

FINAL RESEARCH FINDINGS

Tulane Family Planning Operations Research in the English Speaking Caribbean

(Contract AID/DPE - 0632-C-00-2007-00)



Jane T. Bertrand, Ph.D.
Principal Investigator

Pauline Russell-Brown, M.S.W.
Field Administrator

Evelyn Landry, M.P.H.
Project Coordinator

June, 1986

TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
<u>Part 1</u>	
<u>Non-clinical Approaches to the Distribution of Contraceptives</u>	
1. Two Strategies for the Distribution of Contraceptives in Factories (St. Lucia)	7
2. Increasing Contraceptive Prevalence and Improving Continuation Rates Using Community Health Aides (St. Vincent)	21
3. Cost-effectiveness of Two Community Based Approaches: Volunteer Distributors vs. Outreach Workers (Jamaica)	38
4. Evaluation of the Caribbean Contraceptive Social Marketing Project in Three Countries (Barbados, St. Lucia, St. Vincent)	55
<u>Part 2</u>	
<u>Male Involvement in Family Planning</u>	
1. Strategies for Reducing Male Opposition to Family Planning (Dominica)	69
<u>Part 3</u>	
<u>Strategies for Reducing Adolescent Fertility</u>	
1. Effect of Family Life Education on Knowledge, Onset of Sexual Activity and Contraceptive Use (St. Kitts & Nevis)	85
2. Feasibility of Operating Adolescent Clinics (Dominica)	98
3. Teen Clinics and Peer Counselling as Strategies for Combatting Teenage Pregnancy	113
4. Strategies for Delaying a Second Pregnancy in Teenage Mothers (Barbados)	129

INTRODUCTION

The Purpose of Operations Research

During the 1980s there has been an upsurge in interest for the use of operations research (OR), not only in family planning programs but in other public health and social development projects as well. This interest stems from the fact that operations research is aimed at problem-solving. The purpose of most OR activity in the area of family planning has been to identify barriers to the use of contraceptives, to implement steps designed to resolve these problems, to test new approaches to service delivery that are more cost-effective and in some cases to evaluate the effectiveness of one or more strategies in bringing about the desired change.

In the past many family planning administrators have paid lip service to research, while inwardly believing that research was of questionable value to their main purpose: service delivery. However, operations research is different in that the goals of the service providers and of the researchers are closely linked. The desired output of the research is not an academic report, but rather an improved service program. To the extent that OR activities are written up in published form, it is to share the experiences of one service program with FP administrators or practitioners from other programs, countries or regions.

If operations research is used to identify problems and test solutions, it is also very useful for experimenting with new, potentially controversial strategies. Often an administrator is reluctant to adopt new approaches to the delivery of FP services for fear of public reaction/political consequences or lack of confidence in the effectiveness of the new approach. Operations research provides the administrator with the opportunity to test new ideas on a small scale in the name of "research" or "experimentation" without making an irrevocable commitment to these strategies. Subsequently, if the activity proves successful, the administrator has concrete evidence with which to justify the adoption and/or expansion of the program. If it is not successful, this "failure" can be explained by the experimental nature of the activity. As such, operations research offers administrators a low-risk means of experimenting with innovative, potentially controversial approaches.

Operations research does not conform to a single, "standard" methodology. Rather, it uses the basic methodological tools of the social sciences--sample surveys, focus groups, participant observation, tabulation of service statistics, among others--to obtain appropriate data for diagnosing problems and/or assessing outcomes. If the effectiveness of a given strategy is to be tested, experimental surveys or quasi-experimental designs may be used (such as before/after surveys in an experimental and in a control group). In short, operations research refers to a process rather than to a specific methodology or study design.

Tulane Operations Research Project in the Caribbean

In 1982 the Regional Development Office for the Caribbean (RDO/C), which is part of the United States Agency for International Development (USAID), developed and funded an ambitious project for Population and Development. The main contractor for this project has been the International Planned Parenthood Federation (IPPF), which has been responsible for a series of activities designed to improve the delivery of family planning services through the public and private sector; these include training of personnel, clinic renovation, program management, commodities support, development of projects for special groups and so forth. A second important contractor has been the Caribbean Community Secretariat (CARICOM), whose role has been to establish and define population policy in two areas: medical procedures and official government position regarding population growth/family planning in the different countries of the region. A third activity, carried out by the Futures Group, Washington, D.C., in collaboration with the Barbados Family Planning Association, has been the social marketing of contraceptives.

The Operations Research Project was developed to complement the service delivery and policy activities outlined for the Population and Development Project. In 1982 Tulane University, New Orleans, Louisiana, was awarded a contract to organize and implement a series of family planning operations research projects in collaboration with both government and private institutions of the region (under contract no. DPE-0632-C-00-200-T-00). The main objectives of this project have been:

1. To improve the delivery of FP services and to identify effective approaches to increasing contraceptive use in Eastern Caribbean countries by means of operations research.
2. To demonstrate to administrators and other decision makers the benefits of operations research for improving program effectiveness.
3. To strengthen the Research and Evaluation Departments of government agencies and private organizations by providing on-the-job training in all aspects of operations research -- design, training of field personnel, data collection, data processing and analysis -- such that similar projects can be carried out with minimum technical assistance at the close of this project.

Since 1982 nine OR projects have been designed and implemented in six countries. Of these, six have been conducted in collaboration with Ministries of Health or Education, while two were carried out by private family planning associations (FPAs) which are affiliates of IPPF. The ninth project was conducted in 3 countries in collaboration with the Ministries of Health (2 countries) and a FPA (1 country). Several of these projects have involved the conventional target population for FP programs--women of reproductive age--while others have focused on special target groups including males and teens.

This monograph presents the results from these nine projects which have been organized by subject area. The findings from the research projects were presented at the Regional Conference on Operations Research in Family Planning held in Barbados April 22-24, 1986 and represent a collaborative effort between governments or private associations in the Region and the Tulane University field staff. It is our hope that this

document will provide information and ideas not only on strategies for population programs in the Region, but also on operations research as a tool for program development and evaluation.

Jane T. Bertrand, Ph.D.
Principal Investigator
Tulane University

6-

PART 1

NON-CLINICAL APPROACHES TO THE DISTRIBUTION
OF CONTRACEPTIVES

TWO STRATEGIES FOR THE DISTRIBUTION OF
CONTRACEPTIVES IN FACTORIES



ST. LUCIA FAMILY PLANNING ASSOCIATION

CASTRIES, ST. LUCIA

TWO STRATEGIES FOR THE DISTRIBUTION OF CONTRACEPTIVES IN FACTORIES

INTRODUCTION

The delivery of family planning services in St. Lucia began in 1967 with the establishment of the St. Lucia Family Planning Association (FPA), a private voluntary organization and affiliate of the International Planned Parenthood Federation (IPPF). Today the major providers of family planning (FP) services in St. Lucia are the FPA and the Ministry of Health. Both offer clinic services and the FPA also provides contraceptives through community based distribution posts.

St. Lucia, like other Eastern Caribbean countries, has a small industrial base of garment and electronic parts factories which employ many women in the high fertility age group. These women have limited access to regular family planning clinics is restricted because they are at work during clinic hours.

In 1980 the FPA sponsored a project to deliver FP services to these women. The project was supported by factory management because unwanted pregnancies among their employees led to increased staff turnover and additional maternity health benefit expenses. The project was discontinued after one year due to a lack of funds. The project established the need for FP services operating within factories. However, it did not monitor contraceptive use nor the cost effectiveness of operating such a delivery system.

In 1982 the FPA, in collaboration with Tulane University, designed an operations research project to test two alternative systems for delivery of FP services in factories.

The specific objectives of the project were to:

1. Test the increase in knowledge and use of contraceptives among female employees.
2. Test the relative cost-effectiveness of two service delivery systems.

PROJECT DESIGN

During September and October 1982 42 factories located throughout St. Lucia were contacted to inquire about their willingness to participate in the project. By December 1982 twenty-four factories were recruited to participate. The remaining 18 factories had either closed or did not have a female labor force of more than ten. Two factories refused to participate.

The two delivery systems to be tested were:

Treatment Group A: Service Delivery by a Visiting Nurse

The factories in this delivery system were visited twice a month by a trained family planning nurse. Her duties included: performing routine gynecological exams (when necessary); counselling employees on the use and side effects of the available family planning methods (oral contraceptives, condoms, and contraceptive foam); and selling the contraceptives. The nurse also conducted periodic discussion groups on family planning topics.

Treatment Group B: On-Site Depot

In each of the participating factories in this delivery system an employee was selected as a distributor of family planning supplies. She was trained to answer basic questions about the available family planning methods; to refer clients to the project nurse or nearest family planning clinic when necessary; and to sell the contraceptives. The project nurse was responsible for supervising and resupplying the distributors. She visited the factories twice a month: once to screen new clients and a second time to resupply the distributor and/or conduct group information/discussion meetings.

EVALUATION METHODOLOGY

Three types of data were collected for the evaluation of the project: sample surveys, service statistics and cost expenditures.

Prior to the start of the delivery of FP services in the factories a baseline survey was conducted in all participating factories (December 1982 through January 1983). Interviews were conducted with all employees, male and female. Questions from the baseline survey included age, education, current use of contraceptives, reasons for non-use of contraceptives, current method, source for supplies and duration of use for current users. The baseline survey did not measure the level of knowledge of family planning methods; however, this item was included on the followup survey.

The followup survey was conducted 21 months after service activities had been in operation (October 1984). The followup survey included the same items as the baseline in addition to questions on the attitudes of the employees toward the services they received.

A breakdown on the number of interviews obtained from each survey is shown below:

	<u>Group A</u>		<u>Group B</u>	
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
Baseline	40	190	40	267
Followup	31	228	27	319

Program achievement for the project was measured by couple-months-of-protection (CMP). CMP is an index based on the number of contraceptives sold which is then converted to a measure of protection. The CMP data are based on contraceptive sale records for the period February 1983 to February 1985.

The third evaluation measure in the project was a cost effectiveness analysis (CEA) of the two treatment groups described above. The CEA compares the costs per couple-month-of-protection. A tabulation of all the costs incurred by the project were allocated, to the extent possible, to one of the two treatment groups. Also included in the cost data are the shadow prices (estimation of cost) of the contraceptives which were donated goods.

FINDINGS AND DISCUSSION

1. Sample Surveys

Both the baseline and followup surveys included interviews with male and female employees 15 to 49 years of age. Since the number of men interviewed was small the discussion of the results focuses only on female respondents; however, data on the male respondents are presented in the tables. The surveys indicated the following:

- As shown in Table 1 the mean age for the two treatment groups at the time of the baseline and followup survey were similar: 25 to 26 years of age.
- Women in Treatment Group A were less likely to have gone beyond primary school than women in Group B.
- Knowledge of family planning methods was only measured on the followup survey and revealed 87-92 percent of respondents knew at least one method. These data are similar to findings reported in the 1980-81 contraceptive prevalence survey (2).
- There was no significant change in the percentage of all women using a family planning method in the period between the baseline and followup surveys, see Table 2.
- The most popular family planning method among current users in both treatment groups was the pill, followed by the injection.
- At the time of the baseline study the majority of contraceptive users in both treatment groups were getting their supplies from either the Ministry of Health (MOH) clinics or from the FPA. By the time of the followup survey nearly half of all current users were getting their supplies from the factory (either from the nurse or the distributor).
- Ninety-seven percent of the employees in Group A and 91 percent in Group B liked the services and wanted them continued. They felt the services were educational, informative, and convenient.
- Recommendations for improving the services included: more frequent visits by the nurse; more time spent at each nurse visit; and more films and lectures.

Overall contraceptive prevalence increased as a result of bringing family planning services to the workplace. However, this increase was only observed in factories with distributors (Group B) and in fact actually decreased in group A factories. The preferred methods of contraception were the pill, followed by the injection and condoms. No preference change was noted between baseline and followup surveys.

Contraceptive use was highest among women 20-29 years of age, a group which was identified in the beginning of this project as a population in need of family planning services. Since the end of this project (February 1984) the FPA has incorporated the factory distribution system into their community based distribution project.

2. Program Achievement (CMP)

The CMP are based on the distributors' and nurse's monthly sales records during the period February 1983 - February 1985. A total of 3,274 couple months of protection was provided to the target population during the course of the project. Seventy-nine (79) percent of this protection (2594 CMP) was provided to Group B while only 21 percent (680 CMP) was provided to Group A.

Figure 1 shows the amount of CMP provided by the project to the treatment groups by trimester. It should be noted that the first trimesters of 1983 and 1985 included only 2 months of data. This figure illustrates that the CMP for Group B increased steadily over time while the CMP in Group A remained steady with periodic fluctuations, most notably during the fourth trimester (this can in

part be explained by the fact that the nurse took her annual leave in December).

3. Cost-Effectiveness Analysis

A retrospective analysis was done to measure the costs of replicating the project at the local level and to determine which alternative was most cost effective. The costs represented here were incurred directly by the FPA during the period November 1982 through February 1985.

Table 3 shows a breakdown of the service costs by treatment group. Group A accounted for 16 percent of the total service costs while Group B accounted for 20 percent of these costs. Expenditures which could not be classified with either group, such as operational supplies and administrative salaries, were categorized as non-traceable and accounted for nearly two-thirds of the service costs.

The cost data represent the numerator data in the calculation of the cost effectiveness of the two delivery systems. The CMP data (output measure) represent the denominator data. Table 4 shows the cost per CMP for the entire project as well as by project years. The cost per CMP by treatment group is striking. The specific costs related to Group A were three times as high as the specific costs to Group B, thus demonstrating the high cost of providing family planning services on a limited basis by a skilled family planning nurse as compared to unlimited access available in Group B factories by a low cost distributor.

The overall cost per CMP for Group A was \$29.86EC while the overall cost for Group B was \$18.57EC. During the course of the project the total project cost per CMP declined from \$30.56EC in the first year to \$16.40EC in the second year. Two possible methods which could further reduce the cost per CMP would be: 1) to have factory management assume some of the costs (i.e., paying part of the nurse's salary) or 2) eliminate the distributor's monthly stipend but still provide a bonus fee for the sale of contraceptives.

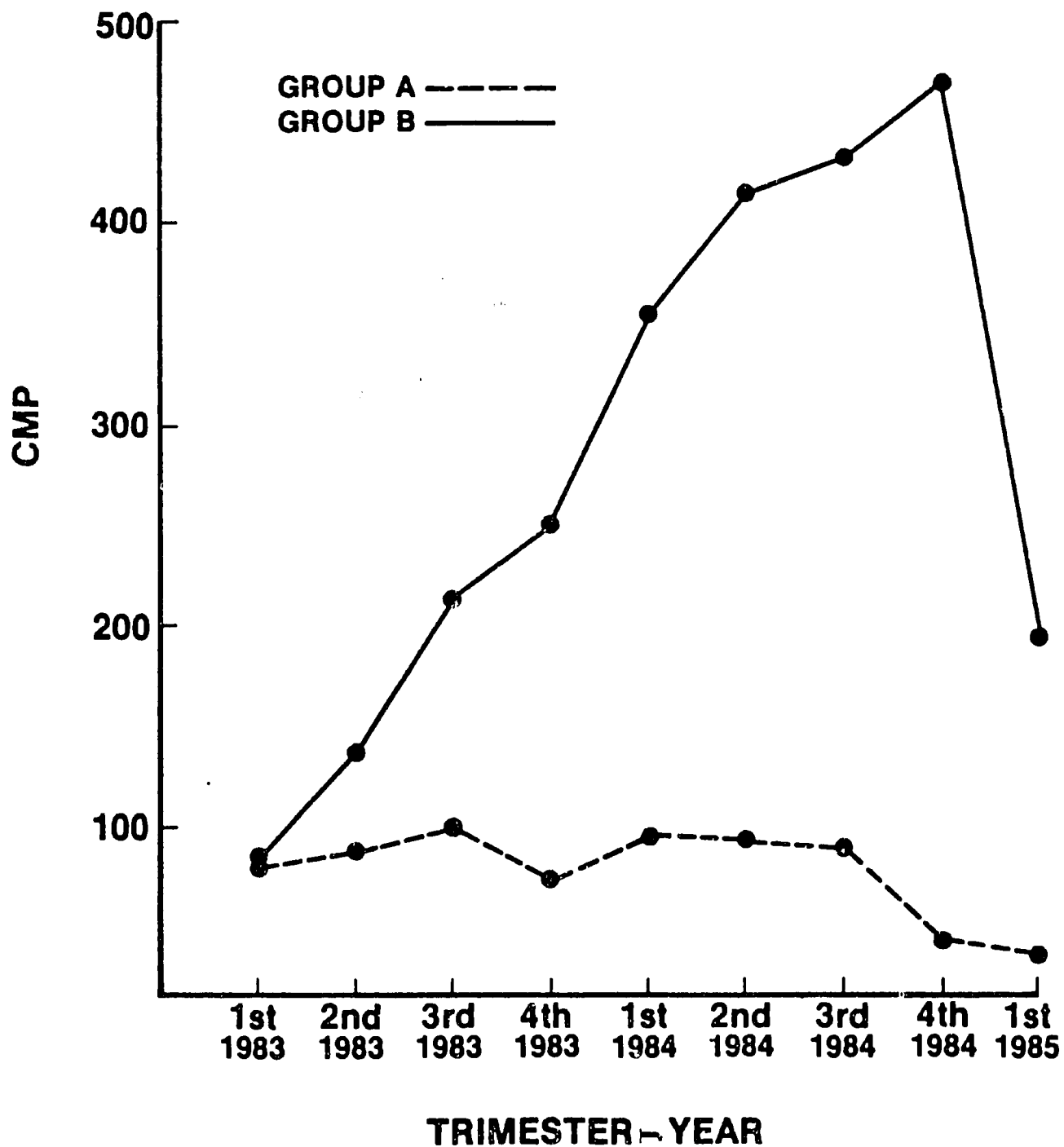
ACKNOWLEDGEMENTS

We wish to thank Mr. Raymond Louisy, Executive Director of the Family Planning Association; the project nurse, Audrey George, the factory distributors and the management of the factories who allowed us to carry out this project.

REFERENCES

1. Wishik, S. and K. Chen, 1973. Couple Years of Protection: A Measure of Family Planning Program Output. New York: International Institute for the Study of Human Reproduction, Columbia University.
2. Westinghouse Health Systems. 1983. Contraceptive Prevalence Surveys: A Comparative Study of Contraceptive Prevalence in Antigua, Dominica, St. Lucia and St. Vincent. Columbia, Maryland.

Figure I
COUPLE MONTHS OF PROTECTION BY
TREATMENT GROUPS AND TRIMESTER



Note: The first trimester in 1985 consists of only 2 months.

TABLE 1

SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE STUDY POPULATION BY TREATMENT GROUP, SEX AND SURVEY

	<u>Group A</u>				<u>Group B</u>			
	<u>Males</u>		<u>Females</u>		<u>Males</u>		<u>Females</u>	
	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>
<u>Sample Size (n)</u>	40	31	189	228	40	27	267	318
<u>Age</u>								
15-19	30.8	41.9	16.9	16.7	30.8	51.9	23.6	18.6
20-24	35.9	32.3	33.8	33.3	25.6	22.2	33.3	36.6
25-29	23.1	22.6	27.0	25.4	23.1	22.2	24.0	27.4
30-34	10.3	0.0	9.0	11.4	15.4	3.7	11.2	10.4
35-39	0.0	3.2	6.3	5.3	2.6	0.0	4.5	5.4
40-44	0.0	0.0	5.3	6.6	2.6	0.0	2.2	0.9
45-49	0.0	0.0	1.6	1.3	0.0	0.0	1.1	0.6
Mean Age	22.4	21.9	25.0	26.1	23.9	21.4	24.6	24.7
<u>Education</u>								
No education	0.0	0.0	2.1	1.3	0.0	0.0	0.0	0.3
Primary	56.8	67.7	63.7	67.1	35.0	55.6	58.0	57.4
Secondary	24.3	29.1	32.6	30.7	62.5	44.4	39.7	40.5
Beyond Secondary	18.9	3.2	1.6	0.9	2.5	0.0	1.9	1.9
No data	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0

TABLE 2
CURRENT USE OF FAMILY PLANNING BY TREATMENT GROUPS, SEX, AND SURVEY

	<u>Group A</u>				<u>Group B</u>			
	<u>Males</u>		<u>Females</u>		<u>Males</u>		<u>Females</u>	
	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>
<u>Sample Size (n)</u>	40	31	189	228	40	27	267	318
<u>Current FP Users¹</u>								
Yes	37.5	54.8	34.2	30.0	32.5	3.7	31.5	38.1
No	62.5	45.2	65.8	69.7	67.5	96.3	68.5	61.9
<u>Current FP Method</u>								
Pill	2.7	0.0	17.9	16.2	0.0	3.7	15.0	18.2
IUD	0.0	0.0	5.8	2.6	0.0	0.0	1.9	3.8
Condom	32.4	51.6	0.5	0.9	30.0	0.0	0.0	1.6
Injection	0.0	0.0	1.6	3.1	2.5	0.0	4.9	6.0
Foam	2.7	0.0	2.6	1.8	0.0	0.0	2.2	4.4
Sterilization	0.0	3.2	3.2	5.7	0.0	0.0	4.5	3.8
Not using	59.5	45.2	65.8	69.7	67.5	96.3	68.5	61.9
Other	2.7	0.0	1.6	0.0	0.0	0.0	1.5	0.0
Don't know, no data	0.0	0.0	1.1	0.0	0.0	0.0	1.5	0.3
Mean number of months of FP use	35.8	11.3	27.7	31.9	19.7	12.0	28.6	33.1
<u>Source for FP supplies²</u>								
FPA	6.7	0.0	30.8	8.7	0.0	0.0	41.7	9.9
Health center	6.7	5.9	53.8	42.0	15.4	0.0	39.3	35.5
Pharmacy	26.7	11.8	4.6	0.0	53.8	0.0	3.6	0.8
Nurse at factory	0.0	70.6	0.0	43.5	0.0	0.0	0.0	1.7
Factory distributor	0.0	5.9	0.0	1.4	0.0	100.0	0.0	50.4
No data	60.0	5.9	10.8	4.3	30.8	0.0	15.5	1.7

¹ Among all respondents regardless of marital status.

² Percentages are based on those respondents who are current users of a family planning method.

Table 2 (continued)

	<u>Group A</u>				<u>Group B</u>			
	<u>Males</u>		<u>Females</u>		<u>Males</u>		<u>Females</u>	
	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>
<u>Reasons for non-use of FP³</u>								
No interest	31.8	59.9	32.8	59.9	40.7	57.7	33.9	55.3
Partner responsible	40.9	0.0	23.2	0.6	44.4	0.0	26.8	0.0
Medical reasons	0.0	21.4	8.0	9.9	3.7	15.4	5.5	17.6
No partner/partner away	0.0	0.0	3.2	9.9	0.0	3.8	3.8	9.5
Wants to get pregnant	18.2	0.0	9.6	4.9	0.0	0.0	9.3	3.5
Currently pregnant	0.0	0.0	5.6	8.6	0.0	0.0	10.9	10.1
Other	4.5	7.1	5.6	2.5	11.1	23.1	6.0	4.0
Don't know	4.5	0.0	12.0	3.7	0.0	0.0	3.8	0.0

³ Percentages are based on those respondents who are not current users.

TABLE 3
BREAKDOWN OF SERVICE RELATED COSTS BY TREATMENT GROUP
AND PROJECT YEARS (EC\$)

<u>Treatment Group</u>	<u>Nov 82- Dec 83</u>	<u>Jan 84- Feb 85</u>	<u>Nov 82- Feb 85</u>	<u>Percent</u>
Group A	\$ 5,408	\$ 5,836	\$11,241	16.4%
Group B	5,134	8,771	13,905	20.2%
Non-Traceable	21,372	22,216	43,589	63.4%
Total	\$31,915	\$36,823	\$68,735	100.0%

TABLE 4
SERVICE COST PER COUPLE-MONTH-OF-PROTECTION
BY TREATMENT GROUP (EC\$)

	<u>Nov 82 Dec 83</u>	<u>Jan 84- Feb 85</u>	<u>Nov 82- Feb 85</u>
Cost/CMP Overall (EC\$)	\$30.56	\$16.40	\$20.89
<u>Cost per CMP by Treatment Group</u>			
Group A	\$36.48	\$27.15	\$29.86
Group B	\$27.74	\$14.49	\$18.57

INCREASING CONTRACEPTIVE PREVALENCE AND
IMPROVING CONTINUATION RATES USING
COMMUNITY HEALTH AIDES



MINISTRY OF HEALTH
KINGSTOWN, ST. VINCENT AND THE GRENADINES

22

INCREASING CONTRACEPTIVE PREVALENCE AND
IMPROVING CONTINUATION RATES USING
COMMUNITY HEALTH AIDES

INTRODUCTION

The delivery of family planning services in St. Vincent & the Grenadines has traditionally been provided within a clinic-based system. A prospective user of a contraceptive had to attend a government health center to be registered. The new acceptor would receive initial supplies and then return to the same health center for resupply.

As observed in other, similar programs, acceptors who registered in the family planning program did not continue to use the clinic services. A 1978 study of clinic 'drop-outs' indicated that half the acceptors who had stopped attending the family planning clinic had in fact continued to use a contraceptive. However, some 40 percent of these 'drop-outs', who were women at risk of pregnancy, had discontinued using a contraceptive method (1). The reasons for discontinuing contraceptive use was in the majority of cases related to problems with side effects and with the location of or routine followed at the clinic.

The problems of loss of clinic users and contraceptive discontinuation have affected family planning programs to varying degrees, and family planning program administrators are faced with the dilemma of not only attracting users to programs, but also encouraging them to continue using a contraceptive.

The acceptors who are most likely to discontinue the use of a contraceptive are: acceptors who experience side effects or other problems with their method (1, 2); new users, especially those who receive unfavourable information about their method during the months following acceptance (3); users of oral contraceptives (1,4); young women with several children (1); and women whose expectations about the method are unfulfilled (5). Furthermore, it has been observed that increased availability of and access to contraceptives results in higher rates of use (6,7).

In an effort to address the problem of method discontinuation the Ministry of Health decided to modify the service delivery system to allow for community distribution of supplies and at the same time increase access to contraceptive information. In collaboration with Tulane University a project was implemented in 1983 which tested the effect of increased availability of contraceptive methods, combined with better management of side effects, on continuation rates. The specific objectives of the project were to increase:

- (1) knowledge of contraceptives and their possible side effects;
- (2) awareness that switching brands of methods is preferable to abandoning use of contraceptives;
- (3) the prevalence of contraceptive use among the population at risk of pregnancy; and
- (4) continuation rates among current users.

PROJECT DESIGN

The project was designed to test two new approaches: community initiation with resupply and community resupply only. The system of

family planning service delivery in use at the time was clinic based delivery.

Six medical districts on the mainland, St. Vincent, were included in the project. The Grenadine islands were excluded for logistical reasons while the medical district containing the main city, Kingstown, was excluded because it is atypical of the rest of the country.

The six medical districts were divided into three areas of two districts each. The groups were as follows:

Treatment 1 (Initiation and Resupply)

One community health worker from each of the seven health centers in the Calliaqua and Pembroke medical districts was trained to screen women, using a checklist, with a view to introducing oral contraceptives. They could also introduce spermicides and condoms to new users and continue to provide supplies of all these methods to acceptors. They would also resupply all other active acceptors of orals, spermicides and condoms.

Treatment 2 (Resupply Only)

One community worker from each of the nine health centers in the Mesopotamia and Cedars medical districts was responsible for resupplying active acceptors of orals, spermicides and condoms previously registered in the national program.

Control area

Workers in this area - Georgetown and Chateaubelair - (10 health centers) continued to function in the traditional way - that is, to follow-up on those women who had missed a family planning clinic appointment.

The 16 community workers - 14 Community Health Aides (CHAs) and 2 Nursing Assistants - in Treatment Areas 1 and 2 were trained to provide information on the use of the methods, their side effects and management of side effects as well as in communication, counselling and record keeping. Three training seminars were conducted for this purpose during the first nine months of the project. Other individual inputs were made as necessary by the nursing supervisors. CHAs in the Control area did not participate in any of these training activities.

EVALUATION METHODOLOGY

Three types of data were used to assess the impact of the project on contraceptive prevalence and continuation.

1. Service Statistics

Monthly service statistics collected by the community workers and the health centers provided data on the number of new and continuing acceptors initiated and resupplied over the period March 1983 to February 1985.

2. Sample Survey

Thirteen months after the introduction of the intervention a household interview survey was conducted in 23 villages selected by a stratified random sampling procedure. Every household in these 23 villages was visited by one of eight trained female interviewers and an interview conducted with every eligible female 15-44 years of age. A total of 1011 interviews was conducted over a 10 week period - April to June 1984.

Data from the 1981 contraceptive prevalence survey (CPS) was used as a baseline against which to compare the results of the followup survey. The two surveys together provided data on contraceptive knowledge, continuation rates, experience of side effects and attitudes toward using the CHA for household distribution of contraceptives.

3. Views of Health Personnel

At the end of the project the views of the community workers and their immediate supervisors concerning the project were obtained by means of a questionnaire and group discussion. These data provided a useful qualitative framework within which to assess the impact of the interventions.

FINDINGS AND DISCUSSION

1. Service Statistics

The service statistics collected by the community workers and the health centre indicate that the mean monthly intake of new users over the two year period in the control area was 16 women, while for both Area 1 and Area 2 mean intake via the health centre was 23 women per month. In Area 1, community health workers contributed an additional 8 new users per month to increase the overall monthly intake to 31 users.

Figure 1 shows the quantity of pills, condoms and spermicides, converted to couple-months-of-protection (CMP), distributed by each of the three areas over the period March 1983 to May 1984. During

that 15-month period, a total of 19810 CMP was provided from the three areas combined. Thirty-six percent of this protection was provided in Area 1, 33 percent provided in Area 2 and 31 percent in Area 3. Forty nine percent of the CMP provided (3 methods) in Area 1 and Area 2 was by the community health worker.

2. Sample Surveys

2.1 Socio-Demographic Profile of Respondents

Data presented in Table 1 reflects the characteristics of the target population and provides the basis on which to assess the comparability of the three areas at the time of the 1984 survey as well as between the 1981 CPS and the followup survey in 1984.

The sample may be characterised as: relatively young (the mean age was 25.5 years); with three children; primary school education; in a visiting union; living in a household with four or more persons where the mean monthly household income is approximately US \$150.

However, further analysis indicates that there are some differences in terms of educational attainment and household income between the three sample populations. Educational status among respondents in Treatment Area 2 was higher than that observed in the other two areas - 36.3 percent of respondents in that area had attained post-primary education compared with 20.4 percent of Area 1 respondents and 18.2 percent of respondents in Area 3.

The main monthly household income was somewhat lower in Area 3 (US \$134), which also had the highest reported number of persons working as unskilled labourers or who were unemployed, compared to Area 1 (US \$150) and Area 2 (US \$151).

The p-values in Table 1 indicate the comparability of the two populations over time. Significant changes in all three areas over time are observed for one variable: mean number of children alive - there was an increase from two to three. Other significant changes between 1981 and 1984 were in mean age in the control area, (an increase from 23.8 years to 26 years) and education level attained: there was a decrease in the proportion of the populations in the initiation and resupply area and the control area who had attained a post-primary education. Differences in union status are also shown in Table 1; however, because of methodological differences (related to the wording of the question) significance testing was not done on this variable.

2.2 Knowledge of Contraceptives

Almost all the respondents in all three areas knew at least one contraceptive method. These knowledge levels improved significantly between 1981 and 1984 in the two treatment areas. However, there was a significant reduction for the control area in the proportion of persons knowing at least one method.

Area 2 showed the largest number of significant increases: seven methods, compared with one in the initiation area (condom) and one in the control area (female sterilization) were known. Knowledge levels in Area 3 (control area) were the lowest and in

fact showed significant declines when compared to 1981 data for that area.

2.3 Current Contraceptive Use

The prevalence of contraceptive use among women 15-44 years of age in union, computed from a history of contraceptive use reported by respondents, was 55 percent for the initiation and resupply area, 52 percent for the resupply area and 41 percent for the control area. Most users (between 25 and 36 percent), were using the pill, with between 21 and 34 percent using a permanent method. Between 59 and 69 percent of current users were using a method to space their pregnancies.

Among women in the same age group who were in consensual union (legal or common-law union) prevalence increased significantly between the 1981 and 1984 surveys in only the initiation and resupply area (49-64 percent). Prevalence increased, but not significantly, in the resupply area (58-67 percent) and in the control area (from 37 to 46 percent).

2.4 Discontinuation of Contraceptive Use

Discontinuation was measured in two ways: first, as the percentage of persons who had previously used a method and stopped, and second, the percentage who were using at a given point that were still using a method 12 months later.

The survey data indicate that between 17 and 25 percent of the respondents in the three areas had used a method but had discontinued use. Area 1 had a slightly lower percentage of

women who had ever used a method but discontinued use (16.7 percent) than did Area 2 (21.5 percent) or Area 3 (25.3 percent). Half to three-quarters of the discontinuers in all three areas had been users of an oral contraceptive.

A more precise measure of discontinuation was obtained from the followup survey. The contraceptive history of all current or ever users was reported for the period January 1981, or first use thereafter, up to and including the month of the survey. A record of the method used, the length of time it was used, the source of supplies, the point at which use was discontinued and the reason for discontinuation was maintained for each respondent. Continuation of contraceptive use was calculated by summing the months of use (uninterrupted by pregnancy) between the date the method was started after the previous pregnancy and the date discontinued (for pregnancy), or the cut-off date. Interruptions in contraceptive use were ignored unless a pregnancy intervened. Changes in method were not considered discontinuation.

Data presented in Table 3 indicate that the continuation rates for the most recent interval analyzed were very similar for all three areas: between 84 for the control area and 88 for the initiation and resupply area. This means that during that period more than 80 percent of the women who started using a contraceptive were still using a method 12 months later and had not become pregnant.

Given that the levels for the control area were comparable to those in the two treatment areas, the project interventions

appear to have had relatively little effect on increasing continuation. However, continuation rates over a 12-month period were relatively high compared to what is reported from other developing countries.

3. Opinions of Service Recipients and Providers About the Project

Current and prospective recipients of the community supply services were asked their opinion on using the community health worker in this new role. Reactions were mixed, but generally it seemed that women liked the service. For them, convenience, privacy and time saving were the important deciding factors. They felt that if the health worker was well trained and could be relied upon to treat information confidentially, then community acceptance would be ensured.

Service providers (community workers and their supervisors) felt that the intervention had been successful because it provided increased opportunities for contact between the community and the health services, enabling education and increased awareness of social and health problems in the community. They also felt that the project should be extended but that efforts must be made to improve some components: namely, inventory flow, staff turnover, information flow between health centres and client awareness concerning their ultimate responsibility for contraceptive use.

The findings of this study suggest that using community health aides (CHAs) to initiate the use of contraceptives and to resupply contraceptives outside of the clinic setting is a more effective approach

to increasing prevalence than either community resupply of users initiated by the health center or distribution from the health centre only. At the same time, it was demonstrated that impact on continuation was minimal. This may be the result of relatively high continuation in all areas due in part to general improvement in the physical facilities, training, and information and education activities in all three areas.

ACKNOWLEDGEMENTS

Several persons contributed to this project and their assistance is gratefully acknowledged.

- The community health aides and nursing assistants for initiating and resupplying users;
- The nursing supervisors and health centre nurses for their continued support and cooperation;
- Mrs. Elma Dougan for excellent work as field work supervisor;
- The team of eight interviewers for locating eligible respondents and conducting the interviews;
- Mr. John Saunders, Administrator of the national family planning program for coordinating all the activities;

and all those persons who assisted in anyway to ensure the successful completion of the project.

REFERENCES

1. Bailey, Jerald and Alan Keller. 1982. "Post Family Planning Acceptance Experience in the Caribbean; St. Kitts-Nevis and St. Vincent, Studies in Family Planning 13, No. 2. 44-58.
2. Bracken, M.D. and S.V. Kasl. 1973. "Factors Associated with Dropping Out of Family Planning Clinics in Jamaica" Amer. Journal of Public Health 63. 262-271.
3. Porter, Elaine G. 1984. "Birth Control Discontinuance as a Diffusion Process". Studies in Family Planning 15, No. 1. 20-29.
4. Keeny S.M. and Cernada G.P. "Korea and Taiwan: Review of Progress in 1968" Studies in Family Planning 1, No. 41 pp. 1-11.

5. Zetina-Lazano, Guadalupe. 1983. "Menstrual Bleeding Expectation and Short-Term Contraceptive Discontinuation in Mexico" Studies in Family Planning 14, No. 5. 127-133.
6. Chen, Charles H.C., Roberto Santiso G., and Leo Morris. 1983. "Impact on Assessability of Contraceptives on Contraceptive Prevalence in Guatamala" Studies in Family Planning 14, No. 11. 275-283.
7. Cornelius, Richard M. and J.A. Novak 1983. "Contraceptive Availability and Use in Five Developing Countries" Studies in Family Planning 14, No. 12 Part 1. 302-317.

Figure I
COUPLE MONTHS OF PROTECTION BY TREATMENT GROUPS
AND TRIMESTER

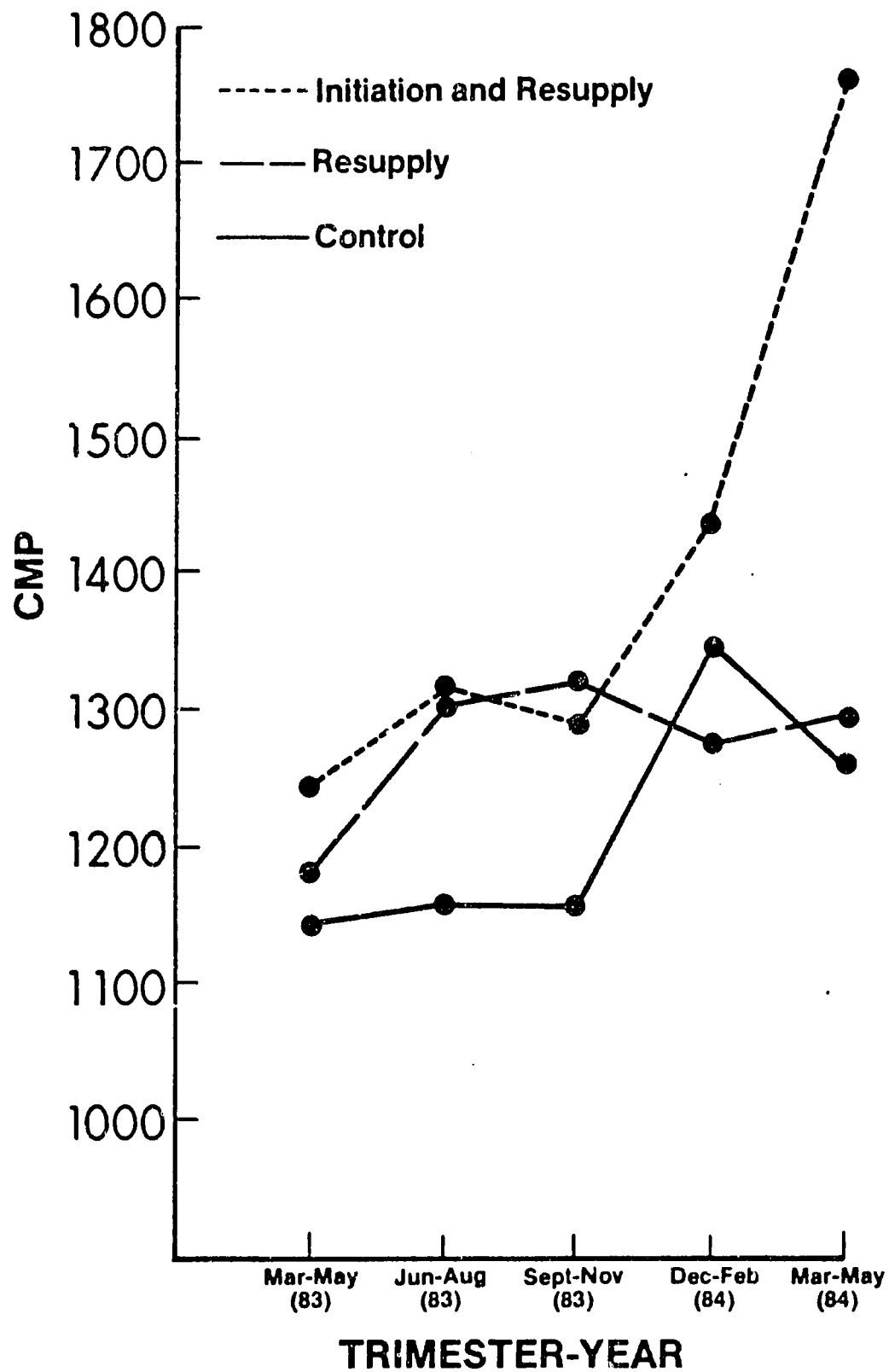


TABLE 1
SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE STUDY POPULATION
ON THE 1981 CPS AND THE 1984 FOLLOWUP

	AREA 1			AREA 2			AREA 3		
	<u>Initiation & Resupply</u>			<u>Resupply Only</u>			<u>Control Area</u>		
	1981	1984	p-value	1981	1984	p-value	1981	1984	p-value
Sample Size (n)	321	318		207	452		180	241	
<u>Mean Age of Respondents</u>	25.0	25.0	NS	25.4	25.0	NS	23.8	26.0	0.005
<u>Union Status</u>									
Married	13.7	20.4		24.2	18.8		21.1	18.7	
Common law	15.0	19.2	NA	13.0	12.6	NA	4.4	13.7	NA
Visiting	17.4	49.1		13.5	49.3		5.6	52.7	
Single	53.9	11.3		49.3	19.2		68.9	14.9	
<u>Education</u>									
Primary or less	68.2	79.6	0.001	66.2	63.7	NS	71.1	81.8	0.01
Post primary	31.8	20.4		33.8	36.3		28.9	18.2	
<u>Mean Number of Children Born Alive</u>	2.3	3.3	0.005	2.5	3.4	0.005	2.1	3.5	0.005
<u>Mean Number of People in Household</u>	7.2	6.9	NS	7.5	7.2	NS	7.2	7.1	NS
<u>Mean Monthly Household Income (2)</u> (EC \$) ³	NA	397		NA	398		NA	353	

¹Differences observed may be due to differences in question wording between 1981, 1984.

²Income not available for 1981 CPS.

³EC\$1 US\$0.38

TABLE 2
KNOWLEDGE OF CONTRACEPTIVE METHODS BEFORE AND AFTER INTERVENTION

	AREA 1			AREA 2			AREA 3		
	Initiation & Resupply			Resupply Only			Control Area		
	1981 (n=321)	1984 (n=318)	p-value	1981 (n=207)	1984 (n=452)	p-value	1981 (n=180)	1984 (n=241)	p-value
Percentage with knowledge of at least one method:	98.1	100.0	0.04	96.6	99.6	0.008	99.4	94.6	0.01
Percentage that have heard of:									
Pill	96.3	98.1	NS	94.7	98.5	0.01	95.0	90.7	NS
Condom	91.3	95.9	0.03	84.1	98.3	0.000	91.1	88.8	NS
Injection	90.0	88.4	NS	80.7	91.0	0.000	90.6	83.0	0.04
IUD	81.3	84.9	NS	72.0	89.8	0.000	82.2	82.6	NS
Spermicides	66.7	65.1	NS	61.4	65.7	NS	62.2	65.6	NS
Female Sterilization	81.6	86.2	NS	61.8	94.5	0.000	71.7	84.2	0.003
Male Sterilization	39.6	39.3	NS	45.4	32.5	0.002	36.1	16.6	0.000
Withdrawal	43.0	35.2	NS	30.0	51.1	0.000	35.6	31.1	NS
Rhythm	31.5	27.4	NS	24.2	46.5	0.000	28.9	24.9	NS

TABLE 3
CROSS CUMULATIVE ALL-CONTRACEPTION CONTINUATION RATES AT 12 MONTHS
BY TIME PERIODS AND EXPERIMENTAL GROUPS

	AREA 1 <u>INITIATION & RESUPPLY</u>	AREA 2 <u>RESUPPLY</u>	AREA 3 <u>CONTROL</u>
Current mid-1984 open interval or previous closed interval	88	87	84
N at beginning of 12th month	(159)	(174)	(92)
Beginning January 1, 1983 or first use thereafter	88	87	87
N at beginning of 12th month	(152)	(167)	(89)
Beginning January 1, 1982 or first use thereafter	84	76	85
N at beginning at 12th month	(158)	(171)	(92)
Beginning January 1, 1981 or first use thereafter	83	70	80
N at beginning of 12th month	(156)	(162)	(90)

COST EFFECTIVENESS OF TWO COMMUNITY BASED APPROACHES:
VOLUNTEER DISTRIBUTORS VS. OUTREACH WORKERS



JAMAICA FAMILY PLANNING ASSOCIATION

ST. ANN'S BAY, JAMAICA

COST EFFECTIVENESS OF TWO COMMUNITY BASED APPROACHES:
VOLUNTEER DISTRIBUTORS VS. OUTREACH WORKERS

Introduction

Today many family planning programs are being faced with reductions in funding for family planning activities. With these reductions family planning program administrators need to investigate new, innovative service delivery systems which can be carried out at a lower cost yet maintain or even increase the level of contraceptive use in the target population.

Strategies for reducing the costs of operating family planning programs have included the use of non-medical personnel who have been trained to deliver contraceptive supplies through community based distribution programs (CBD). These programs were developed in order to meet the needs of women, especially those living in rural areas, whose access to family planning services is limited. These women are often faced with obstacles such as transportation costs and travel time to the clinics and time lost from work.

Community based distribution programs take on many forms: from shopkeepers and pharmacists who sell contraceptives to housewives or paraprofessional health workers who have been trained to distribute contraceptives. These programs were not designed to replace clinical services but to complement them by providing easy to use contraceptives to women who have little or no contact with family planning programs (1).

The Jamaican Family Planning Association (JFPA) is the pioneer organization for family planning in Jamaica. The JFPA offers a full range of clinical services in addition to making contraceptives available through outreach workers. The main objectives of the outreach program are to recruit women at risk of unwanted pregnancy, especially those living in rural areas, to become users and to encourage males to take responsibility regarding family planning. In addition to services provided by the JFPA, the National Family Planning Board (NFPB) and the Ministry of Health are major providers of FP services on the island. Data from the 1983 contraceptive prevalence survey showed that 51 percent of women in union 15-49 years of age were current users (2).

The outreach program has operated for several years in St. Ann's Parish and neighboring Trewlany Parish and has been successful in achieving the objective of making contraceptives more readily available to the target population. The main problem associated with the project has been the cost.

In 1983, the JFPA in collaboration with Tulane University designed an operations research project to identify a model of service delivery which could be carried out at a lower cost yet maintain or even increase contraceptive use in the target area. In contrast to the community based distribution approach currently in use, the new approach to be tested used community volunteers who established CBD posts in their homes. The specific objectives of the project were:

1. To establish a replicable model for the distribution of contraceptives using volunteers within the community as distribution posts.

2. To maintain and if possible increase the level of contraceptive use among women of reproductive age in St. Ann's Parish while reducing the cost of the service delivery mechanism.
3. To determine the relative cost effectiveness of two community based distribution approaches: one based on repeated door to door distribution, the other on community resupply in neighborhood community based posts.

PROJECT DESIGN

In order to test the feasibility of operating a CBD project through neighborhood posts and to test the cost effectiveness of these two approaches to CBD, St. Ann's Parish was divided into two treatment areas:

Treatment Area A: Community Based Distribution Through Outreach

Workers

This area continued to receive outreach services provided by the outreach program. Seven outreach workers circulated throughout 16 communities in this area making home visits to eligible women; they initiated new acceptors to the program, resupplied continuing users and referred women with method side effects to nearby health care facilities.

Treatment Area B: Community Volunteers or Distributors

One individual from 30 communities was identified and recruited to serve as a distributor (community volunteer). The volunteers were trained in the correct use of the contraceptive methods and their side effects as well as communication, counselling and record keeping. They were supplied with pills, condoms and spermicidals which were made available to interested members of the community at no charge. Women who

were interested in the pill were screened using a checklist to identify conditions for which use of the pill would be contraindicated.

EVALUATION METHODOLOGY

Prior to the final division of St. Ann's Parish into treatment areas and the selection of community volunteers for treatment Area B, a baseline survey (among a random sample of women 15-44 years) was conducted to determine whether the two treatment areas were similar in levels of contraceptive use.

In addition to measuring levels of contraceptive use, the baseline questionnaire also included items on level of education, type of contraceptive method used, source for supplies and reasons for non-contraceptive use. The baseline survey yielded 1067 interviews: 509 from Area A and 558 from Area B.

A followup survey was conducted 13 months after services were initiated in the same communities which were selected for the baseline survey. The followup questionnaire contained the same items as the baseline in addition to items on respondents' knowledge and attitudes toward the two CBD programs. A total of 968 women were interviewed (423 from Area A, 545 from Area B).

In addition to the two sample surveys, monthly services statistics were collected from the outreach workers and volunteers on the volume of pills, condoms and spermicides which were distributed for the calculation of couple-months-of-protection (CMP). CMP is an index based on the number of contraceptives sold which is then converted to a measure of protection (3).

The costs associated with the project were coded on a quarterly basis and allocated to the two systems of service delivery for the cost effectiveness analysis.

FINDINGS AND DISCUSSION

A. Sample Surveys

1. Sociodemographic characteristics

The mean age of the two treatment groups was similar at both surveys: 26 years in Area A and 25 years in Area B (Table 1).

The level of education attained by the respondents differed in the treatment areas: women in treatment area B were more likely to have had some high school education or to have gone beyond high school than those in treatment area A.

Data on marital status was only collected for the follow-up survey. Forty-six (46) percent of the respondents in Area A and 36 percent in Area B reported to be married or living in consensual union; one third in both areas reported to have a visiting relationship while the remaining were single, widowed, separated or divorced.

2. Current use of family planning

There was no significant difference in the percentage of all women using family planning at the time of the baseline survey: 46 percent and 50 percent in treatment areas A and B, respectively; see Table 2. Among those women who were users, the preferred method was the pill, followed by vasectomy, condoms and the injection. Over 50 percent of the women in area A got their

supplies from the outreach worker while this was true for 39 percent of the women in area B. At the time of the baseline survey one component of the outreach program (youth associates) was being phased out due to termination of funding.

By the time of the followup survey significant differences were observed in the level of contraceptive use in the treatment areas. Contraceptive use among all women increased in area A to 59 percent while in area B use decreased to 41 percent. Data from the follow-up survey showed that 60 percent of women who were either married, living in consensual union or in a visiting relationship were using a contraceptive (67 percent in Group A and 54 in Group B).

Sources for contraceptive supplies also changed: more women were getting their supplies from the health center as compared to the baseline data although the majority of women in area A were still getting their supplies from the outreach worker. Among the users of FP in area B, 23 percent were getting their supplies from the health center followed by the pharmacy (22%), JFPA clinic (19%) and the community volunteer (18%). Less than 3 percent reported they were still getting their supplies from the outreach worker.

The increase in use of the health center by women in area A may be related to the increased use of the injection while women in area B had to find new sources since there were no longer outreach workers in their areas.

3. Knowledge of outreach and volunteer services

Sixty-nine percent of the non-users in area A had heard of the outreach worker and 76 percent of the users with other sources knew about these services. Less than 3 percent of users and non-users had heard about the community volunteer.

In area B fewer women had heard about the outreach worker: 20 percent and 18 percent among users and non users, respectively. Knowledge about the community volunteer services was slightly higher: 24 percent of the users and 20 percent of the non users had heard about this service.

B. Program Achievement

Program achievement for this project has been measured by the number of couple-months-of-protection (CMP) which were provided by the pill, condom and spermicidals. The calculation of CMP was based on the service statistic records kept by the outreach workers and community volunteers.

Generally CBD programs charge clients a small fee for contraceptives; however, the JFPA program does not do so. When a small fee is associated with the sale of contraceptives the distributors must keep accurate records since monies generated from the sales must be returned to the program. In such programs the service statistics are usually very reliable. However, with a program such as the one operated by the JFPA, some caution should be exercised in the interpretation of the amount of CMP provided.

As shown in Table 3 a total of 80,584 CMP was provided during the course of the project. Of this total, 63 percent was provided by the

outreach workers and 37 percent by the community volunteers. As illustrated in Figure 1, the amount of protection provided by the volunteers steadily increased over time and by the end of the project the difference in the amount of CMP provided by each area was getting smaller.

C. Cost effectiveness analysis

The purpose of the cost-effectiveness analysis (CEA) was to determine which approach to the community distribution of contraceptives would be less expensive yet maintain or even increase the level of contraceptive use.

Cost data were routinely collected from the start of the project. All costs were coded and classified according to treatment group, type of expense and source of funding.

As shown in Table 4 the total cost for the project was \$80,191 U.S. Of the total cost 9 percent was used for research, 7 percent was classified as non-traceable, i.e. they could not be classified to either treatment group and can be considered administrative costs. The remaining costs were service related expenditures.

All research and training costs have been excluded from the analysis since the purpose of the CEA is to determine the replicable costs for operating the two delivery systems. As can be seen in Table 5, over half of all the service costs were traced directly to the outreach worker program, while only 36 percent were incurred for the community volunteer strategy. Eight percent of the service costs could not be allocated to either strategy.

The CMP data represent the denominator data in the calculation of the CEA while the cost data represent the numerator data. As shown in Table 6 the overall cost per CMP for the life of the project was \$0.79 US. The overall cost per CMP by treatment area was: \$0.76 US for treatment area A and \$0.84 for treatment area B. The cost per CMP during the period January-December 1985, when both projects were fully operational, was \$0.68 US in area A vs \$0.77 US in area B.

The overall cost per CMP declined during the course of the project and we might expect that the costs for treatment B would continue to decrease as more people become aware of the volunteer services. However, a long time period is needed to determine whether this would indeed occur.

In summary, the data indicate that both strategies are acceptable for delivering contraceptives. If funding resources are limited then the volunteer program should be considered as an option since the costs of operating such a program are low and costs would most likely continue to decrease over time.

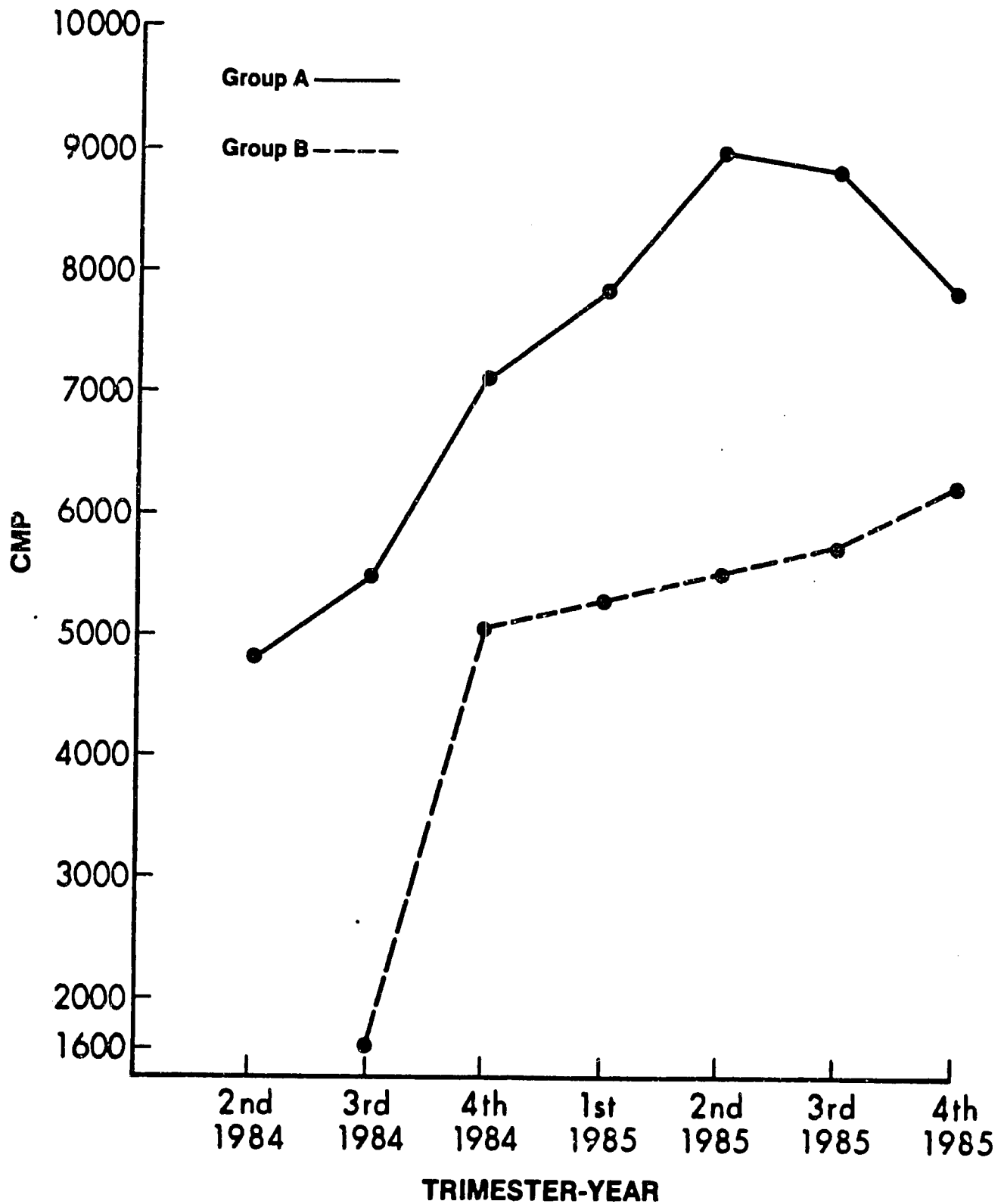
ACKNOWLEDGEMENTS

We wish to thank the following persons for their assistance in completing this project: Mrs. Brenda Grey, Executive Director of the JFPA; Mrs. Lilith Mullings, project supervisor; the 7 outreach workers and 30 community volunteers; the team of interviewers who located the selected respondents, the statistical clerks for computing the monthly service statistics and the research assistants who assisted in processing the data.

REFERENCES

1. Foreit, James, et al. 1978. "Community-Based and Commercial Contraceptive Distribution: An Inventory Appraisal." Population Reports, Series J, Number 19.
2. Morris, Leo. 1984. "An Overview of Use and Source of Contraception in Latin America." Presented at InterAmerican Symposium on Health Education, Mexico City, November 1984.
3. Wishik, S. and K. Chen. 1973. Couple Years of Protection: A Measure of Family Planning Program Output. New York: International Institute for the Study of Human Reproduction, Colombia University.

Figure I
COUPLE MONTHS OF PROTECTION BY TREATMENT GROUPS
AND TRIMESTER



Note: Service activities for treatment Group B began September 1984

TABLE 1
SOCIODEMOGRAPHIC CHARACTERISTICS

	Treatment Area A		Treatment Area B	
	Baseline	Followup	Baseline	Followup
<u>Sample Size (n)</u>	509	423	558	545
<u>Age</u>				
15-19	25.1	24.8	25.8	24.8
20-24	26.3	23.4	27.1	29.4
25-29	18.3	20.3	18.5	20.4
30-34	10.2	14.7	12.5	13.6
35-39	10.4	9.7	9.3	8.3
40-44	9.6	7.1	6.8	3.7
Mean age	26.1	26.0	25.6	25.1
<u>Education</u>				
Primary	46.8	36.9	29.7	35.2
Junior secondary	30.1	41.4	39.1	30.5
High school	15.7	15.8	22.6	22.6
Beyond high school	7.1	5.9	7.9	11.7
No information	0.4	0.0	0.7	0.0
<u>Marital Status</u>				
Married, in union	U	45.9	U	36.3
Visiting	U	30.3	U	32.7
Separated, divorced, widowed	U	1.2	U	0.6
Single	U	22.7	U	30.1
No response	U	0.0	U	0.4

U = unavailable

TABLE 2
CURRENT USE OF FAMILY PLANNING AMONG ALL WOMEN

	Treatment Area A		Treatment Area B	
	Baseline	Followup	Baseline	Followup
<u>Sample Size (n)</u>	509	423	558	545
<u>Uses FP</u>				
Yes	46.0	59.3	50.0	41.3
No	54.0	40.7	49.5	58.7
<u>Current Method¹</u>				
Pill	63.2	64.4	61.3	68.9
Injection	7.3	12.4	8.5	6.7
Condom	10.7	8.4	7.9	4.4
Sterilization	11.1	10.4	12.8	13.8
IUD	4.3	3.6	5.3	4.0
Other ²	3.0	0.8	2.8	1.3
No information	0.4	0.0	1.4	0.9
<u>Source of FP supplies¹</u>				
Outreach worker	56.4	45.6	39.0	2.7
Community volunteer	0.0	0.4	0.0	17.8
JFPA clinic	20.5	5.6	24.5	18.7
Pharmacy	4.3	7.2	12.4	22.7
Health center	15.0	27.6	11.7	23.1
Other	1.7	13.6	9.2	13.3
No information	2.1	0.0	3.2	1.8

¹Percentages are based on those respondents who are current users.

²Includes spermicidals, diaphragm, withdrawal and rhythm.

TABLE 3

BREAKDOWN OF COUPLE-MONTHS-OF-PROTECTION BY TREATMENT GROUPS AND TRIMESTERS¹

	Apr- Jun 1984	Jul- Sept 1984	Oct- Dec 1984	Jan- Mar 1985	Apr- Jun 1985	July- Sept 1985	Oct- Dec 1985	Total	Percent
Group A	4823	5518	7165	7836	9006	8841	7886	51075	63
Group B	0	1631	5065	5318	5455	5764	6276	29500	37
Total	4823	7148	12230	13154	14461	14605	14163	80584	100

¹All couple months of protection were recorded to the nearest integer.

NOTE: Service activities for Treatment Area B (community volunteers) did not begin until September 1984.

TABLE 4
BREAKDOWN OF PROJECT COSTS

	Cost/U.S.\$	Percent
Research	7,347	9.2
Service	30,631	38.1
Non-traceable ¹	5,723	7.1
Training	8,818	11.1
Contraceptives	27,672	34.5
Total cost	80,191	100.0

¹Service costs which could not be directly traced to treatment A or B activity.

TABLE 5
BREAKDOWN OF SERVICE RELATED COSTS BY
TREATMENT GROUP AND PROJECT YEARS

Treatment Group	Apr-Dec 1984	Jan-Dec 1985	Apr 1984 Dec 1985	Percent
Group A	\$14,442	\$21,085	\$35,527	55.5
Group B	\$ 6,401	\$16,374	\$22,775	35.6
Non-traceable	\$ 2,781	\$ 2,942	\$ 5,723	8.9
Total	\$23,624	\$40,401	\$64,025	100.0

TABLE 6
SERVICE COST PER COUPLE-MONTH-OF-PROTECTION
BY TREATMENT GROUP (US \$)

	Apr 84- Dec 84	Jan 85- Dec 85	Apr 84- Dec 85
Cost/CMP Overall	\$0.98	\$0.72	\$0.79
<u>Cost per CMP by treatment Group</u>			
Group A	\$0.93	\$0.68	\$0.76
Group B	\$1.07	\$0.77	\$0.84

EVALUATION OF THE CARIBBEAN CONTRACEPTIVE
SOCIAL MARKETING PROJECT IN
THREE COUNTRIES

BARBADOS

ST. LUCIA

ST. VINCENT

EVALUATION OF THE CARIBBEAN CONTRACEPTIVE
SOCIAL MARKETING PROJECT IN
THREE COUNTRIES

INTRODUCTION

While clinic-based services continue to be the prime vehicle for the delivery of family planning (FP) in almost all developing countries, the social marketing of contraceptives has emerged as an important complementary approach (1).

To date, most social marketing programs have been evaluated by the volume of contraceptives sold, which is then translated into a measure of "couple-years-of-protection"(CYP). This measure estimates the amount of protection (in months or years) which a specific quantity of a given method provides against pregnancy. Useful as CYP is for monitoring program output, program administrators and funding agencies need to assess the effect of social marketing programs on the larger FP program; specifically:

- o Does social marketing actually increase contraceptive use?
- o Does social marketing simply cause users of one service to switch to another, possibly more convenient source?

In 1983 the Caribbean Contraceptive Social Marketing Project (CCSMP) was developed by the Futures Group in collaboration with the Barbados Family Planning Association (BFPA) in an effort to increase the level of family planning awareness and to make contraceptives more available through retail outlets. The program was also expected to test the

feasibility of combining markets in Barbados, St. Vincent, and St. Lucia and of adopting specific elements of previously successful programs in other markets.

PROJECT DESIGN

In order to increase the level of awareness, the program undertook a series of promotions of two contraceptive products, "Panther" condoms and "Perle" oral contraceptives. These product-specific promotions utilized advertisements on the mass media (radio, television, and the press) as well as point of purchase promotional materials. The campaign was aimed not only at prospective customers, but also retailers and the medical community in the hope of increasing the latter groups' receptivity toward the social marketing of contraceptives. The CCSMP contraceptives sold at prices substantially lower than comparable products on the market.

Although it was intended that the three countries would have comparable levels of media advertising, delays in obtaining the necessary approvals made this impossible. In fact, Barbados had by far the larger number of messages, followed by St. Vincent, while in St. Lucia radio and TV were not used at all.

EVALUATION METHODOLOGY

The project design for evaluating the impact of the CCSMP consisted of a baseline survey conducted before the campaign launch and a followup survey conducted 12 months later in all three countries. The surveys were limited to the main urban areas in each country (Bridgetown in Barbados, Kingstown in St. Vincent, and Castries in St. Lucia) as the major target population was urban adults and the majority of the retail

outlets for CCSMP were in these areas. The objectives of this evaluation were:

1. To measure the extent to which the target population can recall the CCSMP messages.
2. To determine whether those who recall the Perle and Panther messages and slogan associate them with contraceptive/family planning; and whether they believe the products are available in-country.
3. To determine the percentage of the target population that has ever purchased Perle or Panther.
4. To measure the degree of change between the baseline and followup survey on contraceptive prevalence (among women 15-44 years old living in union).
5. To determine the extent to which "switching" occurred following the campaign from other brands to Perle and Panther.

Data was collected by trained female interviewers in the home of the respondent. Only one person per household was interviewed.

The "before/after" design of this research is known technically as a "pretest-posttest staggered sample". Its major limitation is the absence of a control group.

In the current evaluation, there was no logical group which could be used as a control because the messages were diffused via media which reached all geographical areas of each country, eliminating the possibility of using part of the population as a control.

Thus, any change found to occur in the three countries under study could not be necessarily attributed to the CCSMP, since we do not have any means of knowing what would have happened in the absence of the program. However, as Sherris et al. have pointed out, where comparison (control) areas are not available, trend data from the project area alone are still valuable (2).

FINDINGS AND DISCUSSION

1. Socio-Demographic Characteristics

As shown in Table 1 the study populations within each country were mostly unchanged between the baseline and followup surveys.

In all three countries the study population was defined as women 15 to 44 years old; the mean age ranged from 25-27 years in all countries on both surveys. Between 65 and 83 percent of the respondents were in some type of union, including marriage, consensual union or visiting union.

The mean number of living children was comparable between surveys, ranging from 1.5-1.7 in Barbados, 1.7-1.8 in St. Vincent and 2.2 in St. Lucia. The number of respondents who had gone beyond primary school did not change significantly between surveys, though it was much higher in Barbados (over three-quarters) than in St. Vincent (one-half) or St. Lucia (one-third).

Data on average family income reflect the same rank-ordering among countries; however, in all three cases the income level increased significantly between the two surveys.

Over 90 percent of the respondents on both surveys and in all three countries owned a radio. By contrast, television ownership differed markedly by country and increased between the two surveys. The percentage that reported to read a newspaper at least once a week also differed by country: 89/92 percent on the two surveys, respectively, in Barbados; 65/60 in St. Vincent; and 56/68 in St. Lucia.

2. Knowledge of CCSMP Products

As shown in Table 2, at the time of the baseline survey almost none of the respondents in any of the countries claimed to have heard of the

products "Perle," "Panther," or "Maya." "Maya" was a fictitious brand name included to determine the extent to which respondents answered affirmatively in an effort to please the interviewer or avoid appearing uninformed.

However, in the followup survey, over two-thirds of the respondents in Barbados, half of those in St. Vincent and one-quarter of those in St. Lucia had heard of "Perle" and "Panther." In contrast, less than 2 percent in any country claimed to have heard of "Maya," a fact which adds to the face validity of the recall measures for the CCSMP products.

A surprisingly high percentage of respondents reported to have heard the campaign slogan "If you care about life" even before it began. By the followup survey, a significantly greater percentage in each group had heard the slogan.

3. Purchase of Perle and Panther

At the time of the baseline survey, none of the respondents in any of the countries claimed to have ever purchased Perle, see Table 3. (There was one exception in Barbados, equivalent to 0.2 percent.) As of the followup survey, the percentage of female respondents that had ever purchased Perle was 1.1 percent in Barbados, 2.5 percent in St. Vincent and 1.2 percent in St. Lucia. (Based only on women in union, these percentages increase to 1.5, 2.5, and 2.2 for the three countries, respectively). None of the male respondents in any of the countries on either survey reported to have purchased Perle.

None of the respondents on the baseline survey in any country had bought Panther. However, by the followup survey, 5 percent of the males in Barbados and 7 percent of the males in St. Vincent and St. Lucia had

purchased Panther at some point, which represents statistically significant increases over the baseline.

While the above findings suggest that men do not buy Perle, it appears that some women do purchase Panther: three percent of the women in Barbados, one percent of the women in St. Vincent and two percent in St. Lucia had ever bought the product Panther. Among those women in conjugal or visiting union, these percentages are 3.5, 2.2 and 2.2 for the three countries.

There were a variety of reasons given for not having purchased Perle or Panther among those who had heard of these methods. The five most frequently mentioned were:

- Using another brand
- Using another method
- Dislike it or afraid of it
- Not sexually active
- New product

4. Contraceptive Use

The main objective of this study was to determine whether contraceptive prevalence was higher one year after the campaign than before it. As shown in Table 4, prevalence did not increase. The percentage of women 15 to 44 in union that reported to use a contraceptive method is almost identical between surveys for all three countries: 48.6 vs. 47.3 for Barbados; 51.0 vs. 51.8 for St. Vincent and 44.1 vs. 45.5 for St. Lucia.

The research findings reflect a number of positive aspects regarding the project. Radio and television were effective channels for reaching the target population because the majority of respondents in all three countries had access to these media by the time of the followup survey.

The program was effective in creating awareness of these new products in a single year: over two-thirds of the respondents in Barbados, half of those in St. Vincent and one-quarter of those in St. Lucia had heard of "Perle" and "Panther" by the followup survey. The slogan "If you care about life" was widely recalled and well-liked. Finally, the vast majority of respondents were agreeable to the idea of broadcasting CCSMP messages on radio and television.

There are several possible explanations for why the CCSMP did not have a greater impact on contraceptive prevalence: (1) twelve months may not be a sufficient amount of time to evaluate the impact of social marketing on contraceptive prevalence; (2) the pre-existing high use of contraceptives necessarily limits the number of potential new users; and (3) the lack of sufficient profit motive failed to stimulate pharmacists and store owners to promote these products.

Those who worked in developing and implementing the CCSMP cite other factors which apparently affected the outcome of this project. The medical community constituted a significant barrier in at least one of the countries where physicians disapproved of a prescription drug being promoted by mass media. When pharmacists noted that few physicians were prescribing "Perle," they too may have hesitated in recommending it to their customers. While efforts were made prior to the campaign to enlist the cooperation of doctors and pharmacists, this problem was not adequately resolved.

The amount of detailing may also have influenced the outcome of the program. Inventory data show that sales were relatively high in St. Lucia despite no mass media advertising and few participating pharmacies.

Social marketing is emerging as an important strategy for promoting family planning and it represents a substantial investment for the primary donor agency in the area (the United States Agency for International Development). While this approach is very promising, the current research underscores the need for further research on the true impact of contraceptive social marketing programs.

ACKNOWLEDGEMENTS

Special thanks to CCSMP office staff in Barbados and to the Ministries of Health of Barbados, and St. Vincent and the Grenadines and the St. Lucia FPA for assisting in the data collection.

REFERENCES

1. Altman, Diana and Phyllis Piotrow (1980), "Social Marketing: Does it Work? Population Reports, Series J, No. 21, 393-434.
2. Sherris, Jacqueline D., Betty Bulter Ravenholt, and Richard Blackburn. "Contraceptive Social Marketing: Lessons from Experience." (1985), Population Reports, Series J, No. 30, 773-812.
3. Nair, Neal Kar (1982), Fertility and Family Planning in Barbados. Columbia, MD: Westinghouse Health Systems.
4. Westinghouse Health Systems (1983), Contraceptive Prevalence Surveys: A Comparative Study of Contraceptive Prevalence in Antigua, Dominica, St. Lucia and St. Vincent, Columbia, MD.

TABLE 1

CHARACTERISTICS OF THE STUDY POPULATION BY SURVEY AND BY COUNTRY

	<u>BARBADOS</u>		<u>ST. VINCENT</u>		<u>ST. LUCIA</u>	
	Base- line	Follow- up	Base- line	Follow- up	Base- line	Follow- up
Sample Size (n)	543	406	462	320	506	497
Mean age of respondent in years	26.2	26.1	25.4	25.4	26.9	26.9
Percentage married, in consensual union or in visiting union	80.3	75.2	65.1	64.0	83.2	71.6*
Mean number of living children	1.7	1.5*	1.8	1.7	2.2	2.2
Percentage that have gone beyond primary school	82.1	79.3	47.7	49.3	31.4	33.7
Mean family income per month in U.S. dollars	\$397	\$484*	\$306	\$359*	\$213	\$239
Percentage that own a radio	93.9	92.3	97.8	93.8*	96.9	95.1
Percentage that own a television	84.7	86.2	65.5	75.9*	58.2	72.5*
Percentage that read a newspaper at least once a week	88.5	91.6	65.2	60.4	55.8	63.1*

*The asterisk indicates there is a statistically significant difference (p is less than .01) between the baseline and following surveys on this variable in this country. Where there is no asterisk, the differences are not statistically significant, as measured by the chi square test.

TABLE 2
RECALL OF CCSMP MESSAGES BY SURVEY AND BY COUNTRY

	<u>BARBADOS</u>		<u>ST. VINCENT</u>		<u>ST. LUCIA</u>	
	<u>Base-</u> <u>line</u>	<u>Follow-</u> <u>up</u>	<u>Base-</u> <u>line</u>	<u>Follow-</u> <u>up</u>	<u>Base-</u> <u>line</u>	<u>Follow-</u> <u>up</u>
<u>Sample Size (n)</u>	543	406	462	320	506	497
<u>Percentage that</u> <u>have heard of:</u>						
The product "Perle"	1.4	69.2*	0.8	53.7*	0.0	27.2*
The Product "Panther"	1.6	69.8*	1.2	51.9*	0.2	26.4*
The (fictitious) product "Maya"	0.3	0.2	0.0	0.0	0.0	1.7
The slogan "If you care about life"	27.6	71.7*	38.4	75.7*	16.5	56.6*

TABLE 3
PURCHASE OF PERLE AND PANTHER BY SURVEY AND BY COUNTRY

	<u>BARBADOS</u>		<u>ST. VINCENT</u>		<u>ST. LUCIA</u>	
	<u>Base-</u> <u>line</u>	<u>Follow-</u> <u>up</u>	<u>Base-</u> <u>line</u>	<u>Follow-</u> <u>up</u>	<u>Base-</u> <u>line</u>	<u>Follow-</u> <u>up</u>
<u>Sample Size (n)</u>	543	406	462	320	506	497
<u>Perle: Female Respondents</u>						
Percentage that have ever purchased Perle ¹	0.2	1.1	0.0	2.5*	0.0	1.2*
n of respondents who had heard of but had never purchased Perle ²	-	246	-	154	-	115
<u>Panther: Female Respondents</u>						
Percentage that have purchased Panther ¹	0.0	3.4*	0.0	1.4*	0.0	1.8*
n of respondents who had heard of but had never purchased Panther ²	-	206	-	140	-	102
<u>Panther: Male Respondents</u>						
Total sample size	140	37	81	82	106	92
Percentage that have ever purchased Panther ¹	0.0	5.4*	0.0	7.3*	0.0	6.5*

¹Percentages are based on all respondents.

²Unweighted n's: followup survey.

TABLE 4

CURRENT CONTRACEPTIVE USE AMONG WOMEN IN PERMANENT OR
VISITING UNIONS, 15 TO 44 YEARS OF AGE

	<u>BARBADOS</u>		<u>ST. VINCENT</u>		<u>ST. LUCIA</u>	
	<u>Base-</u> <u>line</u>	<u>Follow-</u> <u>up</u>	<u>Base-</u> <u>line</u>	<u>Follow-</u> <u>up</u>	<u>Base-</u> <u>line</u>	<u>Follow-</u> <u>up</u>
Percentage using a contraceptive method, according to 1980-1981 <u>Contraceptive Prevalence</u> <u>Survey</u> ¹	48.9		55.5		52.2	
n of women 15 to 44 in a conjugal union or visiting relation- <u>ship in current study</u>	446	316	335	229	423	358
Percentage using a contraceptive method <u>in current study</u>	48.6	47.3	51.0	51.8	44.1	45.5
<u>Method used:</u> ²						
Pill	42.8	43.6	48.6	34.8	50.6	40.3
Condom	10.6	6.0	12.6	12.5	3.3	8.7
Tubal ligation	17.0	21.1	19.7	22.2	21.3	20.6
IUD	17.9	18.3	4.5	8.1	8.9	10.3
Spermicidals	8.7	4.9	1.8	2.4	5.0	1.3
Injection	2.0	4.4	7.6	13.0	8.3	8.9
Other	0.4	1.1	5.2	6.4	2.3	0.6
Don't know/ no response	0.5	0.6	0.0	0.0	0.4	9.3

¹Source: Nair (1982) and Westinghouse Health Systems (1983)

²Percentages based on the total number of users.

PART 2

MALE INVOLVEMENT IN FAMILY PLANNING

STRATEGIES FOR REDUCING MALE OPPOSITION TO FAMILY PLANNING



MINISTRY OF HEALTH

ROSEAU, DOMINICA

STRATEGIES FOR REDUCING MALE OPPOSITION TO FAMILY PLANNING

INTRODUCTION

Traditionally family planning (FP) programs have been designed to meet the needs of women and little attention, if any, is given to the male role in family planning. The emphasis on women in family planning is comparatively recent when one considers that withdrawal and the condom were the primary methods of contraception prior to the 1960's. Family planning programs have been designed to meet the needs of women since they are the ones who must bear the consequences of an unwanted pregnancy and/or risks of pregnancy and childbirth. In addition, modern contraceptive technology has emphasized the development of female methods (the pill and IUD).

It has often been stated that male attitudes toward family planning represent one of the major barriers to the more widespread use of contraceptives in the Eastern English speaking Caribbean. These negative attitudes are usually derived from two sources: 1) a desire to father more children, especially with an outside partner and 2) a dislike for the perceived inconvenience of using contraceptives.

Lack of male involvement in family planning is not only a problem in the Caribbean but also in other developing and developed countries as well. The percentage of condom users worldwide is relatively low: 1 percent in Africa, less than 3 percent in Latin America and 13 percent in Asia (excluding China and Japan) (1).

More recently family planning administrators have recognized the need to design programs to reach men in order to foster more responsible behavior in the family planning decision making process. Such programs have included the production of films on male issues, media campaigns and social marketing of condoms.

In 1983 an operations research project was designed in consultation with the Ministry of Health to focus attention on males and their roles in the use of family planning. The primary goal of the project was to decrease male opposition to the use of male or female contraceptive methods. The specific objectives of the project were:

1. To increase awareness among men of the benefits of family planning.
2. To increase knowledge of the different contraceptives and where to get them.
3. To dispel rumors or misconceptions regarding contraceptive methods.
4. To increase the use of contraceptives among men and/or to increase the use of female contraceptives for their partners.

PROJECT DESIGN

The project was designed to test the effect of a family planning educational outreach program among the target population of men 18 years and over. One urban and four rural communities were selected as treatment areas. These communities received an educational/outreach program while another group of communities (1 urban and 4 rural) served as the control and received no special activities.

The development of the educational outreach program was based on information gathered from a series of informal group discussions among men 18 to 44 years of age in the target communities. These focus group discussions centered around men's attitudes toward the use of contraceptives (male and female methods) and attitudes in general toward family planning services. The information from the focus groups revealed that the men had positive attitudes toward family planning and that there was interest in attending group meetings to discuss family planning and related topics.

With this information an educational outreach program consisting of four sessions was designed: session one, reproductive physiology and anatomy; session two, contraceptive methods; session three, sexually transmitted diseases; session four, child growth and development. A male promotor was recruited and trained to present information on each of these topics. The male promotor conducted group meetings on these four topics in the treatment communities during the period June 1984 through December 1985. In addition to the meetings he visited the communities to do outreach and distribute condoms.

One man in each of the treatment towns was identified to assist the male promotor in identifying participants for the educational program. This community person played an important role in the organization of the monthly meetings.

EVALUATION METHODOLOGY

The evaluation of this project was based on a follow-up survey conducted among men between the ages of 18 and 44 twelve months after service activities were initiated. The purpose of the survey was to

determine whether the educational program had an effect on knowledge and attitudes toward family planning among men in the treatment areas compared to the men in the control area. A total of 569 men were interviewed: 289 from the treatment area and 280 from the control area.

In addition, data from a male family planning survey carried out in Dominica by Westinghouse Health Systems among men 15-49 years of age was used as a comparison on selected variables. Statistics were also kept on the number of men who attended the meetings and number of condoms distributed.

FINDINGS AND DISCUSSION

1. Service Statistics

Five educational series were carried out in the treatment areas during the period October 1984-December 1985. The average number of men attending the sessions ranged from 6 to 7 (see Table 1). The number of condoms distributed increased over time as the male promotor became known in the community.

2. Socio-demographic Characteristics

As shown in Table 2 the characteristics of the study population were similar in both areas in terms of age and education: the average age was 27 years; over eighty percent had completed primary school. However, the respondents differed on other variables: marital status; occupation; religion and number of living children. Men in the treatment areas were more likely to be married or living in union, Catholic, with 2 children and employed as laborers as compared to those in the control area.

3. Knowledge of family planning topics

A series of true and false questions were asked to assess knowledge on reproductive physiology and sexually transmitted diseases based on the information presented at the group meetings.

The data revealed that overall, men in the treatment area were somewhat more knowledgeable than those in the control area (see Table 3) on 4 of the 8 variables. Over three quarters of all respondents knew a girl/woman can get pregnant the first time she has sex; nearly two thirds know that sperm are not produced on a cyclic basis and over 80 percent know that a woman can have an STD and not be aware of it. However, respondents in the control area were more knowledgeable about when ovulation occurs than those in the treatment area.

As shown in Table 4, knowledge of specific family planning methods was higher in the treatment areas for the following methods: condom, diaphragm, injection, rhythm/natural family planning and withdrawal. However, there was no difference on the number of methods known. Nearly all respondents knew at least 1 method and the mean number of methods known was 2. Among all respondents in the control group, 94 percent knew of at least one source for family planning supplies while 87 percent of those in the treatment groups knew of at least one source.

All respondents from this survey and the 1982 FP survey who knew at least one family planning method were asked who should make the decision to use a contraceptive. Over three quarters of all respondents in the current study said it should be a joint decision, whereas only 15 percent of the respondents on the 1982 FP survey held that view (2).

4. Current use of contraceptives

In order to determine contraceptive prevalence, respondents were asked whether they had used a contraceptive the last time they had had sex. Among men who reported to be married, living in union or in a visiting relationship 50 percent reported that they had used a method. These percentages are slightly higher than the findings from the 1982 FP survey where 45 percent of men in union reported to be current users of FP (2). Among current users the condom was used most often followed by the pill and withdrawal.

Among men in some type of union (married, living in union or visiting) use of a family method was correlated with level of education: 48 percent of men with a primary education or less were users as compared to 61 percent of men with a secondary education and 58 percent with post secondary education. These findings are similar to those found in FP surveys in Barbados, St. Kitts and Dominica (2,3,4).

Over two thirds of all men reported that they approved of family planning. The reasons for approval were: it prevents unwanted children; it can be used to plan family size and reduce the high costs of raising children.

5. Knowledge of Male Promotion Project

As shown in Table 6, half of the respondents surveyed in the treatment areas had heard of the male promotor. Among those who had heard of the male promotor, 39 percent had attended at least one meeting (the average number of meetings attended was 3).

The majority of the men heard about the meetings from the male promotor or the community contact man. The community contact man was an important asset to this project since he was able to remind men when the meetings would be held and arrange for the opening of the community buildings where the meetings were held.

The men who attended these meetings were young (average age 25 years), over 80 percent had some primary education and half were in some type of union and half were single.

The session on sexually transmitted diseases was reported to be the most useful followed by FP methods, child growth and development and reproductive physiology. All but 4 of the men reported that they learned something from the sessions.

The findings from this study show that men are not as opposed to FP as was previously believed and are willing to participate in educational sessions about family planning and related topics.

Although contraceptive use was higher in the control area, overall contraceptive use had increased from the time of the 1983 KAP survey.

ACKNOWLEDGEMENTS

Several people contributed to the development of this project who we would like to acknowledge: Mr. Stephen Purser, consultant, who developed the program; Mr. Wallace James, the male promotor; the five community contact men Mr. Leonard Wallace, Mr. Charleston Julien, Mr. Eddie Oscar, Mr. Washington Jones and Mr. Franklin Jervier; the team of interviewers and all other persons at the Ministry of Health who provided assistance in the completion of this project.

REFERENCES

1. Gulhati, Kaval. 1986. "In the Hands of Men." People, 13(1): 3-4.
2. Heisler, Douglas, Gary L. Lewis. 1985. The Dominica Male Family Planning Survey Country Report 1982. Dominica Planned Parenthood Association and Westinghouse Public Applied Systems. 66 pp.
3. Lewis, Gary L., Douglas Heisler. 1985. The Barbados Male Family Planning Survey Country Report 1982. Barbados Family Planning Association and Westinghouse Public Applied Systems. 68 pp.
4. Lewis, Gary L., Douglas Heisler. 1985. The St. Kitts-Nevis Male Family Planning Survey Country Report 1982. St. Kitts-Nevis Family Planning Association and Westinghouse Public Applied Systems. 70 pp.

TABLE 1
SUMMARY OF SERVICE ACTIVITIES FOR THE MALE PROMOTION PROJECT
OCTOBER 1984 - DECEMBER 1985

	<u>Clifton</u>	<u>LaPlaine</u>	<u>Newtown</u>	<u>Soufriere</u>	<u>Warner</u>	<u>Total</u>
<u>Series No. 1</u>						
Average # men attending sessions	7	8	6	9	8	8
Condoms distributed	100	200	40	160	125	625
Outside contacts ¹	0	0	0	0	0	0
<u>Series No. 2</u>						
Average # men attending sessions	6	7	6	7	7	7
Condoms distributed	160	200	40	100	200	700
Outside contacts	13	25	16	8	7	69
<u>Series No. 3</u>						
Average # men attending sessions	6	6	8	6	7	7
Condoms distributed	100	200	350	200	150	1050
Outside contacts	5	0	17	12	22	56
<u>Series No. 4</u>						
Average # men attending sessions	8	7	7	8	7	7
Condoms distributed	300	400	500	500	200	1900
Outside contacts	22	8	0	20	13	63
<u>Series No. 5</u>						
Average # men attending sessions	7	7	7	10	8	8
Condoms distributed	300	300	200	800	400	2000
Outside contacts	7	10	10	36	10	73

¹No data available for this period

TABLE 2

SOCIODEMOGRAPHIC CHARACTERISTICS OF THE STUDY POPULATION

	<u>Total</u>	<u>Treatment</u>	<u>Control</u>	<u>p value</u>
Sample Size (n)	569	289	280	
Mean age	27.4	27.5	27.4	.480
<u>Education</u>				
No schooling	1.8	1.7	1.8	.390
Primary	81.5	82.0	81.1	
Secondary	13.4	13.7	13.6	
Post secondary	2.8	2.1	3.6	
No response	0.5	1.0	0.0	
<u>Marital Status</u>				.005
Married, living in union	33.4	38.8	27.9	
Visiting relationship	22.8	17.3	28.6	
Single	42.9	43.3	42.5	
Widowed, separated, divorced	0.2	0.3	0.0	
No information	0.7	0.0	1.1	
<u>Occupation</u>				.001
Agriculture	32.0	23.9	40.4	
Laborer/production workers	40.4	46.4	34.3	
Clerical/sales	4.4	2.4	6.4	
Professional	4.4	5.2	3.6	
Service	4.7	6.2	3.2	
Student	2.6	1.7	3.6	
Unemployed	11.4	14.2	8.6	
<u>Religion</u>				.001
Catholic	59.8	73.0	46.1	
Methodist	7.6	1.4	13.9	
Other	24.1	15.6	32.8	
None/no response	8.6	10.0	7.1	
<u>Number of Living Children</u>				.430
0	48.7	46.4	51.1	
1-2	27.4	27.3	27.5	
3-4	11.4	12.1	10.7	
5+	11.4	13.5	9.3	
<u>Mean number children</u>	1.5	1.7	1.3	.023

TABLE 3
 KNOWLEDGE OF THE REPRODUCTIVE SYSTEM AND SEXUALLY
 TRANSMITTED DISEASES (STD'S)

	<u>TOTAL</u>	<u>TREATMENT</u>	<u>CONTROL</u>	<u>p value</u>
<u>Sample Size</u> (n)	569	289	280	
Percentage who:				
Know pregnancy takes place during ovulation	78.2	81.7	74.6	.05
Know a girl/woman can get pregnant the first time she has sex	77.0	75.8	78.2	.5
Know that ovulation occurs 2 weeks before the next menstrual cycle	33.9	27.7	40.4	.002
Know sperm are not produced on a cyclic basis	64.1	66.4	61.8	.3
Know that a pregnant woman with syphilis can cause harm to her child	74.3	82.0	66.4	.001
Know condoms can help prevent STDs	85.4	91.7	78.9	.001
Know that women can have an STD and not know it	84.7	86.5	82.9	.3
Know that if syphilis goes untreated it could lead to death	24.1	31.1	16.8	.001

TABLE 4
KNOWLEDGE AND ATTITUDES OF FAMILY PLANNING METHODS

<u>Sample Size (n)</u>	<u>Total</u> 569	<u>Treatment</u> 289	<u>Control</u> 280	<u>p value</u>
<u>Percentage who know:¹</u>				
Condom	98.8	99.7	97.9	.05
Pill	94.4	93.2	95.5	.27
Injection	85.8	88.6	82.9	.04
Withdrawal	83.3	86.2	80.4	.008
IUD	78.7	78.2	79.3	.03
Female sterilization	69.9	70.9	68.9	.32
Rhythm	66.3	73.0	59.3	.002
Diaphragm	37.3	41.5	32.9	.005
Vasectomy	38.7	36.4	40.4	.46
Foam/cream	31.8	29.4	34.3	.11
At least one method	99.5	99.7*	99.3	.62
Mean number of methods known	5.4	5.4	5.3	.3999
<u>Percentage who believe the decision to use FP should be made by:²</u>				
the man alone	8.3	5.6	11.2	.0933
the woman alone	10.8	10.4	11.2	
both partners	79.5	82.3	76.6	
Neither	1.4	1.7	1.1	

¹Multiple responses were allowed: percentages may exceed 100 percent.

²Based on those respondents who knew at least one FP method

TABLE 5
USE OF FAMILY PLANNING AMONG MEN IN UNION¹

	<u>Total</u>	<u>Treatment</u>	<u>Control</u>	<u>p value</u>
<u>Sample Size (n)</u>	320	162	158	
<u>Used FP at last coitus</u>				.004
Yes	50.0	41.4	58.9	
No	44.4	50.6	38.0	
No information	5.6	8.0	3.2	
<u>Use of FP at last sexual relations by marital status</u>				
Married	51.3	49.1	53.5	.857
In union	41.7	26.3	57.1	.005
Visiting relationship	56.3	50.0	62.5	.339
<u>Last method used:</u>				.001
Condom	15.6	16.0	15.2	
Pill	13.1	6.2	20.3	
Withdrawal	8.8	5.0	12.0	
Female sterilization	5.9	7.4	4.4	
Injection	4.7	4.9	4.4	
Other ²	1.9	1.2	2.5	
Not using	50.0	58.6	41.1	

¹Based on respondents who reported to be married, living in union or in a visiting relationship.

²Includes rhythm, IUD and diaphragm.

TABLE 6
KNOWLEDGE OF MALE PROMOTOR PROJECT
(TREATMENT AREAS ONLY)

	<u>N=289</u>	<u>%</u>
<u>Ever heard of male promotor</u>		
Yes	147	50.9
No	141	48.8
No information	1	0.3
<u>Attended male promotor meeting¹</u>		
Yes	58	39.5
No	88	59.5
No information	1	0.7
<u>Number meetings attended</u>		
1-2	29	50.0
3-4	4	6.9
5+	22	37.9
Don't remember	3	5.2
Mean number: 3		
<u>Source of Information about meeting</u>		
Male promotor	24	42.4
Community contact man	18	31.0
Friend/other man who attended meeting	9	15.5
Other	7	12.0
<u>Session which was most useful</u>		
Sexually transmitted diseases	18	31.0
Family planning methods	17	29.3
Child growth and development	11	19.0
Reproductive physiology	6	10.3
All sessions	3	5.2
Don't know	3	5.2
<u>Reasons why never attended a meeting²</u>		
Not in area at time of meeting	18	20.9
No information about meeting	12	14.0
No time available	27	31.4
Other	28	32.6
Don't know	1	1.2

¹Percentages are based on respondents who had heard of male promotor

²Percentages are based on the 88 men who had heard of the male promotor but never attended a meeting.

- 84 -

PART 3

STRATEGIES FOR REDUCING ADOLESCENT FERTILITY

EFFECT OF FAMILY LIFE EDUCATION ON
KNOWLEDGE, ONSET OF SEXUAL ACTIVITY AND
CONTRACEPTIVE USE



MINISTRY OF EDUCATION
BASSETERRE, ST. KITTS AND NEVIS

EFFECT OF FAMILY LIFE EDUCATION ON
KNOWLEDGE, ONSET OF SEXUAL ACTIVITY AND
CONTRACEPTIVE USE

INTRODUCTION

The high fertility rates, especially among teenagers, in the Caribbean has been a cause for concern for a number of years. Although adolescent childbearing is not a recent phenomenon, the situation in recent times has assumed larger proportions because of the increasing number of women entering the fertile age group each year.

Given the negative health, social, and economic consequences of adolescent childbearing, there has been widespread discussion of ways of controlling the problem. One of the approaches advocated is family life education (FLE) including sex education. However, there is debate as to where this education should take place. Parents who, because of the hours of contact with their children, should be better placed to provide this information are in many cases unable to offer the information. It has been found that parent-child communication about human sexuality is at best limited, either because parents themselves lack the necessary information or because they are not close friends of their adolescent children (1). They therefore have difficulty communicating with them on such sensitive subjects. It would seem then that the school would have an important role to play in providing information on human sexuality and related subjects.

In spite of critics who suggest that in-school sex education will encourage teenagers to initiate sexual activity at an early age, efforts to include FLE in the school curriculum have been ongoing in the Caribbean for at least a decade. St. Kitts and Nevis, where births to women under 20 years of age was reported at 35 percent in 1977 (2), were early pioneers in this area. Since 1978 the Ministry of Education has offered some of the less sensitive components of the subject in its high schools; however, no systematic assessment of the impact of such a program had ever been undertaken.

In 1983 a project developed by the Ministry of Education, Health and Community Affairs, St. Kitts and Nevis, in collaboration with Tulane University under its Caribbean Family Planning Operations Research Project was implemented. The project was designed to assess the effect that exposing high school teens to FLE, including sex education, would have on

1. influencing the onset of sexual activity;
2. increasing their knowledge about contraceptives; and
3. increasing the use of contraceptives among those teens who were sexually active.

PROJECT DESIGN

To assess the effect of sex education on a school population, a quasi-experimental design was employed. Since random assignment of students was not feasible this design made it possible to compare an experimental (treatment) group with a similar, but not necessarily equivalent group of students while ensuring a high level of validity.

The six government high schools in St. Kitts and Nevis were assigned to one of two groups - Treatment or Control.

Treatment:	Basseterre Jn. H.S.	(St. Kitts)
	Cayon H.S.	(St. Kitts)
	Charlestown H.S.	(Nevis)
Control:	Basseterre Sn. H.S.	(St. Kitts)
	Sandy Point H.S.	(St. Kitts)
	Gingerland H.S.	(Nevis)

Students 12 to 15 years of age (those in Forms 1-4*) in the treatment schools who had at least two available sessions per week in their timetable were designated to receive 30 weeks of instruction. Instruction was based on a special curriculum developed with the assistance of a consultant and with inputs from guidance counsellors, classroom teachers and senior education officials. The curriculum was designed to cover four units of study:

1. Human reproduction
2. Physical Growth and Development
3. Emotional Development
4. Issues and Values in Adolescent Sexuality

EVALUATION METHODOLOGY

Prior to the start of the education program in October 1983, select students from the six schools completed a self-administered questionnaire. The questionnaire, administered during class time and under examination conditions, was designed to assess: first, students'

*Forms 1-4 in the British education system is equivalent to Grades 5-8 in the USA system.

knowledge about the physical changes associated with puberty in males and females, reproductive anatomy and physiology and contraceptives; second, their attitudes toward relationships between male and female, childbearing and dating; and third, their behaviour in terms of sex and contraceptive use.

The same questionnaire was administered again (follow-up survey) at the end of the school year (June 1984) to the same cohort of students. Scheduling difficulties, however, made it necessary to conduct a second round of the followup survey at the start of the succeeding school year, September 1984. Those students who did not complete the questionnaire in June were given an opportunity to do so in September.

Students surveyed in the treatment schools were those scheduled to receive the instruction, while students in the control schools who qualified on the basis of age and grade level and who were not scheduled to receive any type of FLE during the 30 week period were surveyed.

Baseline survey data were collected from 2123 students - 1275 from treatment schools and 848 from control schools. Sixty-six percent of these students also completed a followup survey questionnaire - 929 and 479 from treatment and control schools respectively.

Since assignment of students to groups was not random, slight differences between the treatment and control schools on age and sex composition were observed. Multiple logistic regression analysis was used to control for the possible effect of these differences. Any significant changes found in the treatment group between baseline and followup surveys can therefore be attributed to the intervention.

FINDINGS AND DISCUSSION

1. Socio-Demographic Characteristics

The two groups of students were similar on some of the sociodemographic variables. Because of the organization of the high school system small differences were observed in the age, sex and form (grade level) distribution.

As indicated in Table 1, there was a 1-year difference in the mean age of students in the treatment and control schools; students in the control schools were one year older than those in the treatment schools. The sample of students from the treatment schools included 10 percent more boys than girls, while the sample from the control schools included approximately 10 percent more girls than boys.

Household composition and guardianship were very similar. Between 45 and 49 percent of students lived in a single-parent extended household; fathers were present in some 25 percent of the households.

The majority of students (more than 80 percent), liked being in school. The reasons given include: opportunity to learn generally or to learn a special subject; the games and sporting activities; and the opportunity to make friends. Most of them (between 66 and 76 percent) read or watch television during their leisure time and another 58 to 64 percent participate in sports activities.

2. Knowledge

Students knowledge was tested in four subject areas - puberty, reproductive anatomy and physiology and contraception. Changes in

knowledge in all four subject areas were observed in the treatment group after the one year of instruction. The most significant changes were found for the questions which tested knowledge of reproductive anatomy and physiology and contraceptive methods. (Table 2 and 3)

3. Sexual Activity

Exposure to the education did not seem to affect students' sexual behavior or contraceptive behavior to any significant extent. Although more students in the treatment schools than in the control schools were sexually active when surveyed (44 vs. 39 percent at the baseline survey and 40 vs. 32 percent at the followup survey) the difference was not statistically significant (Table 4). Exposure to the education did not seem to influence the onset of sexual activity.

A significantly higher percentage of boys than girls in both groups and for all age groups reported having had sex. Overall, between 82 and 89 percent of the boys compared with 8 percent of the girls from both treatment and control groups reported that they had had sex.

4. Contraceptive Use

Students who were sexually active were asked if they had used a contraceptive the first time they had sex. Between 14 and 23 percent of the sexually active students in treatment and control groups reported using a contraceptive. The condom was reported to be the most widely used method by both groups of students. When asked

what method they had ever used, more of the students in the treatment than in the control group had used the pill. The condom and withdrawal were more widely used by students in the Control group (38 and 16 to 24 respectively). No significant difference in contraceptive behavior was observed in the treatment group as indicated in Table 4, suggesting that the education did not affect use of contraceptives among sexually active teens.

This project was designed to assess the influence of a family life education program (including sex education) on sexual activity and on contraceptive knowledge and use in teenagers of high school age. The findings lead one to conclude that the education program significantly increased students' knowledge about most contraceptives and about the anatomy and physiology of the reproductive system. It did not seem to influence the onset of sexual activity or to increase the use of contraceptives among those teens who were sexually active.

ACKNOWLEDGMENTS

Special thanks to: the Caribbean Family Planning Affiliation (CFPA) for providing technical assistance in training the teachers and in developing the curriculum; the principals and senior education officials for their active support and cooperation; and the guidance counsellors, and specialist teachers for their assistance with the instruction and data collection.

REFERENCES

1. Jagdeo, Tirbani P. 1984. Teenage Pregnancy in the Caribbean. International Planned Parenthood Federation, Western Hemisphere Region, Inc., New York.
2. Clipson, Paul T. "Adolescent Fertility in the English-Speaking Caribbean." A Report prepared for the Regional Development Office (Caribbean) of the USAID. September 1981.

TABLE 1
SOCIO-DEMOGRAPHIC CHARACTERISTICS OF STUDY GROUPS
BEFORE AND AFTER EDUCATION PROGRAM

	TREATMENT		CONTROL	
	PRE	POST	PRE	POST
<u>Sample Size (n)</u>	1275	929	848	479
Mean age (in years)	13.2	13.9	14.2	14.3
<u>Sex</u>				
Male	52.3	51.8	43.6	41.1
Female	47.7	48.1	56.4	58.7
No information	0.0	0.1	0.0	0.2
<u>Guardianship</u>				
Both parents	25.4	21.3	32.1	26.1
One parent	49.4	53.6	45.4	48.9
Other than parent	24.1	23.4	21.9	24.0
No information	1.2	1.6	0.6	1.0
<u>Feelings About School</u>				
Like	80.6	79.1	87.5	76.2
Dislike	1.7	1.4	1.7	2.1
No information	17.7	19.5	10.8	21.7
<u>Leisure Activities¹</u>				
Reading	66.2	69.5	76.4	70.8
TV viewing	66.4	67.9	71.1	67.6
Sports	57.7	61.7	64.4	62.6
Visit friends	42.9	46.8	52.0	45.5
Nothing special	23.1	24.8	20.3	21.1
Other	22.0	23.9	24.9	16.9

¹Multiple responses allowed. Total may exceed 100 percent of n.

TABLE 2

KNOWLEDGE SCORES FOR BOYS AND GIRLS IN TREATMENT AND CONTROL
GROUPS - BEFORE AND AFTER EDUCATION PROGRAM

	TREATMENT				CONTROL			
	PRE		POST		PRE		POST	
	M	F	M	F	M	F	M	F
<u>Sample Size (n)</u>	667	608	480	444	370	478	195	277
<u>Knowledge About:</u>								
<u>Changes at Puberty</u>								
Mean score	8.9	8.8	10.5	10.6	9.1	8.3	9.6	9.3
SD	3.4	3.5	2.3	2.4	3.3	4.1	3.3	3.3
<u>Reproductive Anatomy and Physiology</u>								
Mean score	3.0	2.7	5.1	5.4	4.1	3.3	4.6	4.5
SD	1.9	1.9	2.7	2.7	2.3	2.2	2.4	2.9
<u>Pregnancy/Contraception</u>								
Mean score	6.8	7.1	7.7	8.3	7.4	7.4	7.8	7.4
SD	2.3	2.2	2.5	2.1	2.4	2.5	2.3	2.8

TABLE 3
SPONTANEOUS AND PROMPTED KNOWLEDGE OF CONTRACEPTIVE METHODS

	TREATMENT		CONTROL		p value
	PRE	POST	PRE	POST	
<u>Sample Size (n)</u>	1275	929	848	479	
<u>Spontaneous</u>					
Condom	34.4	51.1	49.2	46.6	.0000
Pill	27.5	48.4	46.8	49.9	.0000
Withdrawal	5.6	14.3	13.4	15.7	.0001
Spermicides	3.0	18.3	9.7	13.4	.0000
Rhythm	1.0	7.2	4.8	6.5	.0000
IUD	1.6	11.6	4.6	4.8	.0000
Tubal ligation	1.3	3.9	3.4	5.4	ns
Abstinence ¹	5.0/7.1	8.0/8.9	6.6/10.0	6.3/6.9	ns
Injection	1.7	2.6	3.4	3.8	ns
Other	0.2/6.4	2.4/6.6	0.8/ 6.6	4.6/4.4	
<u>Prompted</u>					
Condom	40.1	57.1	53.4	57.2	.02
Pill	58.2	64.7	70.2	66.0	ns
Withdrawal	27.3	31.4	28.3	33.4	ns
Spermicides	18.0	36.3	21.6	24.2	.02
Rhythm	25.6	27.1	24.4	26.9	ns
IUD	14.9	31.3	15.0	16.5	.004
Tubal ligation	14.8	24.0	19.8	24.8	ns
Abstinence	36.9	46.0	46.3	44.9	ns

ns = not significant

¹Reported as a method used by both males and females

TABLE 4

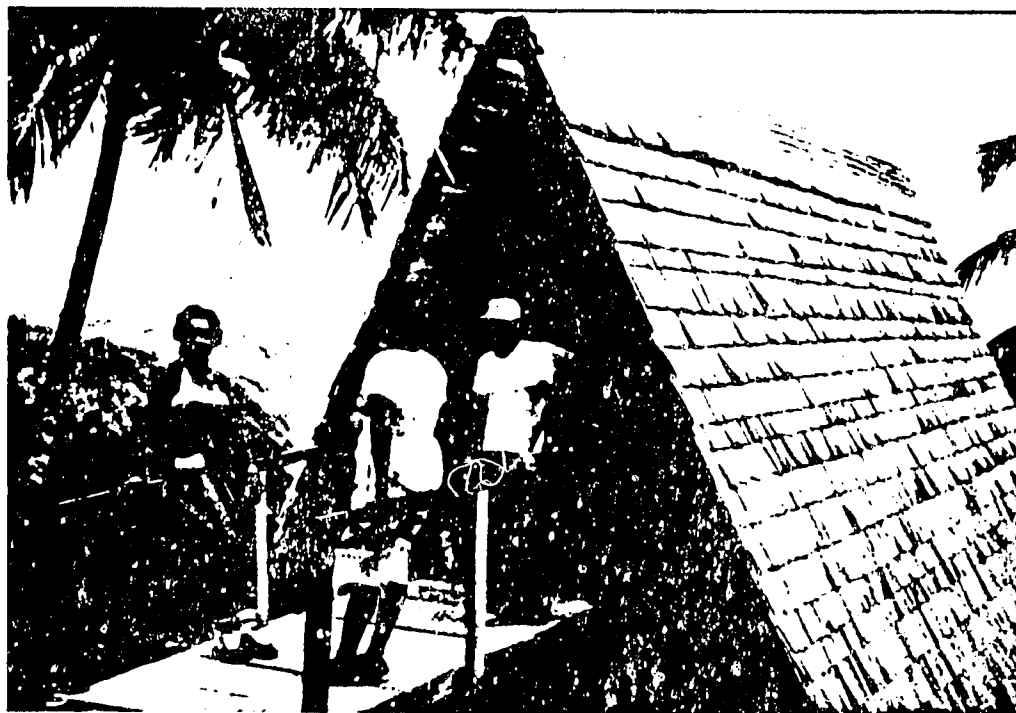
SEXUAL BEHAVIOUR AND CONTRACEPTIVE USE AMONG STUDENTS WHO HAVE
HAD SEX, BY GROUP, BEFORE AND AFTER EDUCATION PROGRAM

	<u>TREATMENT</u>		<u>CONTROL</u>		p value
	PRE	POST	PRE	POST	
<u>Sample Size (n)</u>	<u>1275</u>	<u>929</u>	<u>848</u>	<u>479</u>	
<u>Ever had sex</u>					
Yes	43.8	39.9	33.8	31.5	NS
<u>Used Contraceptive at First Sex¹</u>	<u>(n=558)</u>	<u>(n=371)</u>	<u>(n=329)</u>	<u>(n=151)</u>	
Yes	23.1	13.5	19.1	14.7	NS
No/DK	76.8	86.5	80.9	85.3	
<u>Method Used²</u>	<u>(n=129)</u>	<u>(n= 50)</u>	<u>(n= 63)</u>	<u>(n= 22)</u>	
Condom	27.1	28.0	50.8	18.2	NS
Withdrawal	7.0	2.0	12.7	18.2	
Pill	3.9	14.0	9.5	-	
Other	0.8	2.0	-	-	
DK/No information	61.2	54.0	27.0	63.6	
<u>Method Ever Used¹</u>	<u>(n=558)</u>	<u>(n=371)</u>	<u>(n=329)</u>	<u>(n=151)</u>	
Pill	35.5	23.7	19.1	23.8	NS
Condom	17.4	17.6	38.8	38.4	
Withdrawal	9.9	8.2	15.9	24.5	
Rhythm	12.9	9.4	6.5	16.6	
Spermicides	9.5	7.6	8.1	8.6	

¹ Applies to all respondents who have had sex. Multiple responses received; total may therefore exceed 100 percent of n.

² Based on respondents who used contraceptives at first sexual contract.

FEASIBILITY OF OPERATING ADOLESCENT CLINICS



MINISTRY OF HEALTH

ROSEAU, DOMINICA

FEASIBILITY OF OPERATING ADOLESCENT CLINICS

INTRODUCTION

Dominica, a member of the lesser Antilles group of islands in the Eastern Caribbean, has a 1981 census population of 73,795. Although Dominica has experienced recent declines in fertility, teenage pregnancies continue to be a major health concern. The crude birth rate estimated at 36 per 1000 in 1970, has dropped during the past decade to 20.8 per 1000 (as of 1984). The total fertility rate (average number of live births per woman) was estimated to be 3.4 in 1980 and is expected to continue to decline at a rate of 3 percent per annum (1). Although the fertility rates are declining, 26 percent of all live births in 1984 were to teenagers 19 years and younger, the majority of whom were unmarried (2).

Family planning (FP) services in Dominica are available to teenagers upon request at almost all health centers and clinics throughout the country. However, recent statistics illustrated the necessity of making these services more accessible to the target population at risk of unwanted pregnancy.

In view of the teenage pregnancy problem, the Ministry of Health initiated plans for the establishment of youth clinics with funding from the United Nations Fund for Population Activities (UNFPA) and International Planned Parenthood Federation (IPPF).

In September 1983, in collaboration with the Ministry of Health, IPPF and Tulane University, an operations research (OR) project was designed to test the feasibility of operating teen clinics. While the primary goal of the project was to reduce teenage pregnancy in Dominica, the specific objectives of the youth clinics were:

1. To increase basic knowledge of the reproductive process among the teenage population.
2. To encourage teens to be responsible with regard to sexual activity.
3. To increase teens' knowledge of contraceptive methods.
4. To increase the use of contraceptive methods among teens who were already sexually active.
5. To assess the feasibility of establishing teen clinics in Dominica.
6. To determine whether teen clinics are an effective means of achieving objectives 1-4 mentioned above.

PROJECT DESIGN

The project was designed to test two alternative strategies (treatments) for the establishment of teen clinics. A total of six communities, three densely populated and three rural, were chosen for the study. Each community was assigned to one of three treatment groups with representation from one rural and one urban community in each group.

The treatment groups for the project were as follows:

Group 1: Separate Youth Clinic Facility

These were established as physically separate facilities from existing health centers. They were open two days per week for two hour sessions to address the health problems of teen clients. The services to be provided included: family life education, family planning counseling, distribution of contraceptive methods and general health care. They were staffed by nurses with family planning experience.

Group 2: Youth Clinics in Existing Health Centers

These clinics differed from the Group 1 clinics in that they operated from existing health centers. The youth clinics were not set apart by physical space but rather by the hours the clinic was open for teen services only.

Group 3: Control

There were no services provided exclusively for teens in these communities but they did have access to family planning services at the local health center or clinic.

EVALUATION METHODOLOGY

The evaluation of this project was to be based on before and after surveys as well as service statistics from the teen clinics. However, in June 1985 a decision was made to terminate service activities 6 months earlier than scheduled. This decision to terminate the project early was based on the fact that two of the primary objectives (to measure an increase in knowledge of contraceptive methods and to measure an increase in use of FP among sexually active teens) were unlikely to be met since the major activity of the clinics had been family life education

sessions. Family planning and general health care services were not a routine part of clinic activities.

A survey of teens in these six Dominican communities was conducted between April and August 1984. The survey was to serve as a basis of comparison in evaluating the results of this project. While the latter proved to be unsuccessful, the baseline survey still provides valuable insights into the beliefs and attitudes of teens towards sex and contraceptives.

The data were collected from a random sample of male and female teens ages 13 through 19 in each of the six communities. A total of 863 teens were interviewed: 302 males and 561 females.

FINDINGS AND DISCUSSION

The baseline survey was designed to assess the knowledge, attitudes and practices of teens in the following areas: family life education; the reproductive process; contraceptive methods and their use; and sexual activity among teens.

1. Socio-demographics

The mean age of the respondents was 16 years and the majority were unmarried. Approximately one-fifth of the female respondents 17-19 years of age reported to have at least one child. This was true for 8 percent of the 15-16 year olds and 4 percent of the 13-14 year olds. Four percent of the male respondents 17-19 years of age reported to have one child.

Data on level of education is somewhat incomplete because of the way the question was asked. Respondents who were not currently enrolled in school were classified as such. Data from the 1980-81

census report that 64 percent of males 15-19 years of age and 76 percent of females in the same age group have completed at least 10 years of school (3). Although our data are incomplete, we can assume that the majority of teens have at least 10 years of education.

2. Misconceptions regarding the reproductive process

Generally, both male and female teens in the 17-19 year old age group had a better understanding of the reproductive process than those in the younger age groups. Although knowledge was highest among the older teens, over 90 percent of all teens did not know when a girl was most likely to get pregnant (see Table 2).

3. Knowledge of family planning

As shown in Table 3, over 90 percent of all teens knew at least one family planning method and the mean number of methods known was five. On the average, both sexes, ages 13-14 years, knew fewer methods than those in the other two groups.

Knowledge of family planning methods differed among the sexes. Females were more knowledgeable than males about the pill and the injection. Knowledge of each method increased with age among both males and females.

4. Sexual Experimentation

As shown in Table 4 the percentage of teens who reported to ever have had sex was quite different for males and females: 78 percent of all males as compared to 46 percent of all females. The

proportion of males of all ages who reported to ever have had sex was higher than among female respondents of the same ages.

Among the respondents who said they had had sex, a significantly higher percentage of females than males had used a family planning method during their first sexual encounter; see Table 5. The methods used most often among both sexes were withdrawal followed by the condom.

Respondents were also asked if they had used something to prevent pregnancy the last time they had had sex. Over half said they used no preventative measures or could not remember. Among those who reported having used a method, withdrawal and the condom were the most frequently mentioned.

Differences were observed among the respondents' attitudes and behavior regarding premarital sex.

Sixty percent of all males and 77 percent of the females disapproved of premarital sex. When these attitudes were compared with sexual behavior over half of the males who reported to have had sex disapproved of premarital sex and nearly two-thirds of the females held the same belief (see Table 6).

In addition, when teens were asked what the best age was to start having sex, the teens who had already had sex reported an age 2 years younger than the age given by those who had never had sex; see Table 7.

The purpose of this survey was to determine the level of knowledge concerning family planning and the reproductive process among teens in Dominica. The results indicate that knowledge of the reproductive process is low: less than 10 percent could correctly

identify the time of month when a girl is most likely to get pregnant.

A significant proportion reported to be sexually active but few used family planning methods. The majority who employed a method used withdrawal. These data suggest that teens may not have access to more effective contraceptive methods or a lack of knowledge regarding their sexuality and the responsibilities this behavior brings.

Over three-quarters of the respondents thought sex education should be taught in the schools and that they wanted more information on sexually transmitted diseases and contraceptive methods. Findings from other studies indicate that there is no increase in sexual activity once sex education classes have been initiated despite fears by parents and school officials (4).

ACKNOWLEDGEMENTS

We wish to thank the Ministry of Health and IPPF for their assistance in this project. Special thanks to Ms. Jean Jacob and Ms. Cynthia John who coordinated activities; and to the team of interviewers who located the respondents for the baseline survey.

REFERENCES

1. Bouvier, L., Population Estimates 1981. Population Reference Bureau, Washington, D.C.
2. Ministry of Health, Statistics Department, Commonwealth of Dominica.
3. 1980-81 Population Census of the Commonwealth Caribbean: Dominica. Volume 1.
4. Zelnik, M. and Y.J. Kim. 1982. "Sex Education and Its Association with Teenage Sexual Activity, Pregnancy, and Contraceptive Use." Family Planning Perspectives, 14(3): 117-126.

TABLE 1

SOCIODEMOGRAPHIC CHARACTERISTICS OF THE STUDY POPULATION

	Males			Females		
	<u>13-14</u>	<u>15-16</u>	<u>17-19</u>	<u>13-14</u>	<u>15-16</u>	<u>17-19</u>
<u>Sample Size (n)</u>	64	98	140	136	188	237
<u>Marital Status</u>						
Single	100.0	98.0	99.3	98.5	99.5	97.5
Union	0.0	0.0	0.0	0.0	0.0	1.7
No data	0.0	2.0	0.7	1.5	0.5	0.8
<u>Number children</u>						
0	100.0	100.0	96.4	96.3	92.0	77.2
1	0.0	0.0	3.6	1.5	6.4	19.0
2	0.0	0.0	0.0	0.0	0.0	2.5
No data	0.0	0.0	0.0	2.2	1.6	1.3
<u>Respondent's education</u>						
Primary 1-7	37.5	13.3	2.1	30.1	5.3	0.8
Secondary 1-3	48.4	36.7	7.9	62.5	37.8	5.1
Secondary 4-6	3.1	14.3	16.3	1.5	15.4	21.1
Extramural classes	0.0	0.0	0.7	0.0	1.1	1.3
Technical college	1.6	2.0	9.3	0.0	2.7	3.0
Not in school	4.7	27.6	55.0	5.1	29.8	59.5
No data	4.7	6.1	8.6	0.7	8.0	9.3

TABLE 2

MISCONCEPTIONS REGARDING CONCEPTION

	Males			Females		
	<u>13-14</u>	<u>15-16</u>	<u>17-19</u>	<u>13-14</u>	<u>15-16</u>	<u>17-19</u>
<u>Sample Size (n)</u>	64	98	140	136	188	237
<u>Percentage that:</u>						
Believe a girl can-not get pregnant the first time she has sex	67.2	53.1	49.3	63.3	64.9	43.5
Believe a girl will not get pregnant unless she has an orgasm	62.5	59.2	55.0	85.3	74.5	65.8
Believes a girl must have sex frequently in order to get pregnant	64.1	34.7	31.4	61.8	40.4	33.3
Does not know when a girl is most likely to get pregnant ¹	98.4	99.0	94.3	98.5	96.3	91.6
Does not know that fertilization takes place with sperm from a boy and egg from a girl	20.3	12.2	10.7	22.1	6.4	9.3
Believes a girl cannot get pregnant after her first period starts	31.2	17.3	12.1	20.6	13.8	7.2

¹Respondents were asked if they knew when this was most likely to occur. The correct answer was two weeks before her next period.

TABLE 3
KNOWLEDGE OF FAMILY PLANNING METHODS

	Males			Females		
	<u>13-14</u>	<u>15-16</u>	<u>17-19</u>	<u>13-14</u>	<u>15-16</u>	<u>17-19</u>
<u>Sample Size (n)</u>	64	98	140	136	188	237
<u>Percentage who know:</u>						
Condom	78.1	96.9	95.0	71.3	85.1	94.5
Pill	59.4	75.5	81.4	69.9	79.3	90.7
Rhythm	15.6	32.7	34.3	22.8	26.1	48.1
Injection	59.4	59.2	69.3	60.3	66.0	82.3
Withdrawal	32.8	57.1	75.7	22.8	37.2	66.2
Tubal ligation	34.4	49.0	63.6	47.8	67.0	81.0
Vasectomy	17.2	30.6	48.6	19.9	32.4	42.6
Foam	17.2	28.6	43.6	12.5	21.8	40.9
IUD	15.6	23.5	47.9	19.9	38.3	71.3
At least one method	90.6	100.0	97.9	91.9	97.9	99.2
<u>Mean # methods known</u>	3.6	5.1	6.3	4.0	5.1	6.9

Table 4

Sexual Experience by Age and Sex

Age	MALES			FEMALES		
	N	Ever had sex	Never had sex	N	Ever had sex	Never Had sex
13	21	57.1	42.8	62	9.7	90.3
14	43	48.8	51.2	74	23.0	77.0
15	48	79.2	20.8	85	40.0	60.0
16	50	90.0	10.0	103	40.8	59.2
17	59	83.0	17.0	91	61.5	38.5
18	42	81.0	19.0	78	69.2	30.8
19	39	92.3	7.7	68	75.0	25.0
TOTAL	302	77.8	22.2	561	46.3	53.7

TABLE 5

USE OF CONTRACEPTIVES AMONG SEXUALLY ACTIVE TEENS
BY AGE AND SEX

	Males			Females		
	<u>13-14</u>	<u>15-16</u>	<u>17-19</u>	<u>13-14</u>	<u>15-16</u>	<u>17-19</u>
<u>Number reporting to ever had sex</u>	33	83	119	23	76	161
<u>Percent using a FP method at first sex</u>						
Yes	12.1	13.3	11.8	26.1	30.3	41.6
No	78.8	68.7	73.9	56.5	64.5	54.0
DK - no information	9.1	18.1	14.3	17.4	5.3	4.3
<u>FP method used at first sex¹</u>						
Withdrawal	1	7	6	3	6	32
Condom	3	2	6	1	11	26
Pill	0	1	1	0	1	3
IUD	0	0	0	0	1	0
Foam	0	0	0	0	0	1
Rhythm	0	0	1	0	1	2
Don't remember	0	1	0	2	2	3

¹ N's are reported and are based on those respondents who said they used a method at first sex.

TABLE 6
PERCENTAGE OF TEENS WHO DISAPPROVE OF PREMARITAL SEX BY SEX AND
AGE; ACCORDING TO SEXUAL EXPERIENCE

	Total		Ever Had Sex		Never Had Sex	
	N	%	N	%	N	%
Males	302	59.6	235	57.0	66	69.7
13-14	64	62.5	33	54.5	31	71.0
15-16	98	65.3	83	63.8	15	73.3
17-19	140	54.3	119	52.9	21	61.9
Females	561	77.5	260	66.1	301	87.4
13-14	136	77.9	23	60.9	113	81.4
15-16	188	79.8	76	67.1	112	88.4
17-19	237	75.5	161	66.4	76	94.7

TABLE 7
BEST AGE FOR FIRST INTERCOURSE BY SEX AND CURRENT AGE
ACCORDING TO SEXUAL EXPERIENCE¹

	Ever Had Sex		Never Had Sex	
	N	Age	N	Age
Males	214	15.6	50	17.7
13-14	29	16.3	23	17.6
15-16	80	15.5	11	19.0
17-19	105	15.5	16	17.0
Females	222	17.2	257	19.3
13-14	20	16.4	96	19.2
15-16	62	16.8	103	19.1
17-19	140	17.6	58	19.9

¹N's are reported only for those respondents who gave a specific age.

TEEN CLINICS AND PEER COUNSELLING AS STRATEGIES FOR
COMBATting TEENAGE PREGNANCY



MINISTRY OF HEALTH
CASTRIES, ST. LUCIA

TEEN CLINICS AND PEER COUNSELLING AS STRATEGIES FOR
COMBATTING TEENAGE PREGNANCY

INTRODUCTION

St. Lucia, with an area of 233 square miles, is one of the larger islands in the English-speaking Eastern Caribbean and, like several of the other islands in the region, is characterised by high rates of population growth - a consequence of declining mortality and emigration rates and increasing birth rates.

The 1984 population was estimated at 134,066 - an 8.3 percent increase over the 1980 figure (123,773) (1). Birth rates showed a decrease between 1979 and 1980, the crude birth rate (CBR) moving from 45.0 to 29.3 per 1000, and the total fertility rate (TFR) decreased from 6.0 to 4.3 over the same period. However, since 1980, these rates have been increasing. The estimates from 1982 indicate a CBR of 32.6 and TFR of 4.9 (2).

Although these increases may be temporary, the situation gives cause for concern. More recently, the government has become interested in considering family planning as a means of reducing these rising birth and fertility rates and has, with assistance from the International Planned Parenthood Federation (IPPF), embarked on a program to upgrade health centers and to provide staff training as preliminary activities in the provision of comprehensive family planning services. It should be noted that prior to 1983 family planning in St. Lucia had been promoted largely by the Family Planning Association (FPA).

Given the status of adolescent fertility (births to women under 20 years of age accounted for 26.3 percent of the total births for 1983), (3) one of the first groups targeted has been teenagers. One of the efforts designed to address the problem of increasing births to teenage women was implemented in 1984. The Ministry of Health collaborated with Tulane University in developing a project which would test two strategies (1) adolescent health clinics operating within an existing health facility and (2) peer counselling. The impact of these strategies on adolescents' sexual knowledge, behaviour and attitudes and ultimately teenage pregnancy, would be measured, thereby providing the Ministry of Health with possible alternatives for dealing with the problem.

The specific objectives of the project were:

1. To increase awareness among teens of the risk of unplanned pregnancy.
2. To increase knowledge among teens with regard to the basic reproductive processes.
3. To foster attitudes of sexual responsibility among teens.
4. To increase knowledge of contraceptive methods and where they are available.
5. To increase the use of contraceptive methods among teens who are sexually active.

PROJECT DESIGN

To test the effectiveness of the two strategies for achieving the project objectives a quasi-experimental design was used. Four health center areas which were relatively homogeneous in terms of the socio-economic status of the population, were selected to participate in the

project. The areas selected - Marchand, Dennery, Vieux Fort and Soufriere - were as widely separated as possible in order to prevent "contamination" of the populations.

Treatment 1 - (Peer Counselling with Teen Clinic)

A combination of strategies was used in the Marchand area. Nine young adults - males and females - (18 to 23 years of age) were selected and trained as peer counsellors. These counsellors provided information and advice in the organized setting of the teen clinic as well as in informal contact with their peers.

A teen clinic, designed to offer clinical, educational and counselling services, was also established. It was to serve young persons 14 to 23 years of age who lived in the area defined as the health center catchment area. Clinical, educational and counselling services were offered on four evenings each week - Monday to Thursday - from 6 p.m. to 9 p.m. Two nurses, trained to work with young persons, were responsible for providing the services.

Treatment 2 - (Peer Counselling)

Dennery was selected to receive peer counselling services only. Eleven young adults between the ages of 18 and 23 years were selected from this area to serve as peer educators and counsellors. They provided information and counselling in a formal/organized setting as well as informal contact with other young people. Young persons requesting contraceptives were referred to the government health centre in the area.

Treatment 3 - (Teen Clinic)

A teen health clinic was established in the Vieux Fort health centre. One nurse was trained to provide education, counselling and clinical services for young people attending the clinic. Like Marchand,

services were offered four evenings each week from 5 p.m. to 8 p.m. and were available to young persons 14 to 23 years of age resident in the health centre catchment area.

Control - (Status Quo)

The Soufriere area was designated as the control area, the area in which neither intervention was introduced. Services for young people continued as before, that is, contraceptive supplies and services were available, on request, at the general health center in the area.

Project activities were implemented in July 1984 and continued for 21 months, until March 1986. Project personnel, nurses and peer counsellors in the three treatment areas were trained prior to the start of the project and, in addition, participated in a number of local and overseas training activities during the period of the project.

EVALUATION METHODOLOGY

The effectiveness of the two approaches in achieving the objectives was assessed in three ways: by (1) process evaluation, (2) service statistics and (3) survey data.

1. Process Evaluation

Two interim assessments of the project were conducted - the first after 7 months and the second after 17 months. During these assessments, qualitative information on the activities and programs was collected from project personnel (nurses and peer counsellors). These data served to highlight the strengths and weaknesses of the program and provided the basis on which changes were made to the service component of the project.

2. Service Statistics

Project personnel in the three areas routinely collected service statistics. These data provided information on the number of young people who requested some type of service, the number and type of sessions conducted, and the quantity of contraceptives distributed. Similar information was collected from the health centres in the Dennery and Soufriere areas which did not offer special teen clinic services.

3. Sample Surveys

Two sample surveys were conducted - a baseline survey between May and June 1984 and a followup survey between November 1985 and March 1986.

Baseline survey data were collected from a sample of students, 13 years of age and older, in eleven government education institutions. A total of 1500 students were selected to complete the self-administered baseline survey questionnaire.

A modified sample design was used for the followup survey conducted between November 1985 and March 1986. A random sample of the enumeration districts comprising each of the four project areas was selected. In each of the selected enumeration districts all eligible respondents (males and females, ages 14 - 19 years) in all the households were selected for interview.

Six trained interviewers (3 males and 3 females) collected information from 969 respondents in the four areas.

FINDINGS AND DISCUSSION

1. Process Evaluations

The two process evaluations conducted indicate that several adjustments to the ^{program} were necessary over the 21 months of program operations. For instance, the opening time of the clinics, the number of sessions conducted each week and the format of the sessions were modified. Program schedules and content changes varied depending on the time of the year, (there are seasonal variations in attendance due to sporting and cultural activities) and the age structure of the group. Project personnel were found to be perceptive to the need for change and willing to make adjustments as necessary.

Attrition of the peer counsellors, defined in terms of their level of participation in the organised education/counselling activities, was shown to be high. Out of 20 youth counsellors trained in April 1984 only nine (3 in Marchand and 6 in Dennery) were actively participating in the organized counselling sessions 17 months after implementation of the service activities.

This is not unusual for programs of this nature (service to the program was voluntary) and given the type of persons recruited. The recruits were, in the main, youth leaders with other responsibilities and career aspirations. All but one of the peer counsellors, however, continued to be involved in individual counselling activities outside of the clinic or youth center.

2. Service Statistics

Data available from the Marchand and Vieux Fort areas where teen clinic services were established indicate an attendance of between 44 and 55 adolescents per month. The number of sessions offered each month varied from 8 to 19 with a mean of 15 for Marchand and 14 for Vieux Fort, and was dependent on weather conditions and the number of public holidays. Over a 22 month period - July 1984 to April 1986 - a total of 250 requests for family planning services were made at the Marchand teen clinic compared with 48 at the Vieux Fort teen clinic. The quantity of contraceptives distributed also varied between the two clinics with a greater quantity being distributed from the Marchand clinic. These data are presented in Table 1.

3. Sample Survey

Analysis of the baseline survey data indicated that there was a significant difference in the age composition in the schools and that fewer students than expected lived in the communities where they attend school. Given these difficulties, the evaluation of the interventions will be based on the results of the followup survey, using a post-test only design with a comparison group.

1. Sociodemographic Profile

The four groups surveyed were fairly similar in terms of age (the mean age was 16 years), union status (between 61 and 73 percent were single) and household composition and size (mean number of persons per household was between 6 and 7). The groups were also similar on religious affiliation and radio ownership.

Some differences between the groups were noticed on sex distribution, education, occupation and television ownership (Table 2).

2. Knowledge of Contraceptives

The majority of teens (89 percent) in all four groups were aware of at least one contraceptive method. The pill and the condom were the most widely known methods. Teens in the treatment groups were more likely than teens in the control group to have heard about these methods of preventing pregnancy.

3. Sexual Activity

The percentage of teens reporting to have ever had sex was fairly similar in the four groups. Between 43 percent (area 3) and 60 percent (area 2) of the teens interviewed had had sex. Of these, between 49 percent (area 4) and 56 percent (area 1 and area 2) had been sexually active in the six months prior to the survey (Table 3).

4. Contraceptive Use

Less than 25 percent of the sexually active teens had used a contraceptive the first time they had sex. The percentage reporting use was highest in area 3 (23 percent) and lowest in area 1 (10 percent).

Reported contraceptive use in the six months prior to the survey was higher for area 1 (46 percent) and area 4 (45 percent) than for area 2 and area 3 (32 and 36 percent respectively).

The findings indicate that the type of contraceptive and the source of the method are related. CBD outlets and the pharmacy

were the main sources for condoms, while the main source for the pill was the health centre.

5. Pregnancy and Parity

Reported pregnancy rates were similar in the four areas. Between 11 and 16 percent of the teens reported having had a pregnancy or having made someone pregnant. Thirty-nine of the babies born to teens in the four areas were born since the project was implemented - 4 percent of these were to teens in area 1, 10 percent in area 2, 6 percent in area 3 and 8 percent in area 4.

6. Exposure to Project Activities

As indicated in Table 5, exposure to program activities was limited. In the areas where a teen clinic operated, less than 25 percent of the teens had heard about the program and between 5 and 9 percent had used the services. Twenty percent of teens in area 2 compared with 4 percent in area 1 had heard about the peer counselling activities and between 2 and 8 percent had come in contact with a peer counsellor.

The findings do not indicate that the interventions have affected teens' knowledge, attitudes or behavior to any significant extent. However, given that exposure to the program was limited these findings are not unusual.

ACKNOWLEDGEMENTS

We wish to thank the following persons for their cooperation and assistance in ensuring the completion of this project.

The Director of Health Services and officers of the Bureau of Health, Mrs. Una Thomas, Project Coordinator; Nurses Marie Henry, Patricia Joseph, (Marchand) