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ANNUAL REPORT OF THE JHPIEGO CORPORATION

VOLUME II: EVALUATION

A Report of the Information and Evaluation

Services Unit

FISCAL YEAR 1984

Prepared by:

Information and Evaluation Services

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SUMMARY OF EVALUATION FINDINGS

The central question of evaluation is "Did I achieve what I intended ?". The question can be examined on a very broad level on which the impact of a program on a country is assessed, or it can be examined on a very narrow level to determine if specific actions occurred. This evaluation focuses on the achievement of the intended outcomes of a program. The use of a relatively simple evaluation design provides some insight into JHPIEGO's impacts. However, the restricted scope of the design means that the causality of the outcomes is difficult to determine. This is particularly true regarding the effects of the program on the behavior of the participants.

Conclusions regarding participant behavior are valid if two assumptions hold: (a) knowledge was transmittted to the course participants; and (b) the knowledge came primarily from the JHPIEGO course. The first assumption seems to be valid, particularly in light of the evaluation of the specific courses. The second assumption cannot be directly tested. However, it does not seem likely that all the course participants systematically received training from another source at virtually the same time that they were trained in programs supported by JHPIEGO. As a result, it appears safe to make the tentative assumption that the noted effects are related to the JHPIEGO courses.

The three evaluation questions examined in this discussion are:

1. Were the participants appropriately selected?
2. What were the effects of the courses?
3. Were the courses useful?

The data used to address these questions were obtained via self-report survey from participants in courses conducted prior to fiscal 1984. Limitations of these data include: (1) bias caused by self-selection of respondents, (2) the inability to determine causal relationships; and (3) the descriptive nature of survey data. These limitations of the data restrict interpretation, particularly in regard to the determination of causality, but the data do provide one basis by which to examine some aspects of JHPIEGO's programs.

U.S. Based Programs

The U.S. educational program has been in operation since JHPIEGO's inception. It offers courses to physicians and administrators from developing countries. These courses currently include Academic Skills for Medical School Faculty in Reproductive Health, Advances in Reproductive Health for Clinicians, Diagnosis and Treatment of Sexually Transmitted Diseases, Management of the Infertile Couple, Microsurgery for Tubal Reanastomosis, and Reproductive Health for Administrators of Family Health and Family Planning Programs.

The courses are intended to enable physicians and administrators to upgrade the level of reproductive health care in their countries. Participants in these courses are selected based on their potential to influence the development of national health policy and services. In this analysis, participants in the administrators' course are separated from other course participants, who were predominantly clinicians.

Selection of Participants

The data used to examine the appropriateness of participant selection were provided to JHPIEGO by the candidates at the time of application. Candidates supplied the

information regarding professional responsibilities, institutional affiliations and professional activities that was used for these analyses.

Administrators' Courses. The U.S. courses for administrators are intended for professionals responsible for the coordination of reproductive health services at the ministerial, departmental, or institutional level. Over 92 percent of the respondents were from the Ministry of Health, hospitals or academic institutions. Two-thirds of these participants were classified as department heads, medical directors, chiefs of service or regional directors. All were sponsored by institutions in developing countries.

These participants spent the bulk of their time (42 percent) performing administrative duties; however, they also reported spending considerable time in patient care and teaching. This paralleled the finding that 60 percent of the participants (or over 90 percent of the survey respondents) possessed an M.D. Additionally, one-third of the administrators reported being on the faculty of a medical or nursing school. Eighty-nine percent of the administrators indicated that they received their training in the third world. Of the 11 percent trained in developed countries, most received their training in France or the Soviet Union.

Clinician Courses. The U.S.-based clinician courses offered by JHPIEGO are intended for practicing third world physicians in positions that enable them to disseminate or use the techniques learned through the course. Approximately 80 percent of these participants worked in hospitals, academic institutions or ministries of health. Over 75 percent were classified as medical officers, professors/instructors, specialists/consultants, chiefs of service or department heads. All were sponsored by institutions in developing countries.

In contrast to the administrators these clinicians reported spending the bulk of their time (58 percent) in patient care and 21 percent in teaching activities. The remaining time was split between research and administration. Over 90 percent of the clinician course participants were known to possess an M.D. and had an average obstetrics and gynecology residency of 39.1 months. In addition, over 53 percent indicated that they were on the faculty of a medical or nursing school. The proportion of clinicians who received their training in the third world was approximately the same as the proportion of administrators (88 vs. 89 percent). The 12 percent trained in developed countries received their degrees mainly in Britain or France.

Effects and Value of Courses

The effects and value of the courses can be examined in a limited fashion with the data on hand. Estimates regarding professional activities that were obtained from the participants upon application and one year after the course were compared. These estimates addressed the percent age of time in professional activities and the number of specific clinical procedures performed. In addition, data were obtained regarding the extent to which trainees used or disseminated information obtained through the course.

Administrators' Courses. A total of 161 administrators supplied both precourse and postcourse estimates of their time spent in professional activities. Comparisons between these estimates revealed insignificant changes for the reported percentages of time spent in teaching and research. Slight but significant decreases in the time devoted to administration and other activities nearly paralleled the significant increase in time devoted to patient care.

These data indicate that the course participants maintained their roles as administrators upon their return home. Thus, JHPIEGO was not selecting participants in this course who were seeking to make career changes. Another interpretation of these findings is that the course helped participants become more efficient managers. This enabled them to spend less time in administrative and unspecified other duties and devote more time to patient care, teaching, and research. This interpretation was supported by the finding that 78 percent of the respondents stated that the course helped them in their administrative duties.

In addition to helping the participants become more proficient in administration, the course is intended to promote the use and dissemination of knowledge. All of the materials distributed through the course were used on the job. Seventy percent of the respondents also indicated that knowledge was shared with colleagues or students. Approximately 50 percent of the respondents reported that they transmitted knowledge obtained in the courses through lectures and reports.

The utility of the course can be inferred from the ratings that the respondents gave to course topics one year after completion of the course. This was a good time to obtain such ratings because the participants had time to integrate their new knowledge into their work. Virtually all of the topics related to management or reproductive health policy received a rating of better then 4.0 on a five-point scale.

Perhaps the most salient evidence regarding the utility of the course is the extent to which participants recommend the course to others. Over 96 percent of the respondents would recommend the course; about 84 percent already had. In general, the course was seen as most useful for government administrators.

Clinician Courses. One year later, approximately 650 clinician course participants reported some changes in the level of effort devoted to various professional duties. After the course, clinicians spent slightly more time in administrative and unspecified other duties, and slightly less time in patient care. The reason for this change is not clear. It may reflect an increased emphasis on documentation related to patient records and equipment operation. In any event, it does not seem to indicate a major role change for this group.

Estimates of the frequencies for two clinical procedures were obtained before and after the course. Unfortunately, these were the only clinical procedures on which precourse and postcourse information was available. The participants indicated an increased use of laparoscopy for diagnostic purposes and a decrease in the number of cesarean deliveries. This suggests that the techniques learned in the courses were incorporated into the practices of the participants. However, to determine whether these changes have major public health significance will require further study.

The evidence also suggested that the information and techniques taught in the U.S. clinician courses were disseminated. Approximately 70 percent of all respondents reported that they trained medical school graduates, and 61 percent reported that they trained both postgraduate physicians and medical students. Over 80 percent of the respondents passed on the information related to patient management. In addition, 60 percent taught students the Fallope ring method of sterilization, 69 percent taught diagnostic laparoscopy, and 77 percent taught postpartum minilaparotomy. The responses indicated that course participants taught laparoscopy to an average of 12 physicians per year.

In addition to dissemination of knowledge to small groups or classes, the responses indicated that the course participants were quite productive in the area of publication. Over one-half reported using materials supplies by JHPIEGO in professional presentations in the previous year.

Concluding Remarks

JHPIEGO's educational program in the United States appears to have been successful. The selection of participants was appropriate, the topics were perceived as useful, and the participants used or disseminated what they learned.

The participants in the administrators' courses came from hospitals and ministries of health in developing countries. They were directly involved in the administration of reproductive health programs. Many were affiliated with more than one institution. Therefore it appears that the intended audience was reached. The course itself appeared to be effective. The participants rated the topics as relevant and useful. Further, there was some evidence that upon their return to their sponsoring institution, the participants were more efficient managers. Finally, the participants were motivated by the course. Over 95 percent reported that their countries should develop reproductive health programs. One-half stated that such programs were being initiated. Additionally, the participants shared the knowledge acquired in the course and recommended the course to their colleagues.

The U.S.-based program for clinicians comprised several courses. The general effects of this program were presented here, while the specific courses are examined in Section II of this report.

In general, the clinician program was also quite successful. These participants from the developing countries were active physicians who specialized in obstetrics and gynecology. They were chosen because of their professional stature and ability to disseminate new knowledge. Some evidence suggested that these physicians incorporated their new skills into their practices. This was noted most strongly in their use of laparoscopy. The clinicians disseminated knowledge through training other physicians and residents. The physician/educators passed on the knowledge to students. Many of the participants incorporated material provided by JHPIEGO into professional presentations and publications.

In addition, many AID in-country population programs are directed by graduates of JHPIEGO's U.S. courses. In all, 141 current project directors were identified from the Population Projects Database of the Population Information Program as graduates of JHPIEGO's U.S. courses. Three or more projects are directed by former JHPIEGO trainees in Bangladesh, Brazil, Egypt, El Salvador, Guatemala, Indonesia, Liberia, Malaysia, Mexico, Nigeria, the Philippines, the Sudan, Tanzania, Thailand, and Zaire.

Perhaps the clearest evidence of the success of JHPIEGO's U.S. program is the existence of JHPIEGO in-country programs. These programs could only be initiated after a certain "critical mass" of concerned and knowledgeable health professionals was achieved. By training administrators and clinicians, the U.S. program helped to achieve that critical mass.

In-Country Programs

JHPIEGO-supported in-country programs provide physicians and nurses with current knowledge and skills in reproductive health, and they upgrade reproductive health courses in national medical educational institutions.

Most in-country programs have direct ties with national medical schools or other major professional training institutions. This link serves as a means by which relevant concepts of reproductive health can be integrated into the training institutions. Additionally, this association serves to enhance the quality of training provided to participants and increases the prestige associated with participants in the program.

The in-country programs are efficient mechanisms for the selection and training

of medical professionals. The project director can select participants based on his/her knowledge of local needs. In addition, the in-country programs avoid many of the difficulties related to international travel associated with the U.S. courses.

The JHPIEGO Annual Participant Survey (APS) is one mechanism by which the in-country programs are monitored. While the APS has limitations, as pointed out elsewhere in this report, it can be a useful tool in program evaluation. The major issues that can be addressed with the APS are: (a) appropriateness of participant selection; (b) monitoring of course content; (c) perceived utility of instruction: and (d) perceived quality of instruction.

The APS responses for in-country programs in Tunisia and the Philippines are highlighted in this report. As will be seen, the results derived from the APS attest to the robustness of JHPIEGO's approach to continuing medical education.

Tunisia: National Education Program in Reproductive Health, Endoscopy, and Laparoscopy

The Tunisian in-country program is an ambitious attempt to provide training to medical personnel in many aspects of maternal and child health. Courses are offered in endoscopy, local anesthesia, and clinic-based family planning services (clinician courses) to physicians and nurses who can put this knowledge into practice.

The survey results indicated that the program participants were appropriately selected. About 80 percent of the respondents reported that they were using the newly acquired skills in the position held prior to the course. The operating room support staff, nurses and anesthetists indicated they worked with fellow JHPIEGO trainees and that the courses helped to increase their effectiveness in working with other professionals. Thus, it appears the courses were effective in stimulating the formation of endoscopy teams at local institutions throughout Tunisia.

Further evidence of appropriate participant selection was derived from the data regarding the frequencies of various obstetrical, gynecological, and family planning procedures. The participants in the endoscopy courses were very involved with surgical, obstetrical, and gynecological procedures, while the participants in the clinician courses were heavily involved in providing clinic-based family planning services. Almost all participants reported that the course enhanced their appreciation of patient counseling; patient counseling was the single most frequently reported procedure.

For the most part, the participants were very pleased with the quality of the training and the topics covered in the courses. The physicians and nurses who attended the endoscopy courses reported that the courses adequately prepared them to perform or assist in laparoscopic procedures. These respondents also reported that they were adequately prepared to care for their equipment.

The participants in the clinician courses reported that they were pleased with the topics included in the areas of family planning and reproductive health.

The participants in the local anesthesia course provided some conflicting data. Although 78 percent of the respondents reported that they changed their anesthesia practices, 67 percent reported that they used only general anesthesia during laparoscopic procedures. The reasons for this are unclear. It may be that the anesthetists are called in to sedate patients who refuse local anesthesia. Or, the anesthetists may be resistant to changes in their anesthesia practices. Further investigation is needed in order to pinpoint the reasons for the use of general anesthesia.

In summary, the Tunisia program appears to be meeting the educational needs of local medical professionals. With the possible exception of the anesthetists, the course

participants actively apply their newly acquired knowledge in their medical practices. All respondent groups gave high ratings to the course content and to the quality of training. In addition, the courses seemed to be effective in promoting the concept of the operating room team. Finally, the responses to the follow-up survey suggest that participants pass on the information and skills that they learn in the courses. For example, nurse endoscopy trainees now train others in diverse subjects, such as high-risk pregnancy, infertility, and IUD management.

Philippines: Endoscopy Training Program

Participants in the Philippines Endoscopy Program are selected according to three major criteria: (1) Ability to apply the skills acquired in the course at the institution that sponsored their attendance; (2) Ability to form Doctor-nurse operating theatre teams at the sponsoring institution; and (3) Experience in surgical procedures for reproductive health.

The results of the APS indicate that the selection of participants seems to have been appropriate. Indeed, the responses indicated that participants applied the newly acquired skills in their sponsoring institutions. Virtually all of the respondents reported that they worked with other course participants and that the course helped to improve their effectiveness in working with other professionals. Finally, the data indicated that both the physician and nurse participants were heavily involved in the surgical aspects of reproductive health services.

The respondents also provided data related to course content and the effectiveness of the instruction. Areas of particular interest included: (a) local anesthesia; (b) use and care of laparoscopic equipment; and (c) patient counseling. The respondents reported that these topics were included in the courses they attended. Further, the respondents gave high ratings to the quality of instruction and they reported that the instruction prepared them to integrate their new skills into their professional responsibilities.

Not only did these participants use the skills acquired through the course, they actively disseminated their new knowledge to others. More than 70 percent of the reporting physicians and nurses stated that they taught others how to perform or assist with laparoscopy. This is an indication of their confidence in their ability to perform their new skills.

These findings validated the ranking of the Philippines program as one of JHPIEGO's model programs. It appears that the quality of instruction and student support were very high. The effects, in terms of participant ability and enthusiasm, are quite remarkable. This program demonstrates what can be achieved by a skilled and enthusiastic project director in a country that possesses an adequate infrastructure and a policy that supports the expansion of maternal and child health services.

Concluding Remarks

The outcomes of two in-country programs in the Philippines and Tunisia were presented. In general, it appears that the participants in these courses were quite satisfied with the topics of instruction and the quality of the training. The available evidence suggests that the participants were in the position to apply the skills learned through the courses.

Although difficult to assess, it is likely that the successful outcomes in the two diverse cultures can be attributed to JHPIEGO's approach to the development of in-country programs. This process must be initiated by a potential program director from

the country in which the program will take place. The program is then developed in conjunction with JHPIEGO, the program director, the Ministry of Health and/or Ministry of Education, and individual institutions. This process ensures that the final program will reflect local needs and values.

I. INTRODUCTION

JHPIEGO is an educational program which is dedicated to improving the health of women and children throughout the developing world. It attempts to achieve this goal by sponsoring activities designed to upgrade the knowledge, skills, and technology available to all types of reproductive health professionals in developing countries. Where appropriate, training programs are conducted, educational materials distributed, equipment donated and maintained, and collaborative agreements established with government and health officials. Through these endeavors JHPIEGO strives to institutionalize the practice and teaching of new reproductive health skills, prepare personnel to provide comprehensive reproductive health services, and increase the number of qualified professionals and specialists in the field of reproductive health.

The objectives of JHPIEGO's educational programs are to improve knowledge of reproductive health, management capabilities, technical skills, and the educational leadership abilities of health professionals. The discussions held and educational materials provided during the courses help to inspire and renew a commitment to the goals of family planning. Courses which are offered include general reproductive health care, management of infertility, microsurgery, administration, management of sexually transmitted diseases, and academic skills. The health professionals who are trained in these courses come from many different areas of the world with diverse socio-economic, cultural, and health conditions. JHPIEGO remains aware of and adaptable to these varying conditions and is receptive to the many needs expressed by the course participants. There is an emphasis on highly personalized instruction in essential technical skills to prepare trainees for the provision of instruction and services in their own countries. Curricula are revised to meet changing needs and to reflect technological developments.

Program monitoring and evaluation are important functions of JHPIEGO. Through existing monitoring and evaluation mechanisms the JHPIEGO staff is informed about the response of health officials to JHPIEGO initiatives, about new institutions which are being mobilized, about the use of equipment and other program resources, and about problems or obstacles faced by health personnel in developing countries. Several methods exist within the organization to receive and process feedback on program operation and success. These methods include site visits to course graduates at their home institutions to assess their personal situation and progress since the course, and continuous correspondence with JHPIEGO trainees and consultants. Perhaps the most systematic method of evaluation available to JHPIEGO, however, is the use of follow-up mail surveys designed specifically for participants of JHPIEGO's courses.

The participant surveys act as an important mechanism through which JHPIEGO receives both operational and evaluative information. Operational information is obtained on the surveys about changes in mailing address, institutional affiliation, and professional position as well as reports on equipment problems. At times updated information on medical schools is received. The appropriateness of the selection of candidates and the adequacy of curriculum content are reviewed as this information is received on the surveys; revisions are made in these areas when appropriate. The evaluation utilizes reports on procedures performed, type of anesthesia used, second generation training activity, evaluation of the course, utilization of educational materials received, and advocacy of family planning. The comments section of the surveys provides a forum for specific details on the activities of trainees, the problems they encounter, suggestions for expansion and improvement of the program, as well as requests directed to specific staff members. The surveys are therefore beneficial to both operational and evaluative components of the program by providing important

feedback on the activities of participants several months or years after they return home.

Currently one of several different surveys is sent to most JHPIEGO trainees depending upon the type of course taken. Participants of U.S.-based courses are sent surveys tailored to the course they attended a minimum of six months after their course participation. Those who attend the Advances in Reproductive Health for Physicians course are sent the clinician survey. Participants in the Management of the Infertile Couple course or the Academic Skills for Medical School Faculty in Reproductive Health course are also sent the clinician survey, but they receive in addition a questionnaire insert which addresses topics specific to one of these courses. Trainees who take the Advances in Reproductive Health for Administrators of Family Health and Family Planning Programs are sent the administrator survey. In contrast, all participants of in-country courses, with the exception of medical students and conference attendees, are sent the annual participant survey. This survey has been designed to be general enough to cover physician, nurse, and anesthetist participants trained in a variety of JHPIEGO-sponsored reproductive health courses held throughout the developing world.

This report will focus on the findings from each of the surveys of participants trained in JHPIEGO U.S.-based courses, as well as results from the annual participant surveys received from in-country and regional programs. Section II is devoted to evaluation of U.S.-based training, while Section III addresses some components of the evaluation of in-country and regional training.

Section II is divided into six subsections. Subsection II.A contains a summary of the postcourse evaluations by participants of courses held at the JHPIEGO International Training Center during fiscal year 1984. The administrator survey will be discussed in Subsection II.B. This subsection covers findings from the follow-up survey sent to health professionals who attended Advances in Reproductive Health for Administrators of Family Health and Family Planning Programs courses at the JHPIEGO International Training Center from April 1976 to the end of December 1983. Subsection II.C is devoted to findings from the clinician survey of physicians participating in the Advances in Reproductive Health for Physicians, the Management of the Infertile Couple, the Promoting Reproductive Health through Management of Sexually Transmitted Diseases, and the Academic Skills for Medical School Faculty in Reproductive Health courses. This survey has been sent to those trainees whose courses were held from November 1972 to December 1983. Specific results concerning participants of the Management of the Infertile Couple and Academic Skills for Medical School Faculty in Reproductive Health courses appear in two subsections for each type of course. Findings broken down by type of course of participation which are derived from the clinician survey data are included in the discussion on the clinician survey in Subsection II.C. Separate discussions of these courses, concerned primarily with the special inserts sent with the clinician survey, appear in Subsections II.D and II.E. Subsection II.D covers findings from the infertility insert for the 150 respondents trained in the Management of the Infertile Couple course who returned this form to JHPIEGO. Subsection II.E addresses the academic skills insert returned by 80 of these course participants. Finally, Subsection II.F is devoted to a review of all the comments and suggestions included in the surveys received during FY'84. This subsection provides a more personal review of the JHPIEGO program by participants. It is a unique opportunity to qualitatively evaluate these courses and to gain insight into issues not easily captured in the quantitative analyses of Subsections II.B, II.C, II.D, and II.E.

Section III is divided into three subsections. The introduction in Subsection III.A contains a brief description of the annual participant survey, including a discussion on

how it is conducted. This survey is the first comprehensive tool developed by JHPIEGO to systematically evaluate all its in-country training programs for physicians, paramedics, and anesthetists. Implementation of this survey is an important step for JHPIEGO in the process of gaining the necessary feedback on the effectiveness of each of these projects. Subsection III.B is devoted to the results reported by annual participant survey respondents who were trained in the Philippines in-country program between June, 1981 and September, 1983. Subsection III.C addresses findings compiled from responses to a French version of the annual participant survey as reported by 55 responding participants of the Tunisian in-country program trained prior to April, 1983.

SECTION II: EVALUATION OF THE U.S.-BASED TRAINING PROGRAM

II.A. COURSE EVALUATION SUMMARY FOR FISCAL YEAR 1984

Introduction

To assist in the continuation of training leaders in the field of reproductive health, the Department of Gynecology and Obstetrics of the Johns Hopkins University School of Medicine, under a tuition agreement with JHPIEGO, organizes courses for physicians and other health personnel from developing countries. These individuals often formulate strategies for the development of JHPIEGO-supported programs in their own countries as a result of their U.S. training. These courses are conducted at the Johns Hopkins Educational Center in Baltimore by a small staff known as the JHPIEGO International Training Center.

This fiscal year, 155 trainees participated in nine courses offered at the Johns Hopkins Educational Center. Twenty-three physicians participated in one of the two sessions of Academic Skills for Medical School Faculty in Reproductive Health, both offered in English. One Management of the Infertile Couple course was offered in English to a total of 22 participants. There were five participants in the Microsurgery for Tubal Reconstruction course which was also offered in English. Forty-five participants were trained in either the French or English session of Promoting Reproductive Health through the Management of Sexually Transmitted Diseases course. There were sixteen participants in the only French Reproductive Health for Clinicians course held in FY '84. Finally, the Reproductive Health for Administrators of Family Health and Family Planning Programs course was offered twice, in English and French, to a total of 44 participants.

At the completion of each course, participants were asked to complete a postcourse evaluation form. This form is designed to provide an indication of their response to the overall course content, organization, and administration. The following sections provide a summary of the findings compiled from these evaluation forms.

Summary of the Academic Skills Course Evaluation

The JHPIEGO Academic Skills for Medical School Faculty in Reproductive Health course, held since fiscal year 1980, provides physicians from developing countries with skills to help them function more effectively in their academic roles as researchers and teaching members of a medical school faculty. Included in the course are refresher seminars in reproductive health care, training and research skills required by medical investigators for clinical studies, and lectures in teaching skills. Emphasis is placed on preventive health care, epidemiological and biostatistical methods, and effectiveness in the classroom.

Two courses in Academic Skills, both in English, were offered in 1984. The first course, held from May 7th through June 1st, included 10 participants. The second course, from July 9th through August 3rd, included 13 participants.

To provide an indication of the usefulness of the course, the respondents rated the course objectives and its overall organization on their postcourse evaluation forms. Other areas covered on the course evaluation form include an assessment of the presentation of course topics, and inquiries as to which lectures should be added, which should be deleted, and which were most helpful. Also included was a rating on the helpfulness of the audio-visual workshop. For almost every question there was a total response on the part of participants, numbering 23 in all.

Participants were asked to assign a rating from poor to excellent on how well they felt individual course presentations had been handled. Topics included in this rating were reproductive health, epidemiology, biostatistics, and teaching skills. Participant

ratings in this regard were very favorable, with most presentations receiving a good or an excellent rating. No respondents felt that any of the topics were handled poorly, and only one of the topics, reproductive health, received any average ratings, and this by only 9% of the participants. Almost half of the trainees, 48%, felt the overview of reproductive health had been excellently handled, and 43% felt it had been handled well. Epidemiology received better ratings, with 74% rating the course presentation as excellent and 26% as good. The teaching skills portion of the course was very well received, with 91% of participants rating this topic as excellent, and 9% as good. Ratings for biostatistics were less enthusiastic: 48% felt the presentation was excellent, while 52% felt that it was good.

To provide information which could be of further use to the course, participants were asked to specify other major teaching areas or lectures to be included. A majority of the participants, 65%, seemed content with the schedule as is, and 35% suggested that either other lectures be included or that existing lectures be expanded. Specific suggestions were to include lectures on microsurgery, methods of evaluation, psychology in education, high risk in pregnancy, and genital cancer, especially cervical and endometrial cancer. It was also suggested that a lecture especially designed for postgraduate teachers be included. The need for more examples of bedside teaching of medical students and clinical cases was mentioned. Participants also expressed a desire to hold small group discussions and become involved in clinical problem-solving situations. The presentation on audio-visual aids was thought to be of great value.

Responses were mixed as to which topics should be deleted and which were most useful to participants in their teaching. In response to which lectures should be deleted from the course, respondents mentioned population dynamics, biostatisics, and techniques of laparoscopy. Conversely, biostatistics and diagnostic laparoscopy were also listed as useful topics. All the major topics covered in the course -biostatistics, epidemiology, reproductive health and teaching skills - were mentioned as very useful to participants in their teaching, although it was suggested that the biostatistics and epidemiology sections should be given less emphasis. Of special interest were presentations on audio-visual aids, endocrinology, preparing papers and obtaining funds for ob/gyn research, and teaching skills.

In rating the workshop on using and preparing audio-visual media for medical presentations, 83% of the participants felt it was very helpful and 17% felt that it was helpful. Comments about the workshop ranged from very enthusiastic, with respondents expressing an intention to utilize more audio-visuals in the future, to practical suggestions for improvement. One respondent suggested that more practice with slide preparation would be beneficial, while another felt that the presentation should have included an additional lecture or demonstration on the use of the video and viewer.

Comments in response to what was best liked about the course were very enthusiastic, especially as regards the friendliness and eagerness of the staff to help and the interaction between participants, lecturers, and administrative staff. The organization of the course was also appreciated, with its emphasis on learning and freedom for discussion, as was the course content -- in particular the discussions on teaching skills, audio-visual aids, and practical applications of ob/gyn research.

In response to what was least liked about the course, some participants mentioned the lectures on population dynamics. Others questioned the relevancy of parts of the epidemiology and biostatistics lectures to their needs. It was also suggested that perhaps too much emphasis had been placed on biostatistics.

The response to the organization of the course was very positive. A significant 74% of the participants felt the overall organization was excellent while 26% felt it was good. The same was true of what was learned from the course: 83% of the

participants felt they had learned a great deal and 17% felt they had learned a moderate amount. The overall rating of the course was also high, with 61% of the respondents rating it as excellent, and 39% as good.

There were a number of additional comments on course content and administration. It was suggested that the biostatistics lectures be scheduled at the beginning of the course. There was also a request to decrease the epidemiology segment of the course. Additional lectures on teaching skills were requested. There were also requests for adding more lectures and audio-visual material on recent ob/gyn advances, and a suggestion to decrease the duration of the course to three weeks. One participant suggested that a round table would be more comfortable than the standard one currently used, and another thought the participants should be given more information before leaving their respective countries in order to be better prepared for the course.

In summary, responses to the Academic Skills for Medical School Faculty in Reproductive Health postcourse evaluation were in general very favorable. There was agreement on the part of participants as to the excellence of course objectives, content, and execution. They were content with overall organization of the course and the amount of material they learned. Participants exhibited a good deal of enthusiasm and appreciation for the efforts and contributions of all the JHPIEGO staff.

Summary of the Management of the Infertile Couple Course Evaluation

The JHPIEGO course for Management of the Infertile Couple, held since fiscal year 1980, is designed for physicians whose special interest is the diagnosis and treatment of infertility. An emphasis is placed on reproductive health care, including topics on contraceptive use and maternal child health, and current information is provided on factors which affect and cause infertility.

One course in Management of the Infertile Couple was offered in 1984. The course, held from September 10 through the 21, included 22 participants.

To provide an indication of the usefulness of the course, the participants rated the course objectives and its overall organization on their postcourse evaluation forms. Other areas covered on the course evaluation include an assessment of the presentation of course topics and an inquiry as to which lectures should be added, which should be deleted, and which were most helpful. Also included was a rating on the helpfulness of the audio-visual workshop. In almost every case there was a total response on the part of participants.

Participants were asked to assign a rating from poor to excellent on how well they felt individual course presentations had been handled. The general presentations included in this rating were the theoretical basis of infertility management and the practical aspects of infertility management. Participant ratings in this regard were very favorable, especially for the theoretical basis of infertility, which 83% of the respondents felt had been handled very well. The remaining 17% felt it had been handled moderately well. Half of the trainees felt the practical aspects of infertility management had been handled very well, 37% felt it had been handled moderately well, and 13% felt it was not handled well at all. Furthermore, most of the respondents, 87%, felt that the topics for lectures were well selected. Of the remaining 13% it was suggested that less emphasis should be placed on fertility control and family planning.

To provide information which would be of further use to the course, participants were asked to specify other major teaching areas or lectures to be included. A majority of the respondents, 71%, suggested that either other lectures be included or that existing lectures be expanded. The remaining 29% seemed content with the existing

schedule. Specific suggestions were to add lectures on artificial insemination, microsurgery, ultrasound, indices and ovarian function, the physical aspects of infertility, and attitudes toward infertility problems in each participant's country. Some participants felt that more emphasis should be placed on the counseling of infertile couples and endocrinology. They also suggested that more films and audio-visual aids be used in the infertility course.

There were a number of responses as to which lectures would be most useful to participants in their practice. A number of respondents mentioned microsurgery, endocrinology, management of the infertile couple, induction of ovulation, and diagnostic laparoscopy. Also mentioned were surgical management of the infertile couple, pelvic inflammatory disease and infertility, physiology, epidemiology and infertility, and pathology and the management of the infertile male. Also of interest were the lectures on the practical points in the management of infertility, prolactin and infertility, and those related to mass education as a means of prevention. Some respondents commented that all of the topics were very useful.

Participants were also asked to respond as to which topics would be least useful to them in their practice. Again, some respondents felt that all the topics would be useful to them. Among those mentioned as being of little use were the lectures on laparoscopic equipment care, endometriosis, population topics, and in-vitro fertilization. One topic, microsurgery, was mentioned as being both the most and the least useful by some respondents, revealing a lack of concensus among all participants.

Responses in regard to what was learned from the course as a whole were very favorable, with 87% of the participants feeling that they had learned a great deal and 13% that they had learned a moderate amount. None of the participants felt that they had learned very little.

In response to what was best liked about the course, course organization and coordination were very favorably regarded by a number of participants. They were also grateful for the experience abroad. The lectures mentioned were those dealing with the genetic implication of infertility and the preventive aspects of infertility. There was also praise for the panelists involved with the course.

In response to what was least liked about the course, it was suggested that the course schedule was too compact, and that there was a lack of practical exposure and surgical practice. One of the respondents mentioned the films as the least liked, while another felt that more films should be shown. A number of participants responded that there was nothing they disliked about the course.

In rating the workshop on using and preparing audio-visual media for medical presentations, 83% of the respondents felt that the presentation was sufficient and did not need to be expanded. Those that suggested expansion requested more slides on and examination of STD in males, as well as more visual aids on operative techniques of tubal surgery and in-vitro fertilization. Principles of gynecologic microsurgery for reversal of sterilization, laparoscopic equipment care, and pelvic examination for contraception were also mentioned as subjects that should be expanded. One participant suggested that some of the films are a bit old and should be updated. Of the 12% of respondents who felt that material should be deleted from the audio-visual aids presentation, the only topic mentioned was basic pelvic examinations.

Response to the overall organization of the course was very positive. A high percentage of respondents, 79%, felt that the course organization was excellent and 21% felt that is was good. None of the respondents chose a rating of average or below in rating overall course organization.

The same was true of the overall rating for the course. Again, a high percentage of respondents, 92%, rated the course as excellent and the remaining 8% rated it as

good. There were no ratings of average or below average for the overall course rating.

In this vein, none of the respondents felt that the course should be discontinued. Thirty-seven percent of the respondents felt that it should be continued without modification and 63% that it should be continued with modifications. Suggestions included requests to lengthen the course to 3-4 weeks, to conduct periodic updates for participants, and to view more advanced technology, including clinical observation, as many respondents are from developing countries. It was also suggested that more time be devoted to the aspects of infertility management with modern approaches and the use of audio-visual aids. In addition, respondents felt that the course would be more useful if participants were assured that they would be able to put their knowledge to practical use through access to equipment.

There were a number of additional comments on course content and administration, some of which expressed gratitude and appreciation for the course. For the practical aspects, it was suggested that more time should be allotted for the clinical aspect of the course and its discussion, as well as for the surgical aspect. There was a request to include more information on recent advances in in-vitro fertilization and a suggestion to rearrange the order in which the topics are presented. It was also suggested that there should be a lower number of participants per course. There was much praise for the course content and administration, and for the attitude of the JHPIEGO staff as a whole.

In summary, responses to the Management of the Infertile Couple postcourse evaluation were very favorable. Participants were in agreement as to the overall excellence of course objectives, content, and execution. They were very appreciative of the overall organization of the course, the amount of material learned, and the efforts and consideration of all the JHPIEGO staff.

Summary of the Management of Sexually Transmitted Diseases Course Evaluation

The JHPIEGO course in Promoting Reproductive Health through the Management of Sexually Transmitted Diseases emphasizes the role of family planning as a possible preventive measure for sexually transmitted diseases (STDs). There were two STD courses offered in fiscal year 1984. The first, from October 3 through the 14, 1983, was offered in French and included 20 participants. The second course, from April 16 through the 27, 1984, was offered in English and included 25 participants.

Respondents were provided with a postcourse evaluation form to rate course objectives and overall organization. Other areas covered on the course evaluation form include an assessment of the presentation of course topics, and inquiries as to which lectures should be added, which should be deleted, and which were most helpful. Also included was a rating on the helpfulness of the audio-visual workshop. Responses were obtained from 40 of the 45 total STD participants.

Participants were first asked to assign a rating from poor to excellent on how well they felt individual course presentations had been handled. Presentations included in this rating were those on the theoretical basis of STD management, the practical basis of STD Management, and the role of family planning services in detecting, treating and preventing STDs. Participant ratings in this regard were very favorable, with most presentations receiving a good or an excellent rating. No respondents felt that any of the topics were poorly handled. Almost all of the participants, 95%, felt that the theoretical basis of STD management had been handled very well, and 5% felt it had been handled moderately well. Ratings for the practical aspects of STD management were less enthusiastic, with 58% of the respondents rating the presentation as excellently handled and 42% as handled well. Ratings for the role of family planning

services in detecting, treating and preventing STD were also good: 68% felt the presentation had been excellently executed, while 32% felt that it had been presented well.

Participants were asked if they felt that the course topics for lectures had been well selected. A very large number of participants, 88% felt that the topics had been selected well. The remaining 12% felt that there was too much overlap, and suggested that the various presentations could be better coordinated. It was also mentioned that because time was so limited, the participants did not learn as much as they had hoped.

Participants were then asked to specify other major teaching areas or lectures to be included. Half of the respondents seemed content with the schedule as is, while the remaining 50% suggested that other lectures should be included. Specific suggestions included having a lecture and a practical demonstration of laboratory investigation of STD. There were a number of requests to go into further detail on certain topics, such as endocrinology, and to further explore the function of infertility. Tubal surgery, the organization of medical care devlivery in the United States, the role of contraceptives in permanent infertility, and public education about STD were also mentioned as topics which should be added to the course. More practical clinical sessions were suggested, along with more small group discussions.

Participants were also asked to specify which topics could be deleted from the course presentation. Of the 18% of the respondents who felt some topics could be deleted, suggestions were to revise the lab sessions, either deleting them altogether or, alternatively, revising them to include a demonstration of equipment for lab techniques. Suggested topics which respondents thought could be deleted included reversal of sterilization, reproductive health, overview of the POPINFORM program, STD in developing countries, and the discussion of sample cases. Several participants mentioned that there was too much repetition on some topics, especially syphilis.

Responses as to which lectures would be most useful to participants in their practice were varied. A large number of respondents mentioned the lectures on the treatment of STD and infertile couples, as well as laboratory experience with practical exercises. Also mentioned by many participants were the lectures on herpes, gonorrhea, syphillis, vaginitis and cervicitis, pelvic inflammatory diseases, reproductive health, social environment and reproduction, chlamydia, and lymphogranuloma. Some respondents also chose the lectures on the organization and administration of an STD control program, and especially on the integration of STD control with family planning as the most useful. In addition, respondents mentioned the lectures concerning the prevention, complications, and management of STD, as well as those concerning the current status of STD in developing countries. A number of respondents felt that all of the lectures would be very useful to them in their practices.

Conversely, the lectures on lab techniques, pelvic inflammatory diseases, and STDs and family planning were also chosen by some respondents as those which would be least useful to them in their practices, showing a divergence of opinion among respondents. A number of respondents also chose microsurgery and laparoscopy as being the least useful, while some mentioned AIDS, infectious hepatitis, tubal sterilization, and reanastomosis.

In regard to what was learned from the course as a whole, comments were very favorable, with 70% of the respondents feeling that they had learned a great deal and 28% that they had learned a moderate amount. Areas of particular interest cited were those dealing with modern methods of diagnosis and treatment of STDs, which were especially enlightening to the participants who were not gynecologists or had little previous experience dealing with STDs. Other respondents appreciated the opportunity to exchange experiences with colleagues, and to learn about the relationship between

STD and family planning. Statistics and clinical experience were also mentioned.

In response to what was best liked about the course, participants responded very favorably to the lectures and speakers, as well as to the rest of the JHPIEGO staff. Presentations mentioned in particular were those on tubal surgery, family planning, and fertility management. In general, participants were very appreciative of the overall course organization, the enthusiastic and knowledgeable attitude of the lecturers, and especially, of the exchange of ideas between staff and participants and between the participants themselves. Also appreciated were the use of slides and handouts in presentations, the panels and discussions, the diversity of topics covered, and the authority with which the material was presented.

In response to what was least liked about the course, there was agreement among many respondents that the course was too heavily scheduled, and, again, that there was too much overlap of some subject matter -- the discussion of syphilis in particular. Some respondents thought the presentation on laparoscopic techniques and equipment care was not practical because they had no access to equipment, and a number of respondents from the French course had difficulties with translation. Also mentioned as least liked were the panel discussions, the films, and the practical demonstrations of lab techniques.

Respondents were also asked to comment on the audio-visual aids presentation. In response, half of the participants felt the presentation did not need expansion. Of the remaining 50%, suggestions for expansion included requests for STD slides to be provided to participants, and there were more requests for additional information (in the form of slides) on STDs. It was also suggested that more time be allotted for participants to copy the tables shown.

Most respondents, 80%, did not feel that any part of the audio-visual presentation should be deleted. One respondent suggested deleting the film "The Cheerful Revolution", while another suggested deleting the film on microsurgery. The only topic suggested for deletion was management and care of the laparoscope.

Participants' response to the overall organization of the course was very positive. On a scale from poor to excellent, 68% of the respondents felt the course organization was excellent; the remaining 32% felt that it was good. None of the respondents gave the course organization a rating of average or below.

The same was true of participants' overall rating of the course: 53% of the respondents felt the course overall was excellent; 47% felt that it was good, and no respondents felt that it was average or below average.

Participants were also asked to provide additional comments on how course content or administration could be improved. In regard to course content, a number of respondents suggested including a practical session of slide preparation and use of the microscope in addition to providing slides on the clinical aspects of STDs. Respondents also requested a better balance between the theoretical and the practical training in the STD clinic and the lab. As regards course administration, many respondents (especially those who took the French course) agreed that the course schedule was too full and that either the duration of the course should be lengthened or some material should be deleted, especially in the case of overlapping material. In this respect there were also requests for more free time outside of class to establish contacts with colleagues, and to allow more time for relaxation. Some respondents requested more data on STDs in developing countries be presented, and others suggested that the per diem was inadequate. Finally, replies in general to the course organization and administration were enthusiastic and much gratitude for the opportunity to participate was expressed by participants.

In summary, participants were enthusiastic in their responses to the Promoting

Reproductive Health through the Management of Sexually Transmitted Diseases postcourse evaluation. In addition to providing suggestions for improvement, respondents were in agreement as to the efficient organization and administration of the course and appreciative of the amount of material learned.

Summary of the Advances in Reproductive Health for Administrators Course Evaluation

The JHPIEGO course Advances in Reproductive Health for Administrators of Family Health and Family Planning Programs is designed for physicians and nonmedical health officials who administer family planning and/or maternal and child health programs. Emphasis is placed on advances in reproductive health care, various systems of health care delivery, and the management of programs in family planning and maternal and child health.

Two courses for administrators were conducted during fiscal year 1984. The first course, for English administrators, offered from October 24 through November 11, 1983, included 24 participants. The second, for French administrators, offered from June 11 through the 29, 1984, included 20 participants, for a total of 44 participants.

Participants were provided with a postcourse evaluation form to rate objectives, organization, and overall usefulness of the course. Areas covered on the evaluation form include a rating of general course objectives, an inquiry as to which topics could be added or deleted, and which were most helpful, and a rating on the audio-visual presentation and the use of educational materials. Objective A, the presentation of reproductive health concepts and family planning, received very high ratings, with 91% of the respondents rating the presentation as excellent and 9% rating it as good. Objective B, family health and world population problems, was well received, with 58% of the respondents rating the presentation as excellent and 42% rating it as good. The same was true of Objective C, evaluation of family health and family planning program organization: 56% felt the course was excellently presented. For Objective D, the review of health care delivery systems, 92% felt the subject was either excellently or moderately well presented.

As regards the rationale for integrated health and family planning efforts, again, a large number of respondents, 86%, felt the subject had been excellently presented or presented well.

Response to topic selection for lectures was also very favorable, with 98% of respondents agreeing that course topics had been well selected. Response to which topics should be added was mixed; of the 39% who suggested the addition of topics, a number of respondents requested more information on the practical and financial aspects of management. Others requested more information on human sexuality, evaluation, research, and neonatal care. There was a request for clinical presentations on complications resulting from the use of various contraceptives. Finally, two respondents suggested that more educational films on family planning activities be presented.

Almost all the respondents, 93%, agreed that no topics should be deleted. The only topic suggested for deletion was the discussion of the family planning and MCH programs in Maryland.

Participants were also asked to specify which lecture they felt would be most useful to them in their practice. Many participants were highly appreciative of the lectures on reproductive health care management and administration, particularly those on management and finances. Also thought to be of great use by many participants were the lectures on family planning, including establishing integrated health services, issues in family planning methods, the use of paramedics in family planning, and

strategies to improve the organization and management of family planning programs. The update on contraceptives was also thought to be of much use by many participants, as were the lectures on human sexuality. Also mentioned were the lectures on the high-risk concept and human reproduction, adolescent reproductive health, advances in male reproduction, and fertility management integration.

Participants were next asked to specify which lectures they thought would be least useful to them in their practice. The lectures dealing with male contraception and logistics were most often mentioned by participants, along with the film on microsurgery. Also thought to be of little use were the presentations on the future of contraception, human sexuality, and adolescent reproductive health and teenage pregnancy. Many respondents felt that all of the lectures would be very useful in their practice.

Again, participants expressed their appreciation for the course in their ratings of how much they felt they had learned from the overall course: 73% felt they had learned a great deal, and 27% felt they had learned a moderate amount.

When asked what was best liked about the course, participants were highly enthusiastic, especially as regards the quality and competency of staff and administration. Many participants commented very favorably on the authority of the professors and on their clarity, friendliness, availability, and willingness to answer questions. Also appreciated by many were the respect accorded participants and the interaction between lecturers and participants. The quality of course content was also noted by many, as was course administration and overall organization. Topics mentioned included the presentation on management, the audio-visual demonstration, the group discussions, and the profile presentations by participants from various countries. One respondent chose the lecture on advances in reproductive endocrinology as his favorite aspect of the course. Many participants were grateful for all of the updated information obtained through the course.

When asked what was least liked about the course, there was a consensus among respondents that there was too little time allowed for some of the very interesting lectures. Respondents also mentioned the brevity of the course, the hotel accomodations, the seating arrangements in the classroom, and problems with translation.

Participants were also asked if they would expand any part of the educational materials provided or the audio-visual presentation. Replies to this were mixed, as 57% of respondents felt these areas needed no expansion. Of the remaining 43%, there were a number of requests for more educational materials, including handouts, films, and slides. Some respondents also requested more material on human sexuality, and audio-visual information and literature specifically suited to the needs of particular countries. In addition, there were requests for more films on minilaparotomy, vasectomy, laparoscopy, tubal microsurgery, and IUD insertion. Also requested were more materials on various methods to spread the knowledge gained from the JHPIEGO course to others.

In response to which part of the audio-visual presentation should be deleted, 95% of the respondents were content with the course as is. There were suggestions to delete the film "The Cheerful Revolution" and the demonstration on the maintenance of the laparoscope.

Participants were very enthusiastic in their responses to the rating of overall course organization. On a rating scale from poor to excellent, 64% of respondents felt the course organization was excellent, and 36% felt that it was good. There were many favorable comments on course organization, coordination, variety of resources, and on the competence and availability of the staff. It was suggested, again, that the course

was too heavily scheduled and that its duration should be extended. There were also requests for more informal discussions, as well as for an increase in the per diem and better hotel accomodations.

In accordance with these views, 57% of the respondents gave the course an overall rating of excellent, and 43% rated it as good. Furthermore, 68% felt the course should be continued, and 32% thought that it should be continued with modifications.

Much gratitude was expressed on the part of respondents for the opportunity to participate in a course of this type. Additional comments on the improvement of course administration and content included many requests for an expansion of the lectures on administration and management, as many felt that this was the purpose of the program, and for expansion of the program in general, including allotting more time to interpreters. A number of respondents suggested that the program could be better oriented towards trainees in each specific course, with a greater in-depth study of these participants' countries, and more time for group discussion of project profiles. There was also a request for more field trips to show participants the realities of health care in the U.S., and a suggestion to give clinical demonstrations at a family planning clinic. Specific requests included having more lectures on demography and population, STD, and human sexuality and reproduction. Some respondents suggested shortening the course by a week or two, while others insisted there was not enough time alloted currently for the course. In summary, those participants who responded to the Advances in Reproductive Health for Administrators postcourse evaluation did so with gratitude and enthusiasm. They were very appreciative of the opportunity to study in this country and of the overall course content, objectives, organization, and administration.

Summary of the Advances in Reproductive Health for Clinicians Course Evaluation

The JHPIEGO Advances in Reproductive Health for Clinicians of Family Health and Family Planning Programs course provides participants with an update in recent advances in reproductive health care, focusing on the role of family planning in improving maternal and child health, as well as decreasing maternal and infant mortality. All current methods of fertility management are reviewed. Topics discussed during the course include choice and effective utilization of contraception, management of high-risk pregnancy, identification and management of the causes of infertility, and the effects of population growth on the health and economic status of a country. The objective of this course is to provide those participating with the necessary skills and attitudes to enable them, upon returning to their home institutions, to more effectively develop programs focusing on the promotion of reproductive health through the development of improved fertility management programs.

There was one Advances in Reproductive Health for Clinicians course held in fiscal year 1984. It was conducted in French from March 26 through April 6, 1984 and included 16 participants.

A postcourse evaluation form distributed to those participants enabled JHPIEGO to obtain ratings concerning the organization and usefulness of the course. Questions were asked regarding areas such as the presentation of topics, the selection of subjects, and the most and the least liked aspects of the material presented.

The respondents rated the course very highly overall. Ninety-three percent thought the general organization of the course was excellent. All of the participants felt that the subjects for presentations were well chosen. Eighty percent rated the course as excellent in every aspect, and agreed that any modification of the schedule was unnecessary. The entire group of respondents felt they had learned a great deal

from the course.

As for the individual topics, 95% of the attendees felt the theoretical basis of treatment for fertility was presented well. The lecture on social and biological reasons for family planning was thought to be well presented by 87% of the respondents. That topic was also listed as one of the most useful, along with endocrinology, contraception, family planning, management of the infertile couple, cytology, and treatment of sterility. Most participants did not list any presentation as least useful. However, those that were mentioned included in-vitro fertilization, advances in voluntary sterilization, gynecologic microsurgery, genetics and reproduction, male contraception, cytology, and traditional methods of contraception.

Participants were asked to indicate the portions of the course they liked most and those they liked least. The respondents preferred the lectures on endocrinology, management of the infertile couple, contraception, and gynecologic microsurgery. All of these, except microsurgery, were also chosen as most useful topics. Only two subjects were listed as least liked: human sexuality and reproduction, and genetics and reproduction. The latter, genetics and reproduction, was also mentioned earlier as one of the least useful presentations.

Comments in general were very favorable, usually praising the organization and execution of the course. However, some suggestions were made for improving the course. One respondent suggested that perhaps participants should be selected more carefully, while another thought clinical sessions should deal specifically with problems found in developing countries. Others felt there should be more roundtable discussions included in the course and that those discussions should be more subject oriented. The only complaints were that several presentations were given too rapidly and there were some problems with the French translations, making it difficult for participants to fully understand the material.

In summary, the participants in the Advances in Reproductive Health for Clinicians course gave favorable responses to the postcourse evaluation. They obviously enjoyed the course, rating it and the faculty presentations very highly. The respondents agreed that the course was well organized and executed, and were appreciative of the knowledge they received through it.

II.B. SELECTED FINDINGS FROM THE ADMINISTRATOR SURVEY

Introduction

The administrator survey, initiated in November 1980, was designed to assess the success of the course Reproductive Health for Administrators of Family Health and Family Planning Programs. The survey focused on the content of the administrator course, the uses to which the material learned during the course was been put, and the possible avenues which future training in this field can take. The specific ways which the course was beneficial to participants were also delineated, and questions about the relevance and utility of the educational materials obtained during the course were an important focus of the survey. Furthermore, the information from the coded surveys was combined with data from each trainee's application form to gain a comprehensive picture of this course and its impact on the participants.

This survey was sent to all participants of the administrator course trained at the Johns Hopkins Educational Center. A total of 598 individuals participated in the course between its inception in April, 1976, and the end of FY'84. This report, however, will only be concerned with the 579 trainees who attended courses held prior to January 1, 1984, and who had adequate opportunity to receive, fill out, and return the administrator survey. Since each trainee was sent a survey a minimum of 6 months after completing the course, this cut-off date allows the last eligible participants 3 months to receive and return the survey before the close of the fiscal year. Other surveys received during FY'84 from participants trained in courses held after January 1, 1984 are not included in the analysis. This procedure reduced bias which may arise from the inclusion of several training cohorts in the analysis where only some participants have had adequate opportunity to return the survey.

Of the 579 administrator course participants trained prior to the cut-off date, 366 responded to the survey. Nonrespondents received an average of 2.9 mailings apiece while respondents received an average of 1.7 mailings. The response rate to this survey was 62%. Sixty-five of the total 366 surveys received were added since the close of FY'83, while 24 additional trainees were included in the sample.

The findings discussed in this section will be concerned primarily with the 366 administrator course participants who responded to the survey. First, however, there will be a comparison of those characteristics of the respondent and nonrespondent groups which can be generalized from the individual application forms filled out by all participants. The remainder of the section will then cover the findings compiled from the responses given on the returned questionnaires.

Comparison of Respondents with Nonrespondents

It is important to compare survey respondents with nonrespondents in order to assess whether there are any noticeable differences between the two groups. If such differences are detected, then it is not possible to conclude that the responses of nonrespondents and respondents would be similar. If, however, respondents are found to be similar to nonrespondents on their background characteristics, then it may be possible to generalize the responses discussed in the remainder of this section to all individuals who participated in the administrator course.

The following comparisons between respondents and nonrespondents were based on the data abstracted from their individual application forms. Some of the most interesting comparisons to be made between these groups, especially those pertaining to professional duties prior to the course, cannot be reliably made due to the many changes made in the forms over the years since the administrator course was initiated.

Table II.B.I

COMPARISON OF MEANS BETWEEN RESPONDENT AND NON RESPONDENT GROUPS OF ADMINISTRATORS

Variable	Respondents			Nonrespondents			
	Mean	SD	N	Mean	SD	N	Sig[2]
Time Patient care[1]	32.9	28.0	216	32.8	27.6	119	NS[3]
Time Teaching[1]	14.1	14.3	216	11.3	12.6	119	NS[3]
Time Research[1]	6.0	8.7	216.	4.5	7.1	119	NS[3]
Time Administration[1]	40.0	30.9	215	44.9	31.9	118	NS[3]
Time Other[1]	5.5	10.9	216	5.9	15.2	119	NS[3]

Notes:
1. In percent of effort
2. Significance
3. $p > .05$

Other characteristics, specifically the number of individuals supervised by type of professional, were also found to be highly variable across all participants. Therefore, comparisons of some of these characteristics were based only on those participants trained in FY'81 and more recently, or in the case of the number of individuals supervised, will not be discussed.

General background characteristics of participants were found to be similar for respondents and nonrespondents. Both groups were composed of about 75% males and 25% females. They were about the same age, 46 years old on the average. Respondents and nonrespondents had essentially the same geographic distribution by world region, although a slightly higher than average proportion of the participants from Asia responded to the survey. Similar proportions, about 36%, reported they had faculty appointments at medical or nursing schools. The majority of all participants were physicians, and about 80% had obtained a medical residency.

A large proportion of the participants in the sample, 88%, attended only one JHPIEGO course, Reproductive Health for Administrators of Family Health and Family Planning Programs. There was a slight, statistically significant tendency for the 12% of the participants who trained in more than one JHPIEGO course to respond more frequently to the survey than those participants who trained in only one course. This tendency is not surprising since individuals who attended more than one course were selected because of their deep commitment to the goals of the JHPIEGO program. There were also some differences in respondents according to the language of the course they participated in. Higher proportions of respondents who attended English and Portuguese language courses responded to the survey, while attendees of French, Spanish, and Turkish language courses tended to respond to the survey less frequently.

Clinical practice training was offered to some of the physician participants in the administrator course who were expected to have the opportunity to apply clinical skills in laparoscopy at their home institutions. More repondents than nonrespondents, 20% versus 13% attended JHPIEGO clinical practice training.

Respondents and nonrespondents trained in fiscal year 1981 or fiscal year 1982 reported spending essentially similar proportions of their time performing various professional activities. On the average, 32% of their time was spent in patient care, 13% in teaching, 5% in research, 42% in administration, and 5% in other activities. Only recently trained participants are reported here due to the substantial changes in the application forms over the years, resulting in this question being primarily asked of more recently trained participants. It is possible though that unknown biases influenced these averages since only recent participants were included, and there may have been changes in the population of individuals selected to attend the administrator course since its inception in 1976.

In conclusion, it appeared that respondents were similar to nonrespondents on demographic characteristics, in terms of levels of medical training, and with respect to how they spent their professional time. No differences between these groups were detected. Other factors of importance to the comparison of respondents to nonrespondents were not analyzed due to the lack of this information from the majority of participants. Thus, there is insufficient evidence to conclude that the respondent and nonrespondent groups were different.

Selected Findings

This discussion on the findings compiled from the administrator survey will focus on four of the five main components of the administrator survey. First the professional activities of respondents will be reviewed. Then there will be a discussion

on how they rated the usefulness of many of the topics and general issues covered in the course. The analysis will move from there into the benefits of the course to the repondents in their professional activities and with regard to the educational materials they received. Additional discussion of the specific benefits of this training, as cited individually by respondents in their comments on the survey, can be found in Section II.F. of this report. Finally, the opinions of respondents concerning which professionals are most appropriate for future training programs, and where such programs should be conducted will be reviewed. A discussion of the fifth component of this survey, individual respondents' comments about the course and their suggestions about the local situation of training in family health and family planning in their area, is included in Section II.F.

Respondents reported on their current responsiblities in the initial section of the survey. Such information is useful for this evaluation because it provides a backdrop for understanding the attitudes expressed later in the questionnaire. Among the questions which provided a perspective on the demands and roles of the survey respondents are items about whether or not their primary position changed since they attended the course, and how they spent their professional time. The analysis revealed that just over 27% of respondents reported that their primary position changed since they participated in the JHPIEGO course. Furthermore, 44% rated themselves primarily as administrators, 34% as clinicians, 12% as teachers, and the remaining 10% could not limit their roles to only one of these categories. The average time spent by all respondents in administration was 40%, while 33% was spent in patient care, 16% in teaching, and 7% on research.

Most respondents reported they worked in two or three different types of institutions including medical schools, hospitals, clinics, government service and private practice. As a group, they spent most of their time (29%) in nonclinical government service. They also estimated spending 19% of their time in medical schools and teaching hospitals, 17% in other hospitals, 15% in private practice, 10% in clinics, and 9% in other institutions. Since these are average figures, the time spent in any one institution by a given trainee may be as low as zero or as high as one hundred percent.

Respondents were asked to rate the subjects and general issues discussed in the course as to how useful they were. Ratings ranged from one to five where a "one" signified not very useful and a "five" corresponded to very useful. Respondents on the whole tended to rate all aspects of the course above average, i.e., above a score of three.

Table II.B.2 lists the mean rating by respondents on reproductive health topics. The discussion on contraception was rated highest with a mean score of 4.5.

Discussions on high-risk pregnancy, and demography and population problems also received ratings above four. Discussions on high-risk gynecology, infertility, and sterilization were rated slightly lower but they were still considered useful (i.e., a score of about 4). Each topic on Table II.B.2 which has a mean rating greater than 4 was rated as very useful (i.e., a score of 5) by at least 50% of all survey respondents. Very few respondents, 6% or less for each topic, rated any of these discussions as not very useful (i.e, a score of 1).

Table II.B.3 shows the mean ratings by respondents on general reproductive health issues. These discussions were rated on the average as useful (i.e., a score of 4). Here, the issues covering the planning of community-based versus hospital-based services and the health rationale for family planning received the highest ratings of 4.3. The raw data for these general issues followed the same patterns as the data for the topics presented in Table II.B.2. Over half of all respondents considered these issues to be

Table II.B.2

MEAN RATING BY ADMINISTRATOR SURVEY RESPONDENTS OF THE DISCUSSION ON REPRODUCTIVE HEALTH SUBJECTS

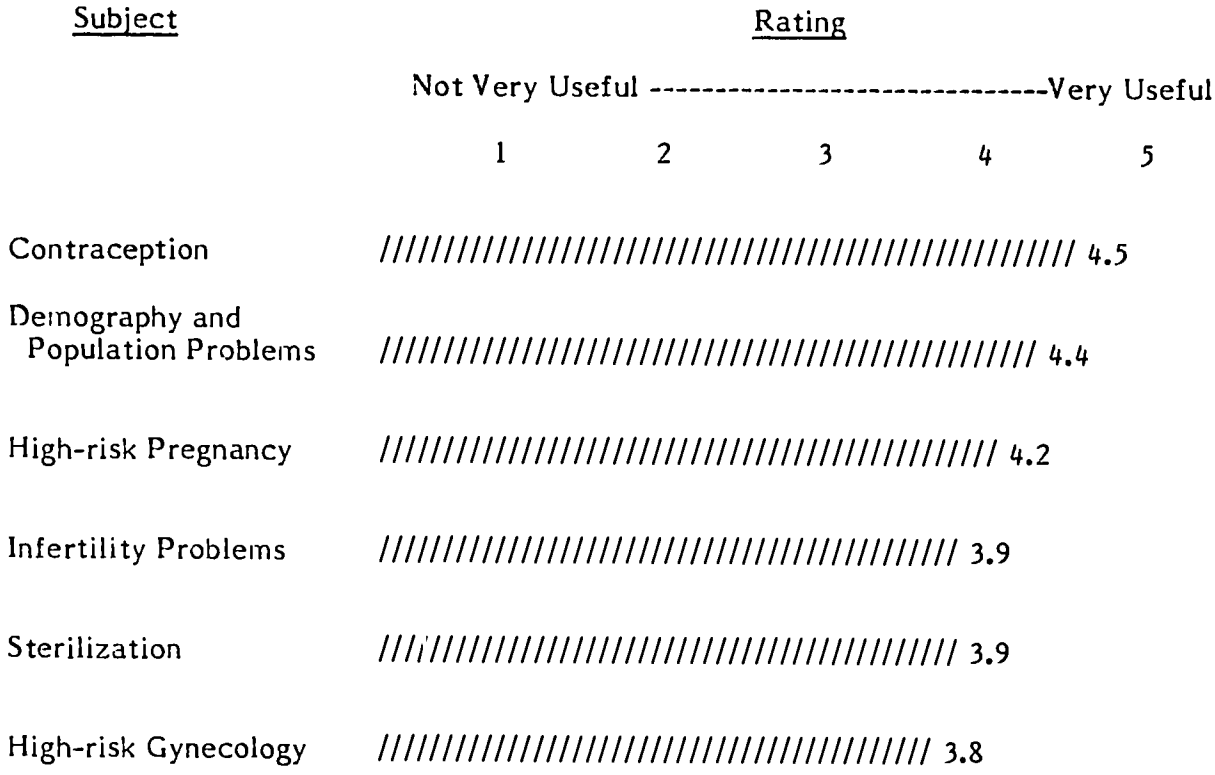


Table II.B.3

MEAN RATING BY ADMINISTRATOR SURVEY RESPONDENTS OF THE DISCUSSION ON GENERAL REPRODUCTIVE HEALTH ISSUES

Subject	Rating (Not Very Useful ---------- Very Useful; 1 2 3 4 5)	
Health Rationale for Family Planning	//////////////////////////////////////	4.3
Planning for Community Services vs. Hospital Services	//////////////////////////////////////	4.3
Concept of Reproductive Health vs. Reproductive Medicine	//////////////////////////////////////	4.0

very useful (score 5), and less than 2% of all respondents felt these discussions were not very useful (score 1). The country case studies (not shown in Table II.B.3) were given a mean rating of 4.0.

The mean ratings for selected administrative topics are shown in Table II.B.4. The discussions on the evaluation of the effectiveness of services and establishing of priorities received higher ratings (4.4) than the other topics. Over 86% of all respondents rated these topics as either very useful (score 5) or useful (score 4). The discussions on motivation of employees and application of health techniques to management programs also received higher ratings than the other topics. For each topic listed on Table II.B.4, no more than 2% of all respondents gave a rating of not very useful (score 1). In conclusion, based on the responses, the data suggested that the majority of the topics discussed in the administrator courses were considered to be very useful by the attendees.

Respondents noted which of each kind of major activity they perform has been influenced by the course. Table II.B.5 shows the percent of respondents who reported the course was of practical value for each activity. Most respondents applied the skills learned to their administrative acitivities (78%) or to their teaching and training activities (67%). Half the respondents found the course helpful in their clinical work (49%), and 25% applied the skills to their research. Breaking down this table further (see Table II.B.6), we find that of the individuals who rated themselves as primarily administrators, 94% found the course influenced their administrative acitivities, 63% found it also influenced teaching and training, and 34% indicated that it was helpful in their clinical acitivities. Likewise, 91% of those participants who rated themselves primarily as teachers felt that the course influenced their teaching and training acitivities, while 58% of this subgroup found the course helpful in administrative activities, and 37% in clinical work. However, those participants who rated themselves primarily as clinicians did not show this strong tendency. Only 67% of this subgroup felt the course influenced their clinical acitivities, and similar proportions, 64% and 67% respectively, felt the course influenced their administrative and teaching or training activities as well.

Participants received a variety of educational materials during the course. Included were textbooks, family planning pamphlets, Population Reports, and lecture handouts. There was some variation by date and language of the course as to exactly which materials are given to participants. It was anticipated that trainees would not only utilize the materials received during the course, but also refer to and share them with other reproductive health professionals upon their return home.

Table II.B.7 summarizes the reports of respondents on which educational materials they had used since the course. The majority of respondents reported using the material. Most popular were the Population Reports, with 88% of respondents reporting they had used them. Family planning pamphlets were used by 83% of respondents, lecture handouts by 74%, and the management text by 65%. Of all the materials, the management text was the item most frequently cited as not received. This was due to the fact that no management text was given out in the early years of the course, and no appropriate text is available in French.

On the average, respondents reported using two or three of the materials listed in Table II.B.7. There was a trend over time by fiscal year of course for respondents to report using more of the materials listed on the survey. There was also a trend by fiscal year of course for respondents to report that they have received a larger number of the materials listed. It appears that the availability of all types of educational materials to administrator course participants increased in recent years of the course, and that the large majority of respondents report using those materials they had received.

Table II.B.4

MEAN RATING BY ADMINISTRATOR SURVEY RESPONDENTS OF THE DISCUSSION ON ADMINISTRATIVE TOPICS

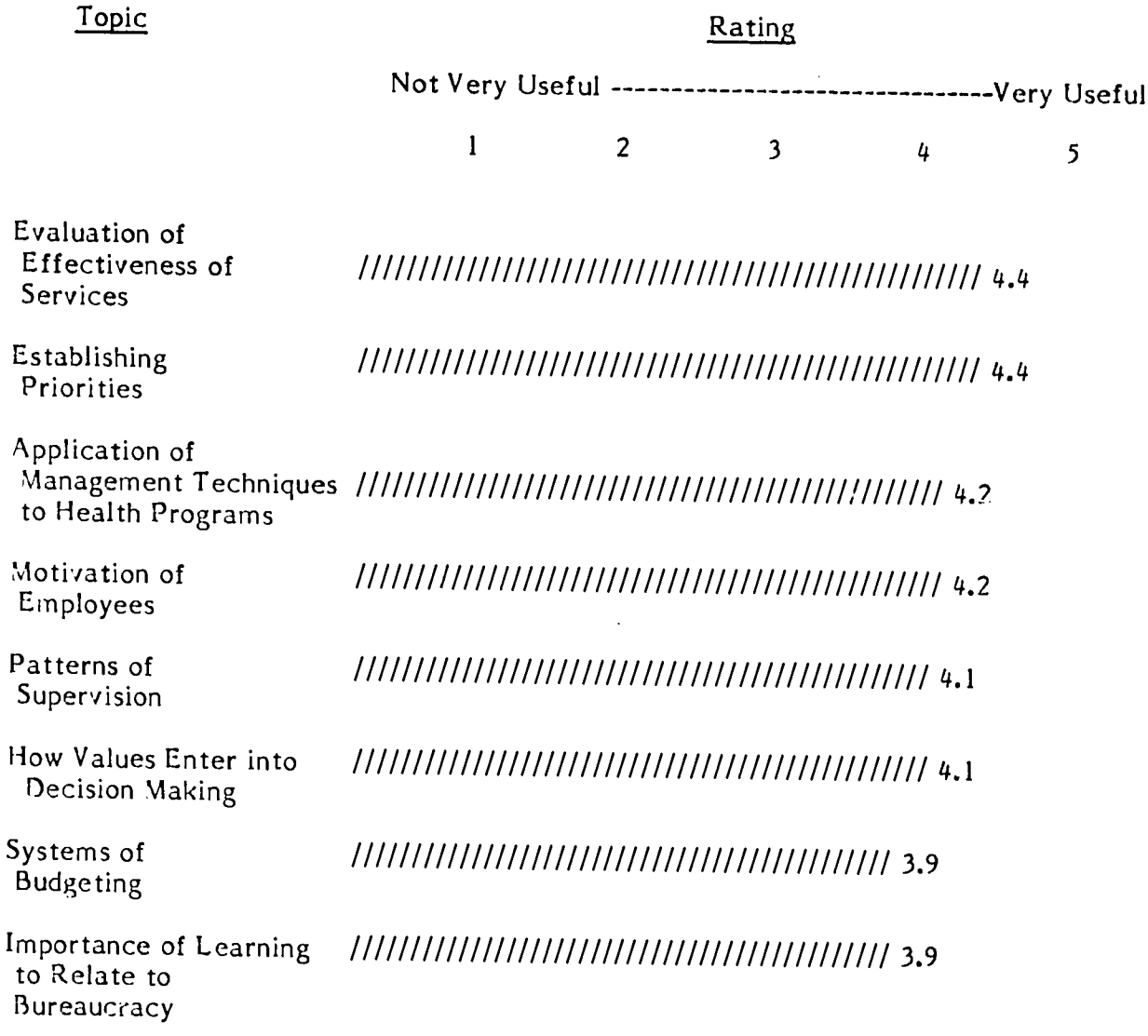


Table II.B.5

PERCENTAGE OF ADMINISTRATOR SURVEY RESPONDENTS REPORTING PROFESSIONAL ACTIVITIES IN WHICH THE COURSE WAS OF PRACTICAL VALUE

Activity	Percent of Respondents
Administration	78%
Teaching and Training	67
Clinical Responsibilities	49
Research	25
Other	14
None	3

Table II.B.6

PERCENTAGE OF EACH SUBGROUP OF ADMINISTRATOR SURVEY RESPONDENTS CLASSIFIED BY PRIMARY ROLE WHO REPORTED PROFESSIONAL ACTIVITIES IN WHICH THE COURSE WAS OF PRACTICAL VALUE

	Self-Classification			
Activity	Administrator (156)[1]	Teacher (43)	Clinician (125)	More than one role (35)
Administration	94%	58%	64%	80%
Teaching and Training	63	91	63	71
Clinical Responsibilities	34	37	67	66
Research	22	40	20	37
Other	20	8	10	14
None	2	0	5	0

Notes: 1. Numbers in parentheses indicate number of respondents in each category

Table II.B.7

PERCENTAGE OF ADMINISTRATOR SURVEY RESPONDENTS WHO REPORTED THEY USED THE EDUCATIONAL MATERIALS PROVIDED IN THEIR COURSE

Educational Materials	Percent of Respondents Reporting They Had			
	Used the Materials	Not Used the Materials	Not Obtained the Materials	Total
Population Reports	88%	7%	5%	100% (333)[1]
Family Planning Pamphlets	83	6	11	100 (330)
Lecture Handouts	74	13	13	100 (310)
Management Text	65	13	21	100 (323)

Notes: 1. Numbers in parentheses indicate the total respondents in each category

Respondents used the educational materials in a variety of ways, six of which are shown in Table II.B.8. Teaching and training was the activity in which most respondents (70%) used the materials. Many also shared them with colleagues (68%), and consulted them for special lectures (57%) and the preparation of reports (45%). On the average, respondents reported using these materials in about three of the activities listed in Table II.B.8, and 28% of all respondents used the materials for four to six of these activities.

Over half of all respondents, 55%, felt some of the materials they received or used in the course would be more useful to them if translated to another language. Most frequently requested were a variety of items not specifically obtained in the course such as films, slide shows, and specific texts. Of the respondents who wanted materials translated, 52% requested these other materials, 43% indicated they wanted the family planning pamphlets translated, 31% the management text, 32% the Population Reports, and 22% the lecture handouts. The languages most frequently requested were Spanish, Portuguese, French and Arabic. Others mentioned include Turkish, Indonesian, Malay, Thai, Marathi, Bengali, Urdu, Tamil, Persian, and African languages such as Yoruba, Swahili, and Kiswahili.

Respondents completed a few questions on who would benefit from the kind of training they received, and where such programs should be conducted. Only a few respondents, 3%, said they would not recommend the course to others. About 84% of all respondents had already recommended the course to colleagues in their country, and 53% had assisted them in making an application to JHPIEGO. Respondents felt individuals in government positions would benefit more from the course than their nongovernment colleagues. Only 38% of respondents would recommend the course to nongovernment clinicians and 34% to nongovernment administrators, whereas 70% would recommend the course to government clinicians and 78% to government administrators. The majority, 62%, would also recommend the course to faculty members.

Only a small proportion of respondents, 4%, felt the time was not right for training programs in family health and family planning to be initiated in their country. Of the rest, 48% stated that training programs in family health and family planning are underway, and 49% felt they should be initiated. Looking at these figures by world region, we find that higher proportions of these participants from Africa (67%) and the Near East (55%) felt training should be initiated, while the majority of respondents from Latin America (58%) replied that such a program was already underway in their country.

Of the 96% of all respondents who felt the time was right for reproductive health training programs to be conducted in their country, 63% thought it should be started in the ministry of health , 61% wanted to see it in medical schools, and 41% suggested a variety of other locations for the training. Table II.B.9 shows how these percentages changed when they are tabulated by world region. Respondents from Africa more frequently favored training through the ministry of health while those from Asia and Latin America favored training in medical schools. Furthermore, more respondents from Africa and Latin America suggested training should be conducted in other locations than respondents from Asia and the Near East. Some of the other locations most frequently suggested included family planning associations, family planning clinics, nursing and paramedical schools, private clinics and hospitals, rural health centers with MCH programs, rural and urban communities, elementary schools, and nongovernment organizations. There were also suggestions for training during the medical internship, in conjunction with the training of general practitioners, in the

Table II.B.8

PERCENTAGE OF ADMINISTRATOR SURVEY RESPONDENTS REPORTING HOW THEY USED THE EDUCATIONAL MATERIALS PROVIDED IN THEIR COURSE

Activity	Percent of Respondents
Teaching and Training	70%
Shared with Colleagues	68
For Special Lectures	57
Preparation of Reports	45
Placed in a Library	33
Other	9

Table II.B.9

PERCENTAGE OF ADMINISTRATOR SURVEY RESPONDENTS BY REGION WHO FELT TRAINING IN FAMILY HEALTH AND FAMILY PLANNING SHOULD BE STARTED IN THEIR COUNTRY ACCORDING TO WHERE THEY FELT SUCH PROGRAMS SHOULD BE CONDUCTED

	World Region				
Where should training programs be conducted?	Africa (108)[1]	Asia (46)	Near East (40)	Latin America (153)	All Regions[2] (348)
Ministry of Health	70%	57%	58%	62%	64%
Medical Schools	48	68	55	71	61
Other Locations	42	29	30	46	41

Notes: 1. Numbers in parentheses indicate number of responses.
2. Includes respondents who now reside outside these world regions.

women's organizations, and in cooperation with the church. Thus, from these questions, it is apparent that the administrator course either stimulates or clearly identifies training needs in the participants' countries; a benefit which assists JHPIEGO in establishing in-country programs.

Additional Observations

Some data were available for participant supplied estimates of time devoted to various professional activities prior to and after the course. These data are summarized in Table II.B.10.

As can be seen, the time devoted to patient care increased while the time needed to complete administration and unspecified other duties decreased. This is consistent with the observation that the majority of the administrators possessed an M.D. and over 78% reported the course helped them to improve their administrative skills.

Thus, it seems that the JHPIEGO course for Administrators enabled the participants to become more efficient managers. The time saved from the administrative duties apparently was devoted to patient care activities.

This interpretation is offered with some caution. This is due to the after-the fact nature of these comparisons. That is, there were no prior hypotheses to guide the interpretation of the significant differences noted for these comparisons. The absence of such hypotheses requires that any interpretation be offered as subject to further confirmation.

Conclusion

In conclusion, respondents to the administrator survey gave very positive feedback about the course Reproductive Health for Administrators of Family Health and Family Planning Programs. They rated the majority of the topics discussed in the course as useful. They reported on the impact of the course in their professional lives by detailing several activities in which it has been of practical value to them. The specific activities where the course had impact on respondents varied by their primary professional role, showing that the concepts learned are useful to health professionals playing a variety of roles in the administration of reproductive health and family planning programs.

Respondents also gave positive feedback about the educational materials they had received in the course. They found the materials useful and had utilized them upon their return from the course. Materials were shared with colleagues or otherwise made available to individuals not participating in the course. Information contained in them was most helpful to respondents in their teaching and training activities.

The course was recommended by respondents to colleagues in their countries. By making this recommendation respondents demonstrated through their behavior that the course was useful to them. Furthermore, they gave suggestions on their questionnaires about the continuation and initiation of training programs in their native lands. Many creative ideas to specifically target problems in individual countries were supplied on the questionnaire.

In addition, evidence was found to suggest the course had an effect on the ways participants approached their professional duties. A tentative interpretation of these findings was offered. This explanation suggested that participation in the course helped the administrators to become more efficient managers. The time saved in administration was devoted to patient care.

Thus, consistent findings lead to the conclusion that the US-based administrators

Table II.B.10

Paired Comparisons of Pre and Post Course Levels of Effort Reported by Administrators

Variable	Before Course		After Course			Significance
	X	S.D.	X	S.D.	N	
Time in Patient Care[1]	28.9	26.8	31.7	27.9	161	.01
Time in Teaching	13.0	13.9	14.3	15.0	161	NS[2]
Time in Research	6.2	8.1	7.5	11.3	161	NS[2]
Time in Administration	44.5	31.0	41.5	31.7	160	.03
Time in Other	6.3	11.7	4.4	10.4	161	.03

Notes:
1. In percent of effort
2. $p > .05$

course was a success. The proper people were selected for participation; the course content appeared to be relevant and useful; participants used and shared their new knowledge; and this knowledge apparently had a positive effect in that evidence was found to suggest the participants became better administrators.

II.C. SELECTED FINDINGS FROM THE CLINICIAN SURVEY

Introduction

The clinician survey, instituted in its present form in February 1979, is an ongoing mechanism for long-term follow-up of participants trained in U.S.-based JHPIEGO courses for clinicians. It is designed to evaluate the experiences of participants trained in the JHPIEGO Advances in Reproductive Health for Physicians, Management of the Infertile Couple, Academic Skills for Medical School Faculty in Reproductive Health, and Promoting Reproductive Health through the Management of Sexually Transmitted Diseases courses. The survey addressed the professional activities of these trainees subsequent to the course, including how they spent their professional time, what laparoscopic equipment they used and how it was maintained, which procedures they performed, and how they shared their knowledge with others. Inserts to the clinician survey were sent to the Management of the Infertile Couple and Academic Skills for Medical School Faculty in Reproductive Health course participants to evaluate specific aspects of these courses. Selected findings from each of these inserts will be presented in Sections II.D. and II.E. of this report.

This survey was sent to participants in these clinical courses who trained at the JHPIEGO International Training Center, as well as those trained in previously active centers in St. Louis, Pittsburgh, and Beirut, Lebanon. A total of 1481 individuals participated in at least one of these courses since the inception of the JHPIEGO program in 1972 to the end of FY'84. Seventeen participated in two such courses, yielding the 1498 attendees reported trained to the end of FY'84 in Volume I of the JHPIEGO Annual Report. This report, however, will only be concerned with 1401 trainees who attended at least one of the clinical courses held prior to January 1, 1984. This cut-off date allowed each participant included in the population ample opportunity to receive, fill out, and return the clinican survey. Since surveys were not sent to participants until six months after they completed the course, the most recently trained participants were given three months to receive and return the survey.

Of the population of 1401 clinician course participants eligible for the survey, 803 responded to it. Fifty-four participants were not sent surveys because of information available to JHPIEGO prior to the survey mailing indicating that they should not be surveyed. Reasons included political difficulties in the participants' country, changes in the participants' status such as death, retirement, emigration, a move to an unknown address, or, occasionally, an administrative oversight. The gross response rate to this survey is 57%. Excluding individuals not surveyed, the net response rate is 60%. Nonrespondents received an average of 2.2 mailings apiece, while respondents received an average of 1.7 mailings. Forty-six out of the total 803 surveys received were added since the close of FY'83, while 111 additional trainees were included.

Of the 1401 participants in the population, 976 were categorized under the Advances in Reproductive Health courses, 276 included in the Management of the Infertile Couple courses, 79 participated in the Academic Skills for Medical School Faculty in Reproductive Health courses, 70 included in the Promoting Reproductive Health through Management of Sexually Transmitted Diseases course. Seventeen individuals who participated in more than one of these courses before January 1, 1984 were categorized under their most recent course, most frequently infertility or academic skills. Surveys with inserts were returned by 55 of the academic skills course participants and 150 of the infertility course participants. Thus the response rates for these subgroups were 69% and 54%, respectively.

The findings discussed in this section will primarily cover only those participants who returned a survey. First, however, there will be a comparison of those

characteristics of the respondent and nonrespondent groups which can be generalized from the individual application forms filled out by all participants. The remainder of the section will then cover the findings compiled from the responses given on the returned questionnaires. Note that the findings from the clinician survey apply only to the activities of the individual physicians included in the population of JHPIEGO clinical course participants defined above. The results do not address the aggregate activities of all professionals who work at the institutions where these individuals practice. Because JHPIEGO attempts to institutionalize capacities in reproductive health and fertility management, it would be highly desirable to analyze data on institutional activities. However, an international mail survey of individuals trained is not the appropriate tool for such data collection efforts. Other evaluation tools are under consideration. Institutional capabilities cannot be directly inferred from the findings reported here.

Please note that due to the changes in the way information is gathered and maintained by JHPIEGO over time as well as variations in the responses of participants, the numbers reported in this section are in some cases quite different from those shown in previous reports. The text indicates in each report how the numbers were arrived at and which participants were included in them. Comparisons of the statistics in this report with the figures shown previously should be avoided unless the differences in the methods of calculation are accounted for.

Comparison of Respondents with Nonrespondents

A comparison of the 803 survey respondents to the 592 nonrespondents is reported in this subsection in order to determine whether respondents are like nonrespondents on their background characteristics. The comparison was based on the data abstracted from the individual application forms filled out by all trainees prior to their participation in the course, as well as on basic training data available for all participants. If differences between the respondent and nonrespondent groups were detected, it would not be possible to conclude that the responses of nonrespondents and respondents would be similar. If, however, respondents were found to be similar to nonrespondents on their background characteristics, then it may be possible to generalize the findings compiled from the respondents' surveys to the total population of JHPIEGO U.S.-based clinical course participants. Caution should be exercised in any such generalization because it is possible that respondents and nonrespondents differ in important ways which were not measured on their individual application forms.

No differences were found between survey respondents and nonrespondents on selected demographic characteristics and for variables summarizing their pre-JHPIEGO training experiences. Both groups were composed of 83% males and 19% females. The average year of birth for both respondents and nonrespondents was 1938. The distribution over AID regions* for country of medical school education was the same for respondents and nonrespondents. Furthermore, the average year when the medical degree was obtained, 1963, was found to be the same for both groups. Over 90% of both the respondents and nonrespondents obtained a medical residency, and over 83% had obtained an Ob/Gyn residency. The average number of months of Ob/Gyn training was 39 for respondents and 40 for nonrespondents, an insignificant difference. The most recent year of Ob/Gyn training was 1971 on the average. Respondents had worked an average of 8.1 years beyond their training and nonrespondents worked 7.6 years, also an insignificant difference.

*See Appendix I for a list of countries in each region.

Table II.C.1

COMPARISON OF MEANS BETWEEN RESPONDENT AND NON-RESPONDENT GROUPS OF CLINICIANS

Variable	Respondents			Non-Respondents			
	Mean	SD	N	Mean	SD	N	Sig[3]
Time Patient Care[1]	58.6	21.7	756	58.6	21.7	535	NS[4]
Time Teaching[1]	20.2	14.5	756	20.8	15.2	535	NS[4]
Time Research[1]	9.2	10.5	755	8.5	9.5	533	NS[4]
Time Administration[1]	9.4	11.8	755	9.1	12.8	536	NS[4]
Time Other[1]	2.3	6.9	741	2.6	8.7	525	NS[4]
Time Med School Hospital	33.4	36.7	627	30.7	36.4	421	NS[4]
Time Social Security Hospital[1]	10.6	22.9	629	10.1	22.8	422	NS[4]
Time Government Hospital[1]	16.0	31.2	630	17.2	31.7	421	NS[4]
Time Private Maternity Hospital[1]	4.7	10.6	629	4.4	10.8	422	NS[4]
Time Private Practice[1]	16.3	18.0	630	16.4	18.7	422	NS[4]
No. of C-Sections[2]	206.5	264.6	724	237.5	347.3	393	NS[4]
No. of Abdonimal Hysterectomies[2]	115	279.2	660	108.0	235.8	438	NS[4]
No. of Vaginal Hysterectomies[2]	45.7	136.6	619.	32.6	69.5	405	NS[4]
No. of IUD Insertions[2]	362.3	673.3	596	316.9	610.6	373	NS[4]
No. of Tubal Ligations[2]	139.1	346.8	625	132.5	239.2	398	NS[4]
No. of Diagnostic Laparoscopies[2]	46.8	110.8	294	37.1	77.1	168	NS[4]

Notes:
1. In percent of effort
2. Total number for 3 year period
3. Significance
4. $p > .05$

Over 50% of both respondents and nonrespondents had medical or nursing school appointments at the time of their application to the course.

Respondents and nonrespondents reported spending similar proportions of their time performing various professional activities. Both groups spent 59% of their time in patient care, 21% in teaching, 9% in research, 9% in administration, and 2% performing other activities. The average percent time spent by respondent and nonrespondent groups in various professional institutions was also similar for all types of institutions included on the application form.

Respondents and nonrespondents were similar in terms of the number of procedures performed as reported to JHPIEGO on their application forms. At the time of their application, clinician course participants reported the total number of procedures they had performed during the previous three years for each procedure listed on the form. These figures were then averaged over respondents and nonrespondents so their pretraining activities could be compared. As can be seen from the data summarized in Table II.C.I, no significant differences were found between the two groups.

There were slight differences in respondents and nonrespondents according to geographic distribution by world region. A slightly higher proportion of participants from Asia responded to the survey, while a slightly lower proportion of participants from Africa responded to it. In keeping with this trend, participants of French language courses responded to the survey less frequently than those who took courses offered in other languages. By course type, participants of the infertility and academic skills courses were more apt to respond to the survey than the individuals who took advances in reproductive health or sexually transmitted diseases. A large proportion of participants in the sample, 90%, attended only one JHPIEGO course. There was a slight tendency for the remaining 10% of participants, most of whom had taken two JHPIEGO courses, to respond more frequently to the survey. Just over 50% of the trainees in the sample were offered clinical practice training. Those who had clinical practice responded more frequently to the survey than those who did not receive this training.

In conclusion, based upon information compiled from application forms, it appeared that respondents were similar to nonrespondents on demographic characteristics, in terms of levels of medical training, and with respect to how they spent their professional time. They also reported similar clinical experience. No differences were detected between respondents and nonrespondents in the number of procedures performed prior to the course. There was no evidence to suggest that respondent and nonrespondent groups were different.

Professional Activities

The patterns of professional responsibilities of participants reflected the opportunities they had to use the knowledge and skills learned at JHPIEGO. Examination of these activities helps to identify how trainees spend their time and the kinds of limitations with which they were faced. This information sheds light on further analyses of activities reported by respondents such as the number of procedures they performed, the kinds of training they conducted, and the opportunities they took to disseminate information to their colleagues, patients and communities.

Over half of all respondents, 55%, reported they had a medical school faculty appointment. Nearly all respondents, 98%, reported they served on the staff of one or more hospitals. Fifty-three percent (53%) of these physicians served on the staff of only one hospital, and the remaining proportion reported serving on the staff of two or more hospitals. Data on the professional activities performed by all the respondents

serving on the staff of one or more hospitals are presented in Table II.C.2 for their hospital of primary affiliation. Most physicians, 93%, reported seeing inpatients, and at least 85% also reported seeing outpatients and performing surgery, including female sterilization. Diagnostic laparoscopy was reported by 71% of these respondents. Furthermore, at least 67% reported clinical supervision of medical students or postgraduates. Over half also had administrative and research responsibilities at this hospital. Only 12% listed male sterilization as one of their activities at the hospital where they were primarily affiliated.

Table II.C.3 shows the mean percent distribution of professional time spent by respondents in the different activities in which they engage. The figures are shown for all respondents as well as broken down by the type of course participation. The table was not broken down by region because less variation was found between regions in the time spent in these activities, especially for the time spent in patient care. Overall, respondents spent just under three fifths of their time caring for patients, one fifth teaching, one tenth in administration and one tenth in research. There were some differences among respondents depending upon the type of course they participated in. While these differences were not large, they indicated that respondents spent relatively more time in the specific activities targeted by the course in which they participated. This was most obvious for academic skills participants who focused on research and teaching skills in their course. These respondents tended to spend less time in patient care and more time in teaching and research than did respondents who participated in either of the other two courses.

Table II.C.4 shows the mean percent time spent by respondents in the different types of institutions where they work. This table was broken down by AID world region because of the substantial regional variation found. Overall, respondents spent more time, 27%, in medical schools and university hospitals than in any of the other institutions listed. This tendency was expected since JHPIEGO participants are often selected because of their responsibilities in the medical schools and university hospitals throughout the developing world. Respondents from all regions also reported spending higher percentages of their time in private practice (22%) and in government hospitals (20%) than in other types of institutions.

The regional breakdowns of these percentages revealed the same trends as the overall figures, but in each region respondents spent relatively more time in one of the types of institutions listed than in any of the others. Physicians from Africa spent most of their time in medical schools and university hospitals (32%), slightly less in government hospitals (30%), and substantially less in private practice (10%). Respondents from the Near East and Asia spent most of their time in medical schools and university hospitals. They spent smaller and nearly equal proportions of their time in government hospitals and private practice. Physicians from Latin America reported spending the greatest proportion of their time in private practice (30%) followed by medical schools and university hospitals (19%), and government hospitals (17%). They also reported spending 13% of their time in social security hospitals.

Clinical Procedures

The training of obstetricians and gynecologists to perfect clinical skills, including laparoscopy, is an important component of the JHPIEGO program. In this subsection we will review the performance of clinical procedures reported by survey respondents in order to evaluate the outcome of this training, especially as it relates to laparoscopy.

The procedures reported on the clinician survey were personally performed by respondents during the 12 months prior to the time they filled out the survey. These

Table II.C.2

PERCENTAGE OF CLINICIAN SURVEY RESPONDENTS REPORTING PROFESSIONAL ACTIVITIES AT THEIR HOSPITAL OF PRIMARY AFFILIATION

Professional Activity	Percentage of the 803 Respondents Who Reported Any Professional Activities
Seeing Inpatients	93%
Seeing Outpatients	89
Surgery, except Sterilization and Laparoscopy	87
Female Sterilization	85
Diagnostic Laparoscopy	71
Clinical Supervision of Medical Students	67
Clinical Supervision of Postgraduates	65
Research Investigations	59
Administrative Duties	54
Male Sterilization	12

Table II.C.3

MEAN PERCENT OF PROFESSIONAL TIME SPENT BY CLINICIAN SURVEY RESPONDENTS IN PROFESSIONAL ACTIVITIES, BY TYPE OF COURSE PARTICIPATION

		Course		
Activity	All Courses[1] (803)[2]	Advances in Reproductive Health (539)	Management of the Infertile Couple (174)	Academic Skills (51)
Patient Care	57%	58%	56%	50%
Teaching	20	19	21	27
Administration	11	11	10	9
Research	9	8	10	12
Other Activities	3	4	3	2
Total	100	100	100	100

Notes: 1. Includes Sexually Transmitted Diseases course participants not reported separately.
2. Numbers in parentheses denote the number of respondents in each course.

Table II.C.4

MEAN PERCENT OF PROFESSIONAL TIME SPENT BY CLINICIAN SURVEY RESPONDENTS IN DIFFERENT TYPES OF INSTITUTIONS, BY WORLD REGION

Type of Institution	All Regions (769)[1]	World Region: Africa (117)	Asia (196)	Near East (82)	Latin America (373)
Medical School/ University Hospital	27	32	38	37	19
Social Security Hospital	7	2	1	6	13
Government Hospital (except above)	20	30	20	19	17
Other Nonprofit Hospitals	4	5	7	3	2
Other Hospitals Operated for Profit	3	2	3	1	4
Health Center/Clinic Outside Hospital	4	7	4	3	3
Private Practice Outside Hospital	22	9	17	18	30
Private Maternity Home/Center	7	2	8	11	8
Other	3	3	2	2	4
TOTAL	100	97[2]	100	100	100

Notes: 1. Numbers in parentheses denote number or respondents in each world region.
2. This number does not add up to 100% due to some missing values in the surveys returned from this region.

procedures could have been performed at any of the institutions with which the respondents were affiliated. Respondents reported working at on the average two or three of the institutions listed in Table II.C.4, and 44% listed the names of two or more hospitals with which they are affiliated. Thus, the average numbers of procedures reported in this subsection were derived from the reports of these individual physicians across all institutions where they practice. The procedures reported here cannot be generalized to represent the total number of procedures performed at single institutions.

Table II.C.5 shows the mean number of procedures other than laparoscopy performed per trainee month by world region for all respondents who reported the number of procedures performed. There was substantial variation among the means in this table across types of procedures and across world regions. Regional differences reflected, in part, underlying differences between regions in family planning practices and the role of obstetricians and gynecologists. From Table II.C.5 we find that the mean number of vaginal deliveries reported per month for all regions (15.0) was higher than the mean for any other procedure. The overall means for cesarean sections (4.0) and postpartum sterilization (4.1) were also higher than those reported for the three remaining procedures. Respondents from Asia reported performing a higher mean number of hysterectomies, post-partum sterilizations, interval minilaparotomies, and vasectomies than did respondents from any other region. Respondents from Africa reported performing a relatively low number of procedures for all procedures except cesarean section.

Where the responses of only those participants who reported access to laparoscopic equipment on their survey were analyzed, the mean number of laparoscopic procedures performed per month increased, as shown in Table II.C.6. These respondents reported performing 14.5 laparoscopic procedures per month overall, of which 10.7 were for sterilization and 3.8 were diagnostic procedures. The proportion of respondents who reported access to laparoscopic equipment on their survey varies by region. Only 63% of the African participants reported access at the time they returned the survey, while over 70% of the Asians and Latin Americans, and 85% of individuals from the Near East reported they had access.

A brief review of the availability and utilization of laparoscopic equipment as reported on the survey for the respondents' institution of primary affiliation was helpful in understanding these data. About 77% of respondents reported laparoscopic equipment at their primary institution. On the average those respondents with equipment at their institution reported that there were 1.8 pieces of equipment at this institution including cautery systems, System A's, System B's, and laprocators. About half of the hospitals represented had only one piece of equipment, while one quarter of the institutions had two, and the remaining had three or more pieces of equipment. Furthermore, of the respondents working at institutions with laparoscopic equipment, 95% reported they had access to these systems. They reported that an average of 4.9 people, including themselves, were using the equipment at this institution. Most (71%) reported between one and five individuals used the equipment, and 27% claimed that between six and fifty people used this equipment. Finally, 92% reported that the equipment was working at the time they filled out the survey, and 78% indicated that the equipment had been in good working condition seventy-five percent or more of the time since its installation. Thus we can conclude that the equipment available to these respondents was by and large fully utilized and well-maintained.

An earlier discussion in this report claimed that the procedures reported by individual respondents cannot be generalized to the institutions where these respondents work. However, of those respondents who reported access to laparoscopic equipment at

Table II.C.5

MEAN NUMBER OF PROCEDURES OTHER THAN LAPAROSCOPY PERFORMED BY CLINICIAN SURVEY RESPONDENTS PER TRAINEE MONTH BY WORLD REGION AND TYPE OF PROCEDURE

World Region	Type of Clinical Procedure											
	Normal Delivery		Cesarean Section		Hysterectomy		Postpartum Sterilization		Interval Minilaparotomy		Vasectomy	
Africa	12.1	(118)[1]	4.4	(118)	2.1	(119)	1.3	(119)	0.9	(116)	0.02	(119)
Asia	21.2	(197)	4.2	(197)	4.2	(184)	7.6	(196)	3.9	(196)	1.0	(197)
Near East	23.1	(85)	3.9	(86)	3.5	(86)	0.8	(85)	1.6	(85)	0.05	(84)
Latin America	11.0	(377)	4.6	(376)	2.2	(377)	3.9	(374)	1.9	(372)	0.3	(372)
Total[2]	15.0	(779)	4.0	(779)	2.8	(781)	4.1	(776)	2.2	(771)	0.4	(774)

Notes: 1. Numbers in parentheses indicate number of respondents used to calculate each mean.

2. Total includes respondents who now reside outside these world regions.

Table II.C.6

MEAN NUMBER OF LAPAROSCOPIC PROCEDURES PERFORMED PER TRAINEE MONTH BY CLINICIAN SURVEY RESPONDENTS WITH ACCESS TO LAPAROSCOPIC EQUIPMENT BY WORLD REGION AND TYPE OF PROCEDURE

World Region	Type of Laparoscopic Procedure					
	Sterilization Procedures		Diagnostic Procedures		Total Laparoscopic Procedures	
	Mean Number of Procedures	Number of Respondents	Mean Number of Procedures	Number of Respondents	Mean Number of Procedures	Number of Respondents
Africa	2.2	73	4.6	72	6.7	73
Asia	15.6	140	3.8	138	19.2	140
Near East	9.2	72	6.6	72	15.8	72
Latin America	10.8	282	2.4	279	13.8	282
Total	10.7	567	3.8	561	14.5	567

their institution of primary affiliation, 84% reported that at least one additional person was using the equipment. Although these findings cannot be generalized to institutions or pieces of equipment, by making some assumptions about the limited availability of laparoscopic equipment and its utilization by at least one physician in institutions where it is available, we can view the number of procedures reported here as an average minimum number performed per month at institutions of the respondents' primary affiliation. Thus, it is likely that more procedures are being performed per month than those reported in Table II.C.6 for each of the institutions represented by these respondents.

The means displayed in Table II.C.5 can be broken down by type of course participation rather than the respondents' world region to display differences which may result from the JHPIEGO course selection process and/or the content of the individual courses. Firm conclusions cannot be drawn from these breakdowns because the number of respondents in each procedure category ranges from about 541 for the Advances in Reproductive Health course, about 167 for the Management of the Infertile Couple course, to 56 for the Academic Skills course. Over most procedures, participants of the Advances in Reproductive Health course reported performing more procedures per month than did participants from either of the other two courses. Due to the large number of respondents who took this course, the means for this subgroup were very close to the overall means for each procedure. Academic Skills course participants reported performing consistently small numbers of procedures each month. They averaged between two and three procedures per month for every surgical procedure listed except normal delivery, where they reported 6.4 deliveries, diagnostic laparoscopy, where they report 4.5 procedures, laparoscopic sterilization, where they report 10.3 procedures, and vasectomy, where they report only .1 procedures. The mean number of procedures reported by participants in the Management of the Infertile Couple course is lower for all sterilization procedures including laparoscopy, post-partum sterilization, interval minilaparotomy, and vasectomy than the means reported by respondents from the Advances in Reproductive Health course. In contrast, for nonsterilization surgical procedures, these respondents reported a similar or higher mean number of procedures than those reported by the Advances in Reproductive Health course participants. Thus, these data indicate that performance of surgical procedures by respondents varies according to the type of JHPIEGO course taken. In general, the respondents' performance reflects the orientation of the course in which they participated, as well as the expertise they had prior to being selected for the training.

Participants were asked to report whether the laparoscopic equipment at their institution of primary affiliation was used more for diagnosis or sterilization, or about equally for both. When the mean number of procedures performed by each respondent was averaged over the primary use of equipment at their institution, we find consistency in these responses. More diagnostic procedures, 5.0, were done by respondents affiliated with hospitals where the equipment is used more for diagnosis. A smaller number, 4.3, were performed where it was used primarily for diagnostic purposes or equally for both purposes, and the fewest were completed, 2.3, where it was used primarily for sterilization. Those respondents affiliated with hospitals rated as using the equipment equally for diagnostic and for sterilization purposes reported performing about 13.6 sterilizations per month. Finally, respondents from hospitals where the equipment was used more for diagnosis only performed 1.8 sterilization procedures per month.

Table II.C.7 displays the percent distribution by region of the clinician survey respondents with access to laparoscopic equipment according to whether they reported

Table II.C.7

PERCENTAGE DISTRIBUTION OF CLINICIAN SURVEY RESPONDENTS ACCORDING TO REPORTED USE OF EQUIPMENT FOR DIAGNOSIS VERSUS STERILIZATION, BY WORLD REGION

Is equipment used more for diagnostic purposes or for sterilization purposes?	World Region				
	Africa (83)[1]	Asia (147)	Near East (72)	Latin America (294)	All regions (596)
Used more for diagnostic purposes	68%	18%	38	21%	29%
Used about equally for diagnosis and for sterilization	21	31	33	28	28
Used more for sterilization	11	48	29	51	42
Total	100	100	100	100	100

Notes: 1. Numbers in parentheses denote number of respondents in each region.

the equipment was used at their institution of primary affiliation more for diagnosis versus sterilization or about equally. Averaging over all regions, we find that respondents reported using the equipment more for sterilization. Within regions this tendency was true for Latin America and Asia. Respondents from the Near East were distributed fairly evenly in their responses as to how the equipment was primarily used. The greatest divergence from this pattern was found for the African respondents. Here 68% reported the equipment was used more for diagnostic purposes, 21% felt it was used about equally for diagnosis and for sterilization, and only 11% reported it was used more for sterilization.

A comparison can be made between the regional percentage distributions of preferred institutional use of laparoscopic equipment revealed in Table II.C.7 with the mean number of laparoscopic procedures reported by respondents by region in Table II.C.6. There was consistency between the procedures performed by the respondents and their opinions about how the equipment was used most at the institution with which they were primarily affiliated. African respondents performed more than twice as many diagnostic as sterilization procedures. Both Latin American and Asian respondents performed about four times more sterilization procedures than diagnostic procedures, and participants from the Near East report performed only about one and one half times more sterilizations than diagnostic laparoscopies.

In summary, respondents to the clinician survey reported performing more laparoscopies than any of the other surgical procedures included on the questionnaire. There was substantial regional as well as individual variation in the responses. Latin American and Asian respondents favored laparoscopic sterilization. Asian participants reported performing more sterilizations than did respondents from any other region as well as more total laparoscopies than any other subgroup. Participants from Asia also reported performing the largest number of other surgical procedures, including postpartum sterilization and interval minilaparotomy. African respondents favored diagnostic procedures. Respondents with equipment at their primary institution reported that it was utilized and well-maintained. Consistency was noted among the primary institutional use of equipment and the number of procedures performed by trainees individually and grouped by region. There was also a tendency for respondents from the courses which emphasized specific procedures to report performing a higher average number of these procedures each month.

Training Activities

A substantial portion of the clinician survey was concerned with the teaching and training responsibilities of clinician course participants. The reports given by respondents offered the opportunity to review how JHPIEGO trainees transmitted their training since their participation in the course. In order for the knowledge and skills taught by JHPIEGO to have a wide impact in developing countries, it was essential that former trainees share their training with their colleagues, students, and communities. In this subsection an attempt will be made to quantify the direct, in-depth teaching and training activities of respondents. The next subsection will address this question from another perspective by reviewing the advocacy roles taken by respondents in disseminating this knowledge to lay and professional communities.

Since one goal of the JHPIEGO program is to give participants experience in a broad range of concepts and techniques relevant to reproductive health, the JHPIEGO courses cover material relevant to the important health and social problems encountered by trainees in their countries. Participants were encouraged to broaden their perspectives which were often limited to traditional hospital-based medicine.

Techniques of abortion were not covered by JHPIEGO because of the constraints imposed by the Helms Amendment. The three clinician courses discussed in this section differ in their focus on the specific topic addressed. A comparison of respondents' training activity by type of course taken for some general topics and techniques which are covered in all the courses will be discussed below. For more in-depth discussions on the Management of the Infertile Couple and Academic Skills courses, refer to Sections II.D. and II.E. of this report.

Referring back to Tables II.C.2, II.C.3, and II.C.4, we are reminded that teaching and training activities are important components of the professional responsibilities of JHPIEGO clinician course participants. Table II.C.3 shows that on the average 20% of the professional time spent by all respondents was devoted to teaching. From Table II.C.4 we find that they spent an average of 27% of their time in medical schools and university hospitals. And, from Table II.C.2 we see that at the hospital of primary affiliation over 65% of all respondents are responsible for clinically supervising either medical students or postgraduates. Thus, JHPIEGO-trained physicians had ample opportunity to pass on the training they received in this program to other health professionals. Furthermore, we can assume that some of these newly-acquired skills were imparted through modeling at times not specifically devoted to teaching or training.

Respondents were asked to report on whether they had teaching or training responsibilities, and if they had such responsibilities, what types of health professionals they taught or clinically supervised. About 86% of these physicians reported they taught or provided clinical supervision in obstetrics and gynecology or fertility management. Table II.C.8 shows the percentages of both all respondents and of the subgroup reporting training responsibilities for several types of health professionals. They most frequently reported supervising medical school graduates in clinical training. The majority also reported training medical students and nurses or nurse-midwives. Thus, from the percentages in this table, we can infer that the majority of JHPIEGO-trained physicians are responsible for supervising or training more than one type of health professional.

Trainees were asked which subjects and techniques they included in their teaching and training from among those listed in Tables II.C.9 and II.C.10. Recall that 86% of all respondents reported they had teaching or training responsibilities. In addition, 81% of the respondents who participated in the Advances in Reproductive Health course reported these responsibilities, while 89% of the Management of the Infertile Couple course respondents, and 95% of the Academic Skills course respondents reported teaching or training responsibilities. Some discussion of each of the topics listed in Table II.C.9 was included in each type of clinician course. Note that over all courses, the majority of respondents include each of the topics listed in their teaching with the exception of demography and population problems, and the organization and management of an advanced fertility clinic.

Looking at the proportions in Table II.C.9 by course type we find that more Academic Skills course participants include the majority of these topics in their teaching than do participants from either of the other two courses. Notable exceptions occur for those topics which receive more in-depth coverage in one of the other two courses. For instance, over 86% of the Advances in Reproductive Health course respondents included discussions on either contraceptive techniques or selection of an appropriate sterilization procedure in their teaching, as compared with slightly smaller proportions of the infertility and academic skills respondents. More Management of the Infertile Couple course participants, 93%, reported including diagnosis and treatment of infertility in their teaching than did respondents from either of the other courses. A

Table II.C.8

PERCENTAGE OF CLINICIAN SURVEY RESPONDENTS WHO REPORTED THEY TAUGHT OR PROVIDED SUPERVISED CLINICAL TRAINING IN OB/GYN OR FERTILITY MANAGEMENT, BY CATEGORY OF PERSONS TAUGHT OR SUPERVISED

Whom do you now teach or provide supervised clinical training in Ob/Gyn or fertility management?	Percentage of All 803 Respondents	Percentage of the 633 Respondents Reporting Teaching or Training Responsibilities
Medical School Graduates in Clinical Training	69%	83%
Medical Students	61	72
Nurses or Nurse-midwives	50	60
Other Health Personnel	23	28

Table II.C.9

PERCENTAGE OF CLINICIAN SURVEY RESPONDENTS WITH TEACHING RESPONSIBILITIES WHO REPORTED INCLUDING SELECTED SUBJECTS IN THEIR TEACHING, BY TYPE OF COURSE PARTICIPATION

Subject	All Courses[1] (663)[2]	Course: Advances in Reproductive Health (454)	Course: Management of the Infertile Couple (151)	Course: Academic Skills (58)
Contraceptive Techniques	87%	87%	84%	98%
Reproductive Physiology and Health	86	86	81	93
Selection of Appropriate Sterilization procedures	84	86	78	85
High-risk Pregnancy	84	87	79	88
Management of Incomplete Abortion	82	82	77	91
Diagnosis and Treatment of Infertility	82	78	93	86
Patient Counseling in Fertility Management[3]	83	82	84	78
Demography and Population Problems	44	45	37	59
Organization and Management of Advanced Fertility Clinic	35	34	39	33

Notes: 1. Includes Sexually Transmitted Diseases participants not reported separately.

2. Numbers in parentheses indicate the number of respondents in each course type with teaching or training responsibilities.

3. This item was inadvertently omitted from the early mailings of the questionnaire. Percentages have been adjusted to the reduced number of respondents in each category.

high proportion of infertility course participants, 85%, also reported teaching others about patient counseling in fertility management. Thus, by looking at these percentages broken down by type of course participation, we find slight differences in responses which were consistent with the core content of these courses. Academic Skills respondents reported teaching the most overall, the Management of the Infertile Couple course respondents focused most on topics concerned with infertility, while Advances in Reproductive Health respondents most often reported teaching general reproductive health and contraception subjects.

Table II.C.10 shows selected surgical and diagnostic techniques and the percentage of respondents who include them in their training by type of course participation. Of the respondents who reported teaching or training responsibilites, 77% train in postpartum sterilization, 68% train in diagnostic laparoscopy, 69% in interval minilaparotomy, and 65% in laparoscopic sterilization. It is interesting to note that more respondents reported training in diagnostic laparoscopy than in either the cautery or falope methods of laparoscopic sterilization. Very few respondents reported that they train others to perform vasectomies.

As found in Table II.C.9, there were some differences in the proportion of respondents who taught each of the procedures shown in Table II.C.10 depending upon the type of course in which they participated. For all procedures except vasectomy, a higher proportion of Academic Skills respondents reported including these techniques in their teaching than did participants from either of the other courses. Within this subgroup of respondents, the highest number reported training in postpartum sterilization, followed by laparoscopic sterilization. A comparison of the Management of the Infertile Couple participants with the Advances in Reproductive Health participants showed that overall more infertility course respondents reported training in laparoscopy for both the diagnostic and sterilization techniques. This was not unexpected since laparoscopy was one of the important techniques used for diagnosing cases of infertility. Furthermore, since the skills necessary to perform laparoscopy are similar for both the diagnostic and sterilization procedures, it was not surprising to find that infertility course participants reported training others to perform sterilization techniques as well as diagnostic laparoscopy. In contrast, slightly higher proportions of Advances in Reproductive Health respondents trained others to perform sterilization techniques such as postpartum sterilization, interval minilaparotomy and vasectomy than did the infertility course participants. Thus, Table II.C.10 also gives evidence that differences between responses by type of course participation are consistent with the emphases of these courses.

Respondents listed the number of persons trained to perform the same clinical procedures displayed in Tables II.C.5 and II.C.6. The mean numbers of individuals trained per month for each procedure are shown in Tables II.C.11 and II.C.12.

Table II.C.11 lists the mean number of persons trained to perform selected clinical procedures other than laparoscopy per trainee month. Once again there was substantial regional variation in these reports. Similar to the findings from Table II.C.5, more individuals were trained in normal delivery than in any of the procedures listed. Likewise, for every procedure, respondents from Asia report training more individuals than do respondents from any other region. Furthermore, very few people were trained to perform vasectomy by JHPIEGO-trained physicians from any region.

Table II.C.15 shows the mean number of persons trained to perform laparoscopic procedures per month by world region. Participants from the Near East reported training more persons per month (1.5) than respondents from any other region. The mean number of persons trained by physicians in the remaining three regions ranges between 1.0 and 1.2. The overall mean for laparoscopic training was 0.9 persons per

Table II.C.10

PERCENTAGE OF CLINICIAN SURVEY RESPONDENTS WITH TEACHING RESPONSIBILITIES WHO REPORTED INCLUDING SELECTED PROCEDURES IN THEIR TEACHING, BY TYPE OF COURSE PARTICIPATION[1]

Techniques/Procedures	All Courses (663)[2]	Course: Advances in Reproductive Health (454)	Management of the Infertile Couple (151)	Academic Skills (58)
Postpartum Sterilization	77%	79%	67%	91%
Diagnostic Laparoscopy	69	66	74	76
Interval Minilaparatomy	69	68	65	81
Laparoscopic Sterilization, Any method	65	66	67	85
Laparoscopic Sterilization, Falope Method	60	56	64	78
Laparoscopic Sterilization, Cautery Method	31	33	27	28
Vasectomy	13	17	6	9

Notes: 1. Includes Sexually Transmitted Diseases participants not reported separately.
2. Numbers in parentheses indicate the number of respondents in each course type with teaching or training responsibilities

Table II.C.11

MEAN NUMBER OF PERSONS TRAINED BY CLINICIAN SURVEY RESPONDENTS IN CLINICAL PROCEDURES OTHER THAN LAPAROSCOPY PER TRAINEE MONTH BY WORLD REGION

World Region	Type of Clinical Procedure											
	Normal Delivery		Cesarean Section		Hysterectomy		Postpartum Sterilization		Interval Minilaparotomy		Vasectomy	
Africa	3.1	(115)[1]	1.2	115)	0.6	(114)	0.2	(114)	0.5	(115)	0.03	(116)
Asia	5.7	(191)	1.4	(194)	1.2	(194)	1.7	(192)	1.4	(195)	0.2	(196)
Near East	4.2	(80)	1.1	(82)	0.8	(83)	0.3	(82)	0.3	(82)	0.02	(82)
Latin America	2.3	(363)	1.1	(364)	0.7	(366)	0.9	(365)	0.5	(351)	0.2	(360)
Total[2]	3.5	(751)	1.2	(757)	0.8	(760)	1.0	(755)	0.8	(760)	0.2	(756)

Notes: 1. Numbers in parentheses indicate number of respondents used to calculate each mean.

2. Total includes respondents who now reside outside these world regions.

Table II.C.12

MEAN NUMBER OF PERSONS TRAINED PER TRAINEE MONTH BY CLINICIAN SURVEY RESPONDENTS WITH ACCESS TO LAPAROSCOPIC EQUIPMENT IN LAPAROSCOPIC PROCEDURES BY WORLD REGION

World Region	Mean Number of Persons Trained in Laparoscopic Procedures	Number of Respondents
Africa	1.1	71
Asia	1.0	138
Near East	1.5	70
Latin America	1.2	276
Total	1.2	555

trainee per month. A single mean for the number of persons trained to perform laparoscopy was used since the skills necessary to perform diagnostic versus sterilization techniques are similar.

By comparing the means reported in Table II.C.11 with those reported in Table II.C.12 we find that overall about the same number of individuals were trained to perform laparoscopy as any of the other surgical procedures listed. There was however, some regional variation in this tendency. Respondents from the Near East reported training others to perform laparoscopy more than the other surgical procedures listed. In contrast, Asian respondents reported training others in laparoscopy much less frequently than for each of the other surgical procedures listed except vasectomy. These data suggest that while there was some regional variation, on the average these respondents gave laparoscopic training a priority at least equal to that given to training in other gynecological and obstetric procedures.

The mean number of individuals trained for each of the procedures displayed in Tables II.C.11 and II.C.12 can also be broken down by the type of course in which respondents participated. The training activity of participants can then be compared for these courses. Once again, since the variation in number of participants by type of course was large, definite conclusions about these differences cannot easily be drawn from the data. Looking, however, at the overall trends, we find that for all surgical procedures except cesarean section and laparoscopy, participants from the Management of the Infertile Couple course trained fewer people than did trainees from either Advances in Reproductive Health, or the Academic Skills course. The Academic Skills course participants reported training more people in every type of procedure listed except for vasectomy than did participants from either of the other two courses. They trained the highest number of individuals, 6.3 per month, to perform normal deliveries. They also trained a relatively large number of people per month, 2.8, to perform laparoscopy. In the last subsection we found the performance of clinical procedures by these respondents was low relative to the performance of the other course participants. Thus, it appears that physicians who take the Academic Skills course focused more on training others to perform procedures than on performing them themselves.

In summary, we have found that most respondents had teaching or training responsibilities. The exact proportions vary by type of course participation, as did the subjects and techniques in which training is given. Academic Skills course participants reported the most training activity. Participants from the Management of the Infertile Couple course focused on subjects and techniques relevant to infertility problems, including laparoscopy, while the Advances in Reproductive Health course participants emphasized general reproductive health and contraception in their training. Trainees with access to laparoscopic equipment reported training a mean of 1.0 persons each month to perform laparoscopic procedures. Breaking down the training figures by region, we found that respondents from the Near East report training more individuals in laparoscopy while respondents from Asia did the most training in all other surgical procedures.

Advocacy

There are many channels through which JHPIEGO-trained physicians can disseminate reproductive health knowledge and skills. Earlier subsections of this report examined the impact participants have had in terms of the number of procedures they perform and the number of individuals they train. These activities, especially teaching and training, allow the full depth and breadth of the up-to-date concepts and techniques learned at JHPIEGO to be imparted to health professionals and students closely

associated with the participants. Another important way of spreading this knowledge is through the trainees' involvement in the professional and other associations of their countries. Data on the roles played by participants in making presentations at professional meetings and in publishing papers in professional journals can provide useful insights into how new developments in fertility management and reproductive health have been integrated into these communities.

Respondents reported on the existence of medical, Ob/Gyn, and family planning societies or associations in their countries and whether or not they were members of these associations. Very few respondents, no more than 4%, reported that there were no medical, Ob/Gyn, or professional organizations in their country. From Table II.C.13 we see that more than three-fourths were members of a medical association, and the majority, 62%, belong to a national medical association. Most respondents, 75%, also belonged to an Ob/Gyn society, and most of them belonged to a national obstetrics and gynecology society. A smaller proportion, 42%, belonged to a family planning organization, and the majority of these individuals were members of a national family planning organization. In fact, most respondents who belonged to any of these organizations were members of their national organization. Thus, we can infer that through their participation in these associations, JHPIEGO trainees have opportunities to share their knowledge and skills with colleagues from all regions of their respective countries.

Examination of the frequency of presentations and publications was another indicator of the opportunities taken by respondents to disseminate their knowledge. Over half of the respondents, 51%, listed the topic of one or more presentations they made during the previous 12 months. The 412 respondents who reported any presentations made an average of two to three presentations each during the 12 months prior to returning the survey, a total of 981 presentations. Most of these respondents, 61%, made at least one national presentation, 46% made one or more local presentations, and 21% made international presentations. Twenty-seven percent of the respondents also reported the titles of books and journal articles they had published in the previous 12 months. Of the individuals reporting publications, an average of two publications per person were listed.

One mechanism used by physicians to keep informed about new developments in the medical field and about current research findings is to regularly read one or more professional journals. Most respondents, 97%, listed the titles of several publications which they read regularly. There was space on the survey to list five journals, and 76% of the respondents who listed any publications included the names of three to five journals.

These data show that respondents not only kept informed about current issues in reproductive health, but that they were also active in sharing their knowledge with members of their professional communities. There were however, other ways in which JHPIEGO trainees may contribute to the process of disseminating reproductive health information and influencing attitudes of their fellow countrymen. They may impress upon politicians and government officials the need for changes in current health policies or the implementation of programs in reproductive health and family planning. They can have a significant impact on the community through contact with patients and community groups. Radio shows and other educational programs are important tools for reaching many groups of people. Since questions about these activities were not been included as part of the clinician survey, these activities will not be discussed in this report. However, through other communication channels JHPIEGO is aware that its trainees do participate in these activities. It is important to keep in mind that participants play key roles in the process of disseminating information on reproductive

Table II.C.13

PERCENTAGE OF CLINICIAN SURVEY RESPONDENTS WHO REPORTED MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Type of Membership	Percentage of Respondents	Number of Respondents
Any medical organization	80%	771
National medical organization in own country	64	728
Any Ob/Gyn organization	75	758
National Ob/Gyn organization in own country	60	758
Any family planning organization	42	744
National family planning organization in own country	32	744

Table II.C.14

Paired Comparsions of Pre and Post Course Levels of Effort and Number of Clinical Procedures Reported by Clinicians

Variable	Before Course		After Course			Significance
	X	S.D.	X	S.D.	N	
Time in Patient Care[1]	58.7	21.8	56.5	21.9	696	.004
Time in Teaching	20.1	14.7	20.1	14.5	696	NS[2]
Time in Research	9.1	10.3	8.7	9.7	695	NS[2]
Time in Administration	9.4	11.9	10.8	17.9	695	.0025
Time in Other	2.4	7.1	3.3	9.5	680	.033
No. of Diagnostic Laparoscopies/mo	1.22	3.2	3.1	7.4	246	.001
No. of Ceasarean Deliveries/mo	5.7	7.4	4.0	5.3	663	.001

Notes:
1. In percent of Effort
2. $p > .05$

Health and family planning in ways other than those addressed in the survey.

Additional Observations

A number of participants provided information about their activities prior to and after attendance of the course. This included estimates of time devoted to various responsibilities, and estimates of the frequencies of several clinical procedures. Unfortunately, due to differences between the application form and the survey, pre and post estimates can be compared for only two clinical procedures. These data are summarized in Table II.C.14.

As can be seen, there was a slight decrease in the time devoted to patient care and a parallel increase in time devoted to administrative and unspecified other duties. One tentative explanation for this is that after the course, participants placed greater emphasis on administrative activities such as documenting patient care and providing for equipment.

Although this explanation needs verification, there is anectdotal evidence that clinicians in lesser developed countries tend to disregard the importance of record keeping. The importance of this activity is emphasized in JHPIEGO's courses; particularly in regard to quality of patient care and informed consent

The courses also appeared to have an impact on the medical practices of the clinicians. The reported use of laparoscopy for diagnostic purposes increased after the course while the number of ceasarean deliveries decreased. While these data do not provide a complete picture of the changes in clinical activity, they do suggest the courses provided information which was incorporated into the physician's approach to reproductive health care. In addition, the impact of these changes on public health needs to be assessed through further study.

Conclusion

In this section we have discussed the activities of JHPIEGO trainees in terms of three outcome measures: the clinical performance of respondents, their training activities, and their roles in the diffusion of information to others. Overall, the performance of this group of respondents in each of these areas was impressive. The knowledge and skills covered in the JHPIEGO courses were put to use both didactically and clinically. From the data presented in this section describing the clinician survey, we have seen that this population of physicians trained in JHPIEGO U.S.-based courses form a cadre of professionals who are actively promoting reproductive health in developing countries.

II.D. SELECTED FINDINGS FROM THE INFERTILITY COURSE QUESTIONNAIRE INSERT

Introduction

The infertility course questionnaire insert, initiated in August 1981, was designed to assess the success of the Management of the Infertile Couple course. The course targets physicians who have a special interest in the diagnosis and treatment of infertility. The curriculum includes core content on reproductive health care, including topics on contraception and maternal and child health, current information on the factors which affect fertility, diagnostic techniques, and the medical and surgical management of infertility. The questionnaire insert addressed the impact of this curriculum on course participants by focusing on the content specific to the infertility course, and the uses to which the material learned during the course was put. The specific ways in which the course was beneficial to participants were also delineated, and questions about the relevance and utility of the educational materials obtained during the course were asked.

The infertility questionnaire was inserted into the clinician survey. It was sent to the majority of the 278 infertility course participants trained in courses held between April, 1979, and November, 1983. Of these trainees, 150 returned the questionnaire. The findings from the infertility insert discussed in this section will be concerned only with these 150 infertility course participants who returned the questionnaire. Please refer to Section II.C. for a review of the responses provided by these individuals on the clinician survey, as well as discussions on the mechanics of the survey and a comparison of all survey respondents with nonrespondents.

Selected Findings

This discussion on the findings compiled from the infertility insert will focus on the three main components of the insert. First there will be a review of how the respondents rated the usefulness of many of the topics covered in the course. Then there will be a discussion of the benefits of the course to respondents in their professional activities. Additional discussion of the specific benefits of this training, as cited individually by respondents in their comments on the survey, can be found in Section II.F. of this report. Finally, there will be a review of whether these respondents used the educational materials received in the course and in which activities they have been used. Respondents' opinions about the need for translation of these materials will also be discussed.

Respondents were asked to rate the utility of the subjects and general issues discussed in the course and as to whether or not they had the opportunity to use the information in actual practice. They rated the topics on a scale from one to five, where a "one" represented not very useful and "five" represented very useful. For the purposes of this report, the topics and general issues have been divided into two subject classifications: factors influencing fertility, and topics related to the treatment of infertility.

Table II.D.1 shows the mean ratings respondents of topics related to factors influencing fertility. Overall, these topics were rated as being very useful. The mean ratings range from 3.4 to 4.5. The most highly rated topics were pelvic inflammatory disease and infertility, pathology of infertility, and cervical and uterine factors of infertility. These topics received a mean rating of 4.5. The physiology of infertility followed closely with a mean rating 4.4. The next most useful topics according to the overall ratings were tubal physiology (4.3), endometriosis (4.3), male infertility (4.0), and stress and infertility (4.0). The remaining topics on the table, epidemiology of

Table II.D.1

MEAN RATING BY INFERTILITY SURVEY RESPONDENTS OF TOPICS RELATED TO FACTORS WHICH INFLUENCE FERTILITY

Topics on Factors Which Influence Infertility	Rating (Not Very Useful 1 — 2 — 3 — 4 — Very Useful 5)
Pelvic Inflammatory Disease and Infertility	4.5
Pathology of Infertility	4.5
Cervical and Uterine Factors of Infertility	4.5
Physiology of Infertility	4.4
Endometriosis	4.3
Tubal Physiology and Pathology	4.3
Male Infertility	4.0
Stress and Infertility	4.0
Epidemiology of Infertility	3.7
Infertility and Human Sexual Behavior	3.7
Genetic Implications of Infertility	3.4

infertility, infertility and human sexual behavior, and genetic implications of infertility received mean ratings below four. The relatively low ratings of these topics compared wih the others listed in Table II.D.1 may be explained by the possibility that such information was not as relevant to the daily reproductive health problems encountered by physicians from developing countries as those topics which were more highly rated.

No more than 4% of respondents rating the topics listed in Table II.D.1 gave a rating of not very useful (i.e., a score of 1) for most of the topics. Higher proportions, 5% to 7%, rated epidemiology of infertility, infertility and human sexual behavior, and genetic implications of infertility as not very useful. Several respondents also felt that some of the topics listed in Table II.D.1 were not discussed in the course in which they participated. Topics most frequently cited were stress and infertility, and infertility and human sexual behavior by 12% and 8% of respondents, respectively.

Information related to each of the topics listed in Table II.D.1 was utilized by the majority of respondents. The most highly rated of these factors related to infertility were also the topics used in actual practice by the largest proportions of respondents. Information relevant to all topics which received mean ratings of 4.4 or higher was used by over 90% of the respondents. Information on pelvic inflammatory disease and infertility, and cervical and uterine factors of infertility was utilized by the highest proportions of respondents, 98% and 97%, respectively.

Table II.D.2 shows the mean ratings by respondents of topics related to treatment of infertility. Again the overall ratings for these topics were high, indicating that the trainees found them very useful. The topic which received the highest rating, 4.7, was management of the infertile couple. Endoscopy for fertility evaluation, and induction of ovulation followed close behind with mean ratings of 4.6. Most other topics received mean ratings over 4.0. The only topics which received an average rating of less than 4.0 were artificial insemination (3.5), and vasovasostomy (3.2). Since it was likely that these participants primarily treat female patients, it was not surprising that vasovasostomy received the lowest rating of all the topics listed.

With the exception of the last two topics listed on Table II.D.2, no more than 3% of all respondents rated the topics as not very useful. Some topics were rated as not discussed by as many as 20% of respondents. Those most frequently mentioned were laparoscopic equipment care, vasovasostomy, and the future of fertility management. These subject areas were not included in the curriculum of the first few infertility courses offered by JHPIEGO.

Information related to all but the last two topics listed in Table II.D.2 was utilized by at least 60% of respondents. The topics management of the infertile couple and induction of ovulation were most frequently utilized in actual practice; 95% of respondents reported they had used information or techniques related to these topics. Furthermore, more than three-quarters of the respondents reported using endoscopy for fertility evaluation, drugs for treatment of infertility, and preventive versus therapeutic approaches to reproductive health in actual practice.

Respondents noted which of each kind of activity they perform was influenced by the course. Table II.D.3 shows the percent of respondents who reported that the course was of practical value for each activity. Teaching and training was the activity in which most respondents found the course was of practical value; 84% of all respondents felt that the course had enhanced this activity. Seventy-seven percent of respondents also felt the course was of practical value in their clinical responsibilities. Lower proportions, 47% and 13% respectively, felt that the course was of practical value in their research and administrative activities. Only 1% of respondents reported that the course was not of practical value in any of their activities.

Information on the utilization of educational materials was requested on the

Table II.D.2

MEAN RATING BY INFERTILITY SURVEY RESPONDENTS OF TOPICS RELATED TO TREATMENT OF INFERTILITY

Topics on Treatment of Infertility	Rating (Not Very Useful ---------- Very Useful; 1 2 3 4 5)	
Management of the Infertile Couple	//	4.7
Endoscopy for Fertility Evaluation	//	4.6
Induction of Ovulation	//	4.6
Surgical Management of Infertility	//	4.4
Advances in Endocrinology	//	4.3
Drugs for Treatment of Infertility	//	4.3
Tubal Surgery	//	4.2
Future of Fertility Management	//	4.1
Preventive versus Therapeutic Approaches to Reproductive Health	//	4.1
Laparoscopic Equipment Care	//	4.1
Artificial Insemination	//	3.5
Vasovasostomy	//	3.2

Table II.D.3

PERCENTAGE OF INFERTILITY SURVEY RESPONDENTS REPORTING PROFESSIONAL ACTIVITIES IN WHICH THE COURSE WAS OF PRACTICAL VALUE

Activity	Percent of Respondents (147)[1]
Teaching and Training	84%
Clinical Responsibilities	77
Research	47
Administration	13
Other	12
None	1

Notes: 1. Number in parentheses denotes the numbe of respondents included in the denominator of each percentage.

Table II.D.4

PERCENTAGE OF INFERTILITY SURVEY RESPONDENTS WHO REPORTED THAT THEY USED THE EDUCATIONAL MATERIALS PROVIDED IN THEIR COURSE

Educational Materials	Percent of Respondents Reporting They Had			
	Used the Materials	Not Used the Materials	Not Obtained the Materials	Total
Population Reports	91%	8%	1%	100% (139)[1]
Lecture Handouts	87	4	9	100 (137)
Textbook on Infertility	81	3	17	100 (139)
Reproductive Health Pamphlets	82	8	10	100 (134)

Notes: 1. Numbers in parentheses indicate the total respondents in each category.

Table II.D.5

PERCENTAGE OF INFERTILITY SURVEY RESPONDENTS REPORTING HOW THEY USED THE EDUCATIONAL MATERIALS PROVIDED IN THEIR COURSE

Activity	Percent of Respondents (143)
Teaching and Training	77%
Shared with Colleagues	69
For Special Lectures	62
Preparation of Reports	33
Placed in a Library	20
Other	7

infertility course questionnaire insert. The distribution and utilization of educational materials is an important aspect of all JHPIEGO courses. Participants received a variety of educational materials, including textbooks, family planning pamphlets, Population Reports, and lecture handouts. There was some variation by date and language of the course as to exactly which materials are given to participants.

Table II.D.4 summarizes the reports of respondents on which educational materials they had used since the course. More than 75% of all respondents reported using each type of material listed. Most popular were Population Reports, with 91% of respondents reporting they had used them. This item was also obtained by the largest proportion of respondents; only 1% reported that they had not yet obtained the Population Reports. The lecture handouts were used by 87% of respondents, the infertility textbook by 81%, and reproductive health pamphlets by 82%. The item most frequently reported as not obtained was the infertility textbook. On the average, respondents reported using three of the materials listed in Table II.D.4.

Respondents used the educational materials in a variety of ways, six of which are shown in Table II.D.5. Teaching and training was the activity in which most respondents (77%) used the materials. Many also shared them with colleagues (69%), and consulted them for special lectures (62%). Smaller proportions had used them in the preparation of reports (33%), placed them in a library (20%), or used them in other ways (7%). On the average, respondents reported using these materials in two or three of the activities listed in Table II.D.5, and 21% of the respondents used the materials in more than three of these activities.

About half of the respondents felt that some of the educational materials they received or used in the course would be more useful to them if translated into another language. Most frequently requested were the textbook on infertility, and a variety of items not obtained during the course. Of the respondents who thought the materials would be more useful if translated into another language, 56% requested the other materials, 38% the infertility textbook, 21% the lecture handouts, 18% the reproductive health pamphlets, and 14% the Population Reports. The languages most frequently requested were Spanish and French. Others mentioned include Portuguese, Arabic, Greek, Turkish, Indonesian, Malay, and Swahili.

Conclusion

In conclusion, respondents to the infertility course questionnaire insert found the course Management of the Infertile Couple to be a positive and useful experience. They rated most of the topics discussed in the course as useful. Essentially all respondents had utilized at least some of the information learned during the course in their actual practice. They reported on the impact of the course in their professional lives by detailing several activities in which it has been of practical value to them.

Respondents also gave positive feedback about the educational materials they had received in the course. They found the materials useful and had used them upon their return from the course. Information contained in the educational materials was most useful to respondents in their teaching and training activities. Materials had also been shared with colleagues or otherwise made available to individuals not participating in the course.

II.E. SELECTED FINDINGS FROM THE ACADEMIC SKILLS QUESTIONNAIRE INSERT

Introduction

The academic skills questionnaire insert, which accompanies the clinician survey, was designed to assist in evaluating the Academic Skills for Medical School Faculty in Reproductive Health course. This course, offered since fiscal year 1980, teaches academic and administrative skills to physicians from developing countries who are faculty members in obstetrical and gynecological departments of medical schools. Subject matter concentrates on three areas: reproductive health, with an emphasis on preventive health care, research methodology, including such skills as biostatistics and epidemiology, and teaching and training skills. The questionnaire insert addresses the impact of this material on participants by focusing on respondents' opinions on the usefulness of course topics. It also includes an inquiry as to the practical application of course material in professional activities, and an inquiry as to how educational materials obtained in the course had been utilized. Finally, since one of the goals of this course is the preparation of participants to carry out their own research, trainees were also asked to comment on whether they had implemented any research projects since the completion of the course, and, if so, to what extent the JHPIEGO course had aided in the implementation of these projects.

The academic skills questionnaire, which is inserted into the clinician survey, has been sent to the 80 participants who were trained in academic skills courses held between June, 1980 and May, 1983. Of these 80 participants, 55 responded to the questionnaire insert. The findings discussed in this section will deal with only the findings provided by those 55 participants who returned the questionnaire insert. Please refer to Section II.C. of this report for a review of these participants' responses to the clinician survey, as well as discussions on the mechanics of the survey and a comparison of survey respondents with non-respondents.

Selected Findings

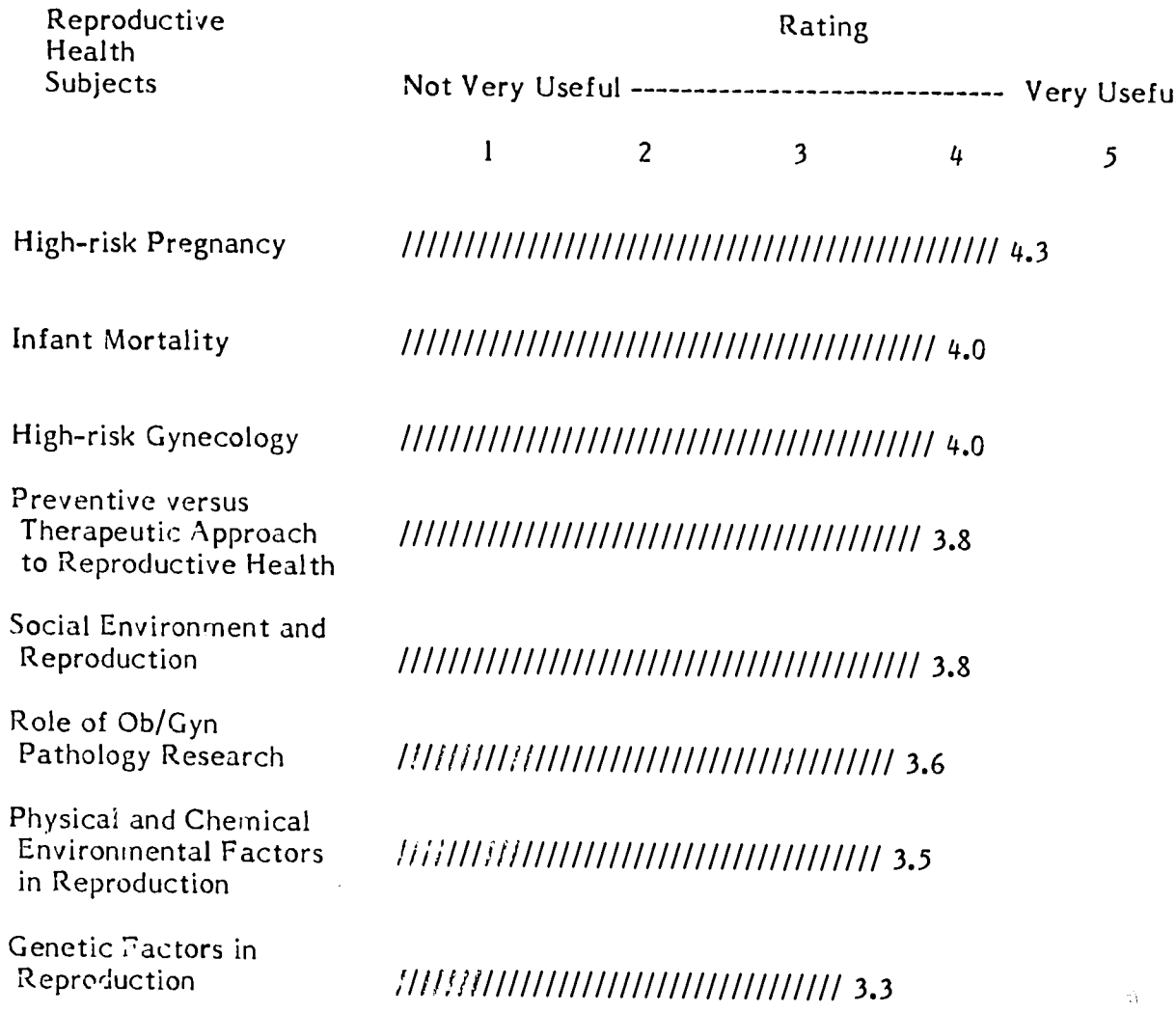
The academic skills insert includes three areas of concentration which will be the focus of this discussion. The first section relates to respondents' ratings of various course topics. The next area to be discussed will be the value of the JHPIEGO course which respondents ascribed to their professional activities. Additional comments about how the course related to individual respondent's specific activities can be found in Section II.F. of this report. Finally, there will be a discussion of whether the educational materials received in the course had been utilized, and, if so, in what manner.

Respondents were asked to rate a number of course topics as to their usefulness and as to whether they had been able to utilize the information obtained in their actual practice. Topics included in this rating were those related to reproductive health, teaching and training skills, and research methodology. These were rated on a scale from one to five, where "one" represents not very useful and "five" represents very useful.

Table II.E.1 shows the mean ratings provided by the respondents as to the usefulness of those topics related to reproductive health. Respondents viewed all of these subjects as useful, with mean ratings ranging from 3.3 to 4.3. High-risk pregnancy was rated as that topic which respondents considered the most useful, receiving a mean rating of 4.3. Also considered very useful were infant mortality and high-risk gynecology, both receiving a mean rating of 4.0. Social environment and reproduction, 3.8 and physical and chemical environmental factors in reproduction

Table II.E.1

MEAN RATING BY ACADEMIC SKILLS SURVEY RESPONDENTS OF TOPICS RELATED TO REPRODUCTIVE HEALTH



received a mean rating of 3.5, and the topic of preventive versus therapeutic approach to reproductive health was rated at 3.8. Also considered useful, but to a slightly lesser extent, were the role of ob/gyn pathology research, and genetic factors in reproduction, which received mean ratings of 3.6 and 3.3 respectively.

Some of the topics listed in Table II.E.1 were rated as not having been discussed by more than 20% of the respondents. For instance, 38% of the respondents stated that the subject of high risk gynecology had not been included in their course discussions, and 25% that the topic genetic factors in reproduction had not been discussed. Two topics, preventive vs. therapeutic approach to reproductive health and the role of ob/gyn pathology research, were mentioned by a little less than 15% of respondents as not having been discussed.

All of the course topics listed in Table II.E.1 were utilized in actual practice by the majority of respondents. Material relevant to two topics, social environment in reproduction and high-risk pregnancy, was put to use by over 90% of the respondents. Among the topics listed in Table II.E.1, high-risk pregnancy had also been assigned the highest mean rating, so it is clear that participants valued this particular course material. Ninety-one percent of the respondents reported utilizing information gained from the course discussion of the preventive vs. therapeutic approach to reproductive health. Over 75% of the respondents felt their actual practice was aided by knowledge of infant mortality, high risk gynecology, and physical and chemical factors in reproduction, and 68% felt their practice was aided by knowledge of genetic factors in reproduction.

Table II.E.2 shows the mean ratings of those topics related to teaching and training skills. These topics received even higher ratings than those shown in Table V.1, with ratings ranging from 4.0 to 4.7. Teaching methodology received the highest mean rating, 4.7, followed by the topic relating to concept of responsibility -- teacher versus student, which received a mean rating of 4.6. The audio-visual workshops were considered quite useful, with a mean rating of 4.4. A number of topics, communication skills, small group processes, and rating skills, all received a high mean rating of 4.3, and the course topics instructional materials for reproductive health education, curriculum development methodology, and training received mean ratings above 4.0. Since one focus of this course is on the improvement of participants' teaching skills, these findings illustrate very clearly the benefits participants derived from this type of course material.

Most respondents felt that all the topics listed in Table II.E.2 had been discussed in their course, and they had put the knowledge they gained from them to use in their actual practice. For instance, all of the topics related to teaching and training skills, except one, were reported as not having been discussed by at most 3% of respondents. However, 10% reported that curriculum development methodology had not been discussed. As regards the utility of this material, the topic which was assigned the highest mean rating, teaching methodology, was also reportedly utilized by 100% of the respondents. The course topic concept of responsibility for learning -- teacher vs. student, was also utilized by a very high percentage of respondents (94%), and 94% of the respondents had utilized the information obtained in the discussion of communication skills. All course discussions of teaching skills had been utilized by at least 74% of the respondents.

Table II.E.3 shows respondent ratings of topics related to research methodology. These ratings were also favorable on the average, ranging from 3.6 to 4.3. The topic regarded most highly by respondents was research proposal writing, which received a mean rating of 4.3. Also appreciated were problems of management, and process versus outcome research methodology, both of which received mean ratings of 4.0. The course

Table II.E.2

MEAN RATING BY ACADEMIC SKILLS SURVEY RESPONDENTS OF TOPICS RELATED TO TEACHING AND TRAINING SKILLS

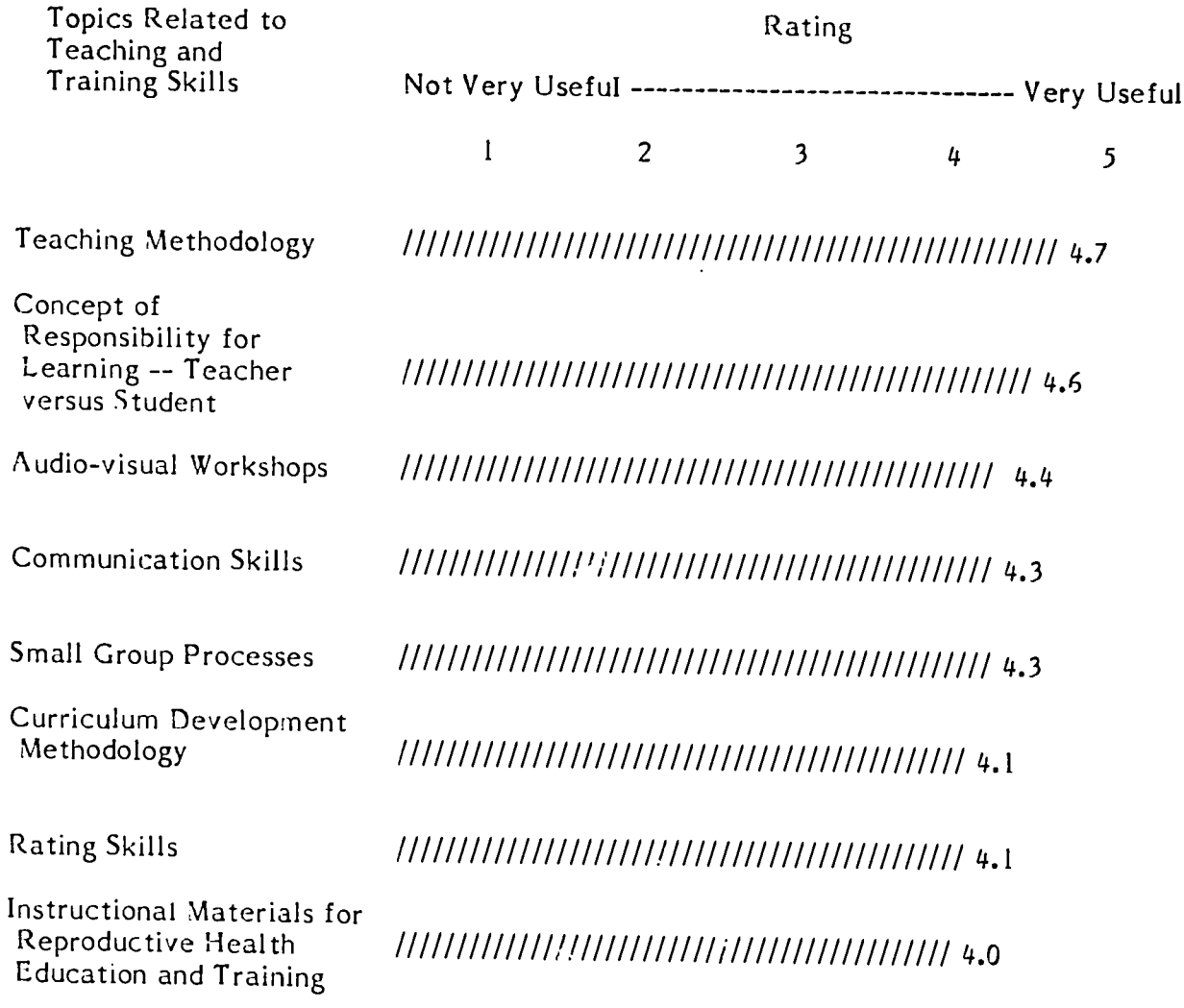


Table II.E.3

MEAN RATING BY ACADEMIC SKILLS SURVEY RESPONDENTS OF TOPICS RELATED TO RESEARCH METHODOLOGY

Topics Related to Research Methodology	Rating (Not Very Useful ---------- Very Useful; 1 2 3 4 5)	
Research Proposal Writing	//	4.3
Problems of Measurement	//	4.0
Process versus Outcome Research Methodology	//	4.0
Screening for Detection of Risk Factors	//	4.0
Research Funding Sources	//	4.0
Analytical Study Techniques	//	3.9
Statistical Inference	//	3.9
Biostatistics	//	3.8
Experimental Design	//	3.8
Indices of Health	//	3.6

topics screening for detection of risk factors, and research funding sources both received mean ratings of 4.0, and the topic analytical study techniques was also well received, with a mean rating of 3.9. Respondents assigned a mean rating of 3.8 or 3.9 to biostatistics, experimental design and statistical inference, and a rating of 3.6 to indices of health.

Two of the topics listed in Table II.E.3, indices of health and experimental design, were reported as not having been discussed, by 13% and 10% of the respondents respectively. The course material most utilized by respondents in their practice was statistical inference (73%), even though the course discussion on this topic had received one of the lower mean ratings of the topics shown in Table II.E.3. Two topics were utilized by approximately 80% of respondents: problems of measurement, and process vs. outcome research methodology. Furthermore, even though the course discussion on research proposal writing received the highest mean rating of the topics in Table II.E.3, a smaller percentage of respondents, 75%, reported having utilized this material in their practice. The course topic utilized by the smallest percentage of respondents, 50%, was research funding sources.

In addition to the ratings of course topics, the academic skills insert includes questions on the practical applications of the JHPIEGO course in the professional activities of participants. Table II.E.4 illustrates the responses to this inquiry. Almost all of the respondents, 98%, reported that the JHPIEGO course was most valuable to them in their teaching and training activities. This report is consistent with the uniformily high mean rating assigned by respondents to the course discussions of teaching and training skills. Sixty percent of respondents stated that the course was valuable in the area of research, and 45% felt the course was of assistance in their clinical responsibilities. A smaller percentage, 25%, felt that the course has been of practical value in their administrative activities. Finally, all of the academic skills respondents felt that this course had been of value in at least one of their professional activities, and on the average they cited its value in at least two of the activities listed in Table II.E.4.

Participants were also asked to furnish information on whether they had received or used the educational materials provided in the course. Table II.E.5 illustrates these findings. Those items used by the largest majority of respondents were the education textbooks, used by 92% of respondents, the lecture handouts, used by 85% of respondents, and the Population Reports, used by 89% of respondents. Most of the respondents had received each of these items; no more than 8% of respondents reported not receiving any one of these materials. At least 63 percent of the respondents had utilized the measurement textbooks, the health textbooks, and the reproductive health pamphlets. These materials had not been obtained by between 24% and 14% of the respondents. Only 49% of the respondents had made use of the self-study modules, which 39% of the respondents reported that they had not obtained. On the average, respondents reported using four or five of the materials listed in Table II.E.5.

As illustrated in Table II.E.6, participants were also asked to indicate in what manner they had used the educational materials provided. The highest percentage of respondents, 84%, reported that they had used the educational materials in teaching and training. Nearly two-thirds of the respondents reported sharing the materials with colleagues, and 72% reported using the materials for special lectures. Over 25% reported using the materials in research projects and proposal writing in preparation of reports, or by placing them in a library. On the average, respondents reported using these materials in three of the ways listed in Table II.E.6, and 44% of the respondents used the materials in more than three of these activities.

About 30% of the respondents felt that some of the educational materials they

Table II.E.4

PERCENTAGE OF ACADEMIC SKILLS SURVEY RESPONDENTS REPORTING PROFESSIONAL ACTIVITIES IN WHICH THE COURSE WAS OF PRACTICAL VALUE

Activity	Percent of Respondents (53)[1]
Teaching and Training	98%
Research	60
Clinical Responsibilities	45
Administration	25
Other	9
None	0

Note: 1. Number in parentheses denotes the number of respondents included in the denominator of each percentage.

Table II.E.5

PERCENTAGE OF ACADEMIC SKILLS SURVEY RESPONDENTS WHO REPORTED THAT THEY USED THE EDUCATIONAL MATERIALS PROVIDED IN THEIR COURSE

Educational Materials	Percent of Respondents Reporting They Had			
	Used the Materials	Not Used the Materials	Not Obtained the Materials	Total
Education Textbooks	92%	4%	4%	100% (52)[1]
Population Reports	89	4	8	100 (52)
Lecture Handouts	85	6	8	100 (48)
Measurement Textbooks	63	17	20	100 (44)
Reproductive Health Pamphlets	74	12	14	100 (49)
Health Textbooks	73	13	15	100 (48)
Self-Study Modules	49	13	39	100 (47)

Note: 1. Numbers in parentheses indicate the total respondents in each category.

Table II.E.6

PERCENTAGE OF ACADEMIC SKILLS SURVEY RESPONDENTS REPORTING HOW THEY USED THE EDUCATIONAL MATERIALS PROVIDED IN THEIR COURSE

Activity	Percent of Respondents (53)[1]
Teaching and Training	89%
Shared with Colleagues	64
For Special Lectures	72
For Research Projects and Proposal Writing	45
Preparation of Reports	36
Placed in a Library	26
Other	4

Notes: 1. Number of respondents who answered this item

received or used in the course would be more useful to them if translated into another language. The materials most frequently listed were a variety of items not obtained during the course. The languages most frequently requested were Spanish and Portuguese. Others mentioned include Hindi, Bengali, Thai, Indonesian, and Kiswahili.

Conclusion

Respondents to the academic skills questionnaire insert were enthusiastic as to the usefulness of course topics, the practical application of course topics to their professional activities, and the benefits of the educational materials provided in the course. The subject matter concerning teaching and training skills was of particular interest, and it is clear from the survey findings that skills and materials provided by the course were being utilized by a large majority of participants.

II.F. COMMENTS ON SURVEYS RECEIVED DURING FISCAL YEAR 1983

Introduction

JHPIEGO has instituted several methods for evaluating its educational and training programs. One such method is the review of comments compiled from questionnaires returned by course participants. These comments provide invaluable information on the personal opinions, experiences, and professional activities of each trainee; information which is otherwise unavailable from the questionnaire's more quantitative, standardized questions. Moreover, these reactions, which are received at least a minimum of six months after the individual took the course, point out concerns which remain relevant to participants long after the course has been completed. Thus, these comments provide JHPIEGO with yet another mechanism by which it can evaluate the success of its program.

The open-ended survey questions include requests for trainee opinions on the benefits of the course, suggestions for improvements in course design, and comments on the current family planning situation in their regions. The benefits help us to determine the success and failure of our program; the suggestions lend direction to our efforts towards improvement of the course. The comments on specific conditions in the trainees' regions can be very useful in both understanding the local situation and in planning new approaches to meet the needs of the participants.

The comments requested from the participants vary according to the course they attended. Therefore, the comments recorded in this section were provided by survey respondents who participated in one of the following courses: Management of the Infertile Couple, Reproductive Health for Administrators of Family Health and Family Planning Programs, and Academic Skills for Medical School Faculty in Reproductive Health.

Management of the Infertile Couple

The Management of the Infertile Couple course participants are requested to provide comments on tangible benefits of the course, and information which could be useful to other participants. The trainees who returned survey questionnaires described a number of benefits derived from the course. In providing information for other participants the respondents took two approaches. They provided background information on their countries as well as problems and successes encountered in their professional activities, and suggestions for improvement of the course.

Many trainees expressed their appreciation for the opportunity to attend a course on the management of infertility. Infertility represents a significant problem in many of their countries and they were enthusiastic about the education provided to help overcome this problem. In providing benefits, they discussed both the overall philosophy of the course as well as certain aspects which they found useful. The most frequently cited benefit was the comprehensive education on the factors that affect fertility. Many trainees reported that the course improved their general knowledge of obstetrics and gynecology as well as their specialized understanding of infertility. They also found the broad overview of the field of family planning and contraceptive use very helpful. In general, many participants felt that the course helped them to become better reproductive health practitioners.

Many respondents described the benefits of the course in terms of their professional activities. They reported that their clinical responsibilities had increased and that the quality of patient care they provided was enhanced. Several respondents reported they had been successful in establishing Infertility Clinics. From South Korea,

one respondent reported running a center that is unique to his country. The Reports treating more than 300 cases per year. Trainees from Brazil, Nigeria and Pakistan also report the training received from JHPIEGO helped them to start clinics.

Some trainees pointed out areas in the course which did not fully meet their needs. Several respondents felt that the clinical component of the training was too short and should be extended. One stated that he would have liked the training to have included more practical experiences which would have enabled him to observe the investigation of infertile couples and tubal surgery. He felt that this would have provided him with invaluable information that would assist him in his treatment of patients.

Many participants took this opportunity to request consideration for selection into the course on Sexually Transmitted Diseases.

Additional comments were related to the issue of laparoscopic equipment. Some respondents reported that the interval between the completion of the course and their receipt of equipment was too long.

Several suggestions for improving the infertility training program were provided. Trainees recommended both additions to the course curriculum and suggestions involving follow-up activities subsequent to the course.

Perhaps the most striking impression that comes from the comments, is the need for more information. Several trainees mentioned difficulty in obtaining current information. One trainee cited the high exchange rates as a factor which adversely influenced the ability to obtain journals. Other trainees requested that JHPEIGO provide refresher courses; or at least some mechanism by which the trainees can stay in contact with each other.

Reproductive Health for Administrators of Family Health and Family Planning Programs

Participants in the Reproductive Health for Administrators of Family Health and Family Planning course who returned questionnaires were extremely enthusiastic in their responses regarding the training. They reported that the course was well structured, most informative and the lectures were excellent. The trainees also commented on the benefits derived from the course and offered suggestions on curriculum content and design which they felt would enhance the course offerings.

Many of the respondents stated that because they are working in responsible reproductive health administration positions, the course afforded them an opportunity for greater professional development in the areas of family planning and health care management. They described how the course enabled them to refine their management skills, thereby enhancing their ability to manage and promote reproductive health activities, supervise personnel, conduct research projects, and understand the latest concepts in family planning.

Many described innovative reproductive health programs which they have developed since their course participation. These individuals commented that the course provided them with the incentive and direction necessary for initiating such projects.

Skills taught in the course which some of the trainees mentioned having learned and utilized are: planning by setting priorities, use of demography and statistics, establishing educational programs, evaluation of health programs, and new techniques and approaches for medical research. A consistent theme throughout these comments was the current heightened awareness of national governments regarding the need for family planning services. Respondents from Nigeria, Brazil, Kiribad; Jamaica,

Indonesia and Uganda mentioned that the information obtained through attendance of the course helped them to influence the direction of famly planning services in their country.

In addition to learning useful management skills, the respondents reported that they appreciated the opportunity to be updated on the clinical aspects of reproductive health through the coverage of a wide range of reproductive health topics. They explained how a knowledge of the most current clinical concepts and techniques was essential to effective administration of reproductive health projects. The clinical discussions which proved most useful to the trainees included updates on contraceptive use and problems related to infertility. Some trainees conduct seminars on advances in reproductive health, and thus, found these discussions very instructive and relevant. Others who work in clinical capacities described how these discussions enhanced the patient care they provide.

Some of the trainees cited instances where their training has enriched their professional activities. One trainee from Pakistan explained how he obtained a laparoscope from UNFPA and established family planning services in his province. Another trainee from Peru reported that since the course, he has become the Coordinator of Projects with Technical Cooperation. He reports that he used his JHPIEGO obtained skills in coordinating projects with US/AID, UNFPA and the Kelley Foundation.

While many trainees stated that JHPIEGO is attuned to the problems of family planning and reproductive health training and that the course was most useful, they did have a number of suggestions for improving the course. The suggestions provided by the participants involve all aspects of JHPIEGO activity. They include recommendations for recruitment of candidates, new or revised course subject matter, reorganization of course format, and follow-up activity.

A number of the suggestions made were course specific. Many of the trainees commented that the clinical practice component of the course was an extremely important phase of their training because it afforded them an opportunity to develop their skills through the practical application of the techniques learned. Therefore, they suggested that the time allotted for the clinical practice component be extended.

In regards to course content, several of the respondents suggested that even more emphasis be placed on management and policy interpretation. These respondents suggested that this should be achieved even at the expense of reducing the time devoted to some of the medical lectures.

Finally, a few respondents expressed that the course would have been more meaningful if the format relied on more involvement from the participants.

Most participants offered that the course was well structured, emphasized the appropriate topics and enabled them to learn from other participants. Certainly, the data from the survey reflect this assessment.

Academic Skills For Medical School Faculty in Reproductive Health

The Academic Skills For Medical School Faculty in Reproductive Health course provides instruction in the initiation and administration of teaching and research projects. Trainees who returned survey questionnaires were quite enthusiastic in their comments regarding the course. They reported that the training motivated them to develop projects and provided them with specific direction and guidance in initiating and conducting those projects. Several of the respondents elaborated by describing projects they had started. One participant decsribed how he used the knowledge obtained through the course to prepare a guide for the sex education of Nigerian

parents. Others described projects to: a) assess the clinical presentation and outcomes of ectopic pregnancies; b) the effects of diazapam on fetuses; c) the prevalence of gestational diseases in Fiji; and d) the management of high risk pregnancy in Harare.

Some of the participants said they acquired new skills and confidence during the course -- skills that would greatly enhance their professional activity. Some of the skills the respondents identified as being most useful are: protocol preparation, literature searches, and statistical analyses.

The respondents commented on the need to keep abreast of new developments and techniques in their field. Unfortunately, they are experiencing problems in this area because current medical publications are not always available for their use. As a result, they were pleased with the wealth of information and educational materials distributed during training.

The participants also described obstacles which hindered or prevented the development of projects. Among the difficulties mentioned most frequently was the lack of financial support available for research projects. This problem was cited even though many participants were successful in contacting and receiving funding from various funding agencies. For example, the Harare project mentioned above was funded by the World Health Organization.

Many of the trainees expressed the difficulty in keeping abreast of current knowledge. They cited the high exchange rates and political policies as factors which conspired to restrict their access to foreign medical journals. For these reasons, the trainees were very grateful for the opportunity to attend JHPIEGO's U.S.-based courses and learn of current trends.

Perhaps for these reasons, several respondents suggested that the course be lengthened. One felt the extra time could be used to observe treatment of Ob/Gyn patients. Others wanted to see the establishment of a three month fellowship at Johns Hopkins. Finally, several others suggested JHPIEGO initiate refresher courses for past trainees. One respondent recommended that the trainees be allowed to spend a week observing the treatment of Ob/Gyn patients in the United States. He felt that this would be most beneficial to physicians in developing nations because they would gain new insight into patient care.

SECTION III: EVALUATION OF IN-COUNTRY PROGRAMS

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III.A. INTRODUCTION

In 1978 the emphasis of JHPIEGO's training activity shifted from U.S.-based to regional and national training. As a result, training efforts are now focused primarily on in-country projects. This shift in emphasis has, in turn, led to an increase in total training activity. As a result of the growth in in-country training, JHPIEGO saw a need for a mechanism by which to monitor in-country program activities and to analyze the impact and effectiveness of these programs. Accordingly, a questionnaire has been designed, the Annual Participant Survey (APS), to be used in this evaluation process. Through the use of this questionnaire, JHPIEGO hopes to receive information regarding the success of the in-country programs' efforts in teaching reproductive health knowledge and skills. JHPIEGO also wishes to assess the professional activities undertaken by the trainees since their attendence of the course, the condition and utilization of equipment donated, and a description of both successes and problems encountered by the trainees.

The APS survey has been designed to comprehensively reflect many aspects of in-country training activity, thereby enabling it to provide both operational and evaluative information for JHPIEGO and in-country project officials. Operational information furnished to JHPIEGO by the survey includes changes in mailing addresses, institutional affiliations, and professional positions as well as reports of equipment problems. The appropriateness of the selection of candidates is reviewed as the information is received on the surveys, and revisions are made in these areas when necessary. The operational information provided by the survey, because it is program specific, permits project officials to monitor the location of trainees and equipment, to follow up on the program more carefully, and to identify those participants who are having specific problems which should be addressed, such as equipment malfunction, or high complication rates for clinical procedures. Utilization of this information can thus aid project officials in program planning and troubleshooting.

Evaluation is a process for making decisions. It is designed to provide objective feedback about what a program is accomplishing and how well it is meeting its long-term goals. The information provided by the APS survey permits the evaluation of in-country programs on two levels: by JHPIEGO and by in-country project officials. By utilizing feedback from the respondents on procedures performed, second generation training activity, evalution of the course, and advocacy of family planning, JHPIEGO is able to make some comparisions between similar types of programs. Care is taken to account for cultural, educational, professional and language differences between the aggregate responses obtained from different programs. This process, in turn, enables JHPIEGO to determine which factors influence the most successful of these programs. The evaluation process also benefits the in-country programs because it provides project officials with insights into their own program; insights that can be used to improve the program's efficiency and effectiveness. The broader perspective furnished by this evaluation process can enhance a program if taken into consideration when decisions about the program are made.

The evaluation process encompassed by the APS is a joint effort between JHPIEGO and the project director and his staff. The project director and his staff play a key role in the administration of the survey. Since the trainees provide the most appropriate and adequate responses when they have a clear understanding of the entire survey, one important responsibility of the project director is to explain the need for this evaluation and to discuss the specific details of the survey with the trainees. The project director is also responsible for sending the survey to trainees, monitoring mailings and returns, reviewing returned questionnaires, and forwarding the packets of returned surveys to JHPIEGO.

The review of the completed questionnaires is another important aspect of the evaluation process inasmuch as it can provide some important perspectives on the operation of the project and its success in improving the participants' knowledge and skills in reproductive health. The comments of each participant provide the project director and staff with insight into the particular experiences, needs, and problems common to many participants. This information is extremely valuable for planning modifications of the program that will improve its effectiveness and meet the changing needs of its participants.

JHPIEGO's role in the evaluation process is twofold. First, it serves in the same capacity as the project director in that it is responsible for distributing questionnaires to regional trainees. As a result, JHPIEGO must insure that these trainees also have sufficient understanding of the survey, its questions, and the need for the evaluation. However, JHPIEGO's role goes beyond that of administering the survey to regional trainees. It is also responsible for performing the statistical analyses of the survey responses, and for returning the results from these analyses to the project director. The project director, after reviewing the results of the analysis, can plan modifications in his program in accordance with these results.

The survey is sent to participants of all JHPIEGO-sponsored courses with a clinical component, as well as to participants of some JHPIEGO-sponsored didactic update courses. It is first sent to these participants after a minimum of six months has elapsed since their course participation.

The analysis of the responses from two countries (Philippines and Tunisia) are highlighted in this report. These were the two countries from which a sufficient number of responses were obtained. Approximately 60 responses were received from each country, while over 100 participants from each program were surveyed.

It is becoming apparent that it is extremely difficult to systematically obtain data from third world countries. Some of the more obvious difficulties include: a) unreliable in-country postal systems; b) cultural sensitivity to evaluation; and c) pressures on the time of medical personnel. These factors often conspire to impede the return of the JHPIEGO questionnaires.

Thus, although incomplete, these data are presented as an indication of JHPIEGO's effects. There are certainly limitations to the interpretation of these data, but the information derived from the survey regarding JHPIEGO's in-country programs is the best currently available.

The following two subsections will focus on the analyses of the responses by participants trained in regional and national programs in Tunisia and the Philippines. The findings abstracted from the Tunisian in-country program will be presented in Section III.C of this report, while the analysis of the Philippines in-country program is summarized in Section III.B.

A word of caution should be mentioned before any attempts to compare the findings in the following subsections are made. The respondent groups represent different populations of individuals with potentially very different characteristics. No measure of how the Philippine respondents are intrinsically different from the Tunisians has been made. Furthermore, this evaluation has not covered the activities of the eligible individuals before they participated in the program, so that differences in the groups which are independent of the training they received cannot be assessed here. Finally, due to the many differences in the populations, their languages and their cultural habits, which are encountered in cross-cultural research, care must be taken to achieve conceptual and linguistic equivalence of the survey as well as an equivalence of the indicators used. This survey has not been pretested in different cultures, so no assurances of these equivalences can be made. There may be some differences between

the Tunisian and Philippine respondents due to cultural differences in the response styles of the individuals surveyed. Thus, if any comparisons between these groups are to be made, emphasis should be placed on the qualitative and not quantitative differences which may be revealed.

III.B. SELECTED FINDINGS FROM THE ANNUAL PARTICIPANT SURVEY OF THE PHILIPPINES

Introduction

Since fiscal year 1979 JHPIEGO has been sponsoring the training of physicians and nurses in laparoscopy at the Mary Johnston Hospital in the Philippines. It is intended that this program will help improve reproductive health in the Philippines by institutionalizing the practice of laparoscopy in hospitals throughout the country. Physician participants in the program are, upon completion of the didactic and clinical components of the training course, skilled in performing laparoscopy under local anesthesia, as well as familiar with up-to-date issues and methods in the field of family planning. Nurse participants are taught to assist physicians during laparoscopy, and how to maintain laparoscopic equipment. They also receive additional training in other family planning methods, infertility, counseling, administration, and management. All participants are selected from institutions that either are designated to receive laparoscopic equipment, or which are already equipped.

The Annual Participant Survey (APS) was sent to 165 participants from the Philippines, 79 physicians and 86 nurses, who were trained between June 1, 1981 and September 30, 1983. This survey is one of the tools employed in JHPIEGO's efforts to obtain feedback about the effectiveness of this program. The survey was conducted by Dr. Virgilio Oblepias, project director of the program. Of the 165 eligible participants, 63 returned completed questionnaires. Completed questionnaires were received from Dr. Oblepias in September, 1984 by JHPIEGO for analysis. The discussion which follows in the remainder of this subsection will be concerned with the responses of the 63 participants, 31 physicians and 32 nurses, who returned completed questionnaires.

Selected Findings

Respondents reported many aspects of their professional activities on the survey, as well as their opinions about selected aspects of the course they took. The findings covered in this section will focus on these reports, beginning first with aspects of the respondents' current professional activities, specifically their current position, descriptions of the clinical procedures they have performed in the year prior to returning the survey, and a discussion of the types of anesthesia they employed. Then there will be a review of the reports on the laparoscopes installed at each respondent's institution. Following the equipment discussion this report will cover the teaching and training activities of respondents. Finally, there will be an evaluation of the course as it is viewed by respondents at least six months since their participation.

Over 77% of the respondents reported they had not changed positions since the course. Eighty-five percent of the respondents reported they used the knowledge obtained through the course in their work.

Respondents reported on the number of contraceptive and other obstetric and gynecologic procedures they had performed, assisted, or scrubbed with in the past 12 months. Table III.B.1 shows the proportion of all respondents by type of course taken who reported performing, assisting, or scrubbing with each of the procedures listed. Note that a higher proportion of physician respondents reported performing or assisting with most of the procedures listed than did the nurse respondents. Procedures listed as those most commonly performed, assisted or scrubbed with by all respondents were laparoscopic tubal ligation, minilaparotomy, family planning counseling, normal delivery, and cesarean section.

Tables III.B.2 and III.B.3 show the mean number of procedures performed, assisted

TABLE III.B.1

PERCENTAGE OF ALL RESPONDENTS FROM THE PHILIPPINES WHO REPORTED PERFORMING, ASSISTING, OR SCRUBBING WITH SELECTED CLINICAL PROCEDURES, BY PROFESSIONAL ROLE OF RESPONDENT

Type of Clinical Procedure	Course Endoscopy for Physicians (31)	Endoscopy for Nurses (32)	Total (63)
Contraceptive Procedures			
IUD Insertion	74%	34%	54%
Laparoscopic Tubal Ligation	68	81	75
Minilaparotomy	81	75	78
Provision of Birth Control Pills	84	38	60
Provision of Barrier Methods	48	28	38
Provision of Injectable Contraceptives	58	19	38
Family Planning Counseling	87	59	76
Obstetric/Gynecologic Procedures			
Normal Delivery	94	59	76
Cesarean Section	97	69	83
Diagnostic Laparoscopy	55	66	60
Tubal Reanastomosis	13	3	8

Table III.B.2

MEAN NUMBER OF CONTRACEPTIVE PROCEDURES PERFORMED, ASSISTED, OR SCRUBBED WITH PER MONTH BY ANNUAL PARTICIPANT SURVEY RESPONDENTS FROM THE PHILIPPINES, BY PROFESSIONAL ROLE OF RESPONDENT

Type of Clinical Procedure	Professional Role of Respondent					
	Physician		Nurse		Total	
	Mean Number of Procedures	Number of Respondents Reporting How Many They Perform	Mean Number of Procedures	Number of Respondents Reporting How Many They Perform	Mean Number of Procedures	Number of Respondents Reporting How Many They Perform
IUD Insertion	1.7	28	.3	27	1.9	55
Laparoscopic Tubal Ligation	16.3	29	25.1	24	26.3	53
Minilaparotomy	5.7	28	24.6	24	14.4	52
Provision of Birth Control Pills	5.7	28	.8	28	3.2	56
Provision of Barrier Methods	2.6	29	.7	28	1.7	57
Provision of Injectable Contraceptives	1.6	28	.1	27	.9	55
Family Planning Counseling	33.9	28	12.0	25	23.6	53

Table III.B.3

MEAN NUMBER OF OBSTETRIC AND GYNECOLOGIC PROCEDURES PERFORMED, ASSISTED, OR SCRUBBED WITH PER MONTH BY ANNUAL PARTICIPANT SURVEY RESPONDENTS FROM THE PHILIPPINES BY PROFESSIONAL ROLE OF RESPONDENT

Type of Clinical Procedure	Professional Role of Respondent					
	Physician		Nurse		Total	
	Mean Number of Procedures	Number of Respondents Reporting How Many They Perform	Mean Number of Procedures	Number of Respondents Reporting How Many They Perform	Mean Number of Procedures	Number of Respondents Reporting How Many They Perform
Normal Delivery	22.9	28	25.9	20	24.1	48
Cesarean Section	4.1	28	6.2	23	5.0	51
Diagnostic Laparoscopy	0.8	29	0.5	23	0.7	52
Tubal Reanastomosis	0.0	29	0	27	0.0	56

or scrubbed with each month by all respondents who reported performing each of the procedures listed. Looking first at the number of contraceptive procedures shown in Table III.B.2, we find that, the highest number of procedures performed per month by each the physicians was family planning counseling; the nurses reported tubal ligation as the most frequent procedure. Physician respondents reported performing or assisting with approximately six of each of the following procedures each month: laparoscopic tubal ligation, minilaparotomy and provision of birth control pills. They provided injectable contraceptives, barrier methods and inserted IUDs about one third as frequently as they performed the above procedures.

The mean numbers of obstetric and gynecologic procedures performed, assisted, or scrubbed with each month by respondents are shown in Table III.B.3. Most frequently reported by both nurse and physician respondents were normal deliveries with an average of 24.1 per month reported by the 48 individuals who listed how many normal deliveries they had been involved in. Physicians reported performing or assisting with 4.1 cesarean sections. Very few diagnostic laparoscopies were reported by either nurses or physicians. Only one physician reported the number of tubal reanastomoses performed although 3 others indicated they had been present at such procedures.

Respondents reported on the types of anesthesia practiced during the laparoscopy or minilaparotomy procedures they had personally performed, assisted, or scrubbed with. When asked what the most common method of anesthesia used during these procedures was, 82% of the respondents to this question replied that local anesthesia was used; while 8% reported general anesthesia was used. Most respondents, 94%, also reported that laparoscopy or minilaparotomy under local anesthesia was taught in their course. In fact, local anesthesia under laparoscopy has been taught in all of the Philippines in-country program courses. Very few respondents, 8% (all nurses), reported any major complications from the use of local anesthesia during the laparoscopy and minilaparotomy procedures they perform. The only problem cited by the three respondents who did report complications was increased pain felt by some patients undergoing the procedure.

A relatively high proportion of respondents, 71%, reported that laparoscopic equipment has been installed at their institution. A slightly larger proportion of the physician respondents, 74%, reported their institution had laparoscopic equipment than did the nurse respondents (69%). None of these respondents reported that the equipment not working at the time they filled out the survey. Most, 86%, reported there was a staff member at their institution to clean and maintain the equipment after each use, and 63% reported they had access to a technician who could repair the equipment. Just over half (56%) of all the respondents with equipment at their institution reported that there had been some problems with its operation. Most frequently cited were fogging and breaking of offset lamp lenses, problems with the trocar and CO_2 leaks. These problems are associated with inexperience in the use of the equipment. On a world-wide basis, 82% of the equipment problems were reported by physicians who had performed fewer than 50 procedures.

Most of the respondents, 89%, reported that they taught or provided supervised clinical training in obstetrics, gynecology, or fertility management. Table III.B.4 shows the percentage of respondents with teaching or training responsibilities who reported teaching or supervising various categories of health workers. Among the physician respondents with teaching responsibilities, 74% supervised physicians, 76% supervised medical school graduates in clinical training, and the majority also supervised medical students and/or nurses. Small proportions of physician respondents reported supervising student nurses, operating room technicians, auxilliary health workers, or other health personnel. In contrast, most nurse respondents with teaching or training responsibilities

Table III.B.4

PERCENTAGE OF APS RESPONDENTS FROM THE PHILIPPINES WITH TEACHING OR TRAINING RESPONSIBILITIES, BY CATEGORY OF HEALTH WORKER SUPERVISED AND PROFESSIONAL ROLE OF RESPONDENT

Category of Person Supervised	Professional Role of Respondent: Physician (25)[1]	Professional Role of Respondent: Nurse (21)
Physicians	74%	0%
Medical School Graduates in Clinical Training	76	19
Medical Students	74	19
Nurses or Nurse-midwives	60	86
Student Nurses	36	72
Operating Room Technicians	16	43
Auxiliary Health Workers	8	43
Other Health Personnel	0	10%

Notes: 1. Numbers in parentheses indicate the number of respondents with teaching or training responsibilities.

Table III.B.5

PERCENTAGE OF APS RESPONDENTS FROM THE PHILIPPINES WHO HAVE TAUGHT OTHERS CONCEPTS OR TECHNIQUES LEARNED IN THE COURSE, BY TYPE OF CONCEPT OR SKILL TAUGHT[1] AND PROFESSIONAL ROLE OF RESPONDENT

Concept or Technique Taught	Professional Role of Respondent: Physician (22)[2]	Nurse (17)	Total (39)
High-risk Pregnancy	64%	47%	56%
Anatomy and Physiology	64	29	49
Management of Infertility	59	24	44
IUD Insertion	64	29	49
Laparoscopic Tubal Ligation	77	71	74
Minilaparotomy	73	71	72
Provision of Other Birth Control Methods	73	47	62
Diagnostic Laparoscopy	68	71	69
Tubal Reanastomosis	18	6	13

Note: 1. Concepts or techniques listed were not necessarily included in the material covered during the courses offered in the Philippines.

2. Numbers in parentheses indicate the number of respondents who taught others concepts or skills learned in the course and are the numbers in denominator of each percentage.

reported supervising nurses (86%), and the majority of them reported supervising student nurses (72%). Less than half of these nurse respondents reported supervising personnel in any of the other categories listed in Table III.B.4.

Even though 89% of all respondents reported they had teaching or training responsibilities, only 62% of the respondents reported that they had taught anyone the concepts or techniques learned in the course they attended. By professional role of respondent, 53% of the nurses shared the concepts and skills learned in the course while only 69% of the physicians reported they had done so. Table III.B.5 lists concepts and techniques covered in JHPIEGO-sponsored courses, although not all the topics listed are covered in the courses which make up the Philippines program. In fact, topics such as tubal reanastomosis are only covered in a minority of the courses funded by JHPIEGO. Among all respondents who had taught anyone the concepts or skills learned in the course, 74% had shared skills in laparoscopic tubal ligation, and 69% reported teaching others diagnostic laparoscopy techniques. Since training in laparoscopy is the primary focus of the Philippines program, it is not surprising that respondents had most frequently shared information related to these skills. The majority of these respondents also reported teaching others skills in minilaparotomy and provision of other birth control methods, as well as concepts relating to high-risk pregnancy, anatomy, and physiology.

When asked whether they work with anyone who had been trained under the same program, 85% of all respondents gave an affirmative reply. Most, 92%, also felt that the course helped them work more effectively with other health professionals. Only 29% of respondents reported that there had been any changes since the course in the way responsibilities were shared among the health professionals with whom they work. Furthermore, 68% reported that they felt there had been a greater emphasis on patient counseling since the course.

Respondents gave very positive ratings about the course on their surveys. They felt that reproductive health topics were covered well in the course and they were even more enthusiastic in their ratings of the material on family planning. Laparoscopy was the topic cited as being the most interesting and the most useful to the respondents. With regard to the clinical training component of the course, most respondents reported that they currently perform or assist with the procedures practiced during their clinical training, and that they felt this training was adequate. The majority also reported that they were still able to dismantle, clean, and assemble laparoscopic equipment at the time they filled out the survey.

Conclusion

The courses offered by Dr. Oblepias appear to be meeting their stated objectives. Available evidence indicates that participants use the knowledge in the same positions they held prior to the course. There is also evidence to suggest that the concept of the laparoscopic team has taken root.

In addition, the course also appears to have been successful in introducing the use of local anesthesia and the importance of patient counseling. The vast majority of the respondents indicated a greater emphasis of these concepts since the course.

The information regarding the frequencies of various ob/gyn procedures indicated that the proper people were selected for the course. The physicians appeared to be active in family planning and surgically competent. The nurses appeared to be heavily involved in surgical nursing.

Finally, it also appears the course participants actively disseminate the knowledge derived from the course. Over half of the responding physicians and nurses reported formal responsibilities in training other medical professionals. Almost three fourths of these reported transmitting knowledge about the ob/gyn applications of endoscopy.

III.C. SELECTED FINDINGS FROM ANNUAL PARTICIPANT SURVEY RESPONSES FROM TUNISIA

Introduction

The "Office National du Planning Familial et de la Population" (ONPFP) of Tunisia has provided JHPIEGO training to a broad spectrum of physicians and paramedical personnel involved in family planning. It is intended that this program will result in improved reproductive health care in Tunisia. Courses are offered to physicians in Endoscopy, Anesthesiology and Clinic-Based Family Planning services. Courses are also offered to operating theater nurses, nurses from family planning clinics and anesthesist technicians. In all courses, the general concepts of reproductive health and family planning are discussed. Depending on the course, clinical training is emphasized.

By the end of fiscal year 1984 the ONPFP in country training program trained 156 physicians, 61 nurses and 52 anesthesists. The Annual Participant survey (APS) was sent to 109 participants trained prior to April 1983. Fifty five responses were received. The discussion which follows will be based on the responses of the 16 attendees of the physician endoscopy, 9 attendees of the physician generalists; 11 attendees of the Nurse Endoscopy, 8 attendees of Nurse Clinician and 11 attendees of the Anesthesiology (4 physicians and 7 technicians) courses who returned the APS.

Selected Findings

Respondents reported on many aspects of their professional activities on the survey, as well as their opinions about selected aspects of the course they took. The findings covered in this section will focus on these reports, beginning first with aspects of the respondents' current professional activities, specifically their current position, descriptions of the clinical procedures they have performed in the year prior to returning the survey, and a discussion of the types of anesthesia they employed. Then there will be a review of the reports on the laparoscopes installed at each respondent's institution. Following the equipment discussion this report will cover the teaching and training activities of respondents. Finally, there will be an evaluation of the course as it is viewed by respondents at least six months since their participation in it.

Of the 55 respondents, 79% reported they were in the same position they were in at the time of the course. Most respondents, 82%, reported they used the skills learned in the course in their current positions.

Respondents reported the number of contraceptive and gynecological procedures performed, assisted or scrubbed for in the previous 12 months. Table III.C.1 shows the proportion of respondents, by course, who were present for specific procedures. As can be seen, most nurse and physician attendees of the endoscopy course were present for surgical contraceptive and ob/gyn procedures. Attendees of the physician clinician course were very active in the distribution of reversible contraception and family planning counseling. The participants of the anesthesist courses were very involved with surgical procedures and only minimally involved in non-surgical contraception.

The mean number of contraceptive procedures per month by course is presented in Table III.C.2. As can be seen, family planning counseling was the most frequently reported procedure. The second most frequently reported procedure was the provision of birth control pills. This is true across all three types of physicians; Endoscopist, Clinician and Anesthesist.

The mean number of several ob/gyn procedures by course is reported in Table III.C.3. Normal deliveries were attended most frequently by nurse and physician participants of the endoscopy and clinician courses. The participants of the anesthesist

TABLE III.C.1

PERCENTAGE OF TUNISIAN RESPONDENTS WHO REPORTED PARTICIPATING IN SELECTED CLINICIAL PROCEDURES BY COURSE ATTENDED

Procedure	Course						
	Physician Endoscopy (N=16)	Physician Clinician (N=9)	Physician Anesthesist (N=4)	Nurse Endoscopy (N=11)	Nurse Clinician (N=8)	Anesthesist Technician (N=7)	Total N=55
Contraceptive							
IUD Insertion	75%	100%	50%	64%	50%	29%	66%
Laparoscopic Tubal Ligation	63	11	75	55	13	71	47
Minilaparotomy	88	11	50	64	25	71	56
Provision of Birth Control Pills	81	100	50	73	63	0	67
Provision of Barriers	44	67	0	36	0	0	31
Provision of Injectable Contraceptive	38	78	0	55	25	0	38
Family Planning Counseling	63	89	50	73	63	14	62
Ob/Gyn Procedures							
Normal Delivery	69	33	25	73	38	14	49
Cesarean Delivery	88	33	75	73	13	57	60
Diagnostic Laparoscopy	63	0	75	55	13	71	46
Tubal Reanastomosis	19	0	0	46	0	14	16

TABLE III.C.2

MEANS OF CONTRACEPTIVE PROCEDURES PARTICIPATED IN PER MONTH

BY COURSE TYPE OF TUNISIAN RESPONDENTS

Type of Contraceptive Procedure	Course						
	Physician Endoscopy	Physician Clinician	Physician Anesthesist	Nurse Endoscopy	Nurse Clinician	Technician Anesthesist	Total
IUD Insertion	1.1 (14)[1]	5.2 (9)	2.4 (3)	9.2 (9)	1.4 (6)	.7 (5)	3.6 (46)
Laparoscopic Tubal Ligation	2.6 (14)	.3 (9)	14.1 (3)	2.0 (10)	.5 (8)	8.6 (5)	3.0 (49)
Minilaparotomy	2.3 (14)	.1 (9)	.8 (3)	1.8 (10)	.8 (8)	4.1 (5)	1.6 (49)
Provision of Birth Control Pills	24.4 (12)	19.6 (9)	36.3 (3)	31.9 (10)	14.1 (6)	0 (5)	21.8 (45)
Provision of Barriers	3.3 (13)	2.2 (9)	0 (3)	.7 (10)	0 (8)	0 (5)	1.4 (48)
Provision of Injectable Contraceptives	2.6 (14)	8.1 (9)	0 (3)	2.8 (10)	1.2 (7)	0 (5)	3.0 (48)
Family Planning Counseling	25.7 (14)	33.4 (7)	2.2 (2)	7.4 (8)	71.9 (7)	0.4 (5)	27.0 (43)

Note: 1. Numbers in parentheses represent the number of respondents who provided estimates.

TABLE III.C.3

MEANS OF OB/GYN PROCEDURES PARTICIPATED IN PER MONTH

BY COURSE TYPE OF TUNISIAN RESPONDENTS

Type of Ob/Gyn Procedure	Physician Endoscopy	Physician Clinician	Physician Anesthesist	Nurse Endoscopy	Nurse Clincian	Technician Anesthesist	Total
Normal Delivery	27.3 (14)[1]	15.9 (7)	.4 (3)	105.8 (8)	2.7 (3)	.8 (5)	33.8 (40)
Cesarean Delivery	1.8 (14)	.7 (7)	4.7 (3)	11.4 (9)	0 (4)	21.2 ()	6.0 (42)
Diagnostic Laparoscopy	3.0 (14)	0.0 (7)	2.1 (3)	5.4 (9)	.1 (4)	9.2 (5)	3.4 (42)
Tubal Reanastomosis	1 (14)	0.0 (7)	0.0 (3)	.8 (9)	0.0 (4)	.1 (5)	.2 (42)

Note: 1. Numbers in parentheses represents number of respondents who provided estimates.

courses reported being present for the highest number of cesarean deliveries. This finding reflects the fact that the services of anesthesists are readily available for cesearean deliveries but infrequently for vaginal deliveries.

These findings suggest that the Tunisian course participants were appropriately selected. The clinician course participants seem to be involved in the activities associated with clinic-based family planning services; the endoscopy course participants seem to be surgically oriented while the anesthesist course participants also report their greatest activity occurs in the operating theater.

Sixty percent of all respondents and 100% of the anesthesists recalled being taught the application of local anesthesia during laparoscopy. Forty percent of all respondents and 78% of the anesthesists reported changes in their use of anesthesia since the course.

Respondents reported on the types of anesthesia used during laparoscopic or minilaparotomy procedures at which they were present. General anesthesia was reportedly used by 57% of all respondents; 67% of the anesthesists reported its use. However, 64% of the physicians trained in laparoscopy reported the use of local anesthesia only for laparoscopic procedures. It may be that the anesthesists are more resistant to change in their methods. However, it is more likely that the anesthesists were called in when the operating physician deemed the patient could not cope with local anesthesia. This would account for the anesthesists reported frequent use of general anesthesia despite the fact they state the course resulted in decreased reliance upon general anesthesia.

Over 53% of all respondents indicated that laparoscopic equipment was installed at their institutions. None reported the equipment as broken. Most respondents, 86%, knew of a staff member assigned to care for the equipment. However, only 23% reported access to an equipment technician. Approximately 46% of the respondents reported some operational problems with the equipment. These problems seemed to center around the CO_2 systems (leaks and faulty switches), clouding of the offset lenses and maintainence of the trocar. These problems are associated with in-experience in use of the equipment. On a world-wide basis, 82% of the equipment problems were reported by physicians who performed fewer than 50 procedures.

One half of the respondents reported formal teaching responsibilities in obstetrics, gynecology or fertility management. These responsibilities are presented in Table III.C.4.

In addition, over 56% of all respondents reported transmitting at least one of the concepts learned in the course. The percentage of respondents who taught others specific concepts is summarized in Tabel III.C.5. As can be seen, IUD insertion was the topic most frequently taught to others. It also appears that, in Tunisia, physicians are the primary source of medical information.

Fifty three percent of all respondents reported they currently worked with a fellow trainee. The OR support staff, anesthesists and nurses, reported the highest rates for this, 75% and 64% respectively. Seventy eight percent of all respondents indicated the course helped them to work more effectively with other professionals. Again, the highest rates were reported by anesthesists and nurses, 100% and 82% respectively. In addition, 85% of all respondents stated they placed an increased emphasis on patient counseling since the course; with 100% of the anesthesists and 100% of the OR nurses stating as such.

The respondents gave very positive ratings to the courses. The areas related to reproductive health were rated good to excellent by 82% of the respondents while the topics related to Family Planning were rated good to excellent by 94% of the respondents. Approximately 74% of all respondents indicated they currently perform

TABLE III.C.4

PERCENTAGE OF TUNISIAN RESPONDENTS WITH TEACHING RESPONSIBILITIES BY STUDENT TYPE AND COURSE ATTENDED[1]

Student Type	Course			
	Physician Endoscopy (11)[2]	Physician Clinician (5)	Physician Anesthesist (3)	Nurse Endoscopy (3)
Physicians	45%	40%	66%	33%
Medical Students	27	20	33	33
Nurses/Midwives	82	60	33	33
Student Nurses	91	40	100	66
Operating Room Technicians	36	0	100	100
Auxilliary Health Workers	45	20	66	0

Notes:

1. Attendees of the Nurse Clinician and Anesthesist Technician courses reported no formal training responsibilities.

2. Number in parentheses indicates number of respondents who attended the course.

TABLE III.C.5

PERCENTAGE OF TUNISIAN RESPONDENTS WHO PROVIDED INSTRUCTION BY COURSE TYPE AND TOPIC OF INSTRUCTION

Topic taught by respondent	Course					
	Physician Endoscopy (11)[1]	Physician Clinician (8)	Physician Anesthesist (1)	Nurse Endoscopy (4)	Nurse Clinician (5)	Anesthesist Technician (2)
High Risk Pregnancy	64%	88%	100%	0%	80%	0%
Anatomy and Physiology	45	38	100	25	20	50
Management of Infertility	36	38	0	25	40	0
IUD Insertion	91	100	0	25	40	0
Laparoscopic Tubal Ligation	55	0	100	50	0	50
Minilaparotomy	82	0	100	25	20	50
Diagnostic Laparoscopy	45	0	100	25	0	0
Tubal Reanastomsis	0	0	0	25	0	0

Notes: 1. Numbers in parentheses are the numbers of respondents who attended the course.

the tasks they were trained for; 85% felt that the training provided adequate preparation. In addition, 100% of the nurses and physicians trained in laparoscopy reported they were adequately trained to care for their equipment.

Conclusions

The Tunisian program appears to be in the process of meeting its objectives. Certainly, the selection of participants is appropriate; desired concepts such as the use of local anesthesia are taught; and the team approach to laparoscopy has taken root.

It was demonstrated that participants of the endoscopy courses were surgically oriented while the participants of the clinician courses were involved in clinic based family planning activities. The many courses offered by JHPIEGO provide medical personnel with the skills to meet the current demand for temporary contraception while providing the basis for other future family planning services.

Although all of the anesthesists recalled instruction in the use of local anesthesia, most reported reliance on general anesthesia. It is likely that anesthesists were called in for those patients who couldn't cope with local anesthesia. However, this may also reflect an unwillingness to accept a change in anesthesia practices. This should be investigated further.

The responses of the operating room support staff, O.R. nurses and anesthesists, indicated that the team approach to laparoscopy has been accepted. Indeed, the vast majority of these participants indicated the course helped to improve their working relationships with other professionals.

Over 80% of the respondents rated the courses as good to excellent. They reported the training was relevant to their jobs and provided adequate preparation for their new duties. All of the respondents trained in laparoscopy indicated they were adequately prepared to care for their equipment.

Finally, the responses to the follow-up survey suggest that instruction in broad areas of reproductive health in combination with training in specific clinical skills has important spin-offs. For example, nurse endoscopy trainees now train others in diverse subjects such as high risk pregnancy, infertility and IUD management.

Thus, the JHPIEGO courses appear to be effectively helping to lay a foundation for the provision of modern reproductive health care in Tunisia. The appropriate people are being trained in the various skills needed to provide a broad spectrum of reproductive health services. It is anticipated that Tunisia will be able to meet the demand for these services as they gain broader acceptance.

APPENDIX I. AID REGIONAL DESIGNATION OF COUNTRIES

AFRICA

Algeria
Benin
Botswana
Burundi
Cameroon
Cape Verde
Central African Empire
Chad
Comoro Islands
Congo
Ethiopia
Gabon
Gambia
Ghana
Guinea Bissau
Ivory Coast
Kenya
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Mauritius
Mozambique
Niger
Nigeria
Rwanda
Senegal
Seychelles
Sierra Leone
Somalia
South Africa
Sudan
Swaziland
Tanzania
Togo
Uganda
Upper Volta
Zaire
Zambia
Zimbabwe

ASIA

Bangladesh
Burma
Fiji
Hong Kong
India
Indonesia
KhmerRepublic
Korea
Malaysia
Nepal
Papua New Guinea
Pakistan
Philippines
Singapore
Solomon Islands
Sri Lanka
Taiwan
Thailand
Tonga
Vietnam
Western Samoa

NEAR EAST

Afghanistan
Cyprus
Egypt
Greece
Iran
Iraq
Italy
Jordan
Lebanon
Morocco
Portugal
Saudi Arabia
Spain
Syria
Tunisia
Turkey
Yemen Arab Republic
Yemen, Democratic

LATIN AMERICA

Antigua
Argentina
Barbados
Bolivia
Brazil
Chile
Colombia
Costa Rica
Dominica
Dominican Republic
Ecuador
El Salvador
French Guiana
Grenada
Guadeloupe
Guatemala
Guyana
Haiti
Honduras
Jamaica
Martinique
Mexico
Netherlands Antilles
Nicaragua
Panama
Paraguay
Peru
St. Kitts
St. Lucia
St. Martin
St. Vincent
Suriname
Trinidad
Uruguay
Venezuela

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JHPIEGO

ANNUAL REPORT

The Johns Hopkins Program for International Education in Gynecology and Obstetrics

FISCAL YEAR 1984

APR 3 1985

ANNUAL REPORT OF THE JHPIEGO CORPORATION

FISCAL YEAR 1984

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PREFACE

This JHPIEGO annual report summarizes in part the first decade of our existence. When it was established in 1974, JHPIEGO represented a consortium of U.S. universities providing fertility management training to specialized physicians. Although the ability to maintain university-to-overseas-institution relationships continues to be a vital component of our program, the scope of JHPIEGO's educational efforts has considerably broadened. The initial and continuing philosophy of training key health professionals from overseas institutions at JHPIEGO so that they can develop reproductive health programs within their own institutions has been successful. In addition, supporting programs that provide information on other components of reproductive health, such as infertility and sexually transmitted diseases, in addition to fertility management has led to expanded interest in and commitment by health professionals to providing this care to women and children in the developing world. As a result, JHPIEGO has evolved from a program involved primarily in U.S.-based training to one in which the vast majority of effort is concentrated on assisting major overseas institutions in their educational efforts. Through JHPIEGO's leadership role in reproductive health education, services in many less developed countries have expanded and improved. Furthermore, through the interest and enthusiasm generated by JHPIEGO's support, overseas health professionals have become more receptive to ideas and support provided by other funding agencies.

Although JHPIEGO's health professionals and support staff can proudly take credit for some of this success, the dedication and motivation of JHPIEGO's graduates to reproductive health has been a most important factor. In addition, the support of the United States Agency for International Development and other funding organizations over the years has also been a vital component of the success of JHPIEGO's programs.

During the next decade, JHPIEGO will continue to support institution building through its university-based program. New methodologies and approaches will be tried and relevant information about important medical advances will be incorporated into our educational programs. For example, this report discusses the correspondence course approach to family planning and reproductive health education in Asia and the use of a satellite communication network to reach health professionals in widely scattered islands of the Caribbean.

Available data suggest that a great deal of need for education in reproductive health overseas continues to exist and that much time, effort, and resources will be needed to meet this need. However, JHPIEGO feels that progress toward achieving our goal of improved reproductive health for women and children in the developing world is a vital component of the World Health Organization's resolution of health for all by the year 2000. We look forward to the future and to the continued success of our graduates in meeting these challenges.

EXECUTIVE SUMMARY

JHPIEGO is first and foremost a training organization. Its mandate is to help developing countries improve the health of women and children by upgrading the skills and knowledge of professionals involved in reproductive health and family planning. In a sense, JHPIEGO serves as the administration of a world university of reproductive health. The course participants comprise administrators, physicians, nurses, paramedical personnel, and medical and nursing students. The faculty is made up of obstetrician-gynecologists, anesthesiologists, general practitioners, and nurses, many of whom are graduates of JHPIEGO-supported programs. The curriculum covers the spectrum of reproductive health. All courses include detailed lectures on the rationale for family planning, the health benefits of child spacing, and clinical and nonclinical forms of contraception. Additional lectures cover issues related to the health of mother and child, for example, high-risk pregnancy, gynecologic infection and cancer, sexually transmitted diseases, infertility, prenatal care, nutrition for mothers and infants, and the organization of family planning programs. Qualified health professionals are offered clinical training in diagnostic and therapeutic laparoscopy, minilaparotomy, IUD insertion, and counseling of women using various forms of contraception. The facilities of the "university" include medical schools, hospitals, and health clinics; educational materials and equipment are supplied by JHPIEGO.

In its first ten years, JHPIEGO supported the training of over 24,000 health personnel from more than 3,200 institutions in 120 countries. Roughly 6,500 were physicians, 2,500 were nurses or paramedical personnel, 675 were administrators, and 14,500 were medical or nursing students. About 22,000 participated in programs in national or regional training centers; the rest were trained in the United States. This training has laid a solid foundation for JHPIEGO's priorities as the organization begins its second decade: expansion of programs in sub-Saharan Africa, innovative training programs in Asia and Latin America, and continued high-quality clinical training in the Near East.

EDUCATION AND TRAINING

Overview

In fiscal 1984, JHPIEGO supported the training of 8,271 health personnel. A total of 1,052 were physicians, 769 were nurses, 90 were administrators, and 6,360 were medical and nursing students. By region, JHPIEGO supported the training of 814 health professionals (physicians, nurses, and administrators) from sub-Saharan Africa, 272 from Asia, 554 from Latin America and the Caribbean, and 271 from the Near East. Ninety-eight percent of the undergraduate training was conducted in Latin America.

From fiscal 1983 to 1984,

- total trainees increased by one-third
- physician trainees increased by one-quarter
- nurse/paramedical trainees increased by 80 percent
- undergraduate trainees increased by one-quarter

The large increase in the number of nurses and paramedical personnel trained resulted from JHPIEGO's acceleration of activities in Africa during the year. Because of the shortages of physicians in the region, many programs have focused on the training of nurses and midwives.

Clinical training is JHPIEGO's specialty. The enrollment of physicians in clinical courses was roughly the same in fiscal 1983 and 1984, and the enrollment of nurses increased by 40 percent. More than one-third of the clinical training was conducted in the Near East in centers in Egypt, Morocco, Tunisia, and Turkey.

During fiscal 1984, JHPIEGO supported the training of health professionals from 384 hospitals, medical schools, and clinics that had not been reached before. JHPIEGO places a priority on the training of medical school faculty because they can set the standard of the reproductive health services that their students will deliver after they graduate. JHPIEGO has supported the training of at least one member of the faculty in 70 percent of the medical schools in countries in which AID authorizes training.

Africa

JHPIEGO launched nine programs in Africa during fiscal 1984, three of them in Nigeria. The governments of many sub-Saharan African countries have recently become more receptive to initiatives in reproductive health and family planning. The Government of Nigeria, in particular, has asked AID to coordinate a massive public health program including immunizations, oral rehydration therapy, and family planning. JHPIEGO has had a long-standing commitment to reproductive health training in sub-Saharan Africa; health personnel from all but three African countries have participated in programs supported by JHPIEGO.

In fiscal 1984, programs continued in Kenya, Nigeria, Somalia, the Sudan, and Tanzania, and programs were initiated in Cameroon, Mauritius, Nigeria, Sierra Leone, Uganda, Zaire, and Zimbabwe. Because of the lack of infrastructure -- especially health care systems -- and higher costs per trainee, the pace of training is slower in sub-Saharan Africa than in other regions. Clinical training is also difficult to arrange. The patient base in many health centers is too small to provide course participants with the minimum of 10 to 15 procedures that each must perform under supervision in order to master a technique. For these reasons, during fiscal 1984 the majority of African health personnel attended didactic courses that included lectures and clinical observation. Most of the programs that included clinical components offered training in minilaparotomy and IUD insertion rather than laparoscopy. This decision was based on the adequacy of clinical material for training as well as the need to provide appropriate skills to clinicians working in unsophisticated institutions. In fiscal 1985, however, JHPIEGO will support its first regional clinical training center in sub-Saharan Africa in Dakar, Senegal. The center will conduct courses in reproductive health that include training in diagnostic and therapeutic laparoscopy for physicians representing major institutions in Francophone African countries.

JHPIEGO shipped 39 laparoscopic systems and approximately $80,000 worth of educational materials in support of its programs in Africa during fiscal 1984. A Repair and Maintenance Center was operating in Nigeria.

Asia

The first in-country training programs to receive support from JHPIEGO were in Asia. In countries that now have well-developed reproductive health services, JHPIEGO has begun to support small-scale experimental programs. In Indonesia, JHPIEGO supports a program to train teams of doctors and nurses from rural health centers to develop and administer family planning progams. In Malaysia in fiscal 1984, JHPIEGO supported a correspondence course in reproductive health that offered a diploma in family planning to general practitioners in rural health centers. Since fiscal 1983, JHPIEGO has supported a regional microsurgery course in Thailand.

JHPIEGO supported more traditional reproductive health programs that included laparoscopy training in the Philippines and Thailand during fiscal 1984. In Pakistan, JHPIEGO conducted equipment maintenance workshops in six cities at the request of the United Nations Fund for Population Activities.

JHPIEGO shipped ten laparoscopic systems and $10,700 worth of educational materials to Asia during fiscal 1984. Support continued for Repair and Maintenance Centers in Malaysia, the Philippines, and Thailand.

Latin America/Caribbean

Most of JHPIEGO's reproductive health programs in Latin America fall into one of three categories: (1) programs for obstetrician-gynecologists, general practitioners, and nurses that include training in laparoscopy, minilaparotomy, or IUD management; (2) education programs for medical and nursing students; and (3) pilot programs that develop systems for classifying and referring women on the basis of the health risk that they would face if they became pregnant (these programs also include clinical training).

JHPIEGO supported all three types of programs in Brazil during fiscal 1984. The Center for Research and Integrated Assistance to Mothers and Children (CPAIMC) administered clinical training programs for physicians and nurses. Programs for undergraduates were active in Santa Maria, Belo Horizonte, and Fortaleza, and a pilot classification and referral system based on reproductive risk is being set up in the state of Pernambuco in northeast Brazil.

Other clinical training programs in the region were conducted in Colombia and Jamaica. A second risk classification and referral system is being set up in Peru, and further undergraduate training was conducted in Guatemala, Honduras, and Mexico.

JHPIEGO funded an innovative satellite education program in the Caribbean. Five islands were linked in an interactive audio network over which courses for physicians and nurses were broadcast once a week for 12 weeks from Jamaica. The program was successful and will be expanded in fiscal 1985. Satellite education is a cost-effective method of reaching health professionals in inaccessible areas, and JHPIEGO plans to support satellite training in other developing countries, for example, Indonesia.

JHPIEGO shipped 17 laparoscopic systems and almost $45,000 worth of educational materials to the region during fiscal 1984. Repair and Maintenance Centers were operating in Brazil, Colombia, Costa Rica, and Haiti.

Near East

The training centers that JHPIEGO supports in Egypt, Morocco, Tunisia, and Turkey specialize in reproductive health programs that include clinical training. Collectively, they offer instruction in laparoscopy, minilaparotomy, IUD insertion, and local anesthesia for outpatient surgical procedures. The North African centers serve as regional training centers for physicians and nurses from sub-Saharan Africa, and as clinical practice centers for physicians who attend courses at the Johns Hopkins Educational Center in Baltimore and request training in laparoscopy.

JHPIEGO's activities in Turkey have contributed to the liberalization of laws regarding family planning. The U.S. training of Turkish health professionals began in the mid-1970s. Support for in-country training in reproductive health, including instruction in laparoscopy, began in 1980 with a conference for Turkish administrators at the Johns Hopkins Educational Center in Baltimore.

JHPIEGO shipped 58 laparoscopic systems and approximately $13,500 worth of educational materials to the Near East during fiscal 1984. Repair and Maintenance Centers were operating in Tunisia and Turkey.

U.S. Training

Virtually all the directors of overseas programs supported by JHPIEGO have been selected from among the approximately 2,200 administrators, physicians, and nurses who have participated in courses in the United States. The U.S. training supports overseas training by identifying key leaders in the field of reproductive health in developing countries. It also provides an opportunity for participants to exchange ideas and gain a fresh perspective on their national health problems.

Six courses were offered at the Johns Hopkins Educational Center in Baltimore during fiscal 1984 for 155 health professionals: 104 from Africa, 31 from Asia, seven from Latin America, and 13 from the Near East. The courses offered were Academic Skills for Medical School Faculty in Reproductive Health, Advances in Reproductive Health for Clinicians, Diagnosis and Treatment of Sexually Transmitted Diseases, Management of the Infertile Couple, Microsurgery for Tubal Reanastomosis, and Reproductive Health for Administrators of Family Planning Programs. The clinician and administrators' courses were offered in French. All the course participants received educational materials.

After completing the courses in the United States, four of the physicians were trained in laparoscopy at clinical practice centers in Egypt and Tunisia, and all have been recommended to receive Laprocators.

MANAGEMENT AND SUPPORT

Management of the Corporation

During the reporting period, members of the JHPIEGO Board of Trustees continued to contribute their talents and expertise to guiding and managing the affairs of the corporation. Among the major challenges of fiscal 1984 was the task of maintaining the momentum for the ever-increasing demand from third world countries for collaborative in-country programs within the limits imposed by a sharply curtailed allocation of funds by AID for overseas activities.

In December 1983, JHPIEGO and AID completed negotiations for the extension of the Cooperative Agreement (AID/DSPE-CA-0083) through 30 September 1986. Funds allocated in the financial plan for national and regional programs averaged $2 million a year for demonstrated requirements mounting to $4 million annually. To accommodate this funding limitation, JHPIEGO found it necessary to delay the obligation of funds for a number of renewals and new educational programs. Although JHPIEGO has managed to maintain a delicate financial balance to keep overseas programs alive, the shortage of available funds will become manifest in mid-1985 and 1986 and could result in a reduction in the growth of training programs and outputs, unless additional funds are infused.

In January 1984 the president and the director conducted a two-day retreat for senior staff to deliberate on current practices and programs, future goals, technology and the role of surgical training, curricula content, and educational materials. A follow-up meeting was convened in September 1984 to review and modify the conclusions arising from these deliberations. JHPIEGO will continue its pre-eminent role in surgical training to make certain that technology and training are available when timely and appropriate. The evaluation of maturing programs will be ongoing to obtain programmatic insights and determine whether costs are appropriate for the benefits gained. A third conclusion of the meeting was the directive to conduct in-depth site visits to evaluate JHPIEGO-supported Repair and Maintenance Centers.

The offices of the president and director worked together to organize the meeting of the International Council in Izmir, Turkey, during the first week of April 1984. Council members stressed the importance of keeping family planning within the broader reproductive health context and avoiding programs that are too focused towards one modality.

Office of Resource Management

The Office of Resource Management coordinated the renewal of major agreements with the Johns Hopkins University for administrative management services, the Johns Hopkins University School of Medicine for training at the Johns Hopkins Educational Center, Brethern Services Center for warehousing and shipping of equipment and educational materials, and Peat, Marwick, Mitchell, and Company, for auditing of in-country programs.

A major part of the support provided by the Resource Management Office is financial reporting to each JHPIEGO office of subordinate agreement activities. Budget and Fiscal Status reports, issued monthly, were improved during fiscal 1984 to include anticipated expenditures and availability of funds. Resource Management monitored the finances of over 150 subordinate agreements during the year.

In the first quarter of calendar 1984, JHPIEGO's Federal Reserve Letter of Credit was closed and reissued to provide for electronic transfer of funds from the Federal Government. As a result, Resource Management made major adjustments to JHPIEGO banking procedures and internal financial management systems. The office developed methods to limit the amount of funds drawn from the U.S. Government to short-term use and at the same time meet the financial needs of in-country programs.

Information and Evaluation Services

Information and Evaluation Services (IES) is JHPIEGO's data processing office. It keeps track of information such as the number of participants in U.S. and overseas programs, their professional backgrounds, where they are from, and the equipment they have been given.

Much of this year's information system development activity involved the creation of error-checking programs to detect and report logical errors in the computer data files. Another form of data processing--word processing--is also managed by IES.

With the information system installed and functioning smoothly, IES began to expand its role in the evaluation of JHPIEGO activities. The office is developing a questionnaire to measure the attitudes of trainees toward family planning concepts, it is assisting the regional development officers in incorporating evaluation plans into their program proposals, and it is expanding the use of the Annual Participant Survey, which is sent to participants in in-country programs approximately one year after they complete a course. A summary of JHPIEGO's evaluation activities appears in the appendix. A full description can be found in the second volume of the annual report.

Program Support Office

The Program Support Office consists of the Admissions/Travel Unit, the Equipment Unit, and the Grants Unit.

Admissions/Travel

The Admissions Unit processed applications for candidates for 18 courses in regional training centers and nine courses at the Educational Center in Baltimore. Course participants were chosen by the Selection Committee. Candidates from African medical schools and teaching hospitals were given priority.

The Travel Unit processed approximately 300 trips to 49 countries for trainees, consultants, and staff. Three-quarters of the trips were made by trainees traveling to U.S. and regional training centers and the Johns Hopkins Educational Center in Baltimore.

Equipment Unit

The equipment that JHPIEGO ships in support of its overseas programs includes laparoscopic systems (mostly Laprocators), microsurgery kits, minilaparotomy kits, and IUD kits, as well as spare parts for repair and maintenance of the laparoscopic equipment. During fiscal 1984, JHPIEGO shipped 124 laparoscopic systems and almost $168,000 worth of spare parts. JHPIEGO has reduced the cost of spare parts shipped by 60 percent since 1980, despite the increasing number of systems in the field.

Following the directive issued at the meeting of senior staff, Equipment Unit personnel evaluated seven Repair and Maintenance Centers during fiscal 1984 in order to identify ways to improve their efficiency. The remaining four centers will be evaluated in fiscal 1985.

The office shipped approximately $160,000 worth of educational materials to trainees and institutions in over 40 developing countries during fiscal 1984.

Grants Unit

The Grants Unit writes the subordinate agreements between JHPIEGO and overseas institutions that administer reproductive health programs with JHPIEGO funding, and it monitors compliance with the agreements. During fiscal 1984, the Grants Unit wrote 23 new agreements, 21 major program continuation amendments, and 102 simple amendments to current agreements.

Educational Materials

JHPIEGO maintains separate educational packages in English, French, and Spanish for physicians, nurses, medical and nursing students, and their institutions. The packages consist of books, films, filmstrips, and anatomical models. In fiscal 1984, the Educational Materials Committee eliminated separate packages for each course given at the Johns Hopkins Educational Center in Baltimore. All trainees in the U.S. courses now receive the same package that is sent to physicians in overseas courses.

JHPIEGO is putting together a collection of lectures with slides based on those delivered at the Educational Center. The lectures will be sent to graduates of JHPIEGO-supported programs.

FISCAL 1985

Highlights of JHPIEGO's fiscal 1985 programs include the following:

-- In Africa, there will be continued focus on Nigeria, and the first courses will be held at the regional clinical training center in Dakar, Senegal
-- In Asia, Bangkok Thailand, will be the site of the first JHPIEGO-supported academic skills course to be conducted overseas
-- In Latin America, the classification and referral systems based on reproductive risk will begin to operate in Brazil and Peru
-- In the Near East, curriculum development workshops will be conducted in Egypt and Turkey
-- At the Johns Hopkins Educational Center, there will be continued emphasis on the training of African health personnel, and JHPIEGO will sponsor a workshop for Nigerian administrators.

In its second decade, JHPIEGO will continue to offer a wide array of training programs in its effort to upgrade the health of women and children throughout the developing world.

EDUCATION AND TRAINING

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OVERVIEW

Over 8,000 health professionals and undergraduates participated in JHPIEGO-supported programs in fiscal 1984. JHPIEGO has now trained over 24,000 health personnel since 1974.

AGGREGATE FIGURES

Fiscal 1984

Participation in JHPIEGO-supported reproductive health programs increased by one-third between fiscal 1983 and 1984. Table 1A shows the numbers trained from Africa, Asia, Latin America/Caribbean, and the Near East by type of course. The number of African health personnel trained more than doubled between fiscal 1983 and 1984. Nurses made up a large proportion of this increase. Seventy nurses took clinical or didactic courses in fiscal 1983, compared with 329 during fiscal 1984. Physician training contributed a smaller proportion of the increase: a total of 426 physicians were trained in clinical and didactic courses in fiscal 1984, compared with 220 in fiscal 1983.

The number of health personnel trained in Latin America increased by almost one-third between fiscal 1983 and 1984. Increases in the enrollment in reproductive health education courses for medical and nursing students accounted for most of the difference. There were also significant increases in the number of participants in clinical courses for nurses and didactic courses for physicians.

The number of Asian health personnel trained decreased by 12 percent from fiscal 1983 to 1984 from 409 to 358. A decrease in the number of administrators in didactic courses was matched by an increase in the number of nurses in didactic courses. There was approximately a one-third decrease in the numbers of medical students trained. The decrease in the number of participants in the programs in Asia is a result of the longevity of these programs. Several programs in Asia are among the oldest that JHPIEGO supports. As programs mature and health professionals from virtually all the medical institutions in a country participate in the courses, the numbers trained each year gradually decline. The reproductive health training program in the Philippines that includes endoscopy training is an example of such a program. As these programs are phased out, JHPIEGO has supported small-scale special projects that meet a specific need for a limited number of health personnel. The microsurgery course in Thailand and the correspondence course in Indonesia are examples.

In the Near East, the total number of health professionals trained was about the same in fiscal 1983 and 1984. Decreases in the numbers of physicians and nurses trained in clinical courses were matched by an increase in the number of physicians attending didactic courses.

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TABLE 1A Number of participants at in-country, regional, and U.S. training centers, fiscal 1984

Region	Clinical Courses		Reproductive Health for Administrators	Academic Skills	Didactic Update			Undergraduate Training		Total		
	Physicians	Nurses			Admin.	Physicians	Nurses	Medical Students	Nursing Students	FY 84	FY 83	% change
Africa	229	109	30	8	21	197	220	18	0	832	347	139
Asia	69	62	8	14	5	57	57	86	0	358	409	-12
Lat. Amer./ Caribbean	150	160	0	0	20	158	66	6,147	109	6,810	5,192	31
Near East	103	95	6	1	0	66	0	0	0	271	287	-6
TOTAL	551	426	44	23	46	478	343	6,251	109	8,271	6,2[illegible]	33

TABLE 1B Number of participants at in-country, regional, and U.S. training centers, inception through fiscal 1984

Region	Clinical Courses		Reproductive Health for Administrators	Academic Skills	Didactic Update			Undergraduate Training		Total
	Physicians	Nurses			Admin.	Physicians	Nurses	Medical Students	Nursing Students	
Africa	824	302	219	34	21	517	318	34	0	2,069
Asia	1,143	453	73	42	38	172	120	223	0	2,264
Lat. Amer./ Caribbean	1,635	608	233	16	20	1,000	66	13,932	365	17,875
Near East	846	559	73	11	0	525	0	0	0	2,014
TOTAL	4,448	1,922	598	103	79	2,014	504	14,189	365	24,222

There were significant trends in participation by type of course. There was an enormous increase in the number of nurses taking didactic courses. Enrollment in these courses in fiscal 1983 was 65, compared with 343 in fiscal 1984, an increase by a factor of five. Programs in Africa accounted for most of the increase. The number of nurses in clinical courses increased by about 40 percent between fiscal 1983 and 1984, largely because of the increase in the number of African nurses trained. Because of the shortage of physicians in sub-Saharan Africa, JHPIEGO has emphasized reproductive health training for nurses and paramedical personnel, who provide much of the health services at the local level.

The participation of physicians in didactic courses increased by 150 percent from 191 to 478. Physician training in Latin America and Africa contributed most of the difference. The number of physicians trained in clinical courses was roughly the same in fiscal 1983 and 1984. An increase in the number of African physicians trained was offset by decreases in the number of physicians trained from the other regions. In Latin America, some clinical training of physicians was postponed because of delays beyond JHPIEGO's control.

The number of medical students trained increased by almost one-third from fiscal 1983 to 1984, largely as a result of the reproductive health education courses in Latin America.

The courses on academic skills and reproductive health for administrators are conducted at the Johns Hopkins Educational Center in Baltimore. There was a decline in participation in the administrators' course between fiscal 1983 and 1984 because it was offered three times in fiscal 1983 in English, French, and Portuguese, but only twice in 1984 in English and French.

Cumulative Figures

Table 1B shows the cumulative totals of participants in reproductive health training programs since JHPIEGO was established. Sixty percent of the more than 24,000 health personnel that have participated in JHPIEGO programs have been medical and nursing students. Physicians outnumber nurses by 2.5 to one.

The annual enrollment of physicians in JHPIEGO-supported programs has always exceeded that of nurses and paramedicals since JHPIEGO's inception. Figure 1 shows the proportions of physicians, nurses/paramedical personnel, and administrators trained in selected years. The proportion of nurses and paramedical personnel has been increasing, and will most likely continue to increase, for three reasons: (1) JHPIEGO has emphasized the training of physician-nurse teams in surgical procedures, (2) the rapid expansion of JHPIEGO's activities in Africa, especially Nigeria, has included a large number of programs for the training of nurses, and (3) programs in Latin America that apply the concept of reproductive risk call for the training of large numbers of paramedical personnel to carry out the risk classification and referral system. In fiscal 1983, of the 1,087 physicians, nurses, and paramedical personnel who attended clinical and didactic courses, nurses and paramedical personnel made up 34 percent of the total, while in fiscal 1984, they made up 43 percent of the total.

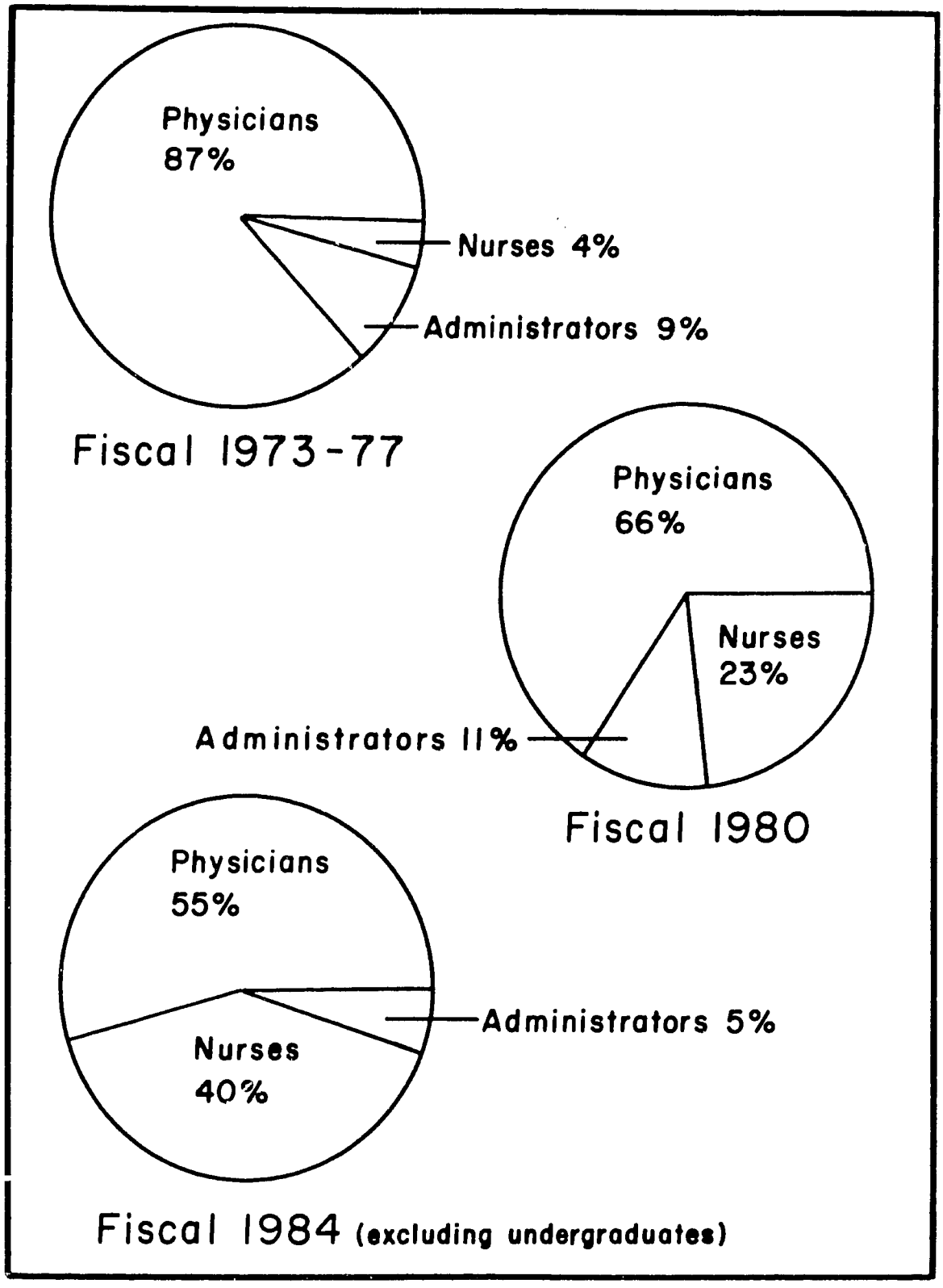

FIGURE I Proportions of physicians, nurses/paramedical personnel, and administrators in JHPIEGO - supported programs, fiscal 1973-77, 1980, and 1984

IN-COUNTRY AND REGIONAL TRAINING

In fiscal 1984, 98 percent of the participants in JHPIEGO-supported programs attended in-country and regional courses. Table 2A presents the distribution of these participants by course and region. Table 2B presents the cumulative in-country and regional training figures. Figure 2 shows the dramatic rise in overseas training since 1980.

Overall, in-country and regional training increased by one-third between fiscal 1983 and 1984. By region, approximately 90 percent of African and Asian health personnel and over 95 percent of Latin American and Near Eastern health personnel attended in-country and regional courses.

In the early years of JHPIEGO, health personnel trained in the United States outnumbered those trained overseas. Cumulative numbers of overseas trainees did not exceed the number of U.S. trainees until 1980 (Figure 2). Since 1980, overseas training has accelerated. Roughly 22,000 of the 24,000 health personnel who have participated in JHPIEGO-supported programs since 1974 attended in-country or regional courses. Two-thirds of the 22,000 health personnel were medical and nursing students. Of the remaining 9,700 health professionals (administrators, physicians, nurses and paramedical personnel), three-quarters attended in-country or regional courses.

U. S. TRAINING

As JHPIEGO has increased overseas training, it has decreased the number of courses held at the Johns Hopkins Educational Center in Baltimore. In fiscal 1984, 155 health professionals attended nine courses at the Center (Table 3A). In fiscal 1983, 11 courses were offered for 203 professionals. Two-thirds of the 1984 participants were African health professionals, compared with one-half in 1983. Since JHPIEGO's inception, 2,235 health professionals, 9 percent of the overall total, have attended courses in the United States (Table 3B).

CLINICAL TRAINING

JHPIEGO includes clinical training in reproductive health programs whenever there are adequate facilities and enough patients to meet its certification requirements in laparoscopy, minilaparotomy, IUD insertion, or local anesthesia/conscious sedation. Table 4 shows countries in which clinical training was offered during fiscal 1984 and the percentages of the training done in each region. The greatest proportion of physicians and nurses received clinical training in the Near East. This is to be expected since the training centers in Egypt, Morocco, and Tunisia serve as regional training centers for health professionals from sub-Saharan Africa. In Turkey, enrollment in the endoscopy program increased sharply from fiscal 1983 to 1984 after the government liberalized its family planning laws.

One-quarter of the professionals were trained in Africa, compared with 5 percent in fiscal 1983. New programs in Cameroon, Nigeria, and Sierra Leone contributed to the increase.

TABLE 2A Number of participants at in-country and regional training centers, fiscal 1984

Region[a]	Clinical Courses: Physicians: Advances in Reproductive Health	Clinical Courses: Physicians: Micro-surgery	Clinical Courses: Physicians: Anesthesiology	Clinical Courses: Nurses	Didactic Update: Admin.	Didactic Update: Physicians	Didactic Update: Nurses	Undergraduate Training: Medical Students	Undergraduate Training: Nursing Students	Total
Africa	126	0	37	109	21	197	220	18	0	728
Asia	53	7	0	62	5	57	57	86	0	327
Lat. Amer./ Caribbean	132	0	11	160	20	158	66	6,147	109	6,803
Near East	67	0	30	95	0	66	0	0	0	258
TOTAL	378	7	78	426	46	478	343	6,251	109	8,116

Note: If a health professional attended more than one course, he or she is counted once for each course taken. This table includes some course participants who were trained in fiscal 1983 but whose documentation did not arrive in time for them to be included in last year's annual report. [a]Participant's region of institutional affiliation.

TABLE 2B Number of participants at in-country and regional training centers, inception through fiscal 1984

Region[a]	Clinical Courses: Physicians: Advances in Reproductive Health	Clinical Courses: Physicians: Micro-surgery	Clinical Courses: Physicians: Anesthesiology	Clinical Courses: Nurses	Didactic Update: Admin.	Didactic Update: Physicians	Didactic Update: Nurses	Undergraduate Training: Medical Students	Undergraduate Training: Nursing Students	Total
Africa	457	0	54	268	21	317	318	34	0	1,469
Asia	808	13	0	402	38	172	120	223	0	1,776
Lat. Amer./ Caribbean	850	36	109	598	20	1,000	66	13,932	365	16,976
Near East	614	0	71	556	0	525	0	0	0	1,766
TOTAL	2,729	49	234	1,824	79	2,014	504	14,189	365	21,987

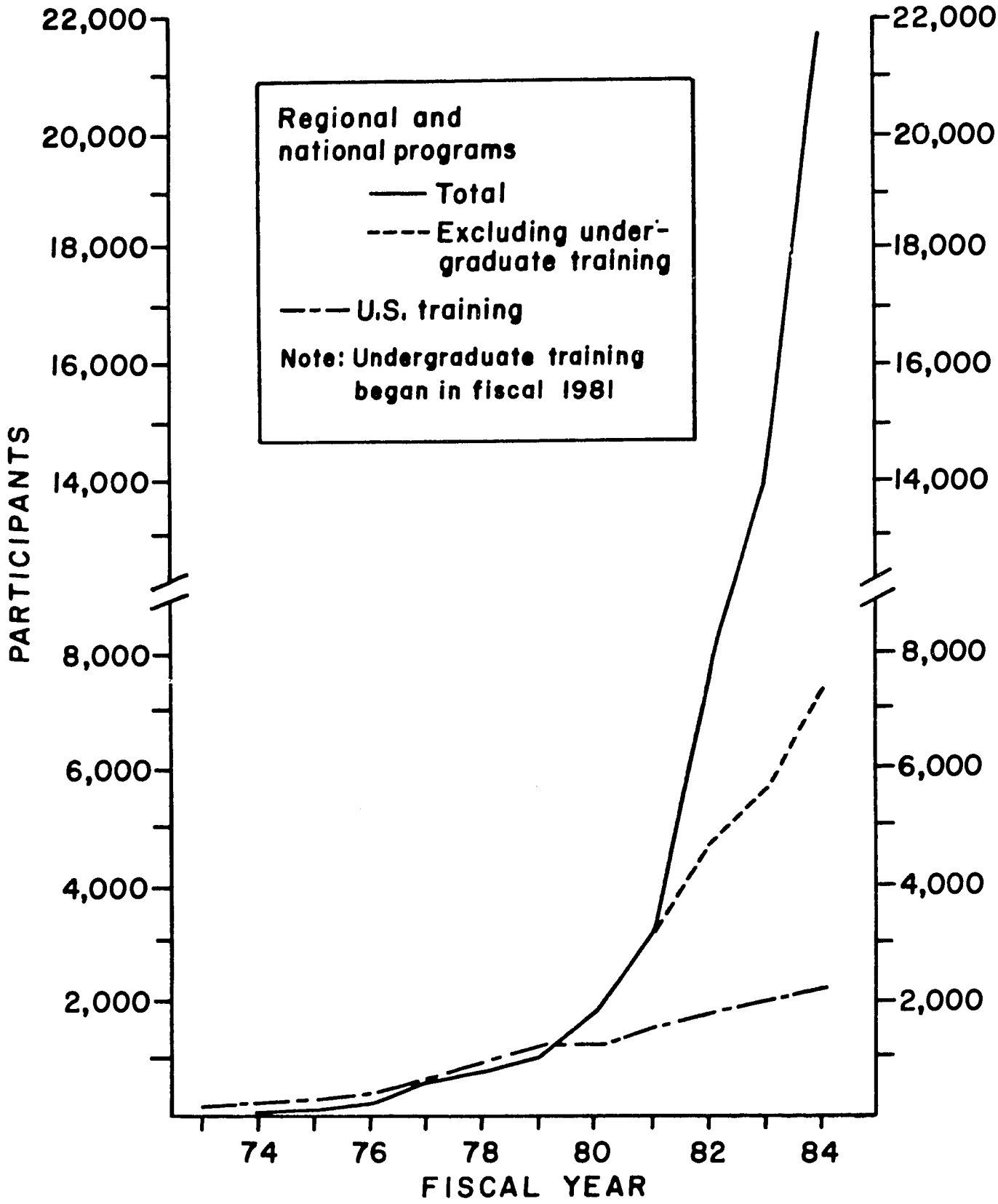

FIGURE 2 Cumulative totals of participants in JHPIEGO-supported programs by fiscal year

TABLE 3A Number of participants at the Johns Hopkins Educational Center, fiscal 1984

Region	Clinical Courses for Physicians				Reproductive Health for Administrators	Academic Skills	Total
	Advances in Reproductive Health	Sexually Transmitted Diseases	Infertility	Micro-surgery			
Africa	15	33[a]	14[a]	4	30	8	104
Asia	0	5	4	0	8	14	31
Latin America/ Caribbean	1	4	2	0	0	0	7
Near East	0	3	2[b]	1	6[a]	1	13
TOTAL	16	45	22	5	44	23	155

[a]Includes one trainee funded by the Noyes Foundation. [b]Includes one privately funded trainee.

TABLE 3B Number of participants at U.S. training centers, inception through fiscal 1984

Region	Clinical Courses for Physicians				Reproductive Health for Administrators	Academic Skills	INEP[a]	Total
	Advances in Reproductive Health	Sexually Transmitted Diseases	Infertility	Micro-surgery				
Africa	115	68	116	14	219	34	34	600
Asia	281	9	26	6	73	42	51	488
Latin America/ Caribbean	504	11	111	14	233	16	10	899
Near East	109	4	41	7	73	11	3	248
TOTAL	1,009	92	294	41	598	103	98	2,235

[a]International Nurse Education Program conducted from fiscal 1977 to 1979.

TABLE 4 Clinical training in fiscal 1984: Percentages trained by region and countries in which clinical training was conducted

Region/country	Percentage[a]
Africa	25
Cameroon	
Kenya	
Nigeria	
Sierra Leone	
Somalia	
Tanzania	
Asia	19
Malaysia	
Philippines	
Thailand	
Latin America/Caribbean	21
Brazil	
Colombia	
Jamaica	
Near East	36
Egypt	
Morocco	
Tunisia	
Turkey	

[a]Percentages are based on 675 trainees with full documentation who attended in-country, regional, or U.S. courses.

TABLE 5 Number of medical institutions represented by course participants at in-country, regional, and U.S. training centers, by region, inception through fiscal 1984

Region	Total Institutions[a]	Medical Schools		
		In Region[b]	Represented by Course Participants	%
Africa	726	46	39	85
Asia[c]	765	81	54	65
Latin America/ Caribbean	1,298	187	127	68
Near East	449	46	31	67
Total	3,238	360	251	70

Note: Course participants include administrators, physicians, nurses, and paramedical personnel; students are not included.

[a]Includes all types of medical institutions providing reproductive health care, for example, medical schools, hospitals, or maternal and child health centers.

[b]Only current AID-designated countries are included.

[c]Excluding China.

The percentage trained in Latin America dropped from about 40 in fiscal 1983 to 20 in fiscal 1984. Delays beyond JHPIEGO's control forced the postponement of clinical training programs in Brazil and Colombia.

Asian programs trained 19 percent of the professionals, about the same as in fiscal 1983. A decrease in training in Malaysia and the postponement of a course in Sri Lanka were offset by larger enrollments in Thailand.

INSTITUTIONAL OUTREACH

JHPIEGO encourages health professionals who have participated in JHPIEGO-supported reproductive health training programs to return to their institutions and pass along their new skills and knowledge to their co-workers. In this way, several professionals or an entire institution (medical school, hospital, or maternal and child health center) can benefit from the training that JHPIEGO has provided to an individual. Since its inception, JHPIEGO has trained professionals from over 3,200 institutions in developing countries (Table 5). During fiscal 1984, 384 institutions were reached for the first time.

Medical schools provide essential support for many of JHPIEGO's overseas programs. Courses are often taught by medical school faculty and they are conducted in medical school facilities, clinics, or affiliated hospitals. JHPIEGO's strategy in a country usually includes plans to upgrade the reproductive health training provided in medical schools. JHPIEGO has trained health professionals from 70 percent of the medical schools in countries in which AID authorizes training (Table 5). The highest proportion, 85 percent, has been reached in Africa. Roughly two-thirds of the medical schools have been reached in Asia, Latin America, and the Near East. JHPIEGO has reached 79 percent of the medical schools in countries with ten or fewer schools.

The following chapters describe reproductive health programs in each of the regions and at the Johns Hopkins Educational Center in Baltimore.

AFRICA

In fiscal 1984, JHPIEGO supported 15 programs in 11 countries in sub-Saharan Africa, an increase from six programs in five countries in fiscal 1983. The expansion of JHPIEGO's activities in Africa is part of a larger strategy formulated by AID to increase development activities in the region. The governments of many sub-Saharan African countries have recently become more receptive to initiatives in reproductive health and family planning as they have recognized the harmful effects that rapid population growth has on economic growth and public health, especially the health of women and children. The successful family planning programs in Asia and Latin America have also persuaded African officials of the benefits of family planning. As a leading organization in the field of reproductive health training, JHPIEGO is playing an important role in the upgrading of family planning services in sub-Saharan Africa.

JHPIEGO has had a long-standing commitment to sub-Saharan Africa. Health personnel from all but three sub-Saharan African countries have participated in reproductive health training programs supported by JHPIEGO (Angola, Namibia, and Swaziland are the exceptions). Since JHPIEGO's inception, over 2,000 physicians, nurses, and medical students from 726 medical institutions have participated in JHPIEGO-supported programs. These past activities in sub-Saharan Africa have laid a solid foundation for the current acceleration of training in the region.

The focus on sub-Saharan Africa is apparent throughout this annual report. The number of African health personnel trained rose almost 140 percent from fiscal 1983 to 1984, from 347 to 832 (Table 1A). More health professionals (i.e., excluding medical students) from Africa participated in JHPIEGO-supported programs than from Asia, Latin America, or the Near East. Two-thirds of the health professionals who took courses at the Johns Hopkins Educational Center in Baltimore in fiscal 1984 were from Africa (Table 3A). Half of the trips made during fiscal 1984 for program development, site visits, or field visits by JHPIEGO staff or consultants were made to sub-Saharan Africa. The number of laparoscopic systems shipped to sub-Saharan African countries increased by one-third between fiscal 1983 and 1984, and over $80,000 worth of educational materials, one-half of the total value of materials shipped during the year, went to countries in sub-Saharan Africa. To manage this burgeoning activity, JHPIEGO hired a third assistant regional development officer for Africa.

In fiscal 1984, programs continued in Kenya, Nigeria, Somalia, the Sudan, and Tanzania, and programs were initiated in Cameroon, Mauritius, Nigeria, Sierra Leone, Uganda, Zaire, and Zimbabwe. Nigeria has been singled out for intensive development of its health care system by AID. JHPIEGO contributed to this effort with five programs in fiscal 1984. Early in the year, JHPIEGO sponsored a workshop

for Nigerian health officials in Baltimore to develop proposals for reproductive health training in the priority states designated by the Federal Government of Nigeria. Ten new programs are planned for fiscal 1985.

JHPIEGO's strategy in sub-Saharan Africa is indicated by the numbers of physicians and nurses trained in fiscal 1984. Africa was the only region in which the enrollment of nurses in didactic courses exceeded that of physicians (Table 1A). Because of the shortage of physicians, nurses and paramedics provide a large share of the health care in the region. As a result, JHPIEGO has emphasized the training of nurses and paramedical personnel in many of its programs. Substantial emphasis is given to training of trainers in order to ensure that reproductive health concepts are incorporated into the curricula of nursing schools and other training institutions.

Regional and U.S. training of health professionals is another important aspect of JHPIEGO's strategy for the region. Regional training offers specialized instruction that is not generally available or that would be too costly to provide in many sub-Saharan African countries. Approximately 60 physicians and nurses from sub-Saharan African countries participated in reproductive health training programs in Egypt, Morocco, and Tunisia that included instruction in laparoscopy, minilaparotomy, local anesthesia/conscious sedation, and IUD insertion. Clinical training south of the Sahara is difficult to establish because the patient base in many health centers is too small to provide course participants with the 10 to 15 procedures that each must perform under supervision in order to master a technique. Accordingly, Africa was the only region in which the enrollment of physicians and nurses in clinical courses was less than that in didactic courses. In fiscal 1985, JHPIEGO will support its first regional training program south of the Sahara in Dakar, Senegal. The center will offer courses in reproductive health and family planning, including diagnostic and therapeutic laparoscopy.

Approximately 100 key physicians, senior nursing personnel, and administrators from Anglophone and Francophone African countries attended courses at the Johns Hopkins Educational Center in Baltimore during fiscal 1984. The proportion of African health personnel rose from one-half in fiscal 1983 to two-thirds in fiscal 1984. Many of the project directors for in-country programs in sub-Saharan Africa are selected from participants in these U.S. courses.

Despite the significant progress shown this past year, JHPIEGO's experience in Africa has shown that the pace of training is slower there than in other regions for five reasons:

-- poor infrastructure
-- lack of defined facilities for clinical training
-- lack of knowledge about available family planning services
-- lack of national commitment to family planning or only a recent commitment
-- higher costs per trainee

In addition, lack of funds has slowed implementation of approved programs and restricted program expansion.

The following pages describe JHPIEGO's activities in Africa south of the Sahara. Programs in North Africa are included in the section on the Near East.

WEST AFRICA

BENIN

One physician and one anesthetist from Benin were trained in Tunisia during fiscal 1984. Four health professionals from Benin took courses at the Johns Hopkins Educational Center in Baltimore. Two attended the course on sexually transmitted diseases, and one each attended the administrators' course and the course on advances in reproductive health.

BOURKINA FASSO (formerly Upper Volta)

An anesthetist, a physician, and a nurse from Bourkina Fasso participated in programs in Morocco and Tunisia during fiscal 1984. Three health professionals took the administrators' course given at the Johns Hopkins Educational Center in Baltimore.

GHANA

One health professional from Ghana took the academic skills course given at the Johns Hopkins Educational Center.

GUINEA

On physician and one nurse from Guinea were trained in Morocco during fiscal 1984. Three health professionals took courses at the Johns Hopkins Educational Center. One each took the courses on advances in reproductive health, STDs, and reproductive health for administrators.

IVORY COAST

As in many developing countries, reproductive health training in the Ivory Coast is divided among obstetrics, gynecology, pediatrics, and public health, and the training for physicians is different from that for nurses and other health care workers. A site visit was made to the Ivory Coast in the summer of 1984 to develop a reproductive health education program that will offer a comprehensive course to medical students, obstetrician-gynecologists, and nursing and midwifery students. The program will begin in fiscal 1985 and is expected to run for three years.

During fiscal 1984, one field visit was made to Daloa in the central region of the Ivory Coast to inspect a laparoscopic system.

Regional and U. S. Training

One anesthetist and one physician from the Ivory Coast were trained in, respectively, Tunisia and Morocco, during fiscal 1984. One physician attended the course on advances in reproductive health given at the Johns Hopkins Educational Center in Baltimore.

LIBERIA

Reproductive Health Training Program (NCA-54)

The Ministry of Health in Liberia is moving steadily toward its goal of providing family health services in each of the 288 government health facilities. The Reproductive Health Training Program assists the Ministry of Health and Social Welfare in training 36 physicians in government hospitals and health centers.

In fiscal 1984, seven health professionals from the Ministry's In-Service Training Division attended a one-week lecture and clinical observation course on reproductive health. (Due to delays in sending documentation, they are not included in Tables 1 and 2.) These professionals -- physicians, nurses, and environmental

health specialists -- are responsible for all in-service training and continuing education activities conducted by the Ministry. The course included lectures on child spacing, oral contraception, nutrition for mothers and young children, management and treatment of sexually transmitted diseases, the treatment of infertility, and the organization and administration of family planning and maternal and child health services in Liberia. The clinical observation section included visits to outpatient family planning clinics, including clinics for voluntary surgical contraception. These professionals will continue the training of physicians when the JHPIEGO program has ended.

Regional and U.S.Training

Two Liberian nurses were trained in Egypt during fiscal 1984. Three health professionals from Liberia took courses at the Johns Hopkins Educational Center in Baltimore. Two attended the administrators' course and one attended the microsurgery course.

MALI

JHPIEGO has designed a reproductive health training program in cooperation with the National School of Medicine and Pharmacy in Mali for third-, fourth-, and fifth-year medical students. The medical school is currently reviewing its needs with regard to the proposal.

Regional and U.S.Training

Four physicians, three nurses, and an anesthetist from Mali were trained in Tunisia and Morocco during fiscal 1984. Three health professionals took courses at the Johns Hopkins Educational Center in Baltimore during fiscal 1984. One each took the courses on advances in reproductive health, STDs, and reproductive health for administrators of family planning programs.

MAURITANIA

Two health professionals from Mauritania attended JHPIEGO courses in the United States. One took the STD course and the other took the administrators' course.

NIGER

Four health professionals from Niger took courses at the Johns Hopkins Educational Center in Baltimore. Two took the course on advances in reproductive health and one each took the STD course and the administrators' course.

NIGERIA

In early 1983, the Government of Nigeria asked AID to coordinate a major integrated family health program consisting of family planning, oral rehydration therapy, and immunization. Initially, three states were designated as "accelerated states," in which program activities were to be especially intense. By August 1984, 15 states had become accelerated. UNICEF and the World Health Organization were called on to manage oral rehydration therapy and immunization programs, and UNFPA and AID were to handle family planning programs. The active role of AID in Nigeria is expected to last for five years, from 1984 to 1989.

JHPIEGO has supported an endoscopy course in Ibadan since 1979. In 1983, a Reproductive Health Training Program was established at Ahmadu Bello University in Zaria, Kaduna State. With the AID initiative, JHPIEGO activity in Nigeria expanded to five programs in fiscal 1984; ten new programs are planned for fiscal 1985. Figure 3 shows the location of JHPIEGO-supported training centers in Nigeria and those proposed for fiscal 1985. Planning for the new initiative in Nigeria began with a meeting in October 1983 of Nigerian administrators in Baltimore to develop a

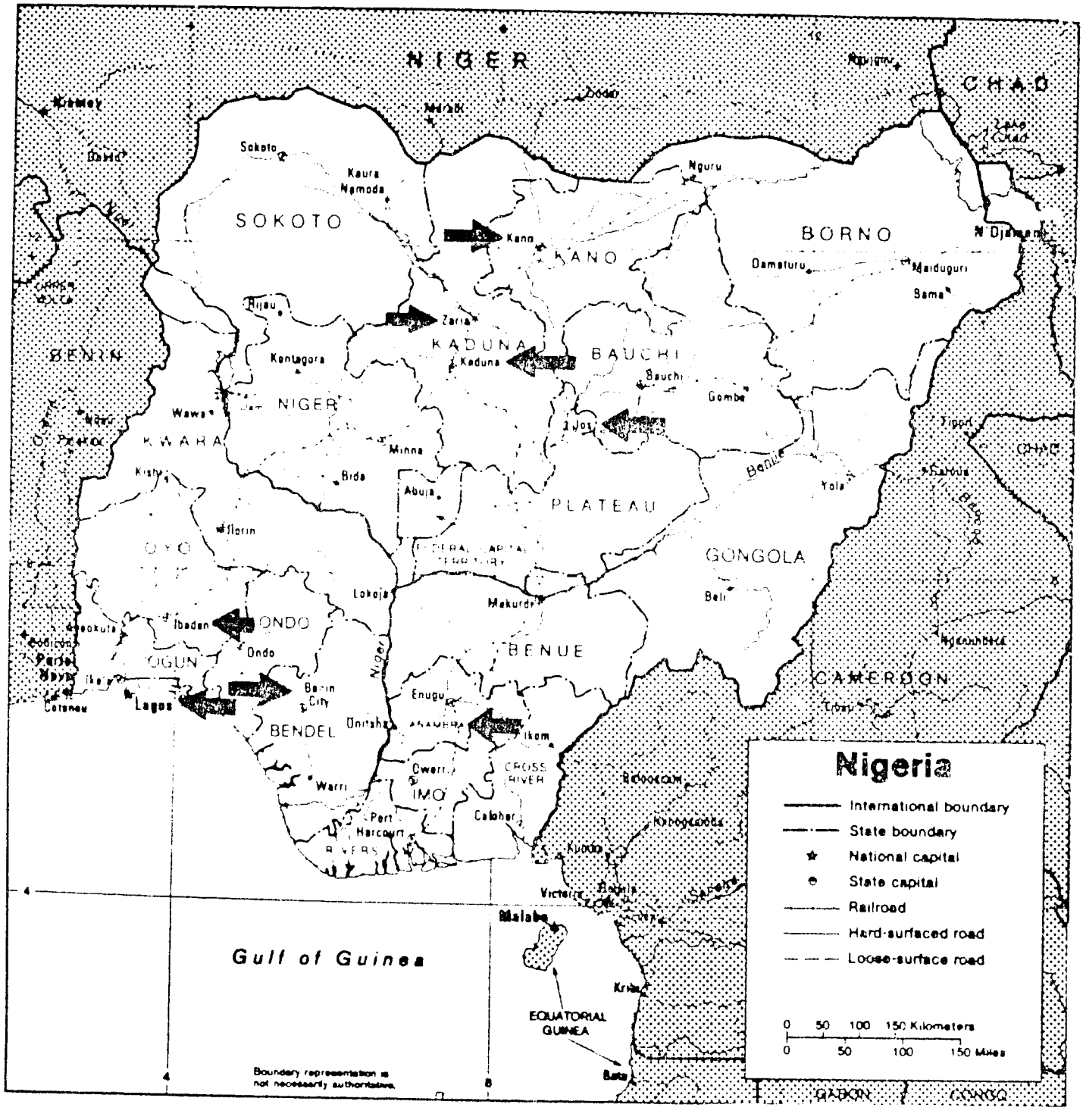

FIGURE 3 Nigeria: Arrows indicate the location of fiscal 1984 and 1985 training programs (adapted from "Nigeria," Background Notes, U.S. Dept. of State)

strategy for training in reproductive health. Project directors for the Nigerian programs have been chosen from among the Nigerian health professionals who have attended courses at the Johns Hopkins Educational Center.

University of Ibadan Endoscopic Training Program (NCA-11)

JHPIEGO supports an endoscopy training program in Nigeria that began in May 1979. An operating area devoted to endoscopy was opened at the University College Hospital of the University of Ibadan in July 1984. In fiscal 1984, this program called for the training of teams of Nigerian physicians and operating theatre nurses in reproductive health care with emphasis on diagnostic and therapeutic laparoscopy.

The physician courses are conducted in two-week sessions. The physicians attend lectures on the basic reproductive health and family planning curriculum. Additional lectures cover local and general anesthesia for laparoscopy and minilaparotomy, the care and maintenance of the laparoscopic equipment, preparation of the operating room, and basic techniques of instrument sterilization. Each trainee performs a minimum of 15 endoscopic procedures. A JHPIEGO in-country consultant conducts a three-day field visit to install Laprocators at the institutions of the physicians who have been certified as competent to perform laparoscopy.

The course for operating theatre nurses is one week long and is given during the first week of the physician course so that the nurses can assist the physicians as they perform their endoscopic procedures. The physicians stay an extra week to perform the required number of procedures. The nurses are recruited from the same hospitals as the physicians so that there is at least one physician and one nurse team trained in laparoscopy at each hospital. The nurses and physicians attend lectures together, and nurses receive follow-up training in patient counseling.

Nine physician-nurse teams were trained in July 1984, and another 11 teams are expected to take the course in early fiscal 1985. In fiscal 1985, two JHPIEGO consultants are scheduled to demonstrate the new techniques of local anesthesia/conscious sedation.

The program will be renewed and another 24 teams are expected to be trained in fiscal 1985. A new component -- training for eight anesthesiologists, anesthetist-technicians, and physicians in techniques of local anesthesia/conscious sedation -- will be included in the renewal program.

Repair and Maintenance Center (NMA-18)

During fiscal 1984, the Femope Marketing Company delivered laparoscopic systems to four hospitals and assisted physicians in the installation of the equipment. The company made six visits to repair equipment and 19 preventive maintenance visits. It provided on-site training to eight nurses at four institutions in the maintenance of laparoscopic equipment.

Reproductive Health/Family Planning Training for Tutors of Nurses, Midwives, and Community Health Workers (NCA-70)

There are a total of 41 schools of nursing, schools of midwifery, and schools of health technology in Lagos, Niger, Ogun, Ondo, and Plateau states. These five states were among the first to be designated as accelerated states. Currently, instruction in reproductive health and family planning in these schools generally consists of only four hours of lectures and one day observing a family planning clinic. The Ministry of Health has identified three broad areas where the knowledge and skill of the tutors need to be improved: reproductive health/family planning, patient assessment and management, and clinic management and outreach. This

program is designed to update the clinical skill and knowledge of approximately 90 tutors, at least two from each school, who are responsible for teaching family planning. It is the first reproductive health program in Nigeria designed solely for tutors. The program is administered by the College of Medicine of the University of Ibadan.

The course covers the rationale for family planning, family planning in Nigeria, child spacing, contraceptives and their side effects, infertility, and special problems of the adolescent. The tutors learn to take a patient history, do a physical exam, and determine when a patient has to be referred to a doctor. In a clinical management section, the course covers the issue of informed consent for use of contraceptives, strategies in dealing with the community, confidentiality in recordkeeping, personnel issues, and inventory.

The course stresses clinical skills. In the clinical component, each tutor must demonstrate proficiency in five areas: (1) screening and referral of high-risk patients; (2) breast, abdominal, and gynecological examination, IUD insertion (each tutor must insert at least ten IUDs), and diaphragm fitting; (3) performance and interpretation of diagnostic tests for infertility, sexually transmitted disease, pelvic inflammatory disease, and pregnancy; (4) patient counseling and informed consent, immunization and oral rehydration therapy, and nutrition in pregnancy; and (5) clinic administration and reproductive health at the local level. The tutors advise about 50 new family planning clinic clients. After their training, they return to their teaching duties at their schools.

Four courses were held for 58 tutors in June, July, August, and September 1984. The remainder of the training will be completed during fiscal 1985.

The program has become well known in Nigeria, and the University of Ibadan has received requests for tutor training from all over the country. Tutors will be accepted from other states in addition to the initial five accelerated states. When the program is renewed, tutors will be recruited from the entire country.

Integration of Family Planning into the Curriculum of Nurses, Midwives, and Community Health Workers (NCA-69)

This program builds on the previous one that trains tutors in the schools of nursing, midwifery, and health technology. Its intent is to upgrade the curriculum in reproductive health in these schools.

A core committee met in July 1984 in Ibadan to plan a workshop for tutors and chief nursing officers. It consisted of seven representatives from the Federal Council for Midwifery and Nursing, the West African College of Nurses, the National Association of Nurses and Midwifery, and one tutor each from a school of nursing, a school of midwifery, and a school of health technology. The committee formulated the agenda for the workshop, identified group leaders, decided on presentation topics, and chose guest speakers.

The workshop for 41 tutors from the schools of nursing, midwifery, and health technology, and for 12 chief nursing officers is scheduled for early fiscal 1985 in Ibadan. There will be one tutor from each of the 41 schools in the five states of Lagos, Niger, Plateau, Ogun, and Ondo, and they will all be graduates of the course in reproductive health. The tutors and nursing officers will discuss and develop a graduated curriculum in reproductive health/family planning that could be integrated into the current curriculum of the schools.

A follow-up meeting of the core committee is planned for late fiscal 1985. In addition to the original committee, representatives from each of the initial five accelerated states will attend to present proposals for innovative methods of integrating family planning into the curriculum of the schools of nursing, midwifery,

and health technology in their states. JHPIEGO will support the best proposals. Upgrading the curriculum in reproductive health of these schools is an important activity, and JHPIEGO expects that workshops will eventually be held for most states. A four-day curriculum development workshop in Zaria for the northern states is being planned for fiscal 1985.

Reproductive Health Training Program, Bendel State (NCA-62)

Medical officers in rural health centers and hospitals have little opportunity to improve their skills in family planning and maternal and child health care. This program establishes a regional Reproductive Health Training Center in the Department of Obstetrics and Gynecology in the University of Benin Teaching Hospital in Benin City, Bendel State, and it supports two two-week courses in reproductive health for 40 physicians from Bendel, Ondo, Ogun, and Kwara states.

In addition to the basic curriculum in reproductive health and family planning, the course covers infectious diseases and general medicine, antenatal care as a preventive measure, maternal and perinatal mortality in Nigeria and in the area of Bendel State, high-risk pregnancy, recent advances in obstetrics and gynecology, and gynecological disorders (vulvovaginitis, pelvic inflammatory disease, sexually transmitted diseases, infertility, and cancer of the genital tract). There is also a section on child health that covers infant and child diseases, immunization, breast-feeding, and malnutrition. Clinic sessions are held in the family planning clinic, antenatal clinic, gynecology clinic, and the labor ward. The physicians participate in the clinical activities of the Department of Obstetrics and Gynecology during the evenings to observe the treatment of high-risk pregnancies and gynecological problems.

In June 1984, 21 medical officers from hospitals in Bendel State took the course. A second course for 19 medical officers from Bendel, Kwara, Ogun, and Ondo states will be held in early fiscal 1985 to reach the 40 physicians stipulated in the agreement. The extension of the program beyond fiscal 1985 is expected to include the training of 48 medical officers from these four states and from Imo and Cross River states as well.

Ahmadu Bello University Reproductive Health Training Program (NCA-48)

This program is designed to upgrade reproductive health care in Kaduna State by providing postgraduate or refresher training to personnel working in Ministry of Health facilities. The goals of the program are (1) to establish a reproductive health care training center in the Department of Obstetrics and Gynecology at the Ahmadu Bello University in Zaria, and (2) to train medical officers, senior nurse-midwives, and community health workers in the Ministry of Health of Kaduna State in child-spacing services. The program started in July 1983.

Courses are two weeks long and consist of lectures and clinical demonstrations. Instruction in child spacing includes contraception, strategies for administering family planning and maternal and child health (MCH) programs, and the organization of in-service training for family planning and MCH in rural health centers. Additional lectures cover issues in obstetrics and gynecology (high-risk pregnancy, hypertension, anemia, prolonged labor, pelvic infection, sexually transmitted disease, vaginitis, etc.) Physicians and paramedical personnel take the course together and are expected to return to their home institutions and train their colleagues. The participants are provided with extra books for the health professionals that they train at their home institutions.

During fiscal 1984, 51 health care personnel took the course. Ten physicians and 25 nurses or paramedical personnel took courses in March and July 1984. A

course in December 1983 was attended by 16 nurses and paramedical personnel. Most of the course participants were from Kaduna State. Several were from Niger and Kano states, two of the accelerated states, and had received special permission to attend.

During fiscal 1985, three courses are scheduled for 60 health personnel. Because of the number of requests from neighboring states to participate in the course, health personnel from Niger, Sokoto, and Kwara states will be allowed to attend.

A clinical component of the course will be offered in fiscal 1985. It is one of three new programs that are being initiated in northern Nigeria. They are described in the next section.

Fiscal 1985/86

JHPIEGO's strategy for future training in Nigeria has three main components: (1) continued clinical training in reproductive health in underserved states, (2) further programs to improve the curriculum in reproductive health and family planning of the medical and nursing schools, and (3) programs to broaden the ability of the infrastructure to deliver services.

Clinical Training

JHPIEGO will support three programs in the northern states of Kaduna, Kano, and Plateau in fiscal 1985. The program in Kaduna State will provide for two-week clinical practice courses for health personnel from Kaduna and three states in northwest Nigeria: Kwara, Niger, and Sokoto. The program will be coordinated with the lecture/observation courses at Ahmadu Bello University in Zaria. It will cover major topics in reproductive health and family planning, IUD insertion, and provision of contraceptive services. Fifteen 1984 graduates of the Ahmadu Bello program and all 60 of the participants in fiscal 1985 are expected to participate.

The Kano State program will provide reproductive health training for 45 physicians, nurses, and midwives from Kano and three neighboring states in northeast Nigeria: Bauchi, Borno, and Gongola states. The course will also be open to 60 paramedical students.

The Plateau State program at the University of Jos will support the training of 24 medical officers in the Plateau Ministry of Health. One goal of the program is to strengthen reproductive health training at the University so that it can become a regional training center for personnel from other states in northern Nigeria.

JHPIEGO will collaborate with the Pathfinder Fund on a fourth reproductive health training program in Anambra State.

The Army Medical Corps of Nigeria will conduct a reproductive health training program for 170 physicians and nurse-midwives in the army, navy, and air force. JHPIEGO will supply educational materials and equipment.

JHPIEGO will support a reproductive health training program for nurses, midwives, and nursing and midwifery students in Bendel State in fiscal 1985. It will be administered by the University of Benin and the Ministry of Health and will include one week of lectures and two weeks of clinical practice.

Curriculum Development

JHPIEGO will support a training of trainers course at the College of Medicine of the University of Ibadan for tutors of nurses, midwives, and community health workers from Bendel, Cross River, and Kaduna states. The course will include instruction in reproductive health and academic skills. The contingents from Bendel, Cross River, and Kaduna states will subsequently conduct courses in their states with the help of consultants from the University of Ibadan. A fifth experimental course will be

conducted in Ogun State by consultants from the University of Ibadan without a previously trained state contingent. If the Ogun State course is successful, it may be used as a model for tutor training in other states.

Following up the successful curriculum development workshop in Ibadan, JHPIEGO is planning a four-day curriculum development workshop at Ahmadu Bello University in Zaria, Kaduna State, for the northern states of Nigeria. About 40 nurse-midwife tutors are expected to participate.

JHPIEGO is planning a three-day seminar for the provosts or deans of Nigeria's 13 medical schools and the chairmen of the departments of Obstetrics and Gynecology and Community Medicine to standardize the curriculum of the medical schools in reproductive health.

Broadening of Services

Two courses on sexually transmitted diseases (STDs) in fiscal 1985 will be supported for 40 Nigerian physicians and nurses. In fiscal 1986, regional STD courses will be held for health personnel from Anglophone African countries. The site of the training will be the Department of Microbiology of the College of Medicine, University of Ibadan.

The College of Medicine of the University of Lagos and the Lagos State Ministry of Health will organize a reproductive health program with JHPIEGO support to improve health care in the urban, semiurban, and rural areas of Lagos and Ogun states. The program will provide postgraduate or refresher training, emphasizing techniques of health protection and promotion, to physicians, senior nurse midwives, and community health officers in the state's Ministry of Health facilities and the local government health departments.

Following up the fruitful October 1983 planning workshop in Baltimore, JHPIEGO has been asked to organize and conduct a two-week planning/management workshop for health professionals employed by state ministries of health and health management boards. It is hoped that physicians and nurse-midwives will attend from the 14 states that were not represented at the previous workshop. The participants will attend presentations on reproductive health and they will discuss the logistics for implementation of the family planning program in the individual states. Other agencies in the field of reproductive health are expected to contribute.

Regional and U.S. Training

One Nigerian nurse was trained in Egypt during fiscal 1984. Nineteen health professionals from Nigeria took courses at the Johns Hopkins Educational Center in Baltimore. Five attended the STD course and the administrators' course, four attended the academic skills course and the infertility course, and one took the microsurgery course.

SIERRA LEONE

Sierra Leone has no medical school and there are only about 400 physicians in the country; the shortage of physicians is particularly acute in rural areas. The Princess Christian Maternity Hospital in Freetown is the only specialized hospital in the country. JHPIEGO has trained 15 doctors or administrators from Sierra Leone in U.S. courses since 1978, but some are no longer in government service. Therefore, JHPIEGO continues to support in-country training.

Reproductive Health Training Program (NCA-47)

Fiscal 1984 was the first year of this three-year training program, which is conducted at the Princess Christian Maternity Hospital and at four other family planning centers in Freetown. Three combined courses for 14 physicians and 20 nurses and midwives were conducted in February, March, and May of 1984. Health

personnel from each of the 12 districts of the country and the Western Area attended the courses. Nine institutions sent a physician-nurse team.

The courses comprised two weeks of lectures on reproductive health and one week of clinical practice. Physician clinical training focused on minilaparotomy. The nurses and midwives learned to assist the physicians during minilaparotomy procedures, and they also received training in IUD insertion.

In fiscal 1985, the program calls for the training of up to 15 physicians and 20 nurses or midwives. Clinical training for physicians will again focus on minilaparotomy and that for nurses/midwives on patient counseling and IUD insertion.

Regional and U.S.Training

Two nurses from Sierra Leone were trained in Egypt during fiscal 1984. Two health professionals took courses at the Johns Hopkins Educational Center in Baltimore. One each attended the STD course and the infertility course.

SENEGAL

JHPIEGO has long been convinced of the need to offer clinical training in reproductive health in a sub-Saharan, Francophone African country. Until now, health personnel from Francophone Africa had to travel to Morocco or Tunisia to receive their clinical training in programs supported by JHPIEGO. During fiscal 1984, two site visits were made to Senegal to develop a clinical training center at the Faculty of Medicine and Pharmacy of the University of Dakar, one of the oldest medical schools in Francophone Africa. It was created in 1948, having taken over the African School of Medicine, which had been established in 1919. The Faculty of Medicine is experienced in regional training in obstetrics and gynecology; a large number of obstetrician-gynecologists from West and Central Africa have been trained at the Faculty of Medicine. One-third of the graduates of the University of Dakar are not Sengalese.

Fiscal 1985 will be the first year of this multiyear program. Two courses are scheduled for 32 physicians and nursing personnel from Senegal and other Francophone African countries. The courses will emphasize prevention in maternal and child health and will include training in family planning and laparoscopy. The first course will cover the range of contraceptive methods and their role in preventing maternal and infant mortality. The second course will emphasize the prevention and treatment of sterility through the use of laparoscopy.

Regional and U.S. Training

One anesthetist and two nurses from Senegal were trained in Morocco and Tunisia during fiscal 1984. Four Senegalese took courses at the Johns Hopkins Educational Center in Baltimore. Two took the course on advances in reproductive health and two took the STD course.

TOGO

Two nurses and one physician from Togo were trained in Morocco and Tunisia during fiscal 1984. One health professional from Togo took the administrators' course given at the Johns Hopkins Educational Center in Baltimore.

CENTRAL AFRICA

CAMEROON

JHPIEGO supported two programs in Cameroon in fiscal 1984: a postgraduate reproductive health training program and an anesthesia update course.

Postgraduate Reproductive Health Training Program (NCA-51)

The Postgraduate Reproductive Health Training Program calls for the training of obstetrician-gynecologists, general practitioners, and certified nurse-midwives in a three-week course.

The course for the obstetrician-gynecologists was offered by the University Center for Health Sciences (CUSS) in Yaounde. It included 30 to 40 hours of lectures on reproductive health and family planning, epidemiology, biostatistics, preventive obstetrics and gynecology, screening for sexually transmitted diseases and gynecologic cancer, prenatal assessment, and so on. The clinical component covered IUD insertion, the infertility workup, and the indications for referral of patients. The physicians performed a minimum of 15 laparoscopic procedures for the diagnosis of infertility and for fertility control.

The three obstetrician-gynecologists trained in fiscal 1984 were from Douala, Bamenda, and Limbe. Laparoscopy equipment is being installed in their home institutions. (Because of delays in sending documentation, these physicians are not included in Tables 1 and 2.) It is hoped that the reproductive health training program will lead to the establishment of regional training centers for instruction in laparoscopy and methods of child spacing, and to the establishment of more family planning clinics in Cameroon. There are currently only two family planning clinics in Cameroon, both in Yaounde.

Anesthesia Update Training Program (NCA-50)

The services of surgery and obstetrics and gynecology in Cameroon suffer from a severe shortage of qualified health personnel in anesthesia. There are only four anesthesiologists and approximately 30 nurse-anesthetists in two central hospitals and five provincial hospitals. Anesthesia in the majority of the institutions is performed by health personnel who have not received specialized training. Only ten nurse-anesthetists graduate every year from the specialist training school.

The anesthesia update training program is designed to improve the skills of health personnel who currently perform anesthesia. Courses emphasize local anesthesia for endoscopy and minilaparotomy, which is safer than general anesthesia. Each course includes lectures and demonstrations on preoperative assessment, patient counseling, anesthesia risk, premedication, anesthesia methods, resuscitation techniques, patient monitoring, anesthesia for reproductive health services, and the principles of communication and education. The program is administered by the Ministry of Public Health and it supports the Postgraduate Reproductive Health Training Program. Anesthesia personnel are selected from institutions at which there are physicians trained to perform endoscopic procedures under local anesthesia.

Two one-week seminars were held in July 1984, one in French at the Central Hospital in Yaounde for 12 anesthesia trainers, and the other in English at the Bamenda Provincial Hospitals for eight anesthesia trainers. These 20 key medical and paramedical anesthesia trainers are from the major medical institutions in each province of Cameroon.

The course in Yaounde was held at the same time as the initial training course for the three obstetrician-gynecologists in the postgraduate reproductive health

training program so that the physicians could become familiar with local anesthesia techniques. It is hoped that the anesthesia trainers will follow the example and invite both physicians and anesthesia personnel to the seminars that they hold in their provinces.

Fiscal 1985/86

JHPIEGO has developed a didactic and clinical training program for nurses and certified nurse-midwives working in missionary hospitals in the northwest and southwest provinces of Cameroon. It is expected to begin in fiscal 1985.

Regional and U. S. Training

One nurse and one anesthetist from Cameroon attended courses in Tunisia during fiscal 1984. Six health professionals from Cameroon took courses at the Johns Hopkins Educational Center in Baltimore. Two took the course on advances in reproductive health, and one each took the courses on sexually transmitted diseases, microsurgery, reproductive health for administrators, and infertility.

CENTRAL AFRICAN REPUBLIC

One physician and two anesthetists from the Central African Republic attended courses in Tunisia during fiscal 1984. Four health professionals attended courses at the Johns Hopkins Educational Center in Baltimore. Two took the courses on advances in reproductive health and one each took the STD and administrators' courses. JHPIEGO installed a Laprocator for the first time in the Central African Republic in fiscal 1984.

CONGO

One health professional from the Congo took the STD course given at the Johns Hopkins Educational Center in Baltimore.

GABON

One health professional from Gabon took the administrators' course at the Johns Hopkins Educational Center in Baltimore.

ZAIRE

Reproductive Health Update (NCA-58)

Since 1981, AID and the Government of Zaire have supported a rural Primary Health Care Project, SANRU (Sante Rurale), to "implement a health system that emphasizes health promotion, prevention, and primary curative services." The project is administered by the Eglise du Christ au Zaire.

The Reproductive Health Update program is part of SANRU. It calls for the training of 115 physicians, nurses, and midwives in five eight-day seminars combining lectures and clinical experience. The participants are from 34 institutions in the 32 health zones of Zaire. A health zone contains a hospital, three basic health centers, and about 20 health posts that serve 100,000 people.

The lectures cover family planning services (the rationale for family planning, prescribing contraceptives, and managing follow-up), organization and administration of health services (communication skills, education and training methods, supplies, follow-up and referral systems, supervision of personnel, and evaluation of programs), and prenatal, postnatal, and well-child care.

The participants are expected to organize clinical practice for themselves in their communities and to train other health personnel. The clinical sessions will also help the participants plan for the delivery of reproductive health services in their health zones.

Seminars were held in Kaziba and Kimpese in April 1984 and in Karawa in July

1984 for a total of 74 participants. A fourth and final seminar was held in Tshikaji early in fiscal 1985. The program will be continued.

Regional and U.S.Training

Twelve members of the Zaire Urban Family Planning Project Team attended a course in Tunis in November 1983 on the administration of family planning programs. They also had an opportunity to observe the well-run family planning clinics managed by the Tunisian National Office for Family Planning and Reproductive Health. One anesthetist from Zaire also attended a course in Tunisia.

Two health professionals from Zaire took courses at the Johns Hopkins Educational Center in Baltimore during fiscal 1984. One attended the STD course and the other attended the administrators' course.

EAST AFRICA

BURUNDI

In fiscal 1985, JHPIEGO will support a Reproductive Health Education Program to train 24 medical students, 32 recent graduates of the medical school, and ten midwives in reproductive health and contraceptive methods, with emphasis on the major health problems in Burundi. One visit was made to Burundi during fiscal 1984 to develop the program.

Regional and U.S.Training

Two nurses and an anesthetist from Burundi attended courses in Morocco and Tunisia during fiscal 1984. One physician from Burundi took the STD course given at the Johns Hopkins Educational Center in Baltimore.

ETHIOPIA

Three Ethiopian health professionals took courses at the Johns Hopkins Educational Center in Baltimore during fiscal 1984. One each attended the STD course, the administrators' course, and the infertility course. Two were supported by funds from the Noyes Foundation.

KENYA

University of Nairobi Human Reproduction Training Center (NCA-10)

JHPIEGO has been working with the Faculty of Medicine of the University of Nairobi since 1981 to train physicians and nurses from district and provincial hospitals in reproductive health. The objective of the program is to raise the level of surgical contraceptive services in the hospitals and to provide essential training in reproductive health to medical school graduates who rotate through the district and provincial hospitals. Before fiscal 1983, the training was conducted in Nairobi; since then it has been conducted in four provincial hospitals. The program has two components: training of physicians, nurses, and paramedical personnel in reproductive health, including minilaparotomy and IUD insertion; and an endoscopy course for physicians.

Physicians, nurses, and paramedical personnel attend two weeks of lectures on modern aspects of reproductive health, including the benefits of child spacing, clinical and nonclinical methods of contraception, high-risk pregnancy, and the diagnosis of sexually transmitted disease. Course participants receive one week of clinical training. Physicians are instructed in minilaparotomy and IUD insertion while nurses and paramedical personnel are trained only in IUD insertion. Three courses were conducted in January and April 1984 for a total of 34 participants. Since the beginning of the program, 190 physicians, nurses, and paramedical personnel have participated in the program.

A two-week endoscopy course was conducted for six physicians in March 1984. Laparoscopy training has been offered only to Ministry of Health personnel, but within the next three years it will be offered to physicians from nonprofit organizations, such as family planning associations and church-affiliated groups.

Other Activities

JHPIEGO sponsored a laparoscopic equipment maintenance workshop in November 1983 in Nairobi. The workshop covered assembly and disassembly of Laprocators, sterilization of equipment, storage of equipment, external electrical and gas fittings, use of room air for insufflation, handling of equipment during an operation, repair of equipment, and informed consent. Nine doctors and 16 nurses from hospitals throughout Kenya attended the workshop.

In August 1984, the Department of Obstetrics and Gynecology of the

University of Nairobi, sponsored by JHPIEGO, conducted a national conference on reproductive health. The objective of the conference was to bring together former JHPIEGO trainees from Kenya. Forty-three physicians, 43 nurses, and two administrators attended. Other participants included representatives from church organizations, voluntary family planning organizations, and consultants from JHPIEGO and the International Programs Division of the Association for Voluntary Sterilization. For the first time, the various organizations in Kenya involved in reproductive health got together to coordinate their activities. Because the conference was sponsored by an academic department, it also bridged the gap between academic research and the provision of services in the field of family planning. The participants generally agreed that there is great demand for surgical contraception in Kenya. They felt that there should be more coordination among the organizations responsible for training in reproductive health, and they recommended that the training be standardized and that it include program management and data collection.

Reproductive Health in Africa was published in 1984. It is the proceedings of a symposium held in Kenya in February 1982, which was sponsored by JHPIEGO and the Kenya Obstetrics and Gynecology Society. Physicians and Ministry of Health administrators from selected Anglophone countries were invited to deliberate on the major reproductive health problems in Africa.

U.S. Training

Three Kenyan physicians took courses at the Johns Hopkins Educational Center in Baltimore during fiscal 1984. Two took the infertility course and one took the STD course.

RWANDA

Rwanda ranks among the poorest nations of the world. It has a per capita GNP of 200 dollars per year and the highest population density in Africa, 196 people per square kilometer. In fiscal 1985, JHPIEGO will support a reproductive health education program designed for physicians and sixth-year medical students at the National University of Rwanda and paramedical personnel working for the Ministry of Health.

Regional and U.S.Training

Two physicians, two nurses, and three anesthetists from Rwanda attended courses in Morocco and Tunisia during fiscal 1984. Three Rwandans took courses at the Johns Hopkins Educational Center in Baltimore during fiscal 1984. Two took the STD course and one took the administrators' course.

SOMALIA

Reproductive Health Training Program (NCA-29)

Somalia has undertaken a long-term program to strengthen primary health care services in rural areas. The Ministry of Health would like to reinforce the referral system from the district level to regional hospitals. Since 1981, the Reproductive Health Training Program administered by Benadir Maternity and Children's Hospital in Mogadishu has contributed to this effort by training primary care physicians and medical students from the School of Medicine of the National University. Graduates of the medical school are usually placed in district health facilities.

Lectures cover the core curriculum in reproductive health and family planning, obstetrical emergencies, high-risk pregnancy, nutrition in pregnancy, lactation, complications arising from female circumcision, gynecologic problems, and the organization of health services. Educational methodology is also included to encourage the physicians to train other members of their health care team. In the

clinical part of the course, trainees have hands-on experience with patients, i.e., patient counseling and management of women using different forms of contraception.

Through fiscal 1984, the course was offered to fourth-year medical students during their rotation at the Benadir Maternity and Children's Hospital. The students attended the same lectures as the physicians but had less clinical practice.

Two physician courses were held in February and June 1984 for 43 participants. Since the beginning of the program, 121 physicians have been trained. One course for 18 medical students was held in July.

In fiscal 1985, more primary care physicians will be trained, and, instead of fourth-year medical students, interns at the Benadir Maternity and Children's Hospital will participate to include more clinical practice in the course.

U.S.Training

Five Somalians attended courses at the Johns Hopkins Educational Center in Baltimore during fiscal 1984. Two each took the STD course and the academic skills course and one took the infertility course.

SUDAN

Continuing Education in Reproductive Health for Medical Officers (NCA-21)

Communication and transportation problems in the Sudan make it difficult for general practitioners in rural health centers to keep abreast of advances in reproductive health. The Ministry of Health, with the assistance of JHPIEGO, has planned and implemented a program of continuing education in reproductive health for these physicians. There are no other continuing education courses in reproductive health in the Sudan besides those funded by JHPIEGO.

Two courses for a total of 46 physicians were held in Khartoum in October and December 1983, one course for eight physicians was held in Wad Medani in November, and a fourth course for 15 was held in Port Sudan in August 1984. Each course was three weeks long and included lectures on reversible methods of contraception, natural family planning, reproductive risk and the mangement of women in the high-risk category, diseases of pregnancy, and management of gynecological disorders. Several lectures covered issues in pediatrics. The physicians were divided into small groups for observation of laparoscopy, minilaparotomy, and IUD insertion. The physicians also visited a family planning clinic, a well-baby clinic, an infertility clinic, and prenatal and postnatal clinics.

A Repair and Maintenance Center that was established in 1982 was phased out in fiscal 1984. A laparoscopic equipment maintenance workshop was conducted in August 1984.

Regional and U. S. Training

One Sudanese physician was trained in Egypt during fiscal 1984. One health professional from the Sudan attended the STD course given at the Johns Hopkins Educational Center in Baltimore.

TANZANIA

Reproductive Health Program (NCA-37)

One of the major components of the maternal and child health programs of the Tanzania Ministry of Health is child spacing through modern methods of contraception. Infertility treatment is also an important part of the family planning services. General duty medical officers (GDMOs) are the primary health personnel dealing with child spacing and infertility referrals from medical assistants, nurses, and rural medical aids. The Reproductive Health Program supported the training of the medical officers and graduate nurses in didactic and clinical courses held at the

Kilimanjaro Christian Medical Center in Moshi and hospitals in Bugtando and Muhinbili.

Lectures focused on the various methods of fertility control and on the diagnosis and treatment of infertility. The clinical part of the course included team training of the medical officers and nurses in minilaparotomy and IUD insertion. At least ten minilaparotomies were performed by each team, and the medical officers certified as competent were given a minilap kit. The doctor-nurse teams also observed laparoscopic procedures for the diagnosis of infertility; performed at least two basic infertility diagnostic workups including a physical examination, history, and sperm analysis; prescribed contraceptives for five new acceptors; and provided follow-up care for at least five oral contraceptive users at their return visits.

One course was held in October 1983 for 12 physicians and 17 nurses. A second course was held in August 1984 for five physicians and seven nurses; because of delays in sending documentation, these trainees are not included in the tables. A total of 38 doctors and 39 nurses were trained in the program. Because of political problems, it will not be continued.

Regional and U.S. Training

Two Tanzanian nurses were trained in Egypt during fiscal 1984. One Tanzanian took the administrators' course given at the Johns Hopkins Educational Center in Baltimore.

UGANDA

Reproductive Health Training Program for Health Professionals (NCA-36)

The annual rate of population growth in Uganda increased from 2.6 percent in 1980 to 3.1 percent in 1984. The crude birth rate is 46 per 1,000 population, the total fertility rate is 6.1, and the infant mortality rate is 96 per 1,000 live births. The Reproductive Health Training Program for Health Professionals assists the Ugandan Government in instituting measures to decrease these high fertility and mortality rates, which impede efforts to improve public health and stimulate economic growth.

The program supports a five-day lecture course administered by the Makerere University in Kampala for physicians and one nurse, the Ministry of Health Principal Nursing Officer, who is in charge of training. Physicians are selected from the Ministry of Health staff, district and regional hospitals, missionary hospitals, the family planning association of Uganda, and from among private practitioners. One medical officer will be selected from each of the district hospitals.

In addition to the basic curriculum in reproductive health and family planning, lectures cover community health, maternal and child health, anatomy and physiology of reproduction, high-risk pregnancy, infertility, and administration of family planning programs. The participants also outline a curriculum for training physicians, nurses, and other paramedical personnel in reproductive health. The physicians and nurse are expected to assist in the development of future training programs.

The first course was conducted in September 1982 for 10 physicians and the nursing officer. Participation in that course was hampered by transportation and security problems. Lack of water and security problems delayed a second course until 1984 for eight physicians.

Regional and U.S.Training

Two Ugandan nurses were trained in Egypt during fiscal 1984. Five Ugandans took courses at the Johns Hopkins Educational Center in Baltimore. Two took the administrators' course and one each took the STD course, the academic skills course, and the infertility course.

SOUTHERN AFRICA

BOTSWANA

One nurse from Botswana was trained in Egypt during fiscal 1984, and one physician attended the infertility course given at the Johns Hopkins Educational Center in Baltimore.

COMORO ISLANDS

One anesthetist from the Comoro Islands was trained in Morocco during fiscal 1984.

LESOTHO

One physician from Lesotho took the STD course given at the Johns Hopkins Educational Center in Baltimore during fiscal 1984.

MADAGASCAR

Maternal and child health programs are a priority in Madagascar. One visit was made to Madagascar in fiscal 1984 to develop a reproductive health training program that will begin in fiscal 1985. The program calls for 31 hours of instruction for fifth-year medical students at the University of Madagascar in Antananarivo.

Regional and U.S.Training

JHPIEGO supported the training of three surgeons, one anesthetist, and two nurses from Madagascar in laparoscopy at centers in Morocco and Tunisia during fiscal 1984. At the request of the Ministry of Health, JHPIEGO has trained one surgeon in laparoscopy from each province in Madagascar.

Eight health professionals from Madagascar attended courses at the Johns Hopkins Educational Center in Baltimore. Four took the administrators' course, three took the course on advances in reproductive health, and one took the STD course. Their participation in the U. S. courses contributed to the development of the in-country program.

MALAWI

Three health professionals from Malawi attended courses at the Johns Hopkins Educational Center in Baltimore. Two took the STD course, and one took the administrators' course.

MAURITIUS

Comprehensive Reproductive Health Education and Training Program (NCA-73)

The long-term goals of the Ministry of Health of Mauritius include reducing the average number of children per family to two by 1987, reducing infant mortality from 35 to 20 per 1,000 live births by 1987, and making family planning services available at the village level. One visit was made to Mauritius in fiscal 1984 to develop a program with the Ministry of Health (MOH) to support the training of 100 physicians and 200 nurses or paramedical personnel in reproductive health. There is no medical school in Mauritius. The responsibility for updating the training of MOH personnel rests with the Ministry of Health.

Training will cover fertility management and reproductive health care, concepts of primary health care, the epidemiology of reproduction, immunization, pediatric emergencies, high-risk pregnancy, and nutrition. Clinical demonstrations will emphasize the management of family planning clinic clients, prenatal and postpartum care, and well-baby care.

During fiscal 1985, 50 physicians and 100 nurses or paramedical personnel, the majority from the Maternal/Child Health and Family Planning Division of the

Ministry of Health, are expected to take the course.

The courses will be conducted by 20 trainers who attended a five-day workshop in August 1984 on reproductive health and teaching techniques. The workshop was run by staff of the Mauritius Ministry of Health, with assistance from a JHPIEGO consultant, at the World Health Organization's Regional Training Center in Pamplemousse.

Fiscal 1985

JHPIEGO is considering the establishment of a regional training center in Mauritius to train African physicians in surgical techniques of endoscopy and minilaparotomy.

JHPIEGO representatives met with Action Familiale, a private family planning organization, to plan an international conference on natural family planning (NFP) in Mauritius for the spring of 1986. Natural family planning has been promoted in Mauritius since the early 1970s and there is a well-established program in the country. Fifteen percent of contraceptive users in Mauritius use NFP. The objective of the conference would be to brief African health personnel on the various methods of NFP and to allow them to observe the management, administration, and evaluation of family planning programs that emphasize NFP.

Regional and U.S.Training

One physician, one nurse, and one anesthetist from Mauritius attended courses in Morocco and Tunisia during fiscal 1984. Two health professionals attended, respectively, the STD and the microsurgery courses at the Johns Hopkins Educational Center in Baltimore.

ZIMBABWE

Reproductive Health Training Program (NCA-41)

The purpose of this project is to support the development within Zimbabwe of training in reproductive health for postgraduate primary care general medical officers, clinical officers and/or senior nursing sisters/midwives staffing district hospitals or primary care centers. The courses are two weeks long and include lectures and clinical management seminars. The program is administered by the Child Spacing and Family Planning Council of Zimbabwe, in cooperation with the Faculty of Medicine of the University of Zimbabwe, on behalf of the Ministry of Health.

The topics covered in the course include child spacing (the demography of Zimbabwe, reversible and permanent methods of contraception, and patient counseling), obstetrics (antenatal care, toxemia of pregnancy, anemia, prolonged labor, cephalopelvic disproportion, obstetrical emergencies, and nutrition during pregnancy), gynecology (vaginitis, pelvic inflammatory disease, and sexually transmitted disease), and infertility (female and male factors). The clinical management seminars include discussion of case studies, review of the problems studied during the lectures, and observation of patient management. The courses are held in Harare.

A third component of the program calls for one-day outreach tutorials to be held monthly for ten months at district hospitals and primary care centers. On these field visits, an obstetrician-gynecologist from the University of Zimbabwe conducts teaching ward rounds, reviews difficult cases, and discusses problems with the trainees. Because of staff shortages in the Department of Obstetrics and Gynecology, it has not been possible to make all the visits stipulated in the agreement. The tutorials have been so successful, however, that the faculty of the Department of Obstetrics and Gynecology decided that only six visits would be required. The agreement has been amended.

Two courses were held in October 1983 and May 1984 for ten nurses and 20 physicians. The program is expected to continue in fiscal 1985.

Fiscal 1985/86

There are 32 institutions for the training of nurses and midwives in the eight provinces of Zimbabwe. Zimbabwe was visited in fiscal 1984 to develop a training program with the Ministry of Health in child-spacing methods for approximately 135 teachers at these institutions. This is a two-phase program scheduled for fiscal 1985-86.

Regional and U.S. Training

Two nurses from Zimbabwe were trained in Egypt during fiscal 1984. Three health professionals took courses at the Johns Hopkins Educational Center in Baltimore. Two took the infertility course and one took the STD course.

ASIA

JHPIEGO has contributed to the advanced state of reproductive health in Asia by supporting the training of over 2,200 health professionals. JHPIEGO has been active in Asia since the mid-1970s. The first in-country reproductive health program to receive support from JHPIEGO was in South Korea in fiscal 1975. Other countries in Asia that received JHPIEGO's early support for in-country training were Pakistan and the Philippines. In several countries, reproductive health programs that were initiated with funding from JHPIEGO are now supported by the national government. In Pakistan, for example, the government has assumed responsibility for in-country reproductive health training that JHPIEGO first funded in fiscal 1977.

As the training programs in reproductive health in Asia have matured, JHPIEGO's strategy in the region has evolved to meet changing needs. Programs have been cut back or eliminated as the objective of reaching health professionals in the major medical institutions has been reached. At the same time, JHPIEGO has begun to support small-scale experimental training programs. In Malaysia, for example, JHPIEGO supported an innovative correspondence course in fiscal 1984 that offered a diploma in family planning to 20 general practitioners in rural areas. The first microsurgery course sponsored by JHPIEGO in Asia was conducted in Thailand for six physicians in fiscal 1982. It was offered again in fiscal 1984, and a third course is planned for fiscal 1985. In Indonesia, JHPIEGO is considering the support of a satellite education program in reproductive health.

Another indicator of the evolving JHPIEGO curriculum in Asia is the increasing proportion of administrators, nurses, and paramedical personnel in the numbers trained annually. JHPIEGO-supported in-country training generally begins with courses for physicians and later includes other health personnel. In Asia in the last two fiscal years, the number of physicians trained has been roughly equal to the number of administrators, nurses, and paramedical personnel trained. In fiscal 1982, physicians made up 60 percent of the total trained.

The training of Asian professionals is accomplished for the most part in in-country and regional programs. In fiscal 1984, over 90 percent of the trainees attended courses in overseas programs. Thirty-two Asian health professionals attended courses at the Johns Hopkins Educational Center in Baltimore. Fourteen took the academic skills course, eight took the administrators' course, and five each took the STD and infertility courses.

JHPIEGO staff or consultants made six visits to Asian countries to develop programs or evaluate training sites during fiscal 1984. One field visit was made to Papua New Guinea. JHPIEGO also shipped ten laparoscopic systems to the region during the year.

EAST ASIA/OCEANIA

BURMA

Burma has a pronatalist population policy, but its health policy emphasizes integrated maternal and child health and family planning services. In fiscal 1980, four Burmese physicians attended courses at the Johns Hopkins Educational Center in Baltimore. This training marked the first time in ten years that Burma had participated in an AID-sponsored program. In fiscal 1981, JHPIEGO sponsored a two-week laparoscopic training program for 16 physicians and 25 nurses from the three principal medical institutions in Burma. Twenty-eight physicians and 24 nurses participated in the program in fiscal 1982. JHPIEGO is planning an update course in maternal and child health and family planning for 20 physicians in fiscal 1985.

FIJI

JHPIEGO has supported the training of 15 physicians from Fiji in advances in reproductive health either in the United States or in regional training programs. JHPIEGO has also equipped several major hospitals in Fiji with laparoscopic equipment. Fiji has a large influence on the entire South Pacific, and its School of Medicine has trained physicians from many South Pacific nations.

JHPIEGO has been working with the Ministry of Health in Fiji to develop two programs to begin in fiscal 1985. One is a refresher seminar on advances in reproductive health for physicians and nurses working in the provincial and district hospitals and medical centers. The second is a Reproductive Health Education Program for medical students at the Fiji Medical School in Suva.

Regional Training

One physician and one nurse from Fiji attended the Endoscopy Training Program in the Philippines.

INDONESIA

Indonesian Fertility Management Training Program (NCA-27)

Indonesia needs administrators in reproductive health who are sophisticated in the art of management and capable of influencing large populations. The Indonesian Fertility Management Training Program trains administrators and teams of doctors and nurses from rural hospitals to develop and administer reproductive health service programs. The intent is to decentralize family planning services to the community level. The program is administered by the University of Indonesia in Jakarta.

Participants in the program attend two weeks of lectures covering recent advances in reproductive health and the planning, implementation, and evaluation of public health programs. Nineteen administrators, physicians, nurses, and paramedical personnel attended a course given in March 1984. Since this program began in 1982, five courses have been held for 100 participants. In fiscal 1985, five courses are planned for 105 participants.

Regional and U. S. Training

Two Indonesian physicians attended the microsurgery course conducted in Thailand in January/February 1984. Ten Indonesians attended courses at the Johns Hopkins Educational Center in Baltimore. Four took the academic skills course, three the administrators' course, two the STD course, and one the infertility course.

Fiscal 1985/86

Indonesia is a 3,000-mile archipelago with five major islands and more than 13,500

smaller islands. Physicians in the remote areas have little opportunity to learn about advances in reproductive health. Indonesia has a recently installed satellite communications program that links the islands; JHPIEGO will support the development of a pilot program in reproductive health education for physicians, paramedical personnel, or administrators that will prepare the Indonesian Family Planning Board to utilize this type of technology.

JHPIEGO plans to support a course in microsurgery for tubal reanastomosis in 1986.

KIRIBATI

One health professional from Kiribati, an island group in the South Pacific, took the administrators' course given at the Johns Hopkins Educational Center in Baltimore.

MALAYSIA

Malaysian Reproductive Health and Endoscopy Training Program for Physicians and Nurses (NCA-25)

JHPIEGO supported a two-day evaluation workshop in Kuala Lumpur in May 1984 that marked the end of the Malaysian Reproductive Health and Endoscopy Training Program for Physicians and Nurses. The program was administered by the National Family Planning Board of Malaysia and trained a total of 45 physicians and 45 nurses. It had two components: endoscopy training and a correspondence course for general practitioners.

Fifty-five physicians and nurses participated in the workshop. They attended update lectures on reproductive health and diagnostic and therapeutic laparoscopy and evaluated the training program. Among their recommendations were (1) stricter criteria for selection of course participants, (2) a higher volume of cases for clinical training, (3) holding courses in rural areas, (4) posting of technicians in rural areas, (5) distribution of a quarterly bulletin to promote communication among participants in the family planning program, and (6) regular meetings of the participants to discuss common problems or to present papers. JHPIEGO will incorporate these recommendations in future reproductive health programs in Malaysia.

JHPIEGO supported an innovative correspondence course for general practitioners in rural health centers during fiscal 1984. It was administered by the Malaysian National Family Planning Board and offered a diploma in family planning as an addition to the diploma in general practice/family medicine. It was the first time a diploma in family planning has been awarded in Malaysia.

Each installment of the course was mailed weekly to the participants by the College of General Practitioners. The curriculum focused on fertility behavior and fertility regulation methods and covered other topics such as the anatomy and physiology of human reproduction, the pharmacology of sex hormones, the infertile couple, and elements of epidemiology. A multiple choice test was included in each package.

Three-hour tutorials were organized at four locations at roughly four-week intervals during the course. The tutorials allowed the trainees to review the information in the course and check the answers to the multiple choice questions. There were also three weekend lecture workshops during the course. Clinical experience for at least four hours a week was organized at family planning service centers set up by the National Family Planning Board (NFPB). The trainees observed and participated in clinical activities: they examined and provided family planning counseling to a minimum of 100 clients, performed at least 15 IUD insertions, and they learned record-keeping procedures. Minilaparotomy training was available to physicians who had surgical experience.

At the end of the course, there was a three-day review workshop in Kuala Lumpur followed by an examination. The general practitioners who completed the course now form a part of the NFPB network that provides family planning services in Malaysia. Twenty general practitioners took the course in fiscal 1984 (because of delays in the processing of documentation, they are not included in this year's tables).

The Repair and Maintenance Center in Kuala Lumpur, which was created in 1981, continued its activities in fiscal 1984.

U.S. Training

One Malaysian physician attended the academic skills course at the Johns Hopkins Educational Center in Baltimore.

PAPUA NEW GUINEA

Two laparoscopic systems were shipped to Papua New Guinea and one field visit was made during fiscal 1984.

PHILIPPINES

JHPIEGO supported a reproductive health/endoscopy training program and a reproductive health education program in the Philippines during fiscal 1984. Two program development visits were made to the Philippines during the year.

Philippines Endoscopy Training Program (NCA-15)

JHPIEGO's main contribution to the Philippine National Family Planning Program has been the training of physicians and nurses in reproductive health, including laparoscopy, minilaparotomy, and vasectomy. JHPIEGO has also provided laparoscopy equipment to the major Philippine medical institutions through the endoscopy training program at the Mary Johnston Hospital in Manila. This program has helped to increase the acceptance of interval tubal ligation in the Philippines.

The physician endoscopy course includes one week of lectures on reproductive health (family planning, laparoscopy, prenatal care and assessment, nutrition and pregnancy, etc.) and one week of clinical training in laparoscopy, minilaparotomy, and vasectomy. The trainees must assist at a minimum of five laparoscopy procedures and perform 15 laparoscopies and/or minilaparotomies.

During their three-week course, the nurses attend lectures on the benefits of child spacing, contraceptive methods, the nurse's role in family planning, management of sexually transmitted disease, and so on. In the clinical part of the course, the nurses assist the physicians during their laparoscopy, minilaparotomy, or vasectomy procedures. They learn to prepare an operating room for endoscopy procedures and to care for the laparoscopic equipment.

The program at the Mary Johnston Hospital includes a regional training program for physicians and nurses from other Asian countries. Participants receive three weeks of didactic and clinical training. The hospital also serves as a clinical practice center in laparoscopy for Asian physicians who have taken courses at the Johns Hopkins Educational Center in Baltimore.

Thirty-two Filipino physicians and 32 Filipino nurses were trained in courses held between October 1983 and May 1984. One regional physician was trained from Fiji. Three regional nurses were trained from Fiji and the Maldives. Since the beginning of the program, 206 Filipino physicians and 143 nurses have been trained. Fifteen physicians and 17 nurses from Tonga, the Maldives, the Solomon Islands, Fiji and Indonesia have also taken the course. Since the Mary Johnston Hospital became a clinical practice center, approximately 25 physicians from Burma, Fiji, Indonesia, Pakistan, and Papua New Guinea have received their clinical training there.

JHPIEGO sponsored the Second National Convention on Gynecologic Endoscopy in Manila in May 1984. Fifty physicians and 50 nurses who had completed the course in endoscopy at the Mary Johnston Hospital attended presentations on sterilization services in the Philippines, the role of laparoscopy in reproductive health, microsurgery, the Philippines endoscopy program, and anesthesia for laparoscopy. The participants met in small groups to discuss the establishment of a sterilization program and repair and maintenance centers, and the training of doctors and nurses in reproductive health.

The Repair and Maintenance Center at the Mary Johnston Hospital will be continued because, in addition to its maintenance activities, it serves as the link between JHPIEGO and the Filipino physicians who have been trained and equipped with support from JHPIEGO.

Integrated Reproductive Health Education Program (NCA-34)

JHPIEGO supported a reproductive health education program (REHEP) for medical students at the University of the Philippines. The program was administered by the Department of Obstetrics and Gynecology of the College of Medicine and the Philippine General Hospital. This was a three-year program offered to medical students in their second, third, and fourth years. Second-year students attended 28 hours of lectures on the anatomy and physiology of the female reproductive tract, history and physical examination in obstetrics and gynecology, and prenatal care and assessment. The rationale for child spacing was covered, as well as family planning methods; there was an emphasis on natural family planning, which is used widely in the Philippines. For third-year students, there were 40 hours of lectures covering gynecologic infection, sexually transmitted disease and concepts of reproductive health and high-risk obstetrics. There were also 21 hours of clinical management seminars. Fourth-year students underwent a six-week rotation in reproductive health at the Philippine General Hospital. The course began in June 1982. A total of 257 students participated in the first year. Because of delays in sending documentation, no students are reported in this year's tables.

U.S. Training

One Filipino physician attended the academic skills course given at the Johns Hopkins Educational Center in Baltimore.

SOLOMON ISLANDS

The Solomon Islands received their first laparoscopic system from JHPIEGO during fiscal 1984.

SOUTH KOREA

JHPIEGO supported its first in-country reproductive health training program in South Korea in 1975. Since then, South Korea has become a graduate country in reproductive health. Four hospitals have continued to serve as clinical practice training centers for Asian physicians who have taken courses at the Johns Hopkins Educational Center in Baltimore. These centers will not be needed in the future because most countries in East Asia have established their own clinical training programs.

THAILAND

JHPIEGO supported two programs in Thailand in fiscal 1984: a reproductive health/endoscopy program for physicians and nurses and a microsurgery course. One trip for program development was made to Thailand during fiscal 1984.

Thailand National Endoscopy Educational Research Program (NCA-44)
JHPIEGO has supported training in reproductive health and endoscopy as part of the Thai National Family Planning Program since fiscal 1980. It has equipped 72 centers in Thailand with laparoscopic equipment and supports a Repair and Maintenance Center that is managed by the Ministry of Public Health. Medical institutions in Thailand are now well staffed with physicians trained in reproductive health and endoscopy, and future JHPIEGO support will be minimal. Twenty physicians and 27 nurses attended a course in May 1984.

Workshop in Gynecological Microsurgery for Reversal of Sterilization (NCA-53)
Very few gynecologists or surgeons from Asian and Near Eastern countries have been trained in microsurgical tubal reanastomosis. JHPIEGO has received many requests from physicians in these countries for microsurgery training at the Johns Hopkins Educational Center in Baltimore and in in-country programs funded by JHPIEGO. JHPIEGO sponsored its first microsurgery program in Asia in Thailand at the Chulalongkorn University in Bangkok in fiscal 1982. The second course, offered in January/February 1984, was attended by seven physicians: three from Thailand, two from Indonesia, one from India, and one from Pakistan. The course comprised approximately 80 hours of training given four hours a day over two weeks. It included lectures on tubal physiology and the use of the operating microscope, loops, instrumentation, and suture material in microsurgery. The participants practiced microsurgery on animals and observed a physician performing a tubal reanastomosis. The highlight of the course was the playing of a videotape of the reanastomosis on closed circuit television. The director of the program, Dr. Kobchitt Limpaphayom, received her training in microsurgery at the Johns Hopkins Educational Center in Baltimore in fiscal 1979. A third microsurgery course is planned for fiscal 1985.

U.S. Training
Nine Thai health professionals attended courses at the Johns Hopkins Educational Center in Baltimore during fiscal 1984. Four took the academic skills course, two each took the STD and administrators' courses, and one took the infertility course.

Fiscal 1985/86
JHPIEGO is planning to support a regional academic skills course or a course on sexually transmitted diseases at the Chulalongkorn University. There are also plans for a regional epidemiology course to be held in Thailand in cooperation with the Centers for Disease Control.

SOUTH ASIA

BANGLADESH
JHPIEGO is considering the support of a dean's conference to standardize the teaching of reproductive health in the seven medical schools in Bangladesh.

INDIA
JHPIEGO is planning to fund five workshops in India in 1985 to train physicians and health workers in natural family planning. Approximately 150 participants are expected.

One Indian physician attended the microsurgery course conducted in Thailand during fiscal 1984. Three Indian health professionals took courses at the Johns Hopkins Educational Center in Baltimore. Two took the academic skills course and one took the STD course.

MALDIVES
One physician and two nurses attended the Philippine Endoscopy Training Program during fiscal 1984.

NEPAL
In order to increase the availability of contraceptive services, especially surgical contraception, in Nepal, JHPIEGO is planning to support the training of gynecologists and general practitioners in reproductive health and tubal ligation in fiscal 1986.

PAKISTAN
JHPIEGO has not had major AID-supported activities in Pakistan because of political constraints. These constraints were removed recently, and the government of Pakistan began again to nominate physicians to participate in courses at the Johns Hopkins Educational Center in Baltimore. During fiscal 1984, two trainees from Pakistan participated in the course for administrators of family planning programs. One Pakistani physician attended the microsurgery course conducted in Thailand in January/February 1984. At the request of the Islamabad office of the United Nations Fund for Population Activities, JHPIEGO conducted equipment maintenance workshops in Rawalpindi, Islamabad, Lahore, Multan, Karachi, and Peshawar in May 1984.

Fiscal 1985/86

There is a great need to standardize the teaching of reproductive health in Pakistan's medical schools. JHPIEGO is considering support for a conference of medical school deans and chairmen of the departments of Obstetrics and Gynecology in Pakistan in 1986 to standardize the curriculum. Based on the recommendations of this conference, JHPIEGO will support a model reproductive health training program in one medical school.

SRI LANKA

Sri Lanka Laparoscopy Program

The second course in the Sri Lanka Laparoscopy Program, scheduled for April 1984 for ten physicians and ten nurses, was delayed until November. Ten physicians and ten nurses were trained in the first course held in fiscal 1983. The course includes lectures on reproductive health and clinical training in laparoscopy that emphasizes the use of local anesthesia. The course is administered by the Ministry of Health/Government of Sri Lanka. JHPIEGO expects that training in endoscopy will

eventually be supported entirely by the Government of Sri Lanka.

U.S. Training

Four Sri Lankan health professionals took courses at the Johns Hopkins Educational Center in Baltimore during fiscal 1984. Two each took the academic skills course and the infertility course.

Fiscal 1895/86

Plans for a Reproductive Health Education Program (REHEP) in Colombo and Kandy had to be revised because of political and ethnic unrest. A REHEP in Colombo University in 1985 is being explored.

A two-day conference of JHPIEGO alumni from the Asia region is being planned to coincide with the Tenth ASCEAN Congress of Obstetricians and Gynecologists, which will be held in Sri Lanka in 1985.

LATIN AMERICA/CARIBBEAN

Since 1974, almost 18,000 health professionals and students from Latin America and the Caribbean have participated in reproductive health programs supported by JHPIEGO. JHPIEGO has been able to reach a large number of health personnel in the region by emphasizing the health rationale for family planning and, more recently, the concept of reproductive risk. In fiscal 1984, approximately 6,800 physicians, nurses, administrators, paramedical personnel, and medical and nursing students participated in JHPIEGO-supported programs.

Most of JHPIEGO's programs in Latin America fall into one of three categories: clinical programs for obstetrician-gynecologists, general practitioners, and nurses that include training in laparoscopy, minilaparotomy, and IUD management; education programs (REHEPs) for medical and nursing students; and pilot programs to train health professionals, especially paramedical personnel, to carry out reproductive risk classification and referral systems.

In fiscal 1984, reproductive health courses that included training in laparoscopy, minilaparotomy, and IUD management were conducted in Brazil and Colombia. Over 100 physicians and nurses participated in these reproductive health training programs. The figure would have been higher had it not been for delays in training beyond JHPIEGO's control.

JHPIEGO supports reproductive health education programs in Brazil, Guatemala, Honduras, and Mexico. The intent of the programs is to instill in medical and nursing students an appreciation of reproductive health and family planning early in their careers. The program in Mexico differs somewhat from those in Brazil, Guatemala, and Honduras, in that its prime intent is to teach the students family planning for their own use with the expectation that this knowledge will carry over to their clinical practice. Over 90 percent of the 6,800 health personnel trained in Latin America and the Caribbean during fiscal 1984 were medical and nursing students. Two-thirds of the students participated in the Mexican medical school program. JHPIEGO expects that, once its support ends for these programs, they will be absorbed into the standard curriculum of the medical and nursing schools.

JHPIEGO initiated two reproductive risk programs to link community and clinically based family planning services in Brazil and Peru. These are grassroots programs in which paramedical personnel are taught to classify women by factors such as age, parity, and time since their last birth. The health workers refer high-risk women to a physician who has been trained in the program in clinical and surgical techniques of contraception. By identifying women at risk and helping them to space their births, have smaller families, and have pregnancies at favorable ages, these programs can help to reduce maternal and infant mortality and morbidity. The key to applying the reproductive risk concept is to keep the classification system simple so that it can be used by all levels of health personnel, including village health workers. This strategy encourages the perception of family planning

as a health intervention among health providers, especially obstetrician-gynecologists, because it links family planning with gynecologic and obstetrical care.

A fourth highlight of training in the Latin America/Caribbean region during fiscal 1984 was the pilot satellite education program administered by the University of the West Indies in Jamaica. Five islands in the Caribbean were linked in an interactive audio network over which reproductive health courses for physicians and nurses were broadcast. The pilot project was successful and the program will be expanded in fiscal 1985.

For the past few years, JHPIEGO has emphasized in-country training and gradually decreased the number of health personnel trained in the United States. This trend is especially apparent in Latin America. The Johns Hopkins Educational Center in Baltimore no longer offers courses in Spanish or Portuguese, and only seven health professionals from Latin American and the Caribbean were trained in the United States in fiscal 1984. Since 1974, almost 900 health professionals from the region have attended courses at the Educational Center, compared with roughly 600 from Africa and 500 from Asia. JHPIEGO has by and large fulfilled its objectives with regard to the U.S. training of health personnel from Latin America and the Caribbean.

Other important activities were carried out in the region during the year. Clinical practice centers in Brazil, Colombia, Jamaica, and Mexico provided surgical training in minilaparotomy and laparoscopy to 111 physicians. JHPIEGO supported equipment maintenance centers in Brazil, Colombia, Costa Rica, and El Salvador. The Repair and Maintenance (RAM) Center in Brazil was restructured and streamlined.

LATIN AMERICA

BOLIVIA

JHPIEGO is developing a reproductive health, laparoscopy, and minilaparotomy training project with Centro de Orientacion Familiar in Bolivia that will emphasize the training of personnel from outside La Paz. A pilot project to promote the concept of reproductive risk among high-level health officials will be included.

BRAZIL

JHPIEGO supports five programs in Brazil: the Brazilian Family Planning Training and Development Center, three reproductive health education programs, and a community family health program based on the concept of reproductive risk. Figure 4 shows the location of these programs.

JHPIEGO support for laparoscopy training is being phased down in Brazil and support for minilaparotomy training in the regions is being emphasized. It is anticipated that JHPIEGO will continue to support training in laparoscopy for a minimum of 20 physicians each year through 1987. JHPIEGO will continue to support the training of nurses and anesthetists in numbers proportional to complement physician training.

Training in other family planning methods, including minilaparotomy and IUD management, will be emphasized, given the relatively greater need. It is anticipated that JHPIEGO will continue to support training of 75 physicians in minilaparotomy and IUD management through CPAIMC each year through 1987. JHPIEGO also plans to support training of 40-50 physicians in minilaparotomy and IUD management through BEMFAM each year through 1988.

Given the increasingly favorable climate towards family planning in Brazil, training needs in reproductive health and contraceptive technology will probably be increasing in the near future. This may require JHPIEGO to adjust projected training figures upward. JHPIEGO will continue to be receptive to needs and requests for training in Brazil in both the private and public sector.

Continued support for reproductive health education programs at the university level will depend on findings of an evaluation that JHPIEGO is conducting of the three currently funded medical and nursing student programs. Results from this evaluation will be available in fiscal 1985.

Brazilian Family Planning Training and Development Center (NCA-35)

JHPIEGO first established a reproductive health education program in Brazil in fiscal 1980 to train physicians and other health professionals in methods of fertility management. Fiscal 1984 was the fifth year of the Brazilian Family Planning Training and Development Center, which is administered by the Center for Research and Integrated Assistance to Mothers and Children (CPAIMC). It supports the training of obstetrician-gynecologists and general practitioners in reproductive health and general family planning skills. Obstetrician-gynecologists receive additional training in laparoscopy and general practitioners are instructed in minilaparotomy. The program also supports the training of nurses and anesthetists. CPAIMC estimates that roughly 7.5 million women are potential requestors of voluntary surgical contraception in Brazil, and that anywhere from 1,900 to 3,000 physicians need to be trained in laparoscopy and minilaparotomy to meet the expected demand for sterilization.

The course for obstetrician-gynecologists includes five days of lectures and six days of clinical practice. Physicians must perform a minimum of 18 laparoscopic procedures under supervision to be certified as competent. General practitioners

FIGURE 4 Brazil: Heavy arrows indicate the location of fiscal 1984 training programs (adapted from Weil et al., Area Handbook for Brazil)

attend six-day courses that include instruction in IUD insertion and management techniques for family planning programs. They observe laparoscopic procedures and must perform at least 12 minilaparotomies to be certified.

In the five-day nurse endoscopy course, nurses learn to assist doctors during laparoscopic procedures and to maintain laparoscopic equipment. The course includes a basic practicum in operating room procedures, cleaning and maintenance of equipment, patient management in the ambulatory family planning clinic, and client counseling, especially with regard to informed consent for the use of surgical contraception.

The course for anesthetists consists of five days of training in local anesthesia for outpatient contraceptive surgical procedures. One-on-one tutorial sessions of approximately four hours each day are conducted in CPAIMC operating theatres.

Since the beginning of this program in 1980, CPAIMC has trained 246 obstetricians-gynecologists in laparoscopy, 131 physicians in minilaparotomy, 185 nurses, and 80 anesthetists. In fiscal 1984, 22 obstetrician-gynecologists, 35 general practitioners, 41 nurses, and 11 anesthetists were trained. One general practitioner trained in fiscal 1983 is included in this year's tables. In the future, minilaparotomy and IUD training will continue to be emphasized in order to meet the needs of rural women for reproductive health services.

Reproductive Health Education Programs

JHPIEGO began support for the training of medical and nursing students in reproductive health in 1980 in Santa Maria in southern Brazil. Reproductive Health Education Programs (REHEPs) were subsequently started in Belo Horizonte in central Brazil in 1981 and in Fortaleza in the northeast in 1982. There is a great need for the education of medical students in reproductive health. The curriculum in most medical and nursing schools is curative rather than preventive in its orientation.

The REHEP courses, though they vary somewhat at each site, include lectures, seminars, and clinical observation. The lectures cover the permanent and reversible methods of family planning, pediatrics, and issues in obstetrics and gynecology. During the seminars the students discuss case studies in small groups, and during the clinical observation component, they observe pediatric and family planning clinics. The courses are popular because they provide students with the opportunity to learn how to control their own fertility. They also include small-group discussion; this is unusual in medical schools in Brazil, where lectures are the general rule. Project directors have found the clinical observation sessions to be particularly effective, and they are increasing the percentage of time spent at the clinics.

In Santa Maria, the REHEP (NCA-28) is conducted by the Santa Maria Institute of Reproductive Health (SMIRH). In fiscal 1984, training was scheduled for 100 students, but because of a teachers' strike the course was postponed. A total of 115 medical and nursing students were trained in fiscal 1983 but were not included in last year's annual report because of delays in sending documentation. They are included in the fiscal 1984 tables. One hundred medical and nursing students are expected to be trained in fiscal 1985, the final year of funding.

In Belo Horizonte, the program (NCA-31) is conducted by the Centro de Estudos e Pesquisa Clovis Salgado (CEPECS). In fiscal 1984, 35 medical students were trained. Sixty-one medical students and 31 nursing students were trained in fiscal 1983 but were not reported in last year's annual report. They are included in this year's tables. A total of 325 students are scheduled to be trained in fiscal 1985, which is the final year of funding.

The program in Fortaleza (NCA-40), in the relatively underserved northeast state

of Ceara, is conducted by the Sociedade de Assistencia a Maternidade Escola Assis Chateaubriand (SAMEAC). In fiscal 1984, 69 medical students and 28 nursing students were trained. In fiscal 1985, 150 students are expected to be trained. This project will continue through fiscal 1986.

Based on the encouraging preliminary results of these three REHEP programs, JHPIEGO will explore the expansion of the REHEP projects to other medical and nursing schools in Brazil and to other countries in Latin America.

Development of Human Resources for a Community Family Planning Program Based on the Concept of Reproductive Risk (NCA-61)

Maternal mortality in Brazil is about 134 per 100,000 live births, nine times the average of 14.8 deaths per 100,000 live births reported in developed countries. The purpose of this program is to train physicians from municipal clinics in minilaparotomy, IUD management, and other family planning skills, and to develop a system of classification and referral based on the concept of reproductive risk. The site of the project is the northeast state of Pernambuco. The maternal mortality rate in Recife, the capital of Pernambuco, is 220 per 100,000 live births.

This is a four year program to train 180 physicians and 600 paramedics and to develop and test a reproductive risk classification and referral system. The project also calls for seminars for health professionals, medical students, and municipal leaders on the importance of reproductive risk in maternal and child health.

The Brazilian Civil Society for Family Welfare (BEMFAM) administers the program. Pernambuco was chosen because of its high maternal mortality rate and because BEMFAM has been operating a community-based distribution (CBD) system there since 1975.

Physicians are to be trained in family planning and reproductive risk and surgical and nonsurgical techniques of contraception at the Institute of Human Reproduction of Pernambuco. The paramedical trainers take a three-day course covering reproductive risk concepts, contraceptive methods, and the objectives of the project. They train distributors in the CBD system, mostly paramedics, to carry out the reproductive risk classification and referral system. The system is to be tested in and around Recife and eventually extended statewide.

During fiscal 1984, 44 physicians, 15 paramedical trainers, and 50 paramedics were expected to be trained, and the classification and referral system was to be tested in and around Recife. Because of the U.S. Government funding moratorium on Brazil, however, training will not begin until early fiscal 1985. The conference inaugurating the first year of the program is scheduled for early fiscal 1985 in Rio de Janeiro.

Repair and Maintenance Center

The Brazilian Maintenance Center began operating in November 1979. It has managed the installation and maintenance of 243 laparoscopic systems in 170 institutions in Brazil. Three technicians were trained to manage the maintenance activities throughout Brazil.

In fiscal 1984, the maintenance center was restructured to improve efficiency and reduce costs. The number of maintenance visits was reduced because on-site maintenance has proved to be sufficient. Technicians no longer conduct installation visits; rather, the laparoscopic systems are installed by the physicians. Ninety-five percent of the spare parts are mailed instead of delivered, and the number of technicians has been reduced to two. Based on the records of maintenance activities, it appears that the center is functioning well.

U.S. Training
One Brazilian health professional attended the infertility course offered at the Johns Hopkins Educational Center in Baltimore.

COLOMBIA
JHPIEGO supports three reproductive health training programs in Colombia. Two include instruction in surgical techniques of contraception and the other emphasizes training in IUD insertion for general practitioners.

Colombia National Program of Pelvic Endoscopy and Surgical Techniques (NCA-30)
Fiscal 1984 was the fourth year of this five-year program to assist Colombia in establishing facilities for voluntary surgical contraception in public and private sector institutions. The tripartite agreement involving JHPIEGO, the Ministry of Health, and Profamilia is administered by Profamilia. Since 1980, 202 laparoscopic systems have been placed in over 100 institutions, principally in MOH teaching hospitals, regional hospitals, major maternity hospitals, and Profamilia clinics.

The training of doctor-nurse teams is encouraged. Physicians are taught techniques of laparoscopy and minilaparotomy; the advantages of local anesthesia for endoscopic procedures are stressed. The nurses are trained to assist the physicians during the endoscopic procedures. They receive instruction in operating room procedures and in the care and maintenance of laparoscopic equipment and minilaparotomy kits. During the clinical practice, physicians perform a minimum of 18 procedures, either laparoscopies or minilaparotomies, and nurses must assist in a minimum of 18 procedures. The training is conducted in 14 minilaparotomy clinical practice centers and in the eight laparoscopy clinical practice centers throughout the country.

Because of changes in personnel in the Ministry of Health, the program was temporarily suspended. As a result, only ten physicians and six nurses were trained in fiscal 1984. Twenty physicians and 14 nurses trained in fiscal 1983 were not reported in last year's annual report because of delays in sending documentation. They are included in this year's tables. In fiscal 1985, a new training program in reproductive health will be designed based on equipment and training surveys to be conducted by the MOH.

Reproductive Health and IUD Training Program for General Practitioners (NCA-59)
According to a report issued by the Colombian Social Security Institute (ISS) in 1981, two major causes of hospitalization of women of childbearing age in the ISS system were complications of pregnancy and abortion. In order to decrease the hospitalization of women of childbearing age, the ISS launched its Program in Human Fertility in April 1982. JHPIEGO is providing funds through the Colombian Association for Population Studies (ACEP) to train approximately 75 percent of the ISS general practitioners (about 1,500 doctors) over four years in family planning and its relationship to maternal and child health, human reproduction, methods of contraception, including surgical methods, and infertility. A smaller number of nurses will take the lecture component of the course. The course will emphasize the provision of IUDs and oral contraceptives. It will be given in training centers that have been established in obstetrics and gynecology clinics of the ISS hospitals in the five major cities of Colombia: Bogota, Cali, Medellin, Barranquilla, and Bucaramanga. The course plans call for eight hours of lectures, four hours of seminars or demonstrations, and eight hours of clinical practice. The training in this program was delayed in fiscal 1984; it is expected to start in fiscal 1985.

Profamilia International Training Center
Profamilia has administered a clinical training center with support from JHPIEGO since 1978. The center serves as a regional training center for Latin American physicians and as a clinical practice center for participants in courses at the Johns Hopkins Educational Center in Baltimore. It was the first JHPIEGO-supported clinical practice center.

Five physician-anesthetist-nurse teams from Peru and four from Bolivia were trained in laparoscopy at the center in fiscal 1983. During fiscal 1984, a physician from Uruguay was trained at the center, and the project coordinator for the Peruvian Reproductive Health Training Program (see below under Peru) took his clinical practice there after attending the clinician course at the Johns Hopkins Educational Center. Three more teams from Peru are expected to be trained at the center in fiscal 1985.

Fiscal 1985
JHPIEGO plans to support a contraceptive update symposium for health professionals from the public and private sector.

COSTA RICA
Reproductive Health Training for General Practitioners (NCA-56)
The government of Costa Rica has made primary health care in rural and marginal urban areas a high priority. The purpose of this program is to provide reproductive health training to 180 general practitioners in the social security system. These 180 physicians make up 70 percent of the general practitioners working in rural areas for the social security system. Six physicians per year from other countries in Central America will also be allowed to take the course. A second component of the program is a pilot project in reproductive health that includes the training of paramedical personnel in the reproductive risk concept and the design of a classification and referral system based on reproductive risk.

Sixty general practitioners a year are expected to take the 165-hour six-week course. The course is scheduled four times a year for approximately 15 physicians per session. Sixty hours of lectures, 30 hours of seminars, and 75 hours of clinical practice are planned. The lectures will cover family planning, infertility, obstetrics, gynecology, neonatology, nutrition of mother and child, and pediatrics. The clinical practice will include instruction in pediatrics and IUD insertion; each participant must do a minimum of ten insertions to meet the course requirements.

The pilot project in reproductive risk calls for the Ministry of Health (MOH) to select the rural and marginal areas to be included in the project and the identification of paramedical personnel to be trained. The MOH will also be responsible for the design of the classification and referral system. It is expected that CENDEISS (the training section of the Social Security System) and the MOH will train approximately 100 paramedics in family planning methods, reproductive risk concepts, and the classification and referral system. There will be an evaluation workshop to review the classification and referral system and its effect on the delivery of clinical contraception by the general practitioners in rural health centers.

Training in this program was scheduled to begin in fiscal 1984 but was postponed because of bureaucratic delays; it is expected to begin in fiscal 1985.

GUATEMALA
Guatemalan Reproductive Health Education Program (NCA-42)
Fifth-year medical students at the University of San Carlos are instructed in

reproductive health, family planning, and maternal and child health in an extracurricular 30-hour didactic course. A second part of the course offers clinical training in family planning and IUD insertion for student instructors --recent graduates of the university working for the Ministry of Health. JHPIEGO funds the program through APROFAM, the private family planning organization.

The main campus of the University of San Carlos is located in Guatemala City, and there are four branches in Coban, Quezaltenango, Antigua, and Escuintla. The course for medical students is offered in all five cities at the same time as the students take a course in gynecologic problems in the university curriculum.

The course was expanded from 20 to 30 hours in fiscal 1984 to include more information on primary health care. Depending on the location, the course may be given in ten three-hour installments or ten hours a day for three days. There are roughly 50 students per class.

The course for the student instructors provides update training in reproductive health, with emphasis on IUD insertion. Another goal of the course is to standardize the training in reproductive health that the instructors give to medical students. The course is given in Guatemala City. It includes eight hours of lectures on patient management techniques, clinic organization, and contraceptive distribution. There are 15 hours of clinical practice during which each instructor must perform at least ten IUD insertions in order to be certified.

A third component of the program is a three-day evaluation workshop for representatives from the Ministry of Health, San Carlos University, and APROFAM. All 40 instructors and 25 of the 500 medical students trained will also attend.

Courses were held for 207 medical students in October and December 1983. A total of 317 medical students and 15 instructors trained in 1982 and 1983 were not reported previously because of delays in sending documentation; they are included in this year's tables. In fiscal 1985, 660 students and 40 instructors are expected to participate in the program.

Fiscal 1985

JHPIEGO plans to support a small project in reproductive health for medical students at Guatemala's private medical school, Universidad Francisco Marroquin.

HONDURAS

Reproductive Health Education Program (NCA-57)

The Honduran government considers family planning an integral part of maternal and child health. The Reproductive Health Education Program was designed to train fifth- and sixth-year medical students and final-year nursing students at the Universidad Autonoma of Honduras in reproductive health within the context of maternal and child health.

The program included lectures, clinical management seminars, and clinical practice. The lectures covered human reproduction, family planning, priorities in preventive gynecology, pediatrics, nutrition, and administration of health services. The seminars were for groups of ten students and included discussion, films, case presentations, demonstrations of equipment, and discussion of case studies. The supervised clinical practice included the application of skills related to the management and prevention of pediatric, prenatal, and postnatal reproductive health problems.

A total of 49 medical students were trained in courses held in March and May 1984.

MEXICO

Fertility Management Education: A Special Course for Mexican Medical Schools (NCA-8)

In 1975, officials at Mexican medical schools became aware of a high pregnancy rate among medical students and the spouses of medical students who had finished their fourth year and were entering their undergraduate internship. The Fertility Management Education program addresses this problem by teaching family planning to the students as users early in their medical education. The students are at the height of curiosity about sexuality and reproduction. They have also just begun a long grinding course of study, and most wish to finish unencumbered by dependents. Project staff designed the course to capitalize on the youthful curiosity of the students and to meet their immediate personal needs. The sponsors of the program, the Association of Mexican Medical Schools (AMFEM), also believe that the students who attend the course are more likely to be future promoters of family planning. The course serves as a basis for future medical training in contraceptive technology.

The course is now offered in over half of Mexico's medical schools. Project staff have been able to distribute the course widely by using a "Big Mac" theory of management; they have designed it to be convenient, appetizing, and of standardizable quality.

The program began in September 1981. During fiscal 1984, 4,090 medical students took the course. A total of 1,254 students who attended the course last year, but were not reported in last year's annual report, are included in this year's tables. In fiscal 1985, the final year that JHPIEGO will fund the program, another 6,500 medical students in 37 medical schools are expected to participate in 325 courses.

The course consists of 15 hours of lectures and demonstration sessions. Classes of at least 20 students meet for one hour a day five days a week for three weeks. Each student receives a brown bag sampler of contraceptives in the second hour of the course.

Twenty-eight course directors from 24 medical schools met in October 1983, and 56 instructors from 31 medical schools met in November to review the medical education program. They concluded that (1) the course should be kept short, simple, and practical to maintain student interest; (2) second-year students seem to be the most receptive to the course; (3) the brown bag sampler is very effective; (4) students should have hands-on practice with models and, if possible, some exposure to a local family planning clinic; (5) students should learn where and to whom family planning services are offered in Mexico; and (6) the doctor/patient relationship should continue to be emphasized during the final two or three hours of the course.

Three coordination meetings are scheduled for fiscal 1985 to ensure continued support from the medical schools when JHPIEGO funding ends and to promote the inclusion of the family planning course in the curricula of the medical schools.

Fiscal 1985

JHPIEGO plans to support national and international seminars in Mexico on the promotion and dissemination of the reproductive risk concept for key technical and administrative personnel from Mexico and the Latin America region.

PERU

The Peruvian Reproductive Health Training Program (NCA-66)

JHPIEGO's program in Peru emphasizes the health rationale for family planning through the concept of reproductive risk. The initial step in this three-year project was a four-day conference held at the Johns Hopkins Educational Center in

Baltimore in November 1983. The Director-General of Health Services from the Peruvian Ministry of Health was part of the teaching faculty and 20 Peruvian physicians from the Ministry of Health and the Social Security Institute attended. They listened to a presentation by Colombia's Chief of Maternal and Child Health on his country's use of the reproductive risk concept. Other presentations emphasized the health benefits of family planning and the concept of reproductive risk. The Peruvian officials discussed a strategy based on reproductive risk to integrate family planning into the Peruvian health care system. After the seminar the officials visited Mexico and Colombia to observe integrated programs of maternal and child health and family planning.

With funding from AID/Peru, a national reproductive risk seminar was convened in Lima in March of 1984. The Vice-Minister of Health of Peru attended, as well as 16 of the officials who participated in the conference in Baltimore. The purpose of the seminar was to discuss the potential benefits of the reproductive risk program and to develop plans for implementing the program.

There are four other components of this program. The first component comprised six five-day regional seminars in reproductive health supported by AID/Peru. Officials who attended the seminar in Baltimore assisted MOH personnel in their districts to define and design strategies for health services based on the concept of reproductive risk.

The second component of the project calls for the training of 160 obstetrician-gynecologists and 300 general practitioners in reproductive health and techniques of contraception during ten-day tutorial/clinical training sessions. The tutorials will cover the concept of reproductive risk, clinical and nonclinical methods of contraception, including natural family planning and breastfeeding, and a review of maternal and child health services. Clinical practice for the obstetrician-gynecologists will include training in minilaparotomy and IUD insertion.

The third component of the program is a pilot project in reproductive risk in the Ica health region south of Lima. The Ica region is an agricultural area with a relatively well-developed health care system. It also includes urban, periurban, and rural areas. For these reasons, and because there is already an AID-funded pilot project integrating maternal and child health and family planning services in the region, Ica was chosen for the JHPIEGO reproductive risk pilot project. The pilot project will develop and test a risk classification and referral system. The Peruvian Ministry of Health plans to apply the tested system throughout Peru.

The fourth component will be a contraceptive update symposium for health professionals from the public and private sector.

The regional seminars were conducted during fiscal 1984. Because of bureaucratic delays, however, training will not begin until fiscal 1985.

Two members of the Peruvian MOH staff will attend the two-day reproductive risk workshop in Rio de Janeiro in early fiscal 1985. This workshop was part of the reproductive risk pilot project in the state of Pernambuco in Brazil, which is similar to this project in the Ica region.

U. S. Training

One Peruvian physician, the project coordinator of the Reproductive Health Training Program attended the clinician course offered at the Johns Hopkins Educational Center in Baltimore. He was trained in laparoscopy in Colombia.

THE CARIBBEAN

DOMINICA

One health professional from Dominica attended the STD course offered at the Johns Hopkins Educational Center in Baltimore.

HAITI

Repair and Maintenance Center

Over the past few years, the demand for voluntary surgical contraception has increased in Haiti. The Division of Family Hygiene and Nutrition (DHFN) has requested that JHPIEGO train physicians in laparoscopy, equip them with Laprocators, establish a Repair and Maintenance center, and train a technician.

A Repair and Maintenance Center has been set up in the headquarters of the DHFN in Port-au-Prince, and a technician has been trained. The technician will train clinical and paramedical personnel in the care and handling of laparoscopic equipment. JHPIEGO donated 14 of the 16 laparoscopic systems that are in Haiti (the other two were donated by the International Programs Division of the Association for Voluntary Sterilization). JHPIEGO will furnish adequate supplies, spare parts, and replacement parts for the laparoscopic equipment in Haiti. In fiscal 1985, training programs will be under way for physicians and nurses in laparoscopy and contraceptive techniques.

U.S. Training

Two health professionals from Haiti attended the STD course offered at the Johns Hopkins Educational Center in Baltimore.

JAMAICA

JHPIEGO supported three programs in Jamaica in fiscal 1984: a clinical family planning training program, a pilot satellite education program, and a clinical practice center.

Jamaican Clinical Family Planning Training Program (NCA-39)

This program, coordinated by the National Family Planning Board, updates ministry of health and nursing primary health care personnel in clinical and organizational aspects of family planning. The course consists of weekend seminars for physicians, three-day seminars for the nursing personnel, and clinical practice for both that includes training in IUD insertion. During fiscal 1984, 28 physicians and 65 nurses were trained in courses held in October 1983 and February 1984. An additional 15 nurses attended a course in January 1984. Sixteen physicians and 19 nurses trained in fiscal 1983 were not included in last year's annual report; they are counted in this year's tables. The program will continue in fiscal 1985 with an emphasis on the training of nurses.

Pilot Satellite Education Program in Reproductive Health for the Caribbean (NCA-63)

A satellite-based, teleconferencing system has been installed at the University of the West Indies (UWI) as the result of an agreement signed in May 1982 between UWI and the Bureau of Science and Technology of AID.

The system links UWI's three main campuses--Mona (Kingston), Jamaica; Cape Hill, Barbados; and St. Augustine, Trinidad, with university extension centers in Santa Lucia and Dominica. Each location has a teleconferencing room equipped with an interactive voice circuit. During 1984 the system included slow scan

television equipment for the transmission of still pictures and a telewriter for the transmission of graphics. The teleconferencing rooms seat 10 to 20 people.

The pilot program included 12 two-hour sessions in reproductive health for physicians (general medical officers), a similar course for nurses, and three one-hour sessions of case presentations for about 20 physicians per session.

The physician course was scheduled once a week for 12 weeks. Each session included approximately one hour and 45 minutes of formal presentation, including brief lectures, panel discussion, group projects, and question and answer periods. In the final 15 minutes of each session, participants were able to use the network to consult with colleagues on case problems or patient management. The students received printed materials before the course began. The lectures covered reproductive health and family planning, including recent advances in fertility control, population dynamics, voluntary sterilization, pregnancy testing, management of high-risk pregnancy, gynecological cancer, sexually transmitted diseases, and clinic management.

The format and content of the course for nurses was similar to that of the physician course, but included more detail on clinic management, recordkeeping management of inventory, and referral procedures. The case presentation sessions were held once a month for one hour over three months.

Fifty-nine physicians and 66 nurses participated in the pilot project in fiscal 1984. In fiscal 1985, there will be a new course for medical students and postdoctoral fellows, and Antigua is expected to be added to the network. Fifty physicians, 110 nurses, 50 medical students, and 50 postdoctoral fellows are expected to participate in the satellite courses next year.

Clinical Practice Center (NTA-24)

JHPIEGO supports a clinical practice center for participants in courses at the Johns Hopkins Educational Center who request training in laparoscopy. It is administered by the Department of Obstetrics and Gynecology (Division of Advanced Training and Research in Fertility Management) of the University of the West Indies--Mona Campus.

U.S. Training

One health professional from Jamaica attended the STD course at the Johns Hopkins Educational Center in Baltimore.

ST. KITTS

One physician from St. Kitts attended the infertility course offered at the Johns Hopkins Educational Center in Baltimore. He received laparoscopy training at the clinical practice center in Jamaica.

NEAR EAST

JHPIEGO's programs in the Near East emphasize the clinical training of physicians and nurses in reproductive health. Three-quarters of the Near Eastern health professionals who participated in JHPIEGO-supported programs during fiscal 1984 attended clinical courses in reproductive health that included instruction in laparoscopy, minilaparotomy, IUD insertion, or local anesthesia. JHPIEGO is active in three countries in North Africa -- Egypt, Morocco, and Tunisia -- as well as in Turkey.

Clinical training for health professionals from sub-Saharan African countries is an important component of the programs in North Africa. Clinical training programs are difficult to establish in sub-Saharan African countries because the number of women requesting clinical forms of contraception is generally not sufficient to reach the mininum number of procedures required for certification. The clinical program in Tunisia has been successful because of the Tunisian government's long-standing commitment to and promotion of reproductive health and family planning.

The Tunisian reproductive health program was established in 1978 and is the oldest in the Near East. Its courses include training in endoscopy, local anesthesia, and IUD insertion for, respectively, obstetrician-gynecologists, anesthetist-technicians, and general practitioners and nurses. The program is administered by the Tunisian National Office for Family Planning and Reproductive Health, which was reorganized in fiscal 1984 and moved from the Ministry of Health to the Ministry of Family Planning and Promotion of Women.

The program in Morocco is similar to the Tunisian program, with two exceptions. The Moroccan program does not include training in IUD insertion, but it does offer courses in reproductive health, including endoscopy, for operating theatre nurses. A course for operating theatre nurses was dropped from the Tunisian program after fiscal 1983 because sufficient numbers of nurses have been trained.

In Egypt, JHPIEGO supports two reproductive health programs at Al Azhar University in Cairo and Shatby University in Alexandria. Both include training in the diagnostic and therapeutic use of the laparoscope. The program in Alexandria also includes training in IUD insertion, and a microsurgery course will be added to the program in Cairo in fiscal 1985.

In Turkey, JHPIEGO has supported reproductive health training, including instruction in endoscopy, for physicians and nurses since 1979. With the liberalizaton of Turkey's family planning laws in June 1983, enrollment in the program increased from 17 in fiscal 1983 to 47 in fiscal 1984. JHPIEGO is considering the support of reproductive health programs in Turkey that include

instruction in microsurgery and tubal ligation. The JHPIEGO International Council met in Izmir in April 1984.

Since 1974, 2,014 health professionals from the Near East have participated in JHPIEGO-supported programs. Eighty-eight percent were trained in-country or in regional programs. Of the 271 professionals trained in fiscal 1984, 94 percent were trained in-country or in regional programs.

Thirteen health professionals from the Near East attended courses at the Johns Hopkins Educational Center in Baltimore. Jordan, Morocco, Tunisia, Turkey, the United Arab Emirates, and Yemen were represented.

JHPIEGO staff or consultants made 11 trips to the Near East for the purpose of program development: five to Tunisia, three to Morocco, two to Egypt, and one to Turkey.

EGYPT

JHPIEGO is working with Egyptian authorities (1) to provide postgraduate training in reproductive health, (2) to improve the teaching of reproductive health and contraception in medical schools, and (3) to make laparoscopy available for diagnosis and treatment throughout Egypt. A total of 236 Egyptian physicians and 195 nurses have participated in JHPIEGO-supported reproductive health programs in Egypt. In fiscal 1984, JHPIEGO conducted two reproductive health training programs in Cairo and Alexandria.

Reproductive Health Training Center, Al Azhar University (NCA-46)

The Reproductive Health Training Center at Al Azhar University in Cairo was set up in January 1980 to train gynecologists in reproductive health and the diagnostic and therapeutic use of the laparoscope. Endoscopy courses are conducted for physicians and operating room nurses.

The physician course is three weeks long. The first two weeks are devoted to lectures on modern aspects of reproductive health, including clinical and nonclinical contraceptive methods, recent advances in fertility control, the health benefits of child spacing, high-risk pregnancy, perinatal health, diagnosis and treatment of infertility, and early detection of gynecological malignancy. The third week is spent in clinical training: six days of laparoscope or Laprocator experience and equipment maintenance. Each physician performs a minimum of 15 procedures under supervision. The institutions of physicians who have been certified as competent in laparoscopy receive laparoscopic systems. Project staff and consultants train physicians and support staff at their institutions to set up and use the equipment. The physicians perform additional laparoscopic procedures under local anesthesia during these field visits.

Physician courses were held in September and December 1983 and a total of 19 physicians were trained, 18 from Egypt and one from the Sudan. Since the beginning of the program, 121 physicians have been trained, 114 from Egypt and seven regional physicians: one from Lesotho, one from Liberia, one from Somalia, and four from the Sudan.

The endoscopy course for nurses combines didactic and clinical training in a one-week course (six training days). The course emphasizes the role of nurses and other paramedical personnel in the provision of family planning services and the use and care of laparoscopic equipment. The training covers preparation of operating rooms for endoscopy procedures, malignancies of the female reproductive tract, high-risk pregnancies, and care of the newborn. The nurse endoscopy course was held in December 1983; eight Egyptian and four regional nurses from sub-Saharan Africa participated.

The demand for microsurgical procedures in Egypt is growing. There is currently a six-month wait to have microsurgery performed at the Al Azhar University Hospitals. Consequently, a course in microsurgery will be added to the curriculum of the Reproductive Health Training Center in fiscal 1985. The course will include lectures and discussions concerning the diagnosis of the tubal factor in infertility, the causes of tubal obstruction, pelvic inflammatory disease, anatomy and physiology of the human fallopian tube, techniques of salpingostomy and salpingotomy, and microsurgery versus in vitro fertilization as treatment for infertility. Each participant will perform at least four reanastomoses on animals and will attend six clinical practice training sessions and assist at or perform at least six microsurgery procedures.

Human Reproduction Training Center, Shatby University Hospital (NCA-45)

The Human Reproduction Training Center at Shatby University in Alexandria conducts courses similar to those at the Reproductive Health Training Center at Al Azhar University. The program comprises three courses in reproductive health for physicians and nurses. The physician course includes training in laparoscopy, and two courses for nurses include training in laparoscopy and IUD insertion, respectively. The IUD course was initiated in 1982 after the Egyptian Government expanded the national IUD program and permitted nurses to insert IUDs.

The training of physicians in reproductive health and laparoscopy is much the same as that given at Al Azhar University in Cairo. Laparoscopy under local anesthesia is emphasized. Clinical sessions also include training in IUD insertion.

The nurse endoscopy course is also similar to that given in Cairo. It includes one clinical session and two lectures daily. The course emphasizes procedures to support physicians performing laparoscopies, laparoscopy equipment maintenance, and IUD management.

The course in reproductive health, including IUD insertion, was conducted for nurses and midwives in two-week sessions during fiscal 1984. The participants attended 24 lectures on family planning and reproductive health. During nine clinical sessions, they performed at least 15 IUD insertions under supervision and received instruction in pelvic examination. In fiscal 1985, the course will be expanded to three weeks to allow the participants enough time to perform the 15 procedures required for certification.

A JHPIEGO consultant makes field visits to the institutions of nurses who have participated in the IUD and endoscopy courses to evaluate their skill in IUD insertion and equipment maintenance. This is done at the same time as field visits to the physicians who participated in the laparoscopy training.

Special six-day courses in local anesthesia are planned for fiscal 1985. Each physician will perform six laparoscopy procedures and observe at least 30 laparoscopies done under local anesthesia. After 1985, laparoscopy under local anesthesia will be taught in the physician endoscopy course.

Ten Egyptian physicians attended a course in November 1983. Nine Egyptian physicians and one Nigerian physician attended a course in late fiscal 1983 and are included in this year's tables. Since the beginning of the program, 132 physicians have been trained, 122 from Egypt and ten from other countries.

Two nurse endoscopy courses were held in October and December 1983 and included 18 Egyptian nurses and six regional nurses from sub-Saharan Africa. A total of 157 nurses have been trained since the beginning of the program, 133 Egyptians and 24 regionals.

Two courses in IUD insertion were held in October and December 1983. The participants included 18 Egyptian and six regional nurses.

Clinical Practice Centers

The hospitals associated with the University of Alexandria, Assiut University, and Al Azhar University serve as clinical practice centers for physicians who have attended a course at the Johns Hopkins Educational Center in Baltimore. The physicians receive six days of training in laparoscopy and instruction in maintenance of the Laprocator. Each physician must perform a minimum of 15 procedures under supervision to be certified as competent. The Shatby University Hospital at the University of Alexandria also provides training in minilaparotomy.

Fiscal 1985

JHPIEGO will support a curriculum standardization program to formulate a coherent program of MCH/FP in Egyptian medical schools. A two-day workshop will be convened in early fiscal 1985 at the University of Assiut for medical school administrators, officials from the Ministry, and representatives from the Obstetrics and Gynecologic Society, the Pediatrics Society, the Public Health Society, and the World Health Organization regional office in Egypt.

JORDAN

In Jordan, JHPIEGO is considering an endoscopy course for ten physicians and ten nurses in cooperation with the Jordanian Ministry of Health.

MOROCCO

National Educational Program in Reproductive Health and Endoscopy (NCA-20)

The Moroccan National Educational Program in Reproductive Health and Endoscopy, established in 1980, is patterned after the older program that JHPIEGO supports in Tunisia. It provides training in reproductive health and endoscopy for obstetrician-gynecologists, anesthetist-technicians, and nurses and nurse-midwives from Morocco, the Near East, and Francophone African and Caribbean countries. Training for anesthetists was added in fiscal 1984; it emphasizes the use of local anesthesia for endoscopic procedures. Fiscal 1984 was the last year of the nurse family planning course. Nurses are now being trained at the regional level with funding from AID.

Since the spring of 1983, the program has been conducted at the new National Training Center in Rabat. At no cost to JHPIEGO, lectures and clinical training in reproductive health are also provided for medical students from the University Mohammed V in Rabat who rotate through the National Training Center.

The physician courses are for a maximum of ten trainees. The course consists of 12 days of didactic and clinical training in reproductive health, with emphasis on endoscopy and laparoscopy. Each obstetrician-gynecologist must perform a minimum of 15 laparoscopic procedures under supervision to be certified. The Moroccan physicians who successfully complete the course receive three days of field training when a laparoscopic system is installed in their home institution.

A nine-day course for operating theatre nurses is held at the same time as the course for the physicians. Through lectures and clinical training, they learn the skills necessary to assist the physicians during laparoscopy and minilaparotomy procedures.

The anesthetist course covers endoscopy, the different types of anesthesia for endoscopy, the Moroccan experience with analgesia for tubal ligations, and techniques of conscious sedation. The course comprises one week of lectures and one week of clinical practice. Each anesthetist assists at a minimum of ten endoscopic procedures. Since it is important that surgeons be familiar with the advantages of local anesthesia for endoscopic procedures, obstetrician-gynecologists who are practicing laparoscopy observe the anesthetist course for five days.

As a result of this program, laparoscopic services have been extended to 15 institutions in Morocco. These 15 institutions provide voluntary surgical contaceptive services to an average of 40 to 50 women per month. JHPIEGO will continue to expand these services throughout the 31 health regions in Morocco.

Ten Moroccan physicians and ten regionals were trained in reproductive health/endoscopy in courses held in March and May 1984. Ten Moroccan and ten regional operating room nurses were also trained at the same time. Twelve Moroccan and three regional anesthetist-technicians attended an anesthesia course given in March 1984, and five Moroccan physicians observed the course. The program will be continued in fiscal 1985.

Fiscal 1985/86

In fiscal 1985, JHPIEGO is planning to (1) assume support of the Repair and Maintenance Center that is currently run by the National Training Center for Human Reproduction and (2) expand the in-country program to include a family planning didactic and clinical course for Moroccan and regional nurses and doctors.

TUNISIA

National Education Program in Reproductive Health, Endoscopy, and Laparoscopy
(NCA-6)

The Tunisia program began in 1978. It supports training of obstetrician-gynecologists in endoscopy, local anesthesia training for anesthetist-technicians, and observation of the anesthesia course by obstetrician-gynecologists. Training of operating theatre nurses was discontinued this year because a sufficient number has been trained; course graduates serve as trainers for nurses who need instruction. Unlike the course in Morocco, the Tunisian course includes the training of general practitioners and nurses in family planning, especially IUD insertion and patient counseling.

The physician and nurse courses in family planning support the policies of the National Office for Family Planning and Reproductive Health (ONPFP) of the Ministry of Health. The ONPFP would like to emphasize training for health professionals, the expansion of service outlets particularly in the southern and eastern regions of the country, and continued information/education programs. Physicians and nurses are required to provide family planning services to outreach areas particularly, and they are often assigned to mobile clinics and rural health centers.

The family planning course for general practitioners and nurses is for 15 participants and includes one week of lectures and discussions and two weeks of clinical training. The length of the clinical training is one week longer than in last year's program to permit certification in IUD insertion and to better train the participants to dispense other contraceptives. Each physician performs at least ten IUD insertions, and each nurse assists with a minimum of five IUD insertions.

Five Tunisian and five regional physicians attended the endoscopy course in March 1984. Nine Tunisian and seven regional nurses attended the course in family planning in May 1984. Thirteen Tunisian and 14 regional anesthetist-technicians took anesthesia courses in October 1983 and April 1984. Three Tunisian physicians observed the anesthesia course.

In August of 1984, the ONPFP was dissolved under the Ministry of Health and a new organization, the ONFP, was created under the Ministry of Family Planning and Promotion of Women. The ONFP will have the same responsibilities as the ONPFP. Training programs under the new organization are being delayed until mid-1985 to allow the ONFP to formulate its training needs over the next five years.

Other In-Country Activities

A special course on the administration of family planning programs was held in Tunisia in November 1983 for 12 members of the Zaire Urban Family Planning Project Team.

JHPIEGO continued to support the Tunisian Repair and Maintenance center in Tunis.

JHPIEGO funds a clinical practice center in Tunisia for physicians who have taken courses at the Johns Hopkins Educational Center in Baltimore and wish to be trained in laparoscopy.

TURKEY

Turkish National Endoscopy Program for Obstetricians, Gynecologists, and Nurses (NCA-22)

JHPIEGO has sponsored a reproductive health program in Turkey that includes training in endoscopic procedures since 1980. The program was initiated by a special course in March 1980 for Turkish administrators, conducted in Turkish, at the Johns Hopkins Educational Center in Baltimore. Its purpose was to establish a cadre of health officials to administer the endoscopy program. JHPIEGO has funded the training of Turkish health professionals since the mid-1970s. This JHPIEGO-supported training contributed to the recent liberalization of Turkey's family planning laws in June 1983.

The endoscopy program is administered by the General Directorate of Population and Planning of the Ministry of Health (MOH). It comprises three-week courses for physicians and one-week courses for nurses.

The physician course includes one week of lectures on issues in reproductive health, surgical contraception, and therapeutic and diagnostic laparoscopy. The lectures are given in Ankara and Istanbul. Two weeks of clinical training are given at training centers in Ankara, Istanbul, Izmir, and Eskeshir. Priority in selection for the course was given to physicians from areas that were not reached during the last two years, especially to physicians from the eastern provinces.

The nurse endoscopy course is a one-week clinical session in which the nurses learn to assist the physicians during the endoscopic procedures and to care for the laparoscopic equipment.

An endoscopy course was conducted in October 1983 for 15 physicians and 19 nurses. Thirteen nurses attended a second endoscopy course in February 1984. Since the beginning of the program, 99 physicians and 194 nurses have been trained.

A two-day evaluation workshop for 66 graduates of the endoscopy course and five MOH officials was held in June 1984 in Izmir. The workshop included demonstrations of equipment maintenance and techniques of laparoscopy, and the participants discussed methods of improving the utilization of endoscopy services.

Other Activities

The JHPIEGO International Council met in Izmir, Turkey, in early April 1984, (see under "Management of the Corporation" for a discussion of the meeting).

JHPIEGO funds a Repair and Maintenance Center in Ankara that is managed by the General Directorate of Family Planning and Maternal and Child Health. There are 64 laparoscopic systems in 36 institutions in Turkey.

Fiscal 1985/86

A deans' conference to standardize the curriculum in reproductive health in Turkish medicals schools is planned for 1985. Three other projects are being

considered, a microsurgery course, training in postpartum tubal ligation, and the establishment of a program in reproductive health in Turkish universities based on the recommendations of the deans' conference.

YEMEN

The government of Yemen supports integrated maternal and child health and family planning (MCH/FP) services. JHPIEGO has trained 14 health personnel from Yemen and has provided Laprocators to its four leading hospitals. JHPIEGO is considering a program in reproductive health training for Yemen general practitioners in fiscal 1985/86.

U.S. TRAINING: THE JOHNS HOPKINS EDUCATIONAL CENTER

Courses conducted at the Johns Hopkins Educational Center in Baltimore assist JHPIEGO in identifying the leaders in reproductive health in developing countries. Virtually all project directors and a large portion of project staff in overseas programs supported by JHPIEGO have attended courses in the United States. These JHPIEGO "fellows" form a cadre of teachers and administrators for in-country programs.

During fiscal 1984, the Center conducted nine courses for 155 physicians and administrators:

-- Academic Skills for Medical School Faculty in Reproductive Health, 7 May to 1 June and 9 July to 3 August 1984 (both in English) -- 23 participants.
-- Advances in Reproductive Health for Clinicians, 26 March to 6 April 1984 (in French) -- 15 participants.
-- Diagnosis and Treatment of Sexually Transmitted Diseases, 3 to 14 October 1983 (in French), 6 to 27 April 1984 (in English) -- 45 participants.
-- Management of the Infertile Couple, 10 to 21 September 1984 (in English) --23 participants.
-- Microsurgery for Tubal Reanastomosis, 28 November to 9 December 1983 (in English) -- 5 participants.
-- Reproductive Health for Administrators of Family Health and Family Planning Programs, 14 October to 11 November 1983 (in English), 11 to 29 June 1984 (in French) -- 44 participants.

The total number of participants trained in the Educational Center declined by 25 percent from fiscal 1983 to 1984. JHPIEGO's policy in the 1980s has been to decrease training in the United States and increase the number of trainees in overseas programs. Figure 5 shows the shifting distribution of the trainees by region. While total training has decreased, the proportion of African health professionals has increased from about one-quarter in fiscal 1978 to two-thirds in fiscal 1984. The training of Latin American health professionals has declined from a high of 116 in fiscal 1978 to seven in fiscal 1984 because AID requested that JHPIEGO emphasize in-country and regional training in Latin America. The number of trainees from Asia and the Near East was roughly the same in fiscal 1983 and 1984. Roughly two-thirds of the participants attended courses given in English and one-third attended courses given in French. Two of the participants were funded by the Noyes Foundation and one was funded privately.

The Educational Center functions under a tuition agreement between JHPIEGO and the Department of Gynecology and Obstetrics of the Johns Hopkins University School of Medicine. Physicians in the Department of Gynecology and Obstetrics and faculty from the Johns Hopkins School of Hygiene and Public Health deliver most of the lectures in these courses. Each course includes a core group of lectures on reproductive health, the health benefits of

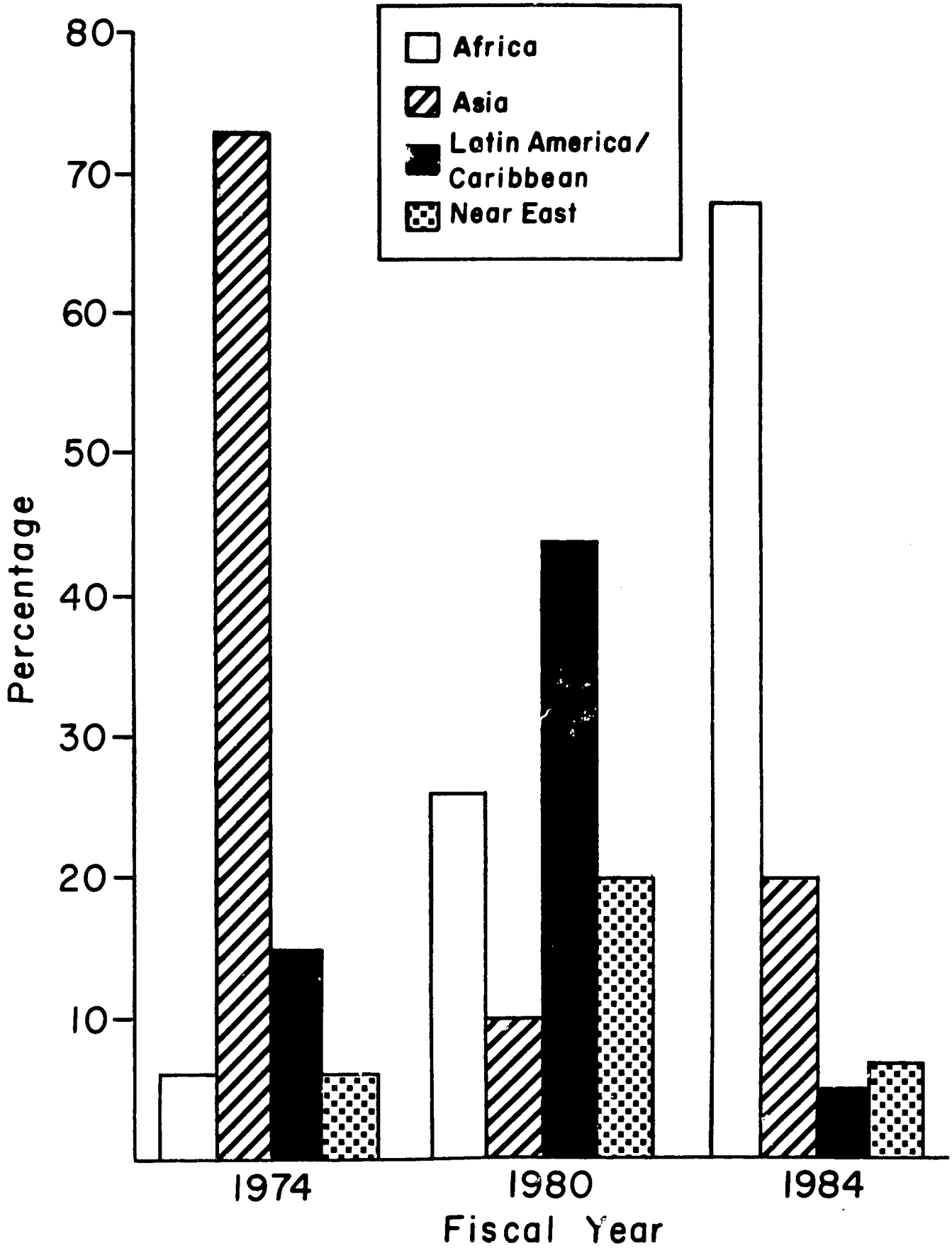

FIGURE 5 Percentage distribution of U.S. trainees by region, fiscal 1974, 1980, and 1984

contraceptives, oral contraception, the sequelae of IUD use, traditional methods of contraception, contraceptive use and sexually transmitted disease, diagnostic laparoscopy, advances in reproductive endocrinology, the future of fertility management, and the organization of family planning programs. Additional material depends on the topic of the course. For example, the academic skills course includes one week of lectures on teaching and research that cover curriculum development and evaluation, preparation of audiovisual materials, working with small groups, practical exercises in obstetrics/gynecological research, and writing a research proposal.

All trainees are given pretests and post-tests. The results show that the courses are effective in transmitting knowledge, improving the trainees' grasp of problems in reproductive health, and stimulating interest in reproductive health. The trainees' evaluations of the courses are reviewed and the courses are modified in response to the suggestions.

The trainees are also asked about their teaching responsibilities and needs: how many lectures they give per year, the subjects on which they lecture, the length of their lectures, and to whom they are speaking. The trainees have indicated a pressing need for slides and up-to-date information on a wide variety of topics in reproductive health. To meet this need, JHPIEGO is preparing a collection of illustrated core lectures.

Physicians who have attended a course at the Johns Hopkins Educational Center may be trained in laparoscopy at any of a number of JHPIEGO's overseas clinical practice centers. Four participants took advantage of this opportunity.

During fiscal 1984, Dr. Giraud V. Foster was hired to direct the activities of the training center after the previous training officer, Dr. Ronald Magarick, resigned to take a new position. A researcher/writer, Robert Lande, joined the staff to prepare the collection of core lectures and other educational materials, as well as the annual report.

MANAGEMENT AND SUPPORT

MANAGEMENT OF THE CORPORATION

BOARD OF TRUSTEES AND OFFICERS OF THE CORPORATION

During the reporting period, members of the JHPIEGO Board of Trustees continued to contribute their talents and expertise to guiding and managing the affairs of the corporation. For both the Trustees and the Officers of the corporation (Figure 6), the reporting year presented unprecedented challenges. Among the major challenges was the task of maintaining the momentum for the ever-increasing demand from third world countries for collaborative in-country programs within the funding limits imposed by a sharply curtailed allocation of funds by AID for overseas activities.

At the end of calendar year 1983, JHPIEGO and AID had completed negotiations for the extension of the Cooperative Agreement (AID/DSPE-CA-0083) through 30 September 1986. Funds allocated in the financial plan for national and regional programs averaged $2 million a year for demonstrated requirements mounting to $4 million annually. To accommodate this funding limitation, JHPIEGO found it necessary to delay the obligation of funds for a number of renewals and new educational programs. Although JHPIEGO has managed to maintain a delicate financial balance for keeping overseas programs alive, the impact of the shortage of available funds will become manifest in mid-1985 and 1986 and could result in a reduction in the growth of training programs and outputs, unless additional funds are infused.

In spite of the funding problems, the Trustees and key JHPIEGO officials began to systematically address programmatic and managerial initiatives to meet the evolving and changing needs of the developing countries, as these countries move from the last half of the decade into the 1990s.

The staffing reorganization of JHPIEGO approved by the trustees at the end of the last reporting period was implemented to reinforce evolving functional imperatives. The designation of a deputy director with prime responsibility for the educational and evaluation components within JHPIEGO demonstrated JHPIEGO's preoccupation with new educational models and an evaluation of existing activities. The staff of the Regional Development Office for Africa was increased by the equivalent of two full-time professionals to accommodate the priority attention given to this region and to the numerous national and regional African programs coming to fruition after having been so carefully seeded and nurtured during the previous years.

In the late fall of 1983, JHPIEGO's trustees hosted two meetings for national delegations. The concept of reproductive risk became the keynote of a four-day seminar held in Baltimore for a Peruvian delegation, which included the Director-General of Health Services from the Ministry of Health and directors from 20 health districts. Support for Nigeria's initiative in reproductive health training was demonstrated by the sponsorship in Baltimore of a workshop that helped in the

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Treasurer and Secretary
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The Johns Hopkins University

Ms. Charlotte G. Ellis
Assistant to the President
Secretary of the Board of
Trustees

* Resigned late in the fiscal year to take a position overseas.

FIGURE 6 **Board of Trustees and officers of the JHPIEGO Corporation**

development and design of proposals for the creation of reproductive health education programs in priority states designated by the Federal Government of Nigeria.

OFFICES OF THE PRESIDENT AND THE DIRECTOR

Sensitive to JHPIEGO's international leadership role in advancing reproductive health, the president and director of the corporation set in motion several mechanisms to make certain that JHPIEGO's policies and strategies, programmatically and technologically, were in the forefront of the state of the art to respond appropriately to the particulars of national and regional needs in third world countries. In January 1984 the president and the director conducted a two-day retreat for senior staff to deliberate on current practices and programs, future goals, technology and the role of surgical training, curricula content, and educational materials. A follow-up meeting was convened in September 1984 to review and modify the conclusions arising from these deliberations. For example: In Africa major unmet training needs include specialized training programs, and courses on sexually transmitted diseases and infertility, in addition to courses dealing with contraception. Also, during the next few years, because of the scarcity of physicians, there will be less emphasis on high technology training, while nurse training will receive increased attention. Conversely, in Latin America, training emphasis will be on high-technology skills. The main strategy in this region is the use of the reproductive risk concept to provide a health rationale for family planning. This concept has already been adopted in Brazil and Peru, and now Mexican officials have made it a part of the focus of their social security program.

There was consensus that continuous programmatic success is based on innovation and maximizing potentials. There are no limitations on training models. Distant teaching programs (satellite education) where appropriate, will be pursued; specialized courses on STDs, administration, and academic skills may be extended to regional sites; the incorporation of reproductive health subjects into medical school curricula will be stressed; a collection of lectures based on U.S. course lectures will be developed for use at overseas training centers; and JHPIEGO will try to link in-country and regional resources to meet educational and training needs.

JHPIEGO will continue its pre-eminent role in surgical training to make certain that technology and training are available when timely and appropriate. In Africa, for example, surgical training is being gradually introduced. It appears appropriate to train personnel in postpartum minilaparotomy techniques at maternity hospitals and in laparoscopy techniques at major centers.

The evaluation of maturing programs will be ongoing to obtain programmatic insights and determine whether costs are appropriate for the benefits gained. Site visits, participant survey results, and special in-country evaluation studies like those to be undertaken in Brazil on the reproductive health education programs (REHEPs) will be employed. Means to obtain more accurate measures of knowledge gained will also be sought. To strengthen JHPIEGO's evaluation capabilities, Dr. DeWitt Clark, an evaluation specialist with a Ph.D. in educational psychology, was hired to manage JHPIEGO's Information and Evaluation Services division.

Another major thrust during the reporting year was the JHPIEGO directive to conduct in-depth site visits to evaluate JHPIEGO-supported Repair and Maintenance (RAM) centers, to document the experience of these centers and sites where equipment has been distributed, and to obtain insights into accountability, utilization, care, and the cost of maintaining the donated equipment in the countries visited. Visits were made to Brazil, Colombia, Malaysia, the Philippines, Thailand, Turkey, and the Sudan. JHPIEGO has reduced the number of spare parts shipped to

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ADVISOR

Dr. Leo Dunn
Professor and Chairman
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FIGURE 7 THE INTERNATIONAL COUNCIL

a new RAM center from 240 in 1980 to only 40 today; the reduction in spare parts shipped has led to substantial savings.

New models for maintenance centers can be designed and the number of preventive field visits reduced. Maintenance of equipment does not have to rely entirely on the expertise of a maintenance technician; instead, more emphasis can now be placed on training operating room nurses and the technicians to train these nurses. Future centers may serve only as spare parts depots for distribution of parts. Another possibility would be to include spare parts in the country training agreements. This would provide continuous feedback between trainer and user and would facilitate attainment of utilization results.

INTERNATIONAL COUNCIL

The offices of the president and director worked together to organize a meeting of the International Council (Figure 7) in Izmir, Turkey, during the first week of April 1984. The membership of the Council was expanded to include four new members from Africa. Sixteen council members attended the meeting along with the trustees and officers of the corporation. Council members stressed the importance of keeping family planning within the broader reproductive health context and avoiding programs that are too focused towards one modality. Other recommendations included: holding a special national family planning conference addressing the problem of adolescent fertility, continuing to support IUD training for nurses and other appropriate personnel, promoting use of barrier contraception in countries with high rates of STDs, and considering the possibility of conducting STD and/or administration courses overseas.

OFFICE OF RESOURCE MANAGEMENT

The Office of Resource Management is responsible for the fiscal and administrative management of the JHPIEGO Corporation. In order to ensure the integrity of corporate fiscal activities, this office reports directly to the president of JHPIEGO.

CONTRACTS

The Office of Resource Management coordinated the renewal of four major agreements with the following organizations:

- Johns Hopkins University, for administrative management services (NP-1).
- Johns Hopkins University School of Medicine, for training provided by the Department of Obstetrics and Gynecology in courses held at the Johns Hopkins Educational Center (NJ-1).
- Brethren Services Center, for warehousing and shipping of equipment and educational materials (NP-2).
- Peat, Marwick, Mitchell and Company, for auditing of in-country programs (NP-3).

The Office initiated or renewed other smaller contracts as well, such as the agreement with the Information Services Division of The Johns Hopkins Hospital for computer-related services.

MONITORING

A major part of the support provided by Resource Management is financial reporting to each JHPIEGO office of subordinate agreement activities. Budget and Fiscal Status Reports are issued monthly. They were improved during fiscal 1984 and now include anticipated expenditures and availability of funds. The Training and Education Schedule, issued quarterly, is used to report and adjust the funding needs of JHPIEGO's subgrantees and to adjust JHPIEGO's prime grant funding requirements.

Resource Management monitored the finances of over 150 subordinate agreements during fiscal 1984. Over 100 active programs are sponsored under the current AID grant DSPE-CA-0083. The remainder were sponsored under AID grant pha-G-1064 and are being closed out.

Resource Management has begun to automate its internal monitoring and reporting activities. This automation process will improve maintenance of records and offer timely reporting of subordinate agreement activities.

GENERAL SUPPORT

In addition to monitoring subordinate agreements, Resource Management reviewed and monitored special one-time projects. The Office verified costs in all proposals and participated in the review meetings. The Office also prepares the budget and justification of agreements and reviews agreements before they are signed.

AUDITING

During fiscal 1984, Peat, Marwick, Mitchell and Company completed the auditing of subgrant agreements sponsored by AID grant pha-G-1064. Resource Management received audit reports and reviewed them for follow-up or processing. The auditing of the first group of subagreements funded under the current cooperative agreement, DSPE-CA-0083, will be initiated during fiscal 1985.

FINANCIAL MANAGEMENT

In the first quarter of calendar 1984, JHPIEGO's Federal Reserve Letter of Credit was closed and reissued to provide for electronic transfer of funds from the Federal Government. Resource Management made an extensive review of the regulations in the new Letter of Credit and made major adjustments to JHPIEGO's banking procedures and internal financial management systems. Several meetings with the Office of Financial Management of AID/Washington smoothed the transition from the old Letter of Credit to the new one.

To comply with the Federal Government's financial constraints in the new Letter of Credit, Resource Management developed methods to limit the amount of funds drawn from the U.S. Government to short-term use and at the same time meet the financial needs of in-country programs. Cables and certified checks are the two primary methods used to send funds overseas.

GENERAL ADMINISTRATION

Resource Management is the administrative link between JHPIEGO and the Johns Hopkins University. The Office monitors the financial services that the University performs for JHPIEGO and it acts as JHPIEGO's personnel office. Since all JHPIEGO staff are employees of the University, Resource Management must keep staff informed of changes in University regulations.

HANDBOOK 10

During fiscal 1984, AID amended its cooperative agreement with JHPIEGO to include compliance with Handbook 10, an AID participant training document that provides guidance for training done with AID funds. Resource Management took part in meetings with JHPIEGO's project monitor and the AID Office of International Training at which JHPIEGO's responsibilities with regard to the Handbook were discussed. Considerable progress has been made in delineating compliance requirements. Handbook 10 will be revised by AID in fiscal 1985, which may prove helpful in clarifying JHPIEGO's responsibilities.

INFORMATION AND EVALUATION SERVICES

JHPIEGO monitors over 100 programs in 22 countries. Monitoring includes keeping track of the number of trainees in U.S. and overseas courses, their professional backgrounds, the courses they take, where they are from, what they learned, and the equipment they have been given. Information and Evaluation Services (IES) is responsible for collecting, maintaining, and analyzing this information.

INFORMATION SYSTEM

The JHPIEGO information system consists of a collection of computerized data files and computer application programs. IES uses this system to issue monthly or quarterly internal reports, such as the Participant and Equipment Directory, Equipment Status Report, and the Program Documentation Checklist. In fiscal 1984, IES prepared special external reports for the Program Evaluation Unit of the Centers for Disease Control, AID missions, and AID/Washington. IES also maintains JHPIEGO's directory of medical schools in developing countries.

Much of this year's information system development activity involved the creation of error-checking programs to detect and report logical errors in the computer data files. Such errors can be introduced from any number of sources. Once in the system, they can be extremely difficult to detect and can threaten the utility of the information system. The error-checking programs detect suspicious data being entered into the data files, prevent them from entering the information system, and report them to the operator for verification.

IES is also responsible for another kind of data processing--word processing. JHPIEGO's word processing center consists of two Xerox 860 stand-alone word processing machines, which are in use approximately 95 percent of the time. IES trains JHPIEGO secretaries in word processing and provides support in word processing for each of JHPIEGO's offices.

EVALUATION

With the information system installed and functioning smoothly, IES began to expand its role in the evaluation of JHPIEGO activities. The function of the Office was upgraded in fiscal 1984 in order to improve the evaluation of JHPIEGO training. A new head of the department was hired with a Ph.D. in educational psychology and a background in medical education.

IES assists the regional development officers (RDOs) in the evaluation process by providing them with specific information about their programs. The Office is developing a questionnaire to measure attitudes of trainees toward family planning concepts, it is assisting the RDOs in incorporating evaluation plans into their program proposals, and it is expanding the use of the Annual Participant Survey (APS) in JHPIEGO programs. The APS is a survey sent out to participants in JHPIEGO in-country programs approximately one year after they complete a course. It is one of the few serious attempts made by any organization to establish long-term contact with trainees in developing countries. The distribution and collection of the APS in developing countries requires a complex logistical system that must

account for poor or nonexistent national postal systems. IES is working with the regional development officers to develop strategies to reach all JHPIEGO trainees.

The office is planning to prepare evaluations of several JHPIEGO programs, for example, the reproductive health education programs, satellite courses, correspondence courses, and physician postgraduate clinical training courses.

PROGRAM SUPPORT OFFICE

The Program Support Office consists of the Admissions/Travel Unit, the Equipment Unit, and the Grants Unit.

ADMISSIONS/TRAVEL UNIT

The Admissions/Travel Unit assists the regional development offices in recruiting, selecting, and scheduling candidates for courses at the Johns Hopkins Educational Center in the United States and at regional training centers. (Candidates for in-country courses are selected by the project directors.) The Unit is also responsible for planning and processing travel arrangements for all U.S. and regional trainees, as well as for JHPIEGO staff and consultants. It maintains curricula vitae and the JHPIEGO consultant roster for both U.S. and international consultants.

Admissions

The Admissions Unit processed the applications of candidates for 18 courses at regional training centers and nine courses at the Johns Hopkins Educational Center in Baltimore. Course participants were chosen by the Selection Committee. Candidates from African medical schools and teaching hospitals were given priority. With the lifting of restrictions on development activities in Ghana, the Unit resumed recruitment of Ghanian candidates for U.S. and regional courses. One Ghanian physician attended the academic skills course given at the Johns Hopkins Educational Center. Two Ethiopian physicians were able to attend U.S. courses with the support of funds from the Noyes Foundation. Overall, there were 40 percent more applications received than there were training spaces available. The Admissions Unit also schedules clinical practice for trainees who have taken courses at the Johns Hopkins Educational Center.

Travel

During fiscal 1984, the Travel Office processed approximately 300 trips to 49 countries for trainees, consultants, and staff. Three-quarters of the trips were made by trainees traveling to U.S. and regional training centers. The rest were made by staff and consultants for program development, monitoring, or field visits to install equipment or provide training additional to that received in a course. Of these trips, more than 80 percent were made for program development, compared with 70 percent last year. Fifteen field visits were made in fiscal 1984. The increase in trips made for program development is a result of the increased activities in the regional development offices, especially the Africa Office. Half of the trips made for program development, site visits, or field visits were made to Africa. The others were equally divided between the Asia/Near East region and the Latin America/Caribbean region. Trips were made most frequently to countries with the largest programs: six visits were made to Nigeria, five to Tunisia, and five to Brazil. Malawi was visited for the first time in fiscal 1984.

EQUIPMENT UNIT

The Equipment Unit is responsible for procurement, shipment, maintenance, and repair of laparoscopic systems and other medical equipment used in JHPIEGO programs, and for procurement and shipment of educational materials.

Equipment

The equipment that JHPIEGO ships in support of its overseas programs includes laparoscopic systems (mostly Laprocators), microsurgery kits, minilaparotomy kits, and IUD kits. JHPIEGO also ships spare parts for repair and maintenance of the laparoscopic equipment. About 100 countries in the developing world are now using almost 1,750 laparoscopic systems donated by JHPIEGO. During fiscal 1984, 124 systems were shipped to 24 countries (Table 6). Laparoscopic systems were sent for the first time to the Central African Republic and the Solomon Islands. Major equipment and spare parts are procured through the General Services Administration. Table 7 gives a summary of the equipment ordered by JHPIEGO during fiscal 1984 and its cost.

During fiscal 1984, JHPIEGO shipped a total of almost $168,000 worth of spare parts. Forty percent of this total was for Fallope rings for the laparoscopic systems. The cost of spare parts for maintaining equipment was only about $100,000. Because the minilight sources on the Laprocator systems have proved to be too weak, especially for physicians who have had recent training in laparoscopy, JHPIEGO decided last year to make the stronger compact light source the standard light source for these systems. JHPIEGO did not supply laparoscopic systems to other AID-supported agencies in fiscal 1984, but it continued to support the maintenance of laparoscopic systems that it had provided to these organizations in the past.

Overall, JHPIEGO has reduced the cost of spare parts shipped by 60 percent since fiscal 1980, despite the increasing number of systems in the field. Advances in three areas are responsible for this reduction in cost: (1) Since 1979, the emphasis has been on the shipment of Laprocators rather than laparoscopes. The Laprocator is easier to use than the laparoscope and it does not need repair as often. For example, in Turkey from 1981 to 1984, JHPIEGO spent approximately $15 per system per month to maintain laparoscopes but only about $4.50 per Laprocator per month. (2) JHPIEGO has improved the training of nurses and operating room technicians in equipment maintenance. Films and maintenance manuals produced by JHPIEGO have enhanced the equipment maintenance components of the nurse endoscopy courses and allowed on-site review of procedures after equipment has been installed. (3) JHPIEGO has streamlined the composition of the inventories maintained by the Repair and Maintenance (RAM) centers overseas. Instead of providing quantities of each of the approximately 200 spare parts, quantities of only the 40 parts most likely to be needed are included in the initial shipment establishing a RAM center. For example, the cost of setting up the RAM center in Nigeria in January 1981 was about $21,000, while the cost of establishing the RAM center in Haiti in October 1984 was $5,700.

At the equipment meeting component of the retreat for JHPIEGO senior staff in Annapolis in January 1984, it was decided that the Repair and Maintenance centers should be evaluated in an intensive fashion in order to identify ways to improve their efficiency. Accordingly, Equipment Unit personnel evaluated the RAM centers in the Sudan, Malaysia, the Philippines, Thailand, Turkey, Brazil, and Colombia in fiscal 1984. The remaining centers in Costa Rica, Nigeria, and Tunisia will be evaluated in fiscal 1985.

As a result of these evaluations, changes were made in several of the RAM

TABLE 6 Laparoscopic systems shipped, by region, fiscal 1984 and inception through fiscal 1984

Region	Fiscal 1984	Inception - Fiscal 1984
Africa	39	223
Asia	10	403
Latin America/ Caribbean	17	700
Near East	58	419
TOTAL	124	1,745

TABLE 7 Purchase orders placed for equipment, fiscal 1984

Equipment		Cost (US$)
Major equipment		$ 844,781
Laprocator systems	670,945	
CO_2 supply systems	44,151	
Compact light source	129,685	
Spare parts		41,017
Medical kits		70,351
IUD backup kit	15,799	
IUD insertion kit	29,504	
Microsurgery kit	25,048	
TOTAL		$ 956,149

TABLE 8 Educational materials shipped, by region, fiscal 1984

Region	Standard Educational Packages		Other Educational Materials	Films		Anatomical Models	
	No.	Value	Value	No.	Value	No.	Value
Africa	883	$59,442	$7,301	69	$7,156	51	$8,365
Asia	70	8,625	1,957	1	94	0	0
Latin America/ Caribbean	122	9,896	13,686	37	5,079	40	16,179
Near East	174	12,126	765	6	639	0	0
United States	176[a]	6,420	0	0	0	0	0
TOTAL	1,425	$96,509	$23,709	113	$12,968	91	$24,544

[a]Handouts at the Johns Hopkins Educational Center in Baltimore.

centers. For example, the center in Brazil was restructured. The number of technicians employed by the center was reduced from three to two, and in order to decrease maintenance calls, spare parts are now mailed and physicians install the laparoscopic equipment themselves. Technicians in the RAM center in Malaysia are also making fewer maintenance trips. These changes have led to cost savings.

In countries that do not have a good network of roads or a reliable postal system, periodic workshops conducted by technicians are just as effective as a RAM center, but less expensive. JHPIEGO discontinued the RAM center in the Sudan in fiscal 1984 and the Equipment Unit conducted maintenance workshops there for physicians and operating room nurses in August 1984. Workshops were also conducted in Kenya in November 1983 and in Pakistan (funded by UNFPA) in May 1984.

Educational Materials

In support of its training program, JHPIEGO provides educational materials to the trainees and their institutions. These materials include books, films, filmstrips, and anatomical models. The materials are extremely valuable to the trainees because it is difficult for them to obtain recent publications in reproductive health.

The Equipment Unit purchased almost $250,000 worth of educational materials in fiscal 1984, including $200,000 for books, $19,000 for films, and $19,000 for anatomical models. JHPIEGO also solicits donations of educational materials from other organizations in the field of reproductive health. In December 1983, the Centers for Disease Control donated 1,500 copies of Family Planning Methods and Practices:Africa. JHPIEGO shipped almost $160,000 worth of educational materials to trainees and institutions in over 40 developing countries. Over $80,000 worth of educational materials were shipped to Africa. The details of the educational material shipped by region are given in Table 8.

GRANTS UNIT

The Grants Unit writes the subordinate agreements between JHPIEGO and overseas institutions, and it monitors compliance with the agreements. The agreement is a contract between JHPIEGO and the overseas institution that conducts a reproductive health program or manages a maintenance center with JHPIEGO funding. The Grants Unit must keep abreast of changes made by the Agency for International Development in the provisions and language required in these agreements. During fiscal 1984, the Unit wrote 23 new agreements, 21 major program continuation amendments, and 102 simple amendments to current agreements, and it participated in the proposal review meetings.

Over 100 active agreements with overseas institutions were monitored during fiscal 1984. Monitoring includes issuing monthly updated status reports on the number of courses held, the number of trainees in each course, and the documentation that has been received by the Grants Office. The documentation includes, for example, expense forms, participant lists, course evaluation forms, and voluntary participation forms.

During fiscal 1984, the Grants Unit assumed responsibility for the resolution of in-country program audits and for the closing of overseas agreements for programs that have ended. To date the unit has closed four audits and is involved in the resolution of eight more.

OTHER ACTIVITIES

EDUCATIONAL MATERIALS

JHPIEGO supplies much needed books, films, filmstrips, and anatomical models to institutions and trainees in developing countries. There are educational packages in English, French, and Spanish designed for physicians, nurses, medical and nursing students, and their institutions. For example, the educational package in English for institutions includes books on maternal health care and family planning services, diagnosis and treatment in obstetrics and gynecology, epidemiology, infertility, injectable hormonal contraceptives, preventive care and maintenance of the Laprocator, minilaparotomy techniques, and sexually transmitted diseases. It also includes filmstrips that show how to do a breast self-exam and a pelvic exam, and how to insert an IUD and a diaphragm.

The Educational Materials Committee streamlined the distribution of educational materials in fiscal 1984 with the elimination of separate packages for each course given at the Johns Hopkins Educational Center in Baltimore. All trainees in the U.S. courses now receive the same package that is sent to physicians in overseas courses. Breastfeeding: Fertility and Contraception, a publication of the International Planned Parenthood Federation, was added to all the educational packages.

In order to satisfy the pressing need of doctors and nurses in developing countries for current information on reproductive health, JHPIEGO is putting together a collection of illustrated lectures based on those delivered at the Educational Center.

Library

JHPIEGO maintains a library of over 1,200 books and journals for use by the staff and participants in courses at the Johns Hopkins Educational Center. During fiscal 1984, the library received a donation of a complete set of the journal Studies in Family Planning.

CONFERENCE PARTICIPATION

Three members of the JHPIEGO staff presented papers at conferences during fiscal 1984:

Ronald T. Burkman, M.D., Director

"Oral contraceptive risk: An update," JHPIEGO International Council Meeting, Izmir, Turkey, April 1984.

"Current status of the IUD," American Fertility Society, Chicago, Illinois, April 1984.

"Actinomyces and the IUD," Program for Applied Research on Fertility Regulation, Chicago, Illinois, June 1984.

Robert G. Castadot, M.D., M.P.H,, Deputy Director

"Training for reproductive health programs," First Annual Meeting of the Society for the Advancement of Contraception, Cairo, Egypt, November 1983.

"Practical expectations for the reversibility of female voluntary surgical contraception," and "Notes on international training for female sterilization," (abstracted in Contraceptive Delivery Systems 4, No. 4 (September 1983)). Fifth International Conference on Voluntary Surgical Contraception, Santo Domingo, Dominican Republic, December 1983.
"A review of ten years' experience with surgical equipment in international health programs," NCIH International Health Conference, Washington, D.C., June 1984.

Bruce Carlson, Regional Development Officer, Latin America/Caribbean
"Reproductive risk: Health rationale for family planning," National Seminar on Reproductive Health, Lima, Peru, March 1984.

VISITORS
On 30 August 1984, JHPIEGO hosted two representatives from the People's Republic of China. Madam Li Xiu Zhen, Vice President of the China Family Planning Association, and Miss Qiao Xin Jian, a member of the Association, met with JHPIEGO's president, director, and deputy director.

FISCAL REPORT

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Recap A through Recap E report AID grants pha-G-1064 and DSPE CA-0083 through the combined authorized periods of both grants.

Recap F through Recap I report AID Grant pha-G-1064. A final report was submitted to the AID Office of Financial Management as of 30 September 1984.

Recap J through Recap N report the current AID Cooperative Agreement, DSPE CA-0083.

RECAP A
AID/pha-G-1064 and DSPE CA-0083

	Disbursements 07-01-74 thru 09-30-83	Disbursements 10-01-83 09-30-84	Proj. Disbursements & Unliquidated Obligations 10-01-84/12-31-84	TOTAL
Central Costs	10,873,427	1,796,407	726,405	13,396,239
Planning/Development	788,354	240,835	637,690	1,666,879
Equipment Cost	9,805,621	973,748	2,889,835	13,669,204
Training Cost	17,600,907	3,119,433	6,232,733	26,953,073
TOTAL	$39,068,309	$6,130,423	$10,486,663	$55,685,395

RECAP B

AID/pha-G-1064 and DSPE CA-0083

CENTRAL COSTS

	Disbursements 07-01-74 thru 09-30-83	Disbursements 10-01-83 thru 09-30-84	Proj. Disbursements and Unliquidated Obligations 10-1-84/12-31-84	TOTAL
Salaries	5,552,352	983,827	432,219	6,968,398
Fringe Benefits	984,526	218,189	93,340	1,296,055
Consultants	113,582			113,582
Supplies	344,628	39,391	31,010	415,029
Travel	717,800	5,681	3,650	727,131
Office Equipment	85,080	20,770	3,191	109,041
Telecommunications	716,882	111,762	31,869	860,513
Space Cost	433,979	104,680	41,906	580,565
Audit Fees	5,518			5,518
Conference Cost	64,271			64,271
Other Direct	398,561	92,832	(1,324)	490,069
Indirect Cost	1,456,248	219,275	90,544	1,766,067
TOTAL	$10,873,427	$1,796,407	$726,405	$13,396,239

RECAP C

AID/pha-G-1064 and DSPE CA-0083

PLANNING AND DEVELOPMENT

	Disbursements 07-01-74 thru 09-30-83	Disbursements 10-01-83 thru 09-30-84	Proj. Disbursements and Unliquidated Obligations 10-1-84/12-31-84	TOTAL
Consultants	28,670	4,993	13,657	47,320
Travel	510,483	131,192	159,044	800,719
Audit Fees	19,500	41,500	344,000	405,000
Conference Cost	27,090	7,373	10,294	44,757
Publications	105,795	26,194	32,389	164,378
Indirect Cost	96,816	29,583	78,306	204,705
TOTAL	$788,354	$240,835	$637,690	$1,666,879

RECAP D

AID/pha-G-1064 and DSPE CA-0083

EQUIPMENT COSTS

	Disbursements 07-01-74 thru 09-30-83	Disbursements 10-01-83 thru 09-30-84	Proj. Disbursements and Unliquidated Obligations 10-01-84/12-31-84	TOTAL
Procurement	$8,741,872	$866,246	$2,691,627	$12,299,745
Repairs	229,268		23,000	252,268
Freight	428,471	58,846	44,155	531,472
Warehousing	298,817	40,219	121,849	460,885
Indirect Cost	107,193	8,437	9,204	124,834
TOTAL	$9,805,621	$973,748	$2,889,835	$13,669,204

RECAP E

AID/pha-G-1064 and DSPE CA-0083

TRAINING COSTS

	Disbursements 07-01-74 thru 09-01-83	Disbursements 10-01-83 thru 09-30-84	Proj. Disbursements and Unliquidated Obligations 10-01-84/12-31-84	TOTAL
Participants Cost	4,063,269	549,651	345,797	4,958,717
Field Training	832,882	48,873	142,055	1,023,810
Educational Materials	868,269	231,358	208,627	1,308,254
Maintenance Agreements	197,990	89,904	116,044	403,938
National/Regional Progs.	4,261,695	1,580,189	3,974,478	9,816,362
Clinical Practice	451,031	23,251	70,889	545,171
U.S. Training Centers	5,975,244	225,209	214,500	6,414,953
Direct Support	771,902	274,082	987,981	2,033,965
Special Projects	178,625	96,916	172,362	447,903
TOTAL	$17,600,907	$3,119,433	$6,232,733	$26,953,073

RECAP F

AID GRANT pha-G-1064

	Disbursements 07-01-74 thru 09-30-83	Disbursements 10-01-83 thru 09-39-84	Unliquidated Obligations	TOTALS
Central Cost	6,166,374			6,166,374
Equipment Cost	9,151,955			9,151,955
Training Cost	9,860,437	(3,743)		9,856,694
TOTAL	$25,178,766	(3,743)		$25,175,023

RECAP G

AID Grant pha-G-1064

CENTRAL COSTS

	Disbursement 07-01-74 thru 09-30-83	Disbursements 10-01-83 thru 09-30-84	Unliquidated Obligations	TOTAL
Salaries	2,869,236			2,869,236
Fringe Benefits	463,691			463,691
Consultants	113,582			113,582
Supplies	224,155			224,155
Travel	702,703			702,703
Office Equipment	70,407			70,407
Telecommunications	369,604			369,604
Space Cost	162,543			162,543
Audit Fees	5,518			5,518
Conference Cost	64,271			64,271
Other Direct	242,146			242,146
Indirect Cost	878,518			878,518
TOTAL	$6,166,374			$6,166,374

RECAP H

AID GRANT pha-G-1064

EQUIPMENT COSTS

	Disbursements 07-01-74 thru 09-30-83	Disbursements 10-01-83 thru 09-30-84	Unliquidated Obligations	TOTAL
Procurement	8,372,434			8,372,434
Repairs	213,924			213,924
Freight	292,432			292,432
Warehousing	187,165			187,165
Indirect Cost	86,000			86,000
TOTAL	$9,151,955			$9,151,955

RECAP I

AID GRANT pha-G-1064

TRAINING COSTS

	Disbursements 07-01-74 thru 09-30-83	Disbursements 10-01-83 thru 09-30-84	Unliquidated Obligations	TOTAL
Participant Cost	1,805,917			1,805,917
Field Training	581,997			581,997
Educational Matls.	337,954			337,954
Maintenance Agreements	26,493			26,493
National/Regional Pgms.	1,271,505			1,271,505
Clinical Practice	213,171			213,171
U.S. Training Centers	5,294,769			5,294,769
Direct Support	328,631	(3,743)		324,888
TOTAL	$9,860,437	(3,743)		$9,856,694

RECAP J

AID GRANT DSPE CA-0083

	Disbursement 09-01-80 thru 09-30-83	Disbursement 10-10-83 thru 09-30-84	Proj. Disbursements and Unliquidated Obligations 10-1-84 thru 12-31-84	TOTAL
Central Cost	4,707,053	1,796,407	726,405	7,229,865
Planning and Development	788,354	240,835	637,690	1,666,879
Equipment Cost	653,666	973,748	2,889,835	4,517,249
Training Costs	7,740,470	3,123,176	6,232,733	17,096,379
TOTAL	$13,889,543	$6,134,166	$10,486,663	$30,510,372

RECAP K

AID GRANT DSPE CA-0083

CENTRAL COSTS

	Disbursements 09-01-80 thru 09-30-83	Disbursements 10-01-83 thru 09-30-84	Proj. Disbursements and Unliquidated Obligations as of 10-01-84 thru 12-31-84	TOTAL
Salaries	2,683,116	983,827	432,219	4,099,162
Fringe Benefits	520,835	218,189	93,340	832,364
Supplies	120,473	39,391	31,010	190,874
Travel	15,097	5,681	3,650	24,428
Office Equipment	14,673	20,770	3,191	38,634
Telecommunications	347,278	111,762	31,869	490,909
Space Costs	271,436	104,680	41,906	418,022
Other Direct	156,415	92,832	(1,324)	247,923
Indirect Cost	577,730	219,275	90,544	887,549
TOTAL	$4,707,053	$1,796,407	$726,405	$7,229,865

RECAP L

AID GRANT DSPE CA-0083

PLANNING AND DEVELOPMENT

	Disbursements 09-01-80 thru 09-30-83	Disbursements 10-01-83 thru 09-30-84	Proj. Disbursements and Unliquidated Obligations as of 10-01-84 thru 12-31-84	TOTAL
Consultants	28,670	4,993	13,657	47,320
Travel	510,483	131,192	159,044	800,719
Audit Fees	19,500	41,500	344,000	405,000
Conference Cost	27,090	7,373	10,294	44,757
Publications	105,795	26,194	32,389	164,378
Indirect Cost	96,816	29,583	78,306	204,705
TOTAL	$788,354	$240,835	$637,690	$1,666,879

RECAP M

AID GRANT DSPE CA-0083

EQUIPMENT COSTS

	Disbursements 09-01-80 thru 09-30-83	Disbursements 10-01-83 thru 09-30-84	Proj. Disbursements and Unliquidated Obligations as of 10-1-84 thru 12-31-84	TOTAL
Procurement	369,438	866,246	2,691,627	3,927,311
Repairs	15,344		23,000	38,344
Freight	136,039	58,846	44,155	239,040
Warehousing	111,652	40,219	121,849	273,720
Indirect Cost	21,193	8,437	9,204	38,834
TOTAL	$653,666	$973,748	$2,889,835	$4,517,249

RECAP N

AID GRANT DSPE CA-0083

TRAINING COSTS

	Disbursements 09-01-80 thru 09-30-83	Disbursements 10-10-83 thru 09-30-84	Proj. Disbursement and Unliquidated Obligations 10-01-84 thru 12-31-84	TOTAL
Participant Cost	2,257,352	549,651	345,797	3,152,800
Field Training	250,885	48,873	142,055	441,813
Educational Materials	530,315	231,358	208,627	970,300
Maintenance Agreements	171,497	89,904	116,044	377,445
Natl./Regional Programs	2,990,190	1,580,189	3,974,478	8,544,857
Clinical Practice	237,860	23,251	70,889	332,000
U.S. Training Centers	680,475	225,209	214,500	1,120,184
Direct Support	443,271	277,825	987,981	1,709,077
Special Projects	178,625	96,916	172,362	447,903
TOTAL	$7,740,470	$3,123,176	$6,232,733	$17,096,379

APPENDIX

EVALUATION OF TRAINING

The central question of evaluation is "Did I achieve what I intended ?" The question can be examined on a very broad level on which the impact of a program on a country is assessed, or it can be examined on a very narrow level to determine if specific actions occurred. This evaluation focuses on the achievement of the intended outcomes of a program. The use of a relatively simple evaluation design provides some insight into JHPIEGO's impacts. However, the restricted scope of the design means that the causality of the outcomes is difficult to determine. This is particularly true regarding the effects of the program on the behavior of the participants.

Conclusions regarding participant behavior are valid if two assumptions hold: (a) knowledge was transmittted to the course participants; and (b) the knowledge came primarily from the JHPIEGO course. The first assumption seems to be valid, particularly in light of the evaluation of the specific courses. The second assumption cannot be directly tested. However, it does not seem likely that all the course participants systematically received training from another source at virtually the same time that they were trained in programs supported by JHPIEGO. As a result, it appears safe to make the tentative assumption that the noted effects are related to the JHPIEGO courses.

The three evaluation questions examined in this discussion are:

1. Were the participants appropriately selected?
2. What were the effects of the courses?
3. Were the courses useful?

The data used to address these questions were obtained via self-report survey from participants in courses conducted prior to fiscal 1984. Limitations of these data include: (1) bias caused by self-selection of respondents, (2) the inability to determine causal relationships; and (3) the descriptive nature of survey data. These limitations of the data restrict interpretation, particularly in regard to the determination of causality, but the data do provide one basis by which to examine some aspects of JHPIEGO's programs. Details of JHPIEGO's evaluation activities are described in the second volume of the annual report.

U.S. PROGRAM

The U.S. educational program has been in operation since JHPIEGO's inception. It offers courses to physicians and administrators from developing countries. These courses currently include Academic Skills for Medical School Faculty in Reproductive Health, Advances in Reproductive Health for Clinicians, Diagnosis and Treatment of Sexually Transmitted Diseases, Management of the Infertile Couple, Microsurgery for Tubal Reanastomosis, and Reproductive Health for Administrators of Family Health and Family Planning Programs.

The courses are intended to enable physicians and administrators to upgrade the

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level of reproductive health care in their countries. Participants in these courses are selected based on their potential to influence the development of national health policy and services. In this analysis, participants in the administrators' course are separated from other course participants, who were predominantly clinicians.

Selection of Participants

The data used to examine the appropriateness of participant selection were provided to JHPIEGO by the candidates at the time of application. Candidates supplied the information regarding professional responsibilities, institutional affiliations and professional activities that was used for these analyses.

Administrators' Courses

The U.S. courses for administrators are intended for professionals responsible for the coordination of reproductive health services at the ministerial, departmental, or institutional level. Over 92 percent of the respondents were from the Ministry of Health, hospitals or academic institutions. Two-thirds of these participants were classified as department heads, medical directors, chiefs of service or regional directors. All were sponsored by institutions in developing countries.

These participants spent the bulk of their time (42 percent) performing administrative duties; however, they also reported spending considerable time in patient care and teaching. This paralleled the finding that 60 percent of the participants (or over 90 percent of the survey respondents) possessed an M.D. Additionally, one-third of the administrators reported being on the faculty of a medical or nursing school. Eighty-nine percent of the administrators indicated that they received their training in the third world. Of the 11 percent trained in developed countries, most received their training in France or the Soviet Union.

Clinician Courses

The U.S.-based clinician courses offered by JHPIEGO are intended for practicing third world physicians in positions that enable them to disseminate or use the techniques learned through the course. Approximately 80 percent of these participants worked in hospitals, academic institutions or ministries of health. Over 75 percent were classified as medical officers, professors/instructors, specialists/consultants, chiefs of service or department heads. All were sponsored by institutions in developing countries.

In contrast to the administrators these clinicians reported spending the bulk of their time (58 percent) in patient care and 21 percent in teaching activities. The remaining time was split between research and administration. Over 90 percent of the clinician course participants were known to possess an M.D. and had an average obstetrics and gynecology residency of 39.1 months. In addition, over 53 percent indicated that they were on the faculty of a medical or nursing school. The proportion of clinicians who received their training in the third world was approximately the same as the proportion of administrators (88 vs. 89 percent). The 12 percent trained in developed countries received their degrees mainly in Britain or France.

Effects and Value of Courses

The effects and value of the courses can be examined in a limited fashion with the data on hand. Estimates regarding professional activities that were obtained from the participants upon application and one year after the course were compared. These estimates addressed the percentage of time in professional activities and the number of specific clinical procedures performed. In addition, data were obtained regarding the extent to which trainees used or disseminated information obtained through the course.

Administrators' Courses

A total of 161 administrators supplied both precourse and postcourse estimates of their time spent in professional activities. Comparisons between these estimates revealed insignificant changes for the reported percentages of time spent in teaching and research. Slight but significant decreases in the time devoted to administration and other activities nearly paralleled the significant increase in time devoted to patient care.

These data indicate that the course participants maintained their roles as administrators upon their return home. Thus, JHPIEGO was not selecting participants in this course who were seeking to make career changes. Another interpretation of these findings is that the course helped participants become more efficient managers. This enabled them to spend less time in administrative and unspecified other duties and devote more time to patient care, teaching, and research. This interpretation was supported by the finding that 78 percent of the respondents stated that the course helped them in their administrative duties.

In addition to helping the participants become more proficient in administration, the course is intended to promote the use and dissemination of knowledge. All of the materials distributed through the course were used on the job. Seventy percent of the respondents also indicated that knowledge was shared with colleagues or students. Approximately 50 percent of the respondents reported that they transmitted knowledge obtained in the courses through lectures and reports.

The utility of the course can be inferred from the ratings that the respondents gave to course topics one year after completion of the course. This was a good time to obtain such ratings because the participants had time to integrate their new knowledge into their work. Virtually all of the topics related to management or reproductive health policy received a rating of better then 4.0 on a five-point scale.

Perhaps the most salient evidence regarding the utility of the course is the extent to which participants recommend the course to others. Over 96 percent of the respondents would recommend the course; about 84 percent already had. In general, the course was seen as most useful for government administrators.

Clinician Courses

One year later, approximately 650 clinician course participants reported some changes in the level of effort devoted to various professional duties. After the course, clinicians spent slightly more time in administrative and unspecified other duties, and slightly less time in patient care. The reason for this change is not clear. It may reflect an increased emphasis on documentation related to patient records and equipment operation. In any event, it does not seem to indicate a major role change for this group.

Estimates of the frequencies for two clinical procedures were obtained before and after the course. Unfortunately, these were the only clinical procedures on which precourse and postcourse information was available. The participants indicated an increased use of laparoscopy for diagnostic purposes and a decrease in the number of cesarean deliveries. This suggests that the techniques learned in the courses were incorporated into the practices of the participants. However, to determine whether these changes have major public health significance will require further study.

The evidence also suggested that the information and techniques taught in the U.S. clinician courses were disseminated. Approximately 70 percent of all respondents reported that they trained medical school graduates, and 61 percent reported that they trained both postgraduate physicians and medical students. Over 80 percent of the respondents passed on the information related to patient management. In addition, 60 percent taught students the Fallope ring method of sterilization, 69 percent taught diagnostic laparoscopy, and 77 percent taught

postpartum minilaparotomy. The responses indicated that course participants taught laparoscopy to an average of 12 physicians per year.

In addition to dissemination of knowledge to small groups or classes, the responses indicated that the course participants were quite productive in the area of publication. Over one-half reported using materials supplied by JHPIEGO in professional presentations in the previous year.

Concluding Remarks

JHPIEGO's educational program in the United States appears to have been successful. The selection of participants was appropriate, the topics were perceived as useful, and the participants used or disseminated what they learned.

The participants in the administrators' courses came from hospitals and ministries of health in developing countries. They were directly involved in the administration of reproductive health programs. Many were affiliated with more than one institution. Therefore it appears that the intended audience was reached. The course itself appeared to be effective. The participants rated the topics as relevant and useful. Further, there was some evidence that upon their return to their sponsoring institution, the participants were more efficient managers. Finally, the participants were motivated by the course. Over 95 percent reported that their countries should develop reproductive health programs. One-half stated that such programs were being initiated. Additionally, the participants shared the knowledge acquired in the course and recommended the course to their colleagues.

The U.S.-based program for clinicians comprised several courses. The general effects of this program were presented here, while the specific courses are examined in the second volume of this report.

In general, the clinician program was also quite successful. These participants from the developing countries were active physicians who specialized in obstetrics and gynecology. They were chosen because of their professional stature and ability to disseminate new knowledge. Some evidence suggested that these physicians incorporated their new skills into their practices. This was noted most strongly in their use of laparoscopy. The clinicians disseminated knowledge through training other physicians and residents. The physician/educators passed on the knowledge to students. Many of the participants incorporated material provided by JHPIEGO into professional presentations and publications.

In addition, many AID in-country population programs are directed by graduates of JHPIEGO's U.S. courses. In all, 141 current project directors were identified from the Population Projects Database of the Population Information Program as graduates of JHPIEGO's U.S. courses. Three or more projects are directed by former JHPIEGO trainees in Bangladesh, Brazil, Egypt, El Salvador, Guatemala, Indonesia, Liberia, Malaysia, Mexico, Nigeria, the Philippines, the Sudan, Tanzania, Thailand, and Zaire.

Perhaps the clearest evidence of the success of JHPIEGO's U.S. program is the existence of JHPIEGO in-country programs. These programs could only be initiated after a certain "critical mass" of concerned and knowledgeable health professionals was achieved. By training administrators and clinicians, the U.S. program helped to achieve that critical mass.

IN-COUNTRY PROGRAMS

JHPIEGO-supported in-country programs provide physicians and nurses with current knowledge and skills in reproductive health, and they upgrade reproductive health courses in national medical educational institutions.

Most in-country programs have direct ties with national medical schools or other

major professional training institutions. This link serves as a means by which relevant concepts of reproductive health can be integrated into the training institutions. Additionally, this association serves to enhance the quality of training provided to participants and increases the prestige associated with participants in the program.

The in-country programs are efficient mechanisms for the selection and training of medical professionals. The project director can select participants based on his/her knowledge of local needs. In addition, the in-country programs avoid many of the difficulties related to international travel associated with the U.S. courses.

The JHPIEGO Annual Participant Survey (APS) is one mechanism by which the in-country programs are monitored. While the APS has limitations, as pointed out elsewhere in this report, it can be a useful tool in program evaluation. The major issues that can be addressed with the APS are: (a) appropriateness of participant selection; (b) monitoring of course content; (c) perceived utility of instruction; and (d) perceived quality of instruction.

The APS responses for in-country programs in Tunisia and the Philippines are highlighted in this report. As will be seen, the results derived from the APS attest to the robustness of JHPIEGO's approach to continuing medical education.

Tunisia: National Education Program in Reproductive Health, Endoscopy, and Laparoscopy

The Tunisian in-country program is an ambitious attempt to provide training to medical personnel in many aspects of maternal and child health. Courses are offered in endoscopy, local anesthesia, and clinic-based family planning services (clinician courses) to physicians and nurses who can put this knowledge into practice.

The survey results indicated that the program participants were appropriately selected. About 80 percent of the respondents reported that they were using the newly acquired skills in the position held prior to the course. The operating room support staff, nurses and anesthetists indicated they worked with fellow JHPIEGO trainees and that the courses helped to increase their effectiveness in working with other professionals. Thus, it appears the courses were effective in stimulating the formation of endoscopy teams at local institutions throughout Tunisia.

Further evidence of appropriate participant selection was derived from the data regarding the frequencies of various obstetrical, gynecological, and family planning procedures. The participants in the endoscopy courses were very involved with surgical, obstetrical, and gynecological procedures, while the participants in the clinician courses were heavily involved in providing clinic-based family planning services. Almost all participants reported that the course enhanced their appreciation of patient counseling; patient counseling was the single most frequently reported procedure.

For the most part, the participants were very pleased with the quality of the training and the topics covered in the courses. The physicians and nurses who attended the endoscopy courses reported that the courses adequately prepared them to perform or assist in laparoscopic procedures. These respondents also reported that they were adequately prepared to care for their equipment.

The participants in the clinician courses reported that they were pleased with the topics included in the areas of family planning and reproductive health.

The participants in the local anesthesia course provided some conflicting data. Although 78 percent of the respondents reported that they changed their anesthesia practices, 67 percent reported that they used only general anesthesia during laparoscopic procedures. The reasons for this are unclear. It may be that the anesthetists are called in to sedate patients who refuse local anesthesia. Or, the

anesthetists may be resistant to changes in their anesthesia practices. Further investigation is needed in order to pinpoint the reasons for the use of general anesthesia.

In summary, the Tunisia program appears to be meeting the educational needs of local medical professionals. With the possible exception of the anesthetists, the course participants actively apply their newly acquired knowledge in their medical practices. All respondent groups gave high ratings to the course content and to the quality of training. In addition, the courses seemed to be effective in promoting the concept of the operating room team. Finally, the responses to the follow-up survey suggest that participants pass on the information and skills that they learn in the courses. For example, nurse endoscopy trainees now train others in diverse subjects, such as high-risk pregnancy, infertility, and IUD management.

Philippines Endoscopy Training Program

Participants in the Philippines Endoscopy Program are selected according to three major criteria: (1) Ability to apply the skills acquired in the course at the institution that sponsored their attendance; (2) Ability to form doctor-nurse operating theatre teams at the sponsoring institution; and (3) Experience in surgical procedures for reproductive health.

The results of the APS indicate that the selection of participants seems to have been appropriate. Indeed, the responses indicated that participants applied the newly acquired skills in their sponsoring institutions. Virtually all of the respondents reported that they worked with other course participants and that the course helped to improve their effectiveness in working with other professionals. Finally, the data indicated that both the physician and nurse participants were heavily involved in the surgical aspects of reproductive health services.

The respondents also provided data related to course content and the effectiveness of the instruction. Areas of particular interest included: (a) local anesthesia; (b) use and care of laparoscopic equipment; and (c) patient counseling. The respondents reported that these topics were included in the courses that they attended. Further, the respondents gave high ratings to the quality of instruction and they reported that the instruction prepared them to integrate their new skills into their professional responsibilities.

Not only did these participants use the skills acquired through the course, they actively disseminated their new knowledge to others. More than 70 percent of the reporting physicians and nurses stated that they taught others how to perform or assist with laparoscopy. This is an indication of their confidence in their ability to perform their new skills.

These findings validated the ranking of the Philippines program as one of JHPIEGO's model programs. It appears that the quality of instruction and student support were very high. The effects, in terms of participant ability and enthusiasm, are quite remarkable. This program demonstrates what can be achieved by a skilled and enthusiastic project director in a country that possesses an adequate infrastructure and a policy that supports the expansion of maternal and child health services.

Concluding Remarks

The outcomes of two in-country programs in the Philippines and Tunisia were presented. In general, it appears that the participants in these courses were quite satisfied with the topics of instruction and the quality of the training. The available evidence suggests that the participants were in the position to apply the skills learned through the courses.

Although difficult to assess, it is likely that the successful outcomes in the two diverse cultures can be attributed to JHPIEGO's approach to the development of in-country programs. This process must be initiated by a potential program director from the country in which the program will take place. The program is then developed in conjunction with JHPIEGO, the program director, the Ministry of Health and/or Ministry of Education, and individual institutions. This process ensures that the final program will reflect local needs and values.