

**Expansion of the Role of Nurse  
Auxiliaries in the Delivery  
of Reproductive Health  
Services in Honduras**

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## SUMMARY

The nurse auxiliaries who work at the rural health centers (CESARs) of the Honduran Ministry of Health (MOH) are frequently the only source of reproductive health services in the communities they serve. In order to increase access to long-term family planning methods, the MOH and the Population Council's INOPAL III Project conducted an operations research study from 1997 to 1998 to see if nurse auxiliaries could provide good quality IUD, Depo-Provera and vaginal cytology services without health risks for their clients. The study concluded that auxiliaries could provide these services and that, in addition, the cost-effectiveness of the strategy was appropriate. As a consequence of the study, the MOH changed the Official Service Delivery Guidelines for the Integral Care for Women to explicitly authorize auxiliaries to provide these services.

This project used the results of the previous study to increase access to long-term methods (IUD and injectables) and vaginal cytology in rural areas. One hundred and eighty three nurse auxiliaries, 56 nurses and 24 physicians were trained in counseling and contraceptive methodology, including supervised IUD insertions. In these practical sessions, the instructor determined (or certified) if the student could insert IUDs upon returning to his/her service unit (UPS). In total, 62% of the auxiliaries, 89% of the nurses and 100% of the physicians were certified to offer this particular service. The main reason some of the providers were not certified was the lack of users who requested the method in the training centers and, therefore, the impossibility of carrying out the practical sessions under supervision. All the participants were authorized to offer the other services (pills, condoms, injectables and cytology) upon returning to their service units (UPS).

Service statistics for the year 2000 showed that nurse auxiliaries who were trained and certified in IUD insertion provided services to an average of 7.3 new family planning users per month (2.2 pill users, 0.6 IUD, 3.7 injectables and 0.8 condoms) and they took an average of 5.2 vaginal cytology samples a month. The monthly averages for nurse auxiliaries working in the CESARs were less than the averages for those working in the CESAMOs. In Region 3, however, where it was necessary to conduct a separate data analysis, auxiliaries from the CESARs inserted an average of 1.3 IUDs per month and they gave nine Depo-Provera injections.

Other analyses showed that only 47% of trained nurse auxiliaries and 64% of those who had been certified, reported having inserted at least one IUD after the training, in contrast with more than 80% of the auxiliaries who reported at least one new pill, injectable or condom user, and with the 84% who reported to have taken at least one cytology sample. In the CESARs, the proportion of auxiliaries trained (43%) and certified (59%) who reported having inserted at least one IUD was less than in the CESAMOs (58% and 74%, respectively).

This project showed once again the acceptability and convenience of training nurse auxiliaries from the CESAMOs and the CESARs to give Depo-Provera injections

and to take vaginal cytology samples, as they provide relatively high levels of these services and most apply their skills upon returning to their service units (UPS).

Although at first glance the results from the IUD insertion training do not appear to be very positive, a careful analysis shows that it is desirable to continue expanding this strategy, since the IUD is a method with a very high rate of use-continuity that can take the place of more expensive procedures and, opportunities exist for improving the present model. The strategy can be improved by achieving two basic objectives: 1) increase the proportion of trained auxiliaries who are certified by more carefully selecting auxiliaries and the places that serve as training centers, choosing those that have sufficient demand for IUDs and thus offer opportunities for practice, and 2) assure that all the certified auxiliaries insert IUDs when they return to their UPS, which implies the need for promoting the new services to generate demand, identifying women who desire the method before going to the training, and supervising IUD insertions more frequently in the UPS, to continue developing auxiliaries' skills on-site, so as to assure that the activity is carried out.

Finally, it is recommended that training for the delivery of these three services be included in the auxiliary nursing school curricula, in the job description for auxiliaries working in the MOH and in NGOs, and in the requirements and exams for entering into civil service.

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## **ABBREVIATIONS**

ASHONPLAFA	Honduran Family Planning Association
CYP	Couple-Years of Protection
CESAMO	Health center with a doctor and a dentist
CESAR	Rural health center
IUD	Intrauterine Device
MOH	Ministry of Health
NGO	Nongovernmental Organization
PRODIM	Development Programs for Woman and Children
UPS	Health service units
USAID	United States Agency for the International Development

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# **I. BACKGROUND**

## **1.1 Rural Health Centers (CESARs) and Nurse Auxiliaries**

Primary medical and paramedical care provided by the Honduran Ministry of Health (MOH) is organized by territory into nine health regions, which are then subdivided into 40 areas, which are then further subdivided into sectors. Normally, there are four or five sectors in each area. Each area has a Chief (a physician), and a Head Nurse, who supervise the sectors and the health service units (UPS) existing within the area. Usually, there are between five and ten health centers per sector. In addition, each sector has a Supervisory Nurse responsible for overseeing the provision of services in the two types of primary care UPSs: health centers with a doctor and a dentist (CESAMOs) and rural health centers (CESARs).

CESAMOs are UPSs located in populations of over 6,000 inhabitants. The minimum staff consists of a doctor, a professional nurse, a nurse auxiliary and a promoter. Most CESAMOs, however, have more personnel than the minimum required. In total, the MOH has 241 CESAMOs throughout the country.

Rural health centers (CESARs) are the most accessible health service outlets for the majority of women living in rural areas. Although theoretically the CESARs serve populations fluctuating between 1,000 and 12,000 inhabitants, the majority of the 867 CESARs within the MOH are located in communities with populations of between 1,500 and 3,500 inhabitants. CESARs are attended by nurse auxiliaries who prepare for this technical career for two years following the completion of the first three years of secondary school. Most nurse auxiliaries live in the area where they work and have remained in the same CESAR for a long period of time. The main services provided by auxiliaries include vaccinations, growth and development monitoring, and the prevention and treatment of respiratory and diarrhea-related illnesses. On a routine basis, they prescribe antibiotics for clearly defined cases and they refer the complicated cases to those health providers who are equipped to handle more serious cases. As for reproductive health, auxiliaries provide prenatal and postnatal care, occasionally assist women in childbirth, and provide family planning services.

