%) were currently using them at the time of the survey (6).

The data in Table 6 places contraceptive prevalence in rural Boaco in an international perspective by comparing the Boaco results with survey results found in rural Paraguay (1977) and rural El Salvador (1975). Contraceptive prevalence in rural Paraguay was the highest of the 3 surveys: 17.1% compared to 12.2% for El Salvador and 8.2% for Boaco (7, 8). In both Paraguay and Boaco, the most prevalent method was oral contraceptives, while sterilization was the most prevalent method in rural El Salvador. The higher aggregate level of coverage in El Salvador compared to Boaco appears to be due to the higher prevalence of sterilization in the former. The differences between Paraguay and Boaco can be attributed to the great use of most methods in Paraguay.

V. SOURCE OF CONTRACEPTION

The survey provides estimates of percentages of contraceptive users obtaining contraception from various sources, including both public and private family planning agencies (Ministry of Public Health [MOH], Social Security Institute [INSS], and the Nicaraguan Demographic Association [ADN]), private physicians, clinics or hospitals and pharmacies. As Table 7 shows, 62.5% of contraceptive users utilized public organized programs as their source of contraception, with 54.2% of women using MOH clinics as their source. More than one-fourth of all users obtained their contraceptives from private physicians and pharmacies. The majority of pill users obtained their contraceptive supplies from an MOH clinic. In addition, the MOH was the sole provider of IUD's. Similarly, private physicians were reported to be the sole source of surgical contraception, and most women using the injection obtained their supplies from a pharmacy.

VI. NUMBER OF WOMEN CURRENTLY CONTRACEPTING

On the basis of survey results presented in Section V and alternative population projections based on census data, it is estimated that in rural Boaco, in July-August 1977, there were from 797 to 915 ever-married users of fertility regulation methods with some recognized efficacy. As shown in Table 8, 52.4% of these women were protected by oral contraceptives, 16.7% by the injection, 14.3% by IUDs, and 8.3% were protected each by sterilization and the condom. It is also estimated that from 489 to 561 of all active users of contraception were using organized program clinics (MOH and ADN) as their source of supply (Table 9), and that 423 to 486 of the active users were receiving their

family planning supplies from the MOH. As of June 30, 1977, 4 of the 5 MOH clinics in the Department of Boaco reported 492 active users (9). The survey results show almost an equal number of active users in the MOH program even though the survey area does not include the urban area of the Department. This suggests that the clinics may be under-reporting active users.

VII. HISTORY OF SPONTANEOUS AND INDUCED ABORTION

In the interview, women were asked a series of questions on past history of abortion. The question referred to all abortions--both induced and spontaneous. There was no attempt to differentiate between the two types of abortion. It was felt that direct questions regarding induced abortion would tend to result in under-reporting of abortion. Elaborate, randomized response methods of asking about abortion were beyond the scope of this survey. It was decided that a single question covering both kinds of abortion would be less threatening to the respondents and would yield useful information.

Almost 20% of the respondents reported having at least 1 induced or spontaneous abortion (Table 10). As Table 11 shows, one-third reported having 2 or more abortions. Chen found that the rate of abortion is positively related to age and number of pregnancies terminated*, independent of the education of the respondents (Table 12). However, in total, the rate appears to be negatively related to the education of the respondents, although this relationship becomes inconsistent when controlled for age or number of terminated pregnancies (6). If the abortions reported are primarily induced, one might expect to find a higher rate of abortion

*Includes live births, spontaneous abortions, induced abortions, and stillbirths

among the higher educated who have demonstrated a somewhat greater tendency to attempt to control their fertility. Failure of abortion rates to be consistently higher for respondents with higher education when age or number of terminated pregnancies are controlled suggests that the abortions reported were mostly spontaneous rather than induced.

Twenty-one percent of the women with abortion history reported receiving medical attention following their last abortion. Of these women, 18.8% were hospitalized.

VIII. PLANNING STATUS OF LAST PREGNANCY AND CURRENT INTENTION TO USE CONTRACEPTION

All women who had been pregnant were asked a series of questions about their feelings about the last time they became pregnant. These questions were based on those used in U.S. surveys to determine the extent of unplanned pregnancies (10). On the basis of these questions, pregnancies were divided into planned pregnancies (desired and not occurring before planned), mistimed (desired but occurring before planned), and unwanted (those in excess of the desired number).

As Table 13 shows, over one-third of the women reported that their last pregnancies were unplanned (25.6% reported unwanted pregnancies, and 9.4% reported mistimed pregnancies, which together represent a total of 35% of births unplanned). As might be expected, the wantedness of last pregnancy was inversely related to the number of living children. With the exception of women with no living children, a higher proportion of women stated that their unplanned pregnancy was unwanted rather than mistimed. A higher proportion of women whose last pregnancy was mistimed or unwanted were found to be contracepting compared to women who stated that their last pregnancy was planned. In addition, a higher

proportion of women whose last pregnancy was unwanted were using effective means of contraception (12.4% vs. 4.8% using ineffective method). An equal proportion of women with mistimed pregnancies were using both effective and ineffective methods.

All women using no method were asked the reason for not using contraception. Women using ineffective methods, and those who said they were protected by lactation, were not asked this question. However, lactating women were classified as "postpartum" for the purpose of this analysis. Among all non-users, 33% cited reasons related to pregnancy for not contracepting, such as being pregnant or trying to get pregnant, and postpartum (Table 14). Another 14% of the non-users were not sexually active or menopausal. However, about 17% of the women were not using because of "personal" reasons (i.e., "did not want or like contraception"), and 12.8% said they were afraid of using contraception. About 17% stated they either did not know about contraception (9.9%) or did not know where to obtain it (6.9%). This finding is not surprising since most of the women interviewed in the survey lived in isolated areas and did not have access to health care, and suggests that a well-planned education/information program may have some success in changing the contraceptive behavior of these women.

All women using no method were also asked if they wished to use a method. Of all respondents in this category, 43.3% stated that they wanted to contracept, while 49% stated they did not (Table 15). The percent of women wanting to contracept increases with age until age 35 or older. As Table 16 shows, the number of living children does not appear to be an important factor in influencing a woman to want to use contraception until she has at least 3 living children. As table 17 shows, women with previous use of contraception or whose last pregnancy was unplanned were more likely to report a desire to contracept.

In an analysis of data not appearing in this report, it was found that use of maternal and child health services at time of last pregnancy was not positively associated with a woman's desire to use contraception. However, as Table 18 shows, use of these services appears to be associated with the respondent's knowledge of where to obtain contraception. Knowledge of source also appears to increase with number of living children and age of the respondent (Table 19). Conversely, a lower percentage of young, low parity women in rural Boaco had knowledge of where contraceptives could be obtained.

In Table 14, we reported that a total of about 48% of the women were not currently using a method of contraception for "personal" reasons or because of fear of contraception, ignorance, or lack of availability. Another 7% were not using because they stated they were not sexually active (Note: In most of these cases, the spouse was temporarily absent from the household at the time of the interview). In our opinion, these women should be the prime target population for future family planning educational activities and recruitment. Thus, their response to the question regarding desire to contracept was analyzed separately. There were 127 women, or 48%, who stated that they wanted to practice family planning, while 43% stated they did not (Table 20). However, of the women who expressed a desire to contracept, only 60% knew of a source of family planning services (Table 21). In comparison, 45% of all women who were not using a method stated they knew where to obtain family planning services (Table 19).

IX. USE OF MATERNAL AND CHILD HEALTH SERVICES

All women who had been pregnant were asked a series of questions on their use of medical prenatal, postpartum and well-baby services

at the time of their last pregnancy. In addition, they were asked where they had their last live birth or other pregnancy outcome.

Overall utilization by the respondents of these services was low: only 15.7% stated that they received prenatal care during their last pregnancy; 10.1% stated they received postpartum care after their last delivery; and only 14% took their last newborn to a clinic or hospital for a well-baby checkup (Table 22). A small percentage of the respondents (12.2%) stated that their last delivery was attended in a clinic or hospital. These findings clearly show that the women interviewed in the survey, for the most part, do not receive modern medical care as it is provided in the Department of Boaco.

A. Prenatal Care

With the exception of women 15-19 years of age, there was little variation in the use of prenatal services when controlled for age of the respondent (Table 23). Also, a larger proportion of women of low parity (living children) utilized these services than did high parity females. Previous use of prenatal services appears to be associated with previous contraceptive use. Thirty-eight percent of the respondents who received prenatal care had previous contraceptive experience, compared to only 11% who had no previous contraceptive history. This difference is statistically significant at the $p < .01$ level.

Of the women receiving prenatal care, only 36% received their first checkup in the first trimester of their pregnancy, and almost 35% received their first checkup during the second trimester, while 28% waited until the last trimester (Table 24).

Women who did not receive prenatal care at the time of their last pregnancy were asked why. More than half (56%) stated that they did not realize the importance of the checkup, or that it was not the custom to seek this type of care (Table 25). These reasons have been classified as cultural. Thirty-seven percent stated they did not seek prenatal care because they could not afford it (13.4%) or because of their work (2.5%) or the distance they would have to travel to a clinic (21.4%) would not permit them to attend a clinic session.

B. Location of Last Delivery

As stated above, only 12% of the respondents had their last delivery in a medical facility. Seventy-eight percent were delivered at home by a midwife or by family members (Table 26). As seen in this table, there is no clear-cut trend by age group with the proportion delivering in medical facilities ranging from 9.2% to 16.2%. It was found that if a woman used prenatal services she was more likely to deliver in a medical facility than if she did not utilize prenatal services. As Table 27 shows, 29% of the women who stated that they received prenatal care during their last pregnancy delivered in a medical facility as compared to 9% who did not seek prenatal care.

Almost two-thirds (63%) of the women were last delivered by a midwife. As shown in Table 28, of these women, 81.2% said that they asked a midwife to attend their deliveries because she lived nearby (43.3%) or the midwife had attended the respondent before or was known by the respondent (37.9%). It is also shown in this table that few women gave reasons associated with cost or sex of the midwife. Of the women who last delivered in a medical facility, 49% stated they chose

the facility because of complications related to their pregnancy or because they preferred medical attention (Table 29). Another 38% decided to deliver in a medical facility because of the quality of service they felt they would receive.

C. Postpartum Services

Only 10% of the respondents received postpartum care after their last delivery. As Table 30 shows, a slightly larger proportion of women 30-44 years of age sought this care than did women in the younger age groups. However, in an analysis not shown in the tables the number of living children a woman has does not appear to be a good indicator associated with her seeking postpartum care. The proportion seeking care ranged from only 9.1% to 11.3% when controlled for number of living children.

Of the 440 women who did not receive postpartum care, 54% stated they did not because they did not realize the importance of the care, or that it was not the custom to seek it. One-third (33%) stated they could not afford it (12%) or could not attend a clinic session because of their work (0.2%) or the distance they would have to travel (20.9%) to receive treatment.

Considering that a low percentage of women who received prenatal care actually delivered in a medical facility, a surprisingly high percentage, 47.1%, who delivered in a medical facility received postpartum care. This compares to only 5.1% of those women who delivered at home.

D. Well-Baby Services

As shown previously in Table 22, only 14% of the respondents who had had a live birth had utilized well-baby services after their last

delivery. Number of living children appears to be inversely related to whether a woman will seek well-baby care for her child (Table 31). Almost 17% of the respondents with 0-2 living children reported utilizing well-baby services, while only 11.3% of women with 7 or more children sought these services. Of those women who received well-baby services for their last born, 57.7% received them from a Ministry of Health clinic, 25.6% from a private physician, and 12.8% in a hospital.

As was shown in Table 4, place of residence of the respondent is associated with contraceptive use. A greater prevalence of contraceptive use was found for women living in sample segments immediately adjacent to a pueblo than for women living in non-adjacent segments. Although use of MCH services is positively associated with the respondents' education, use of MCH services is not consistently associated with place of residence (Table 32). Contrary to our expectations, proximity to a pueblo makes almost no difference in utilization of prenatal services, and is negatively associated with utilization of postpartum services. As expected, a greater proportion of women living in adjacent segments delivered in a medical facility and sought well-baby care for their newborn.

X. USE OF MIDWIFE SERVICES

All women in the survey were asked if a midwife lived in their locality and if they have or would request her as a birth attendant. In addition, they were asked if they would utilize the services of a midwife if she provided child health and family planning services.

Eight-five percent of the respondents stated that a midwife lived in their locality. Of these women, 82% said that they had or would utilize her services as a traditional birth attendant. Asked why they used or would use the services of the local midwife, 44% and 41% of the respondents cited the proximity of the midwife to their home and their previous experience with her, respectively, as the principal reasons (Table 33). Economic reasons or the fact that the midwife is a woman, was important to only 4.4% of the women. Of the 64 women who said they never have or would not utilize the services of the local midwife, almost two-thirds (64%) stated they did not have confidence in the midwife, or that she was inexperienced. Another 6.8% thought the midwife charged too much, and 4.1% just did not like the midwife in their community.

When asked if they would use the services of a midwife living in the community if she were trained to provide child health services, 89.4% of the respondents stated they would (Table 34). As this table shows, there is little variation in the response by age group of the respondents. This is also the case when the responses of the women were controlled by number of living children, although women with no living children tended to be the least enthusiastic about midwife-provided child health services.

All women in the survey were also asked if they would use the services of a midwife living in the community if she were trained to provide family planning services. As Table 35 shows, 68.3% stated they would, while 24.4% said they would not. Thus, whereas almost 90% of women would accept child care services from the local midwife, fewer women would accept family planning services from them, but they would

still account for two-thirds of all women. There is no definite pattern in acceptance of midwife-provided family planning services by age group, although the range is from 56% for 40-44 year old women to 76% for 30-34 year old women. There is less variation in positive responses of the women when controlled by number of living children (Table 36).

The attitudes of current users (Table 37) versus ever-users (Table 38) of contraception toward midwife-provided family planning services were very similar. Seventy-one percent of current users, and 68% of ever-users of contraception, stated they would utilize midwife-provided family planning services. Attitudes of women who cited "personal reasons" and "sexual inactivity" for not contracepting but who stated a desire to contracept were analyzed separately. Eighty-nine percent of these women stated they would use the services of a midwife living in the community if she were trained to provide family planning services, while only 7% said they would not (Table 39).

In Table 37, the data show that 80% and 71% of the women currently obtaining their contraceptives from organized family planning programs (MOH and ADN) or from a private M.D. or pharmacy, respectively, would be willing to receive their family planning supplies from a midwife. And finally, Table 38 shows that a higher proportion of women who ever-used effective means of contraception (80.7%) would be willing to obtain family planning services from a midwife than women who ever-used ineffective methods (64.5%) or no method at all (66.3%).

XI. SUMMARY

The Boaco Contraceptive Prevalence Survey conducted in July and August 1977 provides information for a sample of women living in the rural areas of the Department of Boaco on contraceptive use, source of contraception, history of abortion, use of maternal and child health services, and fertility. This survey made it possible, for the first time, to estimate the active number of contraceptive users in rural Boaco, quantify some of the consequences of low contraceptive use, and gain insights into the factors that may be associated with low contraceptive prevalence.

The survey found that 8.2% of ever-married women 15-44 years of age interviewed in the survey were using effective contraceptive methods. The most prevalent methods were oral contraceptives, injections, and IUD's. Organized public family planning programs were the major source of contraception, and the Ministry of Health was found to be the major provider of family planning services. About one-fourth of all users obtained their services from private physicians and pharmacies.

The consequences that may be associated with the low prevalence found in rural Boaco can be listed as follows:

1. Unplanned Pregnancies: 35% of the respondents reported that their last pregnancy was unwanted or mistimed.
2. High Fertility: Based on the survey data, it is estimated that the crude birth rate in rural Boaco is 49 per 1,000 population.
3. High Child Mortality: It is estimated that 20% of the children born alive to the respondents were not living at the

time of the survey. This estimate may be low since the child mortality rate did not consistently increase with age of the respondents, which suggests considerable under-reporting of child mortality by the older respondents.

The findings of the survey also provide data on the factors that may be associated with the low prevalence of use of contraception among the respondents. Briefly, they can be classified as cultural and physical (accessibility) barriers to the use of contraceptive and health services as well as lack of knowledge of their availability. Nearly half of the respondents were not currently contracepting because of ignorance of family planning, because of fear of contraception, for non-specific personal reasons, or because they did not know where to obtain services. Although 48% of these women stated they wanted to practice family planning, only 60% know of a source of family planning services.

Ignorance and lack of knowledge of contraceptive services may be associated with the survey finding that most of the women who were interviewed in the survey do not receive modern medical care. All women who had been pregnant were asked questions on their use of maternal and child health services at the time of their last pregnancy. Overall utilization of these services was low: no more than 16% of the women utilized either prenatal, postpartum, or well-baby services, and only 12% stated that their last delivery was attended in a clinic or a hospital.

The survey results clearly demonstrate that the clinic-based, physician-oriented services available in the Department of Boaco are unable to serve the bulk of the population, which is mainly rural.

The Ministry of Health Partera Program is an attempt to develop a health delivery system that will minimize the barriers confronting potential clients under the clinic-based system. The choice of parteras empiricas as the primary distribution agent in the program appears to be a good one: 89% and 68% of all women stated they would utilize partera-provided child health and family planning services, respectively; and 89% of the women who were identified as the target population for family planning services stated they would utilize partera-provided family planning services.

REFERENCES

1. Republica de Nicaragua, Oficina Ejecutiva de Encuestas y Censos, Encuesta Demografica Nacional, Diciembre 1976-Febrero 1978
2. Ministerio de Salud Publica de Nicaragua, Programa Pro-Bienestar Familiar, "Características Generales de las Usuarias del PPFN: Departamento de Boaco," Managua, D.N., Nicaragua, 1976
3. Republica de Nicaragua Banco Central de Nicaragua y Ministerio de Economía, Industria y Comercio, Anuario Estadístico 1975, (Date of publication unknown)
4. Morris, L: Resource Support Services Report: Nicaragua, Center for Disease Control, November 6, 1975
5. Anderson JE: Demographic estimation: Boaco contraceptive prevalence/MCH survey - Working Paper No. 1, Family Planning Evaluation Division, Center for Disease Control, Atlanta, Georgia, January 1978
6. Chen, HC: Analysis of family size and decomposition of contraceptive prevalence rates: Boaco contraceptive prevalence survey/MCH survey - Working Paper No. 2, Family Planning Evaluation Division, Center for Disease Control, Atlanta, Georgia, September 1978
7. Anderson JE, Morris L, Monteith RS: Contraceptive prevalence in Paraguay. Major findings and results from a 1977 survey. Analytical Report, Family Planning Evaluation Division, Center for Disease Control, Atlanta, Georgia, December 1977
8. Morris L, Rugamos RC, de Mendoza AM: Contraceptive prevalence and demographic trends in El Salvador. Family Planning Evaluation Division, Center for Disease Control, Atlanta, Georgia, April 1976

9. Ministerio de Salud Publica, Programa de Planificacion Familiar de Nicaragua, "Estadisticas de Servicios de los Programas de Planificacion Familiar de Nicaragua: Informa Correspondiente al 2° Trimestre 1977," Managua, D.N., Nicaragua, 1977

10. Westoff CF: The decline of unplanned births in the United States. Science 191:38, 1976

TABLE 1

Interview Status
Boaco Contraceptive Prevalence Survey
July-August 1977

<u>Household Selection</u>	<u>Total</u>
Total Households	
Number	874
Percent	100.0
Eligible Respondents Present	67.8
No Eligible Respondents	18.9
Vacant/Destroyed	7.1
No Contact*	6.2
Other	0.3
<u>Individual Selection</u>	
Total Eligible Respondents**	
Number	647
Percent	100.0
Complete Interview	81.5
Respondent Not at Home	9.7
No Contact	8.3
Refusal by Respondent	0.0
Other	0.5

*Failure to locate anyone at home in an occupied housing unit and total refusals.

**Includes all households which may have had eligible respondents, i.e., all households where no contact was made or had incomplete interview for other reasons in addition to those with identified eligible respondents.

TABLE 2

Percent Distribution of Women 15-44 by Age Group,
Comparison of 1976-1978 National Demographic Survey¹
With 1977 Boaco Contraceptive Prevalence Survey

<u>Percent of Women 15-44 by Age Group</u>	<u>1976-78 Survey</u>		<u>1977 Boaco Survey</u>
	<u>Nicaragua</u>	<u>Rural Nicaragua</u>	
15-19	11.3	13.0	13.9
20-24	23.2	24.1	19.8
25-29	21.6	21.3	22.5
30-34	15.4	13.5	14.3
35-39	16.9	17.0	15.9
40-44	<u>11.5</u>	<u>11.0</u>	<u>13.7</u>
Total ²	100.0	100.0	100.0

¹Republica de Nicaragua, Oficina Ejecutiva de Encuestas y Censos, Encuesta Demografica Nacional, Diciembre 1976 - Febrero 1978.

²The percent distribution in this and subsequent tables may not add to 100.0 due to rounding.

TABLE 3

Knowledge, Previous Use and Current Use of Contraception
by Method, Ever-Married Women 15-44
Rural Boaco, Nicaragua, 1977

<u>Contraceptive Status</u>	<u>Percent of Women by Contraceptive Status</u>		
	<u>Knowledge</u>	<u>Previous Use</u>	<u>Current Use</u>
<u>Modern and Traditional Methods with Some Recognized Efficacy</u>			
Oral	57.2	6.0	4.3
IUD	32.8	0.3	1.2
Condom	19.6	0.5	0.7
Injection	42.7	1.4	1.4
Foam, Jelly, Tablet	14.2	0.0	0.0
Diaphragm	3.9	0.0	0.0
Sterilization	21.7	0.7	0.7
Rhythm	7.0	0.2	0.0
Withdrawal	4.8	0.5	0.0
<u>Other Methods with Little or No Recognized Efficacy</u>			
Douche	12.1	1.2	0.2
Other	1.2	0.2	0.0
<u>Prolonged Lactation</u>	--	--	5.3
<u>No Method</u>	N/A	84.1	86.3
TOTAL	--	--	100.0

N = 527

Note: In this and all subsequent tables, ever-married includes women ever in union.

TABLE 4

Percent of Ever-Married Women 15-44 Years of Age
Using Effective Methods of Contraception,
by Selected Characteristics and Residence of Respondents
Rural Boaco, 1977

	<u>Contraceptive Prevalence</u>	
<u>Age Group</u>		
15-24	6.6	(168)
25-34	10.2	(203)
35-44	8.1	(156)
<u>Education</u>		
No Schooling	7.2	(375)
Primary and Above	11.5	(152)
<u>No. of Living Children</u>		
0-1	2.3	(106)
2-3	11.6	(154)
4-7	9.9	(199)
8+	6.9	(68)
<u>Place of Residence</u>		
Adjacent to Pueblo	14.0	(89)
Other Areas	7.2	(438)

Note: () denotes number of unweighted cases.

TABLE 5

Percent of Ever-Married Women 15-44 Years of Age
Using Effective Methods of Contraception,
by Use of Maternal and Child Health Services
at Time of Last Pregnancy
Rural Boaco, 1977

<u>MCH Services</u>	<u>Contraceptive Prevalence</u>	
<u>Prenatal</u>		
Use	16.9	(83)
No Use	6.9	(428)
<u>Location of Delivery</u>		
Hospital/Clinic	17.7	(61)
At Home	7.6	(393)
Other	5.6	(50)
<u>Postpartum</u>		
Use	16.1	(51)
No Use	7.8	(440)
Not Stated	7.7	(13)
<u>Well Baby</u>		
Use	15.4	(71)
No Use	7.5	(432)

Note: () denotes number of unweighted cases.

TABLE 6

Percent of Ever-Married Women 15-44 Using
Contraceptive Methods in Rural Areas:
Survey Estimates from Boaco (Nicaragua),
Paraguay and El Salvador

<u>Method Of Contraception</u>	<u>Rural Boaco 1977</u>	<u>Rural Paraguay 1977</u>	<u>Rural El Salvador 1975</u>
Oral	4.3	8.2	3.7
IUD	1.2	2.1	1.5
Condom	0.7	0.6	0.3
Injection	1.4	0.2	0.2
Foam, Jelly, Tablet, Diaphragm	0.0	0.0	0.2
Sterilization	0.7	2.6	5.9
Rhythm, Withdrawal	0.0	3.3	0.4
TOTAL	8.2	17.1	12.2

Note: In this table as well as Table 3 totals may not agree due to rounding.

TABLE 7

Current Use of Effective Methods
by Source of Contraception*,
Rural Boaco, 1977

<u>Source</u>	<u>Percent Distribution</u>
Ministry of Health	54.2
ADN	8.3
INSS	0.0
Private MD/Clinic	12.5
Pharmacy	14.6
Midwife	0.0
Other Place	4.2
Unknown	6.3
	<u>100.0</u>

*Excludes methods with no source

TABLE 8

Estimated Number of Current Users of Effective Methods
of Contraception, by Method, Rural Boaco, 1977

<u>Method</u>	<u>Estimated Number of Users</u>		<u>Percent</u>
	<u>Low</u>	<u>High</u>	
Oral Contraceptives	418	480	52.4
Injection	133	152	16.7
IUD	114	131	14.3
Condom	66	76	8.3
Sterilization	66	76	8.3
TOTAL	797	915	100.0

TABLE 9

Estimated Number of Active Users of Contraception
By Source of Supply, Rural Boaco, 1977

<u>Source of Supply</u>	<u>Number of Active Users</u>	
	<u>Low</u>	<u>High</u>
1. <u>Organized Programs</u>	489	561
Ministry of Health	423	486
ADN	66	75
2. <u>Commercial Sector</u>	211	561
Private MD/Clinic	97	112
Pharmacy	114	131
3. <u>Other/Unknown</u>	92	111
TOTAL	797	915

TABLE 10

Percent of Women Reporting History of Abortion
Rural Boaco, 1977

<u>History of Abortion</u>	<u>Percent of Women Reporting</u>
None	77.3
With History	19.1
Not Stated	0.2
TOTAL	100.0
N = 527	

TABLE 11

Number of Abortions Reported by Women
with History of Abortion
Rural Boaco, 1977

<u>Number of Abortions</u>	<u>Percent of Women Reporting</u>
1	66.1
2	18.8
3-5	15.2
TOTAL	100.0
N = 103	

TABLE 12

Percent of Respondents Who Reported History of Abortion
By Specific Characteristics

	<u>Education of Respondents</u>		
	<u>No Schooling</u>	<u>Primary or Above</u>	<u>Total</u>
Total	21.2	13.9	19.1
<u>Age Groups</u>			
15-24	8.9	10.8	9.6
25-34	20.5	12.7	18.5
35-44	33.1	21.6	30.6
<u>Number of Pregnancies Terminated*</u>			
0	--	--	--
1-3	3.3	7.2	4.9
4-7	20.5	24.5	21.6
8+	41.0	18.2	37.8

N = 527

*Includes live births, spontaneous abortions, induced abortions,
and stillbirths

TABLE 13

Planning Status of Last Pregnancy, Ever-Married Women
15-44 Years of Age Having at Least One Pregnancy,
by Number of Living Children, Rural Boaco, 1977

<u>No. of Living Children</u>	<u>No. of Women</u>	<u>Total</u>	<u>Planned</u>	<u>Mistimed</u>	<u>Unwanted</u>	<u>Unknown</u>
0	19	100.0	95.5	4.5	0.0	0.0
1-2	146	100.0	73.8	11.9	13.7	0.6
3-4	137	100.0	59.6	9.9	30.5	0.0
5-6	103	100.0	58.2	8.2	31.8	1.8
7+	106	100.0	56.5	7.0	35.7	0.8
TOTAL	511	100.0	64.3	9.4	25.6	0.8

TABLE 14

Reasons for Not Currently Using Contraception,
Ever-Married Women 15-44,
Rural Boaco, 1977

<u>Reason</u>	<u>Number of Women</u>	<u>Percent Distribution</u>
Not Sexually Active	38	7.4
Menopause/Subfecund	29	6.3
Pregnant	83	17.1
Trying to get Pregnant	42	8.4
Postpartum ¹	34	7.1
Personal - Respondent or Spouse "does not want or like contraception"	84	16.8
Not available/does not know source	33	6.9
Does not know about contraception/ how to use contraception	46	9.9
Fear of taking contraception	61	12.8
Can't afford contraception	9	1.9
Religious	13	3.0
Don't know/Not stated	<u>11</u>	<u>2.4</u>
TOTAL	483	100.0

¹Includes women who stated they were currently breastfeeding

TABLE 15

Desire to use Contraception, Ever-Married Women 15-44
Not Currently using any Method of Contraception, by Age Group
Rural Boaco, 1977

<u>Age Group</u>	<u>No. of Women</u>	<u>Desire to Use Contraception</u>		
		<u>Yes</u>	<u>No</u>	<u>Not Stated</u>
15-19	52	36.8	52.9	10.3
20-24	92	45.0	39.6	15.4
25-29	102	46.3	48.1	5.6
30-34	69	50.7	39.7	9.6
35-39	77	46.3	47.5	6.2
40-44	63	26.3	64.5	9.2
TOTAL	455	43.3	49.0	7.7

TABLE 16

Desire to Use Contraception, Ever-Married Women 15-44
Not Currently Using Any Method of Contraception,
by Number of Living Children
Rural Boaco, 1977

<u>Number of Living Children</u>	<u>No. of Women</u>	<u>Desire to Use Contraception</u>		
		<u>Yes</u>	<u>No</u>	<u>Unknown/ Not Stated</u>
0	34	22.0	75.6	2.4
1	63	38.5	48.7	12.8
2	65	30.4	65.2	4.3
3	62	42.4	48.5	9.1
4	50	57.6	40.7	1.7
5	42	55.6	42.2	2.2
6	47	63.3	26.5	10.2
7	32	48.6	34.3	17.1
8+	60	37.5	53.1	9.4
TOTAL	455	43.3	49.0	7.7

TABLE 17

Desire to Use Contraception, Ever-Married Women 15-44 Years of Age
Not Currently Using Any Method of Contraception,
by Previous Use of Any Form of Contraception
and Planning Status of Last Pregnancy
Rural Boaco, 1977

<u>Previous use of Contraceptives</u>	<u>No. of Women</u>	<u>Desire to Use Contraception</u>		
		<u>Yes</u>	<u>No</u>	<u>Unknown/ Not Stated</u>
None	392	41.7	51.4	6.9
Previous Use	63	52.9	34.3	12.9
TOTAL	455	43.3	49.0	7.7
 <u>Planning Status of Last Pregnancy</u>				
Planned	289	42.7	49.2	8.1
Unplanned	147	50.3	42.2	7.5
Unknown/Not Stated	3	25.0	75.0	0.0
TOTAL	439*	45.1	47.1	7.8

*Excludes never pregnant

TABLE 18

Knowledge of Where to Obtain Family Planning Services,
 Ever-Married Women 15-44 Years of Age
 Not Currently Using Any Method of Contraception,
 By Use of MCH Services at Time of Last Delivery,
 Rural Boaco, 1977

<u>Use of MCH Services</u>	<u>Percent of Women with Knowledge of Source</u>		
	<u>Yes</u>	<u>No</u>	<u>Unknown</u>
<u>Prenatal</u>			
Yes	64.5	30.6	4.8
No	42.9	51.9	5.2
N = 511			
<u>Location of Last Delivery</u>			
Hospital/Clinic	63.0	33.3	3.7
At Home	44.0	50.4	5.6
Other	39.1	56.5	4.3
N = 504			
<u>Postpartum</u>			
Yes	64.4	31.1	4.4
No	43.6	51.0	5.5
Not Stated	50.0	50.0	0.0
N = 504			
<u>Well Baby</u>			
Yes	59.7	37.1	3.2
No	43.5	51.0	5.6
N = 503			
TOTAL	44.9	49.6	5.5

TABLE 19

Knowledge of Where to Obtain Family Planning Services,
 Ever-Married Women 15-44 Years of Age
 Not Currently Using Any Method of Contraception,
 By Number of Living Children and Age of Respondent,
 Rural Boaco, 1977

<u>Number of Living Children</u>	<u>Number of Women</u>	<u>% With Knowledge of Source</u>	<u>Age of Respondent</u>	<u>Number of Women</u>	<u>% With Knowledge of Source</u>
0	34	36.6	15-19	52	39.7
1	63	35.9	20-24	92	44.6
2	65	50.7	25-29	102	51.9
3	62	43.9	30-34	69	41.1
4	50	45.8	35-39	77	46.2
5	42	53.3	40-44	63	42.1
6	47	42.9			
7	32	45.7	TOTAL	455	44.9
8+	60	50.0			
TOTAL	455	44.9			

TABLE 20

Desire to Use Contraception, Ever-Married Women 15-44 Years of Age
Not Currently Using Any Method Who Cited "Personal" Reasons and
"Not Sexually Active" for Not Currently Using Contraception
Rural Boaco, 1977

<u>Desire to Use Contraception</u>	<u>Number of Women</u>	<u>Percent of Women</u>
Yes	127	48.2
No	118	42.8
Unknown	26	9.0
TOTAL	271	100.0

TABLE 21

Desire to Use Contraception, Ever-Married Women 15-44 Years of Age
Not Currently Using Any Method and Who Cited "Personal" Reasons and
"Not Sexually Active" for Not Currently Using Contraception,
by Knowledge of Source of Contraception,
Rural Boaco, 1977

<u>Knowledge of Source</u>	<u>Desire to Use Contraception</u>		
	<u>Yes</u>	<u>No</u>	<u>Unknown</u>
Yes	59.7	29.7	25.9
No	36.8	67.2	44.4
Unknown	3.5	3.1	29.6
TOTAL	100.0	100.0	100.0
Number of Cases (Unweighted)	127	118	26

TABLE 22

Use of Medical Services at Time of Last Pregnancy,
Ever-Pregnant Married Women 15-44 Years of Age,
Rural Boaco, 1977

<u>Use of Service</u>	<u>Percent of Women Using Medical Services</u>			
	<u>Prenatal</u>	<u>Delivery</u>	<u>Postpartum</u>	<u>Well-Baby</u>
Yes	15.7	12.2	10.1	14.0
No	84.3	87.8	87.6	86.0
Not Stated	--	--	2.3	--
TOTAL	100.0	100.0	100.0	100.0
Number of Cases	511	504	504	503

TABLE 23

Use of Prenatal Services at Time of Last Pregnancy,
 Ever-Pregnant Women 15-44 Years of Age by
 Age Group and Number of Living Children,
 Rural Boaco, 1977

<u>Age Group</u>	<u>Percent Using Prenatal Services</u>	<u>Number of Living Children</u>	<u>Percent Using Prenatal Services</u>
15-19	29.2	0	31.8
20-24	11.5	1-2	20.8
25-29	17.1	3-4	11.9
30-34	14.6	5-6	9.1
35-39	12.0	7+	16.5
40-44	12.8		
TOTAL	15.7	TOTAL	15.7

N = 511

TABLE 24

Month of Pregnancy Prenatal Care Began
 Ever-Pregnant Women 15-44 Years of Age
 Rural Boaco, 1977

<u>Month of Pregnancy Prenatal Care Began</u>	<u>Number</u>	<u>Percent Distribution</u>
< 3 mos.	28	36.0
4-6 mos.	29	34.8
7-9 mos.	25	28.1
Unknown	<u>1</u>	<u>1.1</u>
TOTAL	83	100.0

TABLE 25

Reasons Stated by Ever-Pregnant Women 15-44 Years of Age
 for Not Using Prenatal Services at Time of Last Pregnancy,
 Rural Boaco, 1977

<u>Reason for Not Using</u>	<u>Number</u>	<u>Percent Distribution</u>
Cultural	237	56.0
Accessibility ¹	163	37.3
Other/Not Stated	<u>28</u>	<u>6.7</u>
TOTAL	428	100.0

¹Includes financial reasons and inability to attend
 because of work and distance

TABLE 26

Location of Last Delivery, Ever-Pregnant Women¹
 15-44 Years of Age, By Age Group,
 Rural Boaco, 1977

<u>Age Group</u>	<u>No. of Women</u>	<u>Percent of Women Delivering, By Location</u>			
		<u>Total</u>	<u>Clinic/ Hospital</u>	<u>At Home</u>	<u>Other</u>
15-19	53	100.0	9.2	86.1	4.6
20-24	100	100.0	16.2	73.0	10.8
25-29	121	100.0	10.1	79.8	10.1
30-34	77	100.0	9.8	78.1	12.2
35-39	88	100.0	14.1	81.5	4.3
40-44	65	100.0	12.8	71.8	15.4
TOTAL	504	100.0	12.1	78.1	9.7

¹Excludes women who were currently pregnant for the first time at time of interview

TABLE 27

Location of Last Delivery by Use of Prenatal Services
 At Time of Last Pregnancy,
 Ever-Pregnant Women¹ 15-44 Years of Age,
 Rural Boaco, 1977

<u>Used Prenatal Services</u>	<u>No. of Women</u>	<u>Location of Last Delivery</u>		
		<u>Hospital/ Clinic</u>	<u>At Home</u>	<u>Other</u>
Yes	83	29.2	60.7	10.1
No	422	8.9	81.1	10.0
TOTAL	504	12.1	78.1	9.7

¹Excludes women who were currently pregnant for the first time at time of interview

TABLE 28

Percent Distribution of Women Whose Last Birth
Was Attended by a Midwife,
By Reason for Choosing a Midwife
Rural Boaco, 1977

<u>Reason for Choosing Midwife</u>	<u>No. of Women</u>	<u>Distribution</u>
Lives Nearby	136	43.3
Previous Contact ¹	119	37.9
Charges Very Little	17	5.4
She is a Woman	4	1.3
Other/Not Stated	<u>38</u>	<u>12.1</u>
TOTAL	314	100.0

¹Includes "attended me before," "she is my friend," "I have confidence in her," "she's a family member," "she is experienced."

TABLE 29

Percent Distribution of Women Whose Last Birth
Was Attended in a Hospital or Clinic,
By Reason for Choosing These Facilities
Rural Boaco, 1977

<u>Reason for Choosing Hospital/Clinic</u>	<u>No. of Women</u>	<u>Distribution</u>
Complications/Preferred		
Medical Attention	30	49.2
Quality of Service	23	37.7
Financial Reasons	3	5.0
Accessibility	2	3.3
Other	2	3.3
Not Stated	<u>1</u>	<u>1.6</u>
TOTAL	61	100.0

TABLE 30

Use of Postpartum Services at Time of Last Pregnancy,
Women 15-44 Years of Age Who Had Delivered at Least Once,¹
By Age Group, Rural Boaco, 1977

<u>Age Group</u>	<u>No. of Women</u>	<u>Use of Postpartum Services</u>			<u>TOTAL</u>
		<u>Used</u>	<u>Not Used</u>	<u>Not Stated</u>	
15-19	53	7.7	90.8	1.5	100.0
20-24	100	7.2	88.3	4.5	100.0
25-29	121	9.3	90.7	0.0	100.0
30-34	77	11.0	86.6	2.4	100.0
35-39	88	13.0	82.6	4.2	100.0
40-44	65	12.8	85.9	1.3	100.0
TOTAL	504	10.1	87.6	2.3	100.0

¹Excludes women never pregnant, women who delivered a stillbirth,
and women who were pregnant for the first time at the time of the
interview.

TABLE 31

Use of Well-Baby Services After Last Delivery,
Women 15-44 Who Had Delivered at Least Once,¹
By Number of Living Children,
Rural Boaco, 1977

<u>No. of Living Children</u>	<u>No. of Women</u>	<u>Percent Using Well-Baby Services</u>
0	11	16.7
1-2	146	16.7
3-4	137	13.2
5-6	103	13.6
7+	106	11.3
TOTAL	503	14.0

¹Excludes women never pregnant, women who delivered a stillbirth,
and women who were pregnant for the first time at the time of
the interview.

TABLE 32

Proportion of Respondents Utilizing MCH Services,
By Proximity to Pueblo and Education of Respondents,
Rural Boaco, 1977

<u>Items</u>	<u>Characteristics of Respondents</u>				
	<u>Total</u>	<u>Education</u>		<u>Proximity to Pueblo</u>	
		<u>None</u>	<u>Some</u>	<u>Adjacent/Not Adjacent</u>	
1. Proportion Utilizing Prenatal Care (No. of Respondents)	15.7 (511)	12.6 (364)	23.8 (147)	15.2 (88)	15.9 (423)
2. Proportion Utilizing Medical Delivery (No. of Respondents)	12.2 (504)	10.2 (360)	17.3 (144)	18.6 (87)	10.9 (417)
3. Proportion Utilizing Postpartum Care (No. of Respondents)	10.1 (504)	7.7 (360)	16.0 (144)	8.3 (87)	10.4 (417)
4. Proportion Utilizing Well-baby Care (No. of Respondents)	14.0 (503)	12.5 (360)	18.1 (143)	16.5 (87)	13.5 (416)

TABLE 33

Percent Distribution of Respondents
Who Have or Would Use the Services of a Local Midwife,
By Reason for Using Her Services
Rural Boaco, 1977

<u>Reason for Choosing Midwife</u>	<u>No. of Women</u>	<u>Percent Distribution</u>
Lives Nearby	162	44.4
Previous Contact ¹	156	41.1
Charges Very Little	10	2.7
She is a Woman	6	1.7
Other/Not Stated	<u>35</u>	<u>10.0</u>
TOTAL	369	100.0

¹Includes "attended me before," "she is my friend," "I have confidence in her," "she's a family member," "she is experienced."

TABLE 34

Percent Distribution of Ever-Married Women
15-44 Years of Age as to Whether They Would Utilize
Midwife-Provided Child Health Services, By Age Group
Rural Boaco, 1977

<u>Age Group</u>	<u>No. of Women</u>	<u>Percent of Women Who Would Utilize</u>
15-19	64	85.2
20-24	104	91.4
25-29	124	87.9
30-34	79	91.7
35-39	89	89.2
40-44	<u>67</u>	<u>91.3</u>
TOTAL	527	89.4

TABLE 35

Percent Distribution of Ever-Married Women 15-44 Years of Age
as to Whether They Would Utilize Midwife-Provided Family Planning
Services, by Age Group, Rural Boaco, 1977

<u>Age</u>	<u>No. of Women</u>	<u>Percent Distribution</u>			<u>TOTAL</u>
		<u>Yes</u>	<u>No</u>	<u>Unknown</u>	
15-19	64	65.4	22.2	12.3	100.0
20-24	104	72.4	20.7	6.9	100.0
25-29	124	68.2	21.2	10.6	100.0
30-34	79	76.2	22.6	1.2	100.0
35-39	89	68.8	24.7	6.5	100.0
40-44	67	56.3	38.7	5.0	100.0
TOTAL	527	68.3	24.4	7.3	100.0

TABLE 36

Percent Distribution of Ever-Married Women 15-44 Years of Age
as to Whether They Would Utilize Midwife-Provided
Family Planning Services, By Number of Living Children
Rural Boaco, 1977

<u>No. of Living Children</u>	<u>No. of Women</u>	<u>Percent Distribution</u>			<u>TOTAL</u>
		<u>Yes</u>	<u>No</u>	<u>Unknown</u>	
0	35	73.8	19.0	7.1	100.0
1-2	146	61.9	29.8	8.3	100.0
3-4	137	69.5	20.5	9.9	100.0
5-6	103	69.1	23.6	7.3	100.0
7+	106	73.0	24.3	2.6	100.0
TOTAL	527	68.3	24.4	7.3	100.0

TABLE 37

Percent Distribution of Current Users of Contraception
As to Whether They Would Utilize Midwife-Provided
Family Planning Services, by Current Source of Contraception
Rural Boaco, 1977

<u>Current Source of Contraception</u>	<u>No. of Women</u>	<u>Percent Distribution</u>			
		<u>Yes</u>	<u>No</u>	<u>Unknown</u>	<u>TOTAL</u>
Organized Programs ^a	28	80.0	16.7	3.3	100.0
Private Clinic/Pharmacy	13	71.4	28.6	0.0	100.0
Method has no Source ^b	28	58.1	25.8	16.1	100.0
Other/Unknown	3	100.0	0.0	0.0	100.0
TOTAL	72	71.2	21.2	7.5	100.0

^aMinistry of Public Health and the Asociacion Demografica Nicaraguense

^bIncludes lactation, rhythm, and withdrawal

TABLE 38

Percent Distribution of Ever Married Women 15-44 Years of Age as to
Whether They Would Utilize Midwife-Provided Family Planning Services,
By Ever-Use of Any Form of Contraception
Rural Boaco, 1977

<u>Ever-Use of Contraception</u>	<u>No. of Women</u>	<u>Percent Distribution</u>			
		<u>Yes</u>	<u>No</u>	<u>Unknown</u>	<u>TOTAL</u>
Effective Methods	80	80.7	17.0	2.3	100.0
Ineffective Methods ^a	55	64.5	27.4	8.1	100.0
Never Used	392	66.3	25.5	8.3	100.0
TOTAL	527	68.3	24.4	7.3	100.0

^aIncludes lactation

TABLE 39

Desire to Use Contraception, Ever-Married Women 15-44 Years of Age
 Not Currently Using Any Method and Who Cited "Personal" Reasons
 and "Not Sexually Active" for Not Currently Using Contraception,
 By Their Intent to Use Midwife-Provided Family Planning Services
 Rural Boaco, 1977

Intent to Use Midwife-Provided Family Planning Services	<u>Desire to Use Contraception</u>		
	<u>Yes</u>	<u>No</u>	<u>Unknown</u>
Yes	88.9	45.3	74.1
No	6.9	46.9	3.7
Unknown	4.2	7.8	22.2
TOTAL	100.0	100.0	100.0
Number of Cases (Unweighted)	127	118	26