## **1.2 Operations Research Study to Increase Access to Family Planning in CESARs in 1997**

Until 1997, nurse auxiliaries were only authorized to distribute condoms and contraceptive pills to current users of these methods (but not to new pill users, who had to receive the method from a doctor or a professional nurse). In spite of the unmet need for contraceptive methods - which was higher in rural areas than in urban areas - IUDs were not inserted, Depo-Provera injections were not administered and vaginal cytology samples were not taken in the CESARs. Consequently, women from rural areas faced difficulties in accessing long-term contraceptive methods and preventing cervical and uterine cancer.

In 1997 and 1998, the MOH and the Population Council's INOPAL III Project conducted a study to test if nurse auxiliaries could safely insert IUDs and take vaginal cytology samples of proper quality. Sixty nurse auxiliaries from 16 health areas participated in the experiment. In addition, 11 physicians and 23 professional nurses who worked in the CESAMOs and were responsible for supervising the CESARs were trained. The results showed that auxiliaries offered good quality services in terms of the information offered to clients, compliance with service delivery guidelines, and follow-up of users. In all, the trained service providers inserted 2,030 IUDs from July of 1997 to August of 1998, with the subsequent detection of only three pregnancies. In addition, in the course of the project it was decided to train nurse auxiliaries in the use of the injectable Depo-Provera, given that there was a great demand for the method among the population and that the quality of the service provided by auxiliaries was appropriate. Finally, an additional study carried out in five CESARs showed that the costs per user varied according to two primary factors: the time invested in offering the service and the number of clients to whom the service was offered. The costs per new IUD user varied between \$2.90 and \$18.60 USD, while the costs per vaginal cytology sample varied between \$1.50 and \$9.40 - costs which were lower than those observed in the CESAMOs.<sup>1</sup>

Based on these results, the MOH modified the Official Service Delivery Guidelines for Integral Care for Women in 1999 and explicitly authorized nurse auxiliaries to insert IUDs, administer Depo-Provera injections and take vaginal cytology samples.

## **II. STATEMENT OF THE PROBLEM**

Although the Ministry of Health was interested in training nurse auxiliaries from all the CESARs throughout the country to insert IUDs, administer Depo-Provera injections and take vaginal cytology samples, the emergency resulting from the 1999 Mitch Hurricane prevented this plan from being carried out. For this reason, the Population Council's Frontiers Program was approached for support to continue expanding and evaluating this strategy. The Frontiers Program decided to finance this project due to its compatibility with its Intermediate Result 2, which is to encourage greater use of operations research results.

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<sup>1</sup> See Villanueva, Yanira; L. Hernández, I. Mendoza and R. Lundgren. 1998. Expansion of the Role of Nurse Auxiliaries in Offering Family Planning Services and Taking Vaginal Cytology Samples. INOPAL III Final Report. Tegucigalpa, Honduras, Population Council.

<sup>2</sup> Honduran Ministry of Health. Women's Health Unit. 1999. Norms and Procedures. Manual for Women's Integral Care. Ministry of Health, Tegucigalpa, Honduras, September.

### **III. OBJECTIVES**

The overall objective of this project was to increase access for women living in rural areas in Honduras to two long-term contraceptive methods (IUD and injectable Depo-Provera) and to vaginal cytology services.

The specific objectives of the project were:

1. To develop a training system and to train 220 nurse auxiliaries, 44 doctors and 44 professional nurses from Health Regions 1, 2, 3, 5 and 6 to insert IUDs, administer Depo-Provera injections and take vaginal cytology samples.
2. To evaluate the effectiveness, quality and cost-effectiveness of this strategy in increasing access to the methods.

### **IV. METHODOLOGY**

#### **4.1 Design**

This was a demonstration project. A single group post-evaluation design was used.

#### **4.2 Independent Variable**

The independent variable was training in counseling and service delivery of three new services: IUD insertions, Depo-Provera injections and vaginal cytology samples (Pap smears). A description of this training is provided in section 5.1.3.

#### **4.3 Dependent Variables**

The main dependent variables used were the proportion of trained service delivery providers who provided the new services, and the number of services provided.

#### **4.4 Sources of Information**

The sources of information used to evaluate project activities were the following:

*Study registration card:* doctors, nurses and nurse auxiliaries who attend training sessions fill out this form (presented in Appendix 1) when they begin their contraceptive methodology training. The form registers socio-demographic and work-related information, such as education, time working in the UPS, number of children, religion, family planning methods used, and training received.

*Certification forms:* these seven forms are filled out by the contraceptive methodology trainers in order to evaluate the skills of the students when providing the services. They are observation guides (checklists) of the procedures followed when a contraceptive method is provided (including IUD insertion and removal) and when taking a vaginal cytology sample. The observations are used to certify students for IUD insertions. Students who were not certified for IUD insertion could nevertheless offer injectables and Pap smears. These forms are presented in Appendix 2.

*Monthly Production of Family Planning Methods and Cytology:* this form, which is presented in Appendix 3, records the number of consultations to new and subsequent family planning users (pills, condoms, IUDs and injectables) and of vaginal cytology services per month. The information is compiled by supervisory nurses at the time of the supervision and is delivered to the project coordinator at the bimonthly meetings. This information is obtained from the daily activity reports filled out by service providers trained by the project (auxiliaries, nurses and doctors).

*User Register:* this form records socio-demographic characteristics and the contraceptive-use history of clients who received services from providers trained in the project. Appendix 4 presents a copy of the User Register.

*Accounting records:* these records help estimate the cost and cost-effectiveness of the new services.

## **V. ACTIVITIES CONDUCTED**

### **5.1 Training**

#### ***5.1.1 Selection of personnel to be trained***

The first step in selecting the doctors, nurses and nurse auxiliaries to be trained was to hold a meeting with the regional and area management and supervision teams to explain the project and to ask that they select personnel according to certain established criteria. These criteria were based on the experience from the previous project, and included: a) to be working in a CESAR with a population of more than 3,000 inhabitants; b) to be a nurse auxiliary with a permanent contract with the Ministry of Health; c) to have a positive attitude toward family planning; and, d) to live in the community where they work. In addition, in order to facilitate the organization and supervision of the training, it was requested that a maximum of seven auxiliaries be selected per sector. Finally, it was requested that the CESAMO doctors and nurses responsible for supervising the auxiliaries from the selected sectors be trained as well.

In spite of the fact that the project had not considered training the auxiliaries who worked in the CESAMOs, the Area and Sector Chiefs considered it important to train them. To be able to evaluate the strategy appropriately, in all subsequent analyses we separated the auxiliaries who work in the CESARs from those who work in the CESAMOs.

### 5.1.2 *Training of Trainers*

The second phase of the project consisted of identifying and training those who would be the trainers of the selected personnel. The trainers were physicians and professional nurses who provided family planning services in UPSs with sufficient demand for IUD insertions, in order to be able to train others in the unit in a reasonably short period of time. Other requirements for being a trainer were to have a positive attitude toward family planning, to be willing to train personnel and to have the approval of the directors of the health centers where they worked, since they would have to devote time to project activities and these UPSs would subsequently become training centers.

The training workshops lasted five days and included aspects such as an update on the different contraceptive methods, a review of the Service Delivery Guidelines for Integral Care for Women, use of the evaluation instruments to certify the trained providers, and use of the data collection instruments that they and their students would have to fill out once the project was in progress.

Each workshop cost 2,137 lempiras per person trained (approximately \$ 142 USD). This cost included transportation, lodging, per diem and materials. In total, 30 trainers were trained, of which six were doctors (three from the metropolitan region and three from Region 3) and 24 were professional nurses (eight from Region 2, eight from Region 6, seven from Region 3 and one from Region 5).

### 5.1.3 *Training and certification of service providers*

The training of the service providers consisted of a workshop on family planning counseling and training in contraceptive methodology.

The objective of the family planning counseling workshops was to strengthen the providers' skills in orientation and counseling and, therefore, increase the possibility that their clients could make free and informed choices regarding a contraceptive method, and then subsequently use it correctly for as long as they wanted to avoid a pregnancy. In total, eight five-day workshops were carried out, each attended by between 25 and 30 participants. The services of the Honduran Family Planning Association (ASHONPLAFA) were used to offer the workshops. Diverse participative techniques were used in the workshops, such as dramas, role-plays and work groups. In addition, participants were given specific reading and support material as well as a diploma for their participation. The themes covered in the workshop included sexuality, reproductive health, quality of care, contraceptive methodologies, an overview of counseling, principles in verbal and non-verbal communication and essential counseling techniques. During the workshop, participants practiced the counseling techniques they had studied.

At the beginning and end of each workshop, knowledge tests were applied. Table 1 shows that between the pre- and post-tests, the scores increased by 30 points in the case of auxiliaries, 23 points for nurses and 24 points for doctors. Thus, auxiliaries increased their knowledge at a higher rate than nurses and doctors.

**Table 1**  
**Average Scores Obtained Before and After the Training, According to the Course,**  
**Type of Test and Type of Personnel (scores rounded off**  
**to the nearest whole number)**

Type of training	Pre-test			Post-test			Increase		
	Dr.	Nur	Aux	Dr.	Nur	Aux	Dr.	Nur	Aux
Counseling	65	64	51	89	87	81	24	23	30
Contraceptive Methodology	82	82	67	97	96	88	15	14	21

The contraceptive methodology training was provided in the UPSs of the trainers who were trained in the second phase of the project. This training took place between June and December 1999 and between August and December 2000. In total, 263 service providers were trained, of which 183 were nurse auxiliaries, 56 nurses and 24 doctors. Table 4 shows the number of persons trained in each Region. The training lasted for five days, and was given to one or two students at the time. The training was focused on clinical aspects involved in delivering the different methods (such as indications, secondary effects, type of action, effectiveness and benefits of the different family planning methods), and on the technical procedures (IUD insertions and cytology samples). The practice sessions began with pelvic models and progressed to actual users who had requested the service. In addition, the use of the data collection instruments was reviewed. At the beginning and end of each of these training sessions, a test was given to measure theoretical knowledge gained. As can be seen in Table 1, the auxiliaries increased their scores by 20 points between the pre and the post-tests, which was more than the nurses (14 point increase) and the doctors (15 point increase).

Certification of the students for inserting IUDs and taking cytology samples was carried out by observing if the students complied with service delivery guidelines listed in the seven observation guides (or checklists) presented in Appendix 2. Certification did not depend on a minimum number of insertions, but rather on whether or not the trainer observed the student using the correct technique. Table 2 shows the number of observations made by the trainers of the project. The observation number in this table is the number of repeat observations made of single individuals. Usually, the trainers did not begin to apply the observation guides until the students had already conducted a few supervised procedures without using the checklists. As can be seen, the guides used most often were those for IUD insertion and checkups and for cytology sampling, the latter being the most frequently used guide for follow-up observations as well. For IUD insertions, 143 individuals were observed with a checklist at least once, ninety-three were observed a second time and sixty a third time.

**Table 2**  
**Number of Observations Reported by the Trainers According to Guide**  
**and Observation Number**

Observation Guide	Observation Number				
	1	2	3	4	5
Family planning counseling	91	49	32	17	12
Counseling /administering Depo-Provera	98	62	41	23	14
Counseling/ IUD insertion	143	93	60	26	13
IUD checkup	137	99	66	41	22
IUD removal	77	26	13	5	2
Combined Oral Contraceptives	24	14	7	3	1
Cytology	145	127	107	79	52
Total	715	470	326	194	116

Table 3 summarizes the behaviors that were observed less frequently during the first round of observations with each guide and, therefore, the points that need to be emphasized in future training sessions. In the case of family planning, little attention was given to the dual protection offered by the condom (pregnancy prevention and STDs/AIDS prevention). In the case of Depo-Provera, little information was given regarding secondary effects, which influence use-continuity of the method. In the case of the IUD, appropriate pelvic exams were not conducted and the presence of contraindications was not verified.

**Table 3**  
**Procedures Carried out 85% of the Time or Less During the First**  
**Observations Using Each of the Guides**

Guide	Procedures Correctly Carried Out During the Observation	
	Between 80% and 85% of the observations	Less than 80% of the observations
Family Planning Counseling	<p><i>Ask:</i> when she wishes to have another child; if she is still using a method; why she stopped using a method</p>	<p><i>Explain:</i> that all information is confidential; what methods provide protection against STDs/AIDS; methods a woman at risk for STDs/AIDS should use</p> <p><i>Obtain information about:</i> level of schooling; occupation; relationship with partner</p> <p><i>Ask:</i> if she had any problems with the method</p>
Depo-Provera	<p><i>Explain</i> the advantages, disadvantages, and precautions; explain when contraceptive protection begins according to the moment during the menstrual cycle, or postpartum or post-miscarriage period when the injection is given.</p> <p><i>Inform about the warning signs:</i> abundant bleeding, headaches and depression</p> <p><i>Inform</i> that the client can change methods at any time and for any reason</p> <p><i>Ask about:</i> bleeding between periods or during/after sexual relations; problems with active hepatitis, kidney or heart disease, or diabetes</p> <p><i>Wash hands</i> with soap and water</p> <p><i>Offer another method</i></p>	<p><i>Explain side effects:</i> depression or lethargy; possible delay in the return to fertility</p> <p><i>Analyze</i> with the client how the changes in menstruation could affect her daily life and if the delay in fertility would be important to her</p> <p><i>Wash hands</i></p> <p><i>Ask about:</i> Serious headaches, satisfaction with the method and if she wishes to continue using Depo-Provera</p>
IUD insertion	<p><i>Determine</i> size, shape and position of uterus through a bimanual exam.</p>	<p><i>Inform</i> about women who should not use an IUD (risk of STDs/AIDS, heavy or painful periods)</p> <p><i>Recommend</i> that the client void her bladder</p>
IUD checkup	<p><i>Explain</i> the procedure for an IUD checkup</p> <p><i>Gynecological exam:</i> to rule out pain when the cervix is moved; rule out pain</p> <p><i>Help</i> the patient get up and tell her she can get dressed</p> <p><i>Ask</i> that she return if there are any warning signs</p> <p><i>Counsel</i> about side effects and their management</p>	<p><i>Check</i> that the patient understands the procedure that will be carried out and what she should expect.</p>
Pills	<p><i>Consider contraindications, such as:</i> cardiopathy; hepatic diseases; uterine fibroids; diabetes</p> <p><i>Review what to do</i> in case the user forgets to take the pill one, two or three days.</p>	
Cytology	<p><i>Ask patient about:</i> current menstrual cycle; sexual relations during the previous two days; if she currently has her period and that preferably, if she had had sexual relations in the previous two to three days that she did not use vaginal foams, suppositories, creams or douches.</p> <p><i>Explain</i> the procedure</p> <p><i>Clarify</i> any needs, worries or fears</p> <p><i>Help</i> the patient get up and let her know she may get dressed</p> <p><i>Wash hands</i> with soap and water</p>	<p><i>Carry out bimanual exam</i> to detect abnormalities in the uterus and surrounding tissues</p>

Table 4 shows that of the 183 nurse auxiliaries who attended the training, only 62% were certified to insert IUDs, compared with 89% of the nurses and 100% of the physicians. When auxiliaries are separated according to the type of unit in which they work, one sees that 59% of the auxiliaries working in CESARs and 70% of those working in CESAMOs were certified. Certain differences are especially evident in the percentage of persons certified in each region, especially in the case of auxiliaries in Regions 2 (where few auxiliaries were certified) and 3 (where nearly all were certified). In the case of Region 2, the problem was that the NGO carrying out the training (PRODIM) did not have sufficient numbers of users demanding the services. Prior to this situation, the trainers sought to train the auxiliaries in their own CESARs, which did not resolve the problem of too few numbers. On the other hand, the success observed in Region 3 seems to have been due to two factors: greater involvement of the regional and area levels in the organization, coordination and follow-up of the process and the support provided by the permanent advisor hired by USAID for that region - support that did not exist in the other areas.

**Table 4**  
**Number of Persons Trained and Certified in IUD insertion,**  
**By Health Region and Type of Service Provider**

Region	Trained				Certified				% Certified			
	RA <sup>1</sup>	UA <sup>2</sup>	NUR <sup>3</sup>	DR <sup>4</sup>	RA <sup>1</sup>	UA <sup>2</sup>	NUR <sup>3</sup>	DR <sup>4</sup>	RA <sup>1</sup>	UA <sup>2</sup>	NUR <sup>3</sup>	DR <sup>4</sup>
METRO	0	0	8	6	0	0	6	6	-	-	75	100
1	13	8	3	7	8	5	3	7	61	62	100	100
2	34	2	13	0	15	0	9	0	44	0	69	-
3	21	18	15	3	21	15	15	3	100	83	100	100
5	18	5	8	4	10	3	8	4	56	60	100	100
6	40	24	9	4	20	17	9	4	50	71	100	100
TOTAL	126	57	56	24	74	40	50	24	59	70	89	100

<sup>1</sup> Auxiliaries in Cesares (Rural Auxiliaries). <sup>2</sup> Auxiliaries in CESAMOs (Urban Auxiliaries); <sup>3</sup> Nurses; <sup>4</sup> Physicians (Doctors)

At the end of the training, all participants received support material as well as a diploma for their participation. Those service providers who were certified in IUD insertion also received a certification diploma and an IUD insertion kit, so that upon returning to their centers they could carry out the procedures they had learned. All the providers were skilled in the delivery of the other contraceptive methods as well as in taking vaginal cytology samples.

The cost of the training was 2,748 lempiras (approximately \$ 183 USD) per person trained.

In general, the training process was carried out according to plan and without any setbacks. Some of the adjustments made during the course of the project were: a) upon request from the Ministry of Health, the inclusion of Regions 5 and 6 in project activities, in addition to Regions 1, 2 and 3 which were originally considered; b) the establishment of an agreement to carry out training sessions in the metropolitan region, where some

training centers have a high volume of users, but where the forms used in the project would not be filled out, signifying the loss of information; c) the great amount of time spent in the training of personnel from Region 6 due to the rain that left some communities isolated, and which impeded personnel from getting to the training site; d) the training in Health Region 3 starting late due to lack of time on the part of the personnel for training; and e) in Region 2, the use of the NGO PRODIM's personnel and installations where they have little demand for IUD insertion, causing a large percentage of the personnel in the region to not be certified.

#### ***5.1.4 Characteristics of service providers trained***

Table 5 shows that the nurse auxiliaries, registered nurses and physicians who were trained have different characteristics. While practically all the auxiliaries and nurses are women, the majority of the doctors are men. The majority of the nurses and auxiliaries are married women between 20 and 40 years of age. A little less than a third of the auxiliaries finished their studies in the last five years. In all cases, the majority of the service providers are in their thirties, but of those who are younger and older, most are doctors and auxiliaries. An important proportion of the doctors trained were doing their social service, which explains their young age and the fact that a greater proportion of them had recently graduated and had not received training in the Service Delivery Guidelines for Integral Care for Women. The majority of the providers worked in UPSs which they described as rural. Few have four or more children. As far as religion, about a fourth of the auxiliaries and nurses are evangelical, in contrast with more than 90% of the doctors who declared themselves Catholic. Surprisingly, few doctors indicated that they had used contraceptive methods.

**Table 5**  
**Distribution of Trained Service Providers According to Socio-demographic and Work-related Characteristics and Type of Provider**

<b>Characteristics</b>	<b>No.</b>	<b>Auxiliaries</b>	<b>Nurses</b>	<b>Doctors</b>
<b>Sex</b>	186	119	42	25
Feminine	167	98.3	97.6	36.0
Masculine	19	1.7	2.4	64.0
<b>Marital status</b>	180	115	41	24
Married (including common law)	107	56.5	51.2	87.5
Single	71	42.6	46.3	12.5
Widowed	2	0.9	2.4	0.0
<b>Age</b>	<b>186</b>	<b>119</b>	<b>42</b>	<b>25</b>
<= 20	2	0.8	2.4	0.0
20 – 29	50	31.1	19.0	20.0
30 – 39	91	43.7	64.3	48.0
40 – 49	42	23.5	14.3	32.0
>= 50	1	0.8	0.0	0.0
<b>Time since finishing school</b>	<b>186</b>	<b>119</b>	<b>42</b>	<b>25</b>
0 – 4 years	57	30.3	19.0	52.0
5 – 9	51	23.5	38.1	28.0
10 – 14	42	21.0	33.3	12.0
>= 15	35	22.7	9.5	4.0
<b>Time working in same UPS</b>	<b>186</b>	<b>119</b>	<b>42</b>	<b>25</b>
0 – 4 years	94	46.2	45.2	80.0
5 – 9	59	28.6	50.0	16.0
>= 10	33	24.4	4.8	4.0
<b>Type of UPS</b>	<b>183</b>	<b>118</b>	<b>40</b>	<b>25</b>
Urban	48	13.6	60.0	32.0
Peri-urban	2	0.0	2.5	4.0
Rural - easy access	72	44.9	30.0	28.0
Rural - moderate access	24	13.6	5.0	24.0
Rural - difficult access	37	28.0	2.5	12.0
<b>Number of children</b>	<b>186</b>	<b>119</b>	<b>42</b>	<b>25</b>
0 – 1	76	32.8	61.9	44.0
2 – 3	81	44.5	38.1	48.0
>= 4	29	22.7	0.0	8.0
<b>Religion</b>	<b>186</b>	<b>119</b>	<b>42</b>	<b>25</b>
Catholic	126	63.0	66.7	92.0
Evangelical	43	26.1	23.8	8.0
Other	17	10.9	9.5	0.0
Have used Family Planning methods	186	54.3	16.1	12.4
Received training in Service Delivery Guidelines for Integral Care for Women	186	47.8	18.3	12.4

## VI. SERVICE DELIVERY RESULTS

### 6.1 Number of providers reporting and provider-months reported

For reasons such as the accessibility of the CESARs and relocation or retirement by project personnel, it was not possible to compile the monthly service statistics reports from all the providers who were trained and certified. For this reason, we resorted to the concept of "reporting providers," which is the number of service providers who sent at least one monthly activity report, and of "provider-months reported," which is the total number of monthly activity reports sent by these providers.

All the information presented refers to the year 2000, since it was impossible to get information from 1999. As a result, the services provided are probably underestimated, since it would be logical to expect that in the first months following the training a greater number of activities would be carried out, due to the initial enthusiasm of the providers, as well as to the large unmet needs of users, who had been identified by the providers and received services during those first months after providers returned from their training.

Table 6 shows that, without counting Region 3, 127 service providers sent activity reports for at least one month, and that the total number of months informed was 1,122, that is to say, an average of almost nine months of information per provider. Of all the persons who provided reports, 88 were nurse auxiliaries who worked in CESARs, 33 were nurse auxiliaries who worked in CESAMOs, 3 were doctors and 3 were nurses. When comparing these figures with the number of persons trained in Table 4, we can see that while nearly 66% of the auxiliaries provided reports for at least one month of activities, only five percent of the nurses and 12% of the doctors did so, which is why the statistics presented refer to the auxiliaries. The reporting of information was similar among the different regions participating in the project.

**Table 6**  
**Number of Providers that Reported and Total Months Reported**  
**According to Region and Type of Provider**

Region	Providers that reported					Provider-MonthS reported				
	RA	UA	NUR	DR	TOT	RA	UA	NUR	DR	TOT
Metro	0	0	0	0	0	0	0	0	0	0
1	12	8	1	0	21	127	85	10	0	222
2	32	2	1	0	35	235	14	5	0	254
3	21	19 (UPS)			-	208	172 (months UPS)			380
5	16	5	1	3	25	160	41	12	34	247
6	28	18	0	0	46	260	139	0	0	399
TOTAL <sup>1</sup>	109					990				
TOTAL <sup>2</sup>	88	33	3	3	127	782	279	27	34	1122

<sup>1</sup> Includes Auxiliaries from Region 3 CESARs; <sup>2</sup> Does not include Auxiliaries from Region 3 CESARs.

As was previously explained, the metropolitan region agreed to carry out training sessions as long as they did not have to collect or report any type of information. Likewise, one of the conditions for participation made by Region 3 was that they only report data which was already included in the monthly reports they use to communicate their service statistics. For that reason, in the case of Region 3, there are only service statistics according to type of unit (CESAMO or CESAR), and not by type of service provider. We can be sure that the services offered in the CESARs were provided by the auxiliaries trained in the project. However, in the case of the CESAMOs from this Region, the type of provider who delivered the services cannot be determined nor can we be sure that the services were delivered by a provider who was trained in the project. For this reason, in the analyses presented subsequently, we analyze Region 3 separately from the other regions.

## 6.2 Total Services Delivered

Table 7 shows that in the months in which service statistics were reported (not counting Region 3), the personnel trained by the project provided services to 2,585 new pill users, 586 new IUD users, new 4,038 injectable users and 901 new condom users. In addition, they took 6,005 vaginal cytology samples. Given their greater numbers, the nurse auxiliaries were in almost all cases the main service providers.

**Table 7**  
**Total\* Services Delivered in the Year 2000 According to the Monthly Reports Presented, by Type of Provider**

Type of Service	Total Services Delivered in 2000					
	AUXILIARIES			NUR	DR	TOTAL
	CESAR	CESAMO	TOTAL			
New OC	1908	399	2307	7	271	2585
OC checkup	2418	431	2849	14	249	3112
New IUD	268	147	415	84	87	586
IUD checkup	449	347	796	65	139	1000
New Injectable	2878	953	3831	86	121	4038
Injectable checkup	2554	739	3293	58	200	3551
New condom	714	119	833	4	64	901
Condom checkup	425	68	493	0	42	535
Cytology	3692	1765	5457	405	143	6005

\* Excludes Region 3

We can add to these results the services delivered in Region 3 project UPSs, which included 14,603 pill cycles distributed, 1,565 IUDs inserted, 6,245 injections administered and 183,746 condoms distributed. The auxiliaries trained in the project and who worked in CESARs distributed a total of 5,435 cycles of pills, inserted 279 IUDs, administered 1,924 injections and distributed 42,897 condoms.

### 6.3 Monthly Averages of Services Delivered by Provider

Table 8 shows the average number of services provided by the nurse auxiliaries trained in the project (without counting Region 3) and compares the results obtained by auxiliaries working in CESARs with those working in CESAMOs. During the year 2000, certified nurse auxiliaries cared for a monthly average of 7.3 new family planning users (2.2 new pill users, 0.6 IUD, 3.7 injectable and 0.8 condom) and took 5.2 vaginal cytology samples. If we take the number of auxiliaries trained (not the number certified) as the denominator, the averages of the total number of new users per month and of the number of IUD insertions decreases by 0.2 users, that is to say, to 7.0 and 0.4, respectively. Table 8 shows that, on the average, auxiliaries working in CESARs provided fewer IUD insertions and Depo-Provera injections and took fewer cytology samples than auxiliaries working in CESAMOs. The results of the t tests showed that all these differences were statistically significant, except in the case of checkups for Depo-Provera users.

**Table 8**  
**Average Number of Services Provided per Auxiliary-Month Reported, and Number and Proportion of Auxiliaries Who Reported Providing at Least One Service, according to Type of Service and Type of UPS<sup>1</sup>**

Type of Care	Average number of services per month			Number of auxiliaries who have offered at least one service of each type, according to type of UPS			Proportion of auxiliaries reporting who have provided at least one service of each type		
	TYPE OF UPS			TYPE OF UPS			TYPE OF UPS		
	CSR	CSMO	TOT	CSR	CSMO	TOT	CSR	CSMO	TOT
New OC	2.33	1.75	2.20*	83	29	112	94.3	87.9	92.6
OC checkup	2.95	1.89	2.72*	75	28	103	85.2	84.8	85.1
New IUD <sup>2</sup>	0.32	0.64	0.39*	38	19	57	43.2	57.6	47.1
IUD checkup <sup>2</sup>	0.54	1.52	0.76*	35	24	59	39.8	72.7	48.8
New IUD <sup>3</sup>	0.50	0.95	0.61*	27	17	44	58.7	73.9	63.8
IUD checkup <sup>3</sup>	0.78	1.67	1.01*	23	17	40	50.0	73.9	58.0
New injectable	3.51	4.19	3.66*	85	33	118	96.6	100.0	97.5
Injectable checkup	3.12	3.25	3.15	73	27	100	83.0	81.8	82.6
New condom	0.87	0.52	0.79*	78	26	104	88.6	78.8	86.0
Condom checkup	0.52	0.3	0.47*	56	16	72	63.6	48.5	59.5
Cytology	4.51	7.77	5.22*	73	29	102	83.0	87.9	84.3

<sup>1</sup>Excludes Region 3 personnel. <sup>2</sup> Trained Auxiliaries. <sup>3</sup> Certified Auxiliaries.

\* p < .05, t test.

If we extrapolate these results to a scenario where nurse auxiliaries from all the 867 CESARs in the country would be trained, we could expect a total of 3,300 new IUD users and 36,500 new users of injectables. In addition, we should also consider an

increase in new users in the CESAMOs as a result of ongoing accessibility to the methods, given the greater number of trained providers that would exist.

Table 8 also answers a key question concerning the effectiveness and feasibility of the strategy of training auxiliaries in providing IUDs, injectables and cytology services: What is the proportion of trained and certified auxiliaries who report having placed their new skills into practice after the training? As you can see, only 47% of the trained auxiliaries and 64% of the certified auxiliaries reported having inserted an IUD after the training. Only 43% of the trained auxiliaries and 58% of the certified auxiliaries working in CESARs reported having inserted an IUD after the training, figures which are substantially less than those reported by auxiliaries working in CESAMOs (58% of those trained and 74% of those certified reported having inserted an IUD following the training). Therefore, it is of primary importance to seek mechanisms that assure that the trained auxiliaries, especially those from CESARs, apply their skills upon returning to their UPS. With respect to the other services, more than 80% of the auxiliaries reported having provided services to new users of other family planning methods and to have taken cytology samples.

The results from Region 3 can be added to the above results. By dividing the family planning methods distributed by the number of auxiliaries from the CESARs that reported information, a monthly average of methods distributed per auxiliary working in the CESAR can be obtained: 1.34 IUDs inserted, 9.25 injections administered, 26.1 pills distributed and 206 condoms distributed. For the CESAMOs, the monthly averages by unit were: 24.12 cycles of pills distributed, 3.38 IUDs inserted, 11.37 injections of Depo-Provera administered and 370.6 condoms distributed. At least in the case of auxiliaries in CESARs, the above-mentioned levels of performances are better than those observed in other regions.

As can be seen in Table 6, only three doctors and three nurses turned in activity reports. Because of the small number and high degree of self-selection in this sample, the data is not reliable. Nevertheless, for illustrative purposes only, we carried out the same productivity analysis. The data showed that three doctors provided services to a monthly average of 15.7 new family planning users (7.9 for pills, 2.5 for IUDs, 3.5 for injectables and 1.8 for condoms), provided 18.4 checkups for the different family planning methods and took 4.2 cytology samples per month. The monthly averages reported by the three nurses were: 8.7 new family planning users received services (0.3 for pills, 3.8 for IUDs, 3.9 for injectables and 0.1 for condoms), 6.2 family planning checkups were provided and 18.4 cytology samples were taken monthly. All the doctors and nurses who reported activities had inserted IUDs and administered injections. Only one doctor and one nurse reported having taken vaginal cytology samples.

## **6.4 Characteristics and Satisfaction of Users**

Data was collected for family planning and vaginal cytology clients who received services during the study period. A total of 3,423 data cards were obtained, of which 593 were for users of cytology services, 2,391 for family planning users, and 439 for users

who received both family planning and vaginal cytology services. The user data card is presented in Appendix 4.

Of the 2,830 family planning users, 56% were new users and 44% subsequent users. On the average, the new users tended to be slightly younger than the subsequent users (23% were under 20 years old, compared to 15% of the subsequent users), but in both cases, more than half of the women were between 20 and 29 years of age, and only approximately 5% were 40 or older. The differences in terms of other socio-demographic variables were also small. In both cases, only about 2% of women did not have children, and nearly half had one or two children. Approximately 43% did not want more pregnancies, and about 90% of those who wanted one more pregnancy wanted to wait two or more years before becoming pregnant.

Of the new users, 45% said they had used a contraceptive method previously. Previous use of a method was less frequent among those who received a natural method or an injectable for the first time (40%) and more frequent among women who received pills, IUDs or condoms (around 50% in all the cases). Among those who had used a method previously, the pill was mentioned by 70%, the IUD by 17%, the condom by 12% and the injectables by 10%. These methods were obtained from the same UPS in half the cases, or from ASHONPLAFA (18%), from another UPS (11%) or from a pharmacy (12%). The same UPS as a previous source was less common for the IUD than for other methods.

Service providers seem to have understood the concept of "new user" in different ways: use of any method for the first time, use of a given method for the first time, or users who receive a method at the health center for the first time. As seen above, almost half of the "new users" had used a method before. To better understand this segment of the clientele, we compared women who had never used a method previously (new to contraception) with those who had used a method before. New users were younger (29% under 20 years old, compared with 15% of those who had used a method before), had fewer children (57% had two or less children, compared with 45% of those who had used a method before), and were more likely to want to be pregnant in the future (62% vs. 52%).

As for the subsequent users, 32% used pills, 35% injectables, 28% IUDs and the remainder used condoms or natural methods. For most users of pills, injectables and condoms, the first source of the method had been the same UPS, compared with 63% of the IUD users, of whom 11% and 13% reported another UPS and a MOH hospital, respectively, as first sources. The last source reported was the same UPS for 88% of the users, although this percentage was slightly less (83%) for users of injectables, who more frequently reported another UPS or a hospital as previous sources.

The average duration of use was 19 months for pills, seven months for injectables, 20 months for the IUD and 15 months for condoms.

Twenty-one percent of the subsequent users began using a different method during the consultation, 4% stopped using a method and 75% continued using the same method. A change in method was most common among condom users (40%) and pill users (33%) and less frequent among users of injectables (7%). The main reasons for changing methods were the secondary effects and the desire for another method. In the case of condom users, partner opposition to the method was also an important factor. Eighty-nine percent of subsequent users who received a new method received the method that they wanted. Satisfaction with the method received is most frequent among those receiving injectables (94%), the IUD (86%) and pills (85%), and less frequent among those receiving condoms (73%) or another method (54%). Among those who wanted another method, the methods most frequently requested were the injectables (70%) and the IUD (19%).

As for the women who received cytology services, two-thirds said they had previously had cytology samples taken. Among those who had not had cytology samples taken before, the main reasons they gave were embarrassment (26%), lack of familiarity with the procedure (25%), not knowing where the service was offered (9%), and that they had not considered it necessary (17%).

Among those who had already had a cytology sample taken, for 25% it had been taken less than a year before, and for 57% between one and two years before. For 58% of the users, the source had been the same UPS, for 13% another UPS and for 20% a private service provider. The source for the last cytology sample was the same UPS in 90% of the cases.

Cytology samples were taken in 96% of the cases in which they were requested. The nurse auxiliary provided the service to two-thirds of the users, the doctor to 18%, and the nurse to 16%.

## **VII. DISSEMINATION AND UTILIZATION**

The results of this project have been discussed in periodic meetings with the technical teams from Health Regions 1, 2, 3, 5 and 6, and with their area and sector teams, with the Maternal and Child Health Department of the Ministry of Health, and with the AID health team. Also, the results have been presented to teams from Save the Children and PRODIM (which participated in this project using its own resources to train Region 2 MOH personnel), and with the Nurse Auxiliaries School in Tegucigalpa.

Based on the results of this project, USAID has given \$150,000 USD to Engender Health in order to train all nurse auxiliaries from Regions 2 and 5 who meet selection requirements and have not yet been trained.

## VIII. CONCLUSIONS AND RECOMMENDATIONS

The purpose of this project was to expand training of nurse auxiliaries in inserting IUDs, administering the injectable Depo-Provera and taking cytology samples, as well as in carrying out new evaluations to determine the effectiveness and efficiency of the strategy.

The administering of injectables and the taking of cytology samples by nurse auxiliaries have continued to be fully acceptable strategies in the context of both CESARs and CESAMOs. More than 80% of the auxiliaries who were trained reported having delivered these services upon returning to their UPS, and the average numbers of services provided were quite high, upwards of six injections and more than five cytological samples taken per month. Even auxiliaries from the CESARs reached monthly averages of more than six injections (3.5 to new users) and more than four cytology samples - important achievements considering the type of populations they serve.

The desirability of IUD insertion training is a topic that may require further discussion. In this project it was observed that less than half of the auxiliaries reported having inserted IUDs following their training, and the monthly average for insertions was only 0.4. Although these results appear to be quite low, the IUD is a method with a very high use-continuity rate that can practically substitute sterilization, therefore the results are very acceptable, equally in terms of effectiveness and cost-effectiveness. By simply referring to the CYP conversion tables, we can see that the monthly average reached for IUDs is similar in effect to the application of four injectables. Extrapolating the above results to all of the CESARs, the number of IUDs applied in rural areas would be more than 4,000 per year. These results do not seem so exaggerated when we realize that in Region 3 CESARs, auxiliaries reached an average three times higher than the remainder of the study participants.

In addition, the data seems to indicate that the strategy can be improved upon substantially by seeking two outcomes: 1) increasing the proportion of auxiliaries who are certified to insert IUDs by the end of their training - which can be achieved by more carefully selecting the auxiliaries who will participate in the training (e.g. assuring they have a positive attitude toward the activity and have the minimum abilities needed to apply the procedure), as well as assuring that the training is carried out in places with a sufficient volume of insertions so as to guarantee that the auxiliary will be able to perform enough practice insertions in order to be certified; and 2) increasing the proportion of certified auxiliaries who perform insertions once they return to their CESAMOs and, especially, their CESARs. The latter can perhaps be achieved by requiring auxiliaries to identify a minimum number of women in their communities who want an IUD and to carry out the first insertions in their community under the supervision of the nurse from the area or sector. It would also be important for the supervisory visits to be more frequent and for promotional activities to be conducted during the visit, or at least to verify that the auxiliary has carried out the promotional activities in the weeks prior to the supervisory visit. Finally, uncomplicated, low-cost mechanisms to promote

the services such as pamphlets and fliers should be designed for the purpose of complementing the home visits and the community talks given by auxiliaries and promoters.

Lastly, we recommend that nurse auxiliary schools add the contents and practical aspects of the above-described training sessions to their curricula so that auxiliaries can offer these services as soon as they begin their professional career. Likewise, we recommend that the knowledge and skills imparted in the training sessions be established as requirements in the nurse auxiliary job descriptions and that the appropriate content be included in the civil service admission exam in order to measure knowledge in these areas.

## **IX. BIBLIOGRAPHY**

Honduran Ministry of Health. Women's Health Unit. 1999. Norms and Procedures.

Manual for Women's Integral Care. Ministry of Health, Tegucigalpa, Honduras, September.

Villanueva, Yanira; L. Hernández, I. Mendoza and R. Lundgren. 1998. Expansion of the Role of Nurse Auxiliaries in Offering Family Planning Services and Taking Vaginal Cytology Samples. INOPAL III Final Report. Tegucigalpa, Honduras, Population Council.

## **X. APPENDICES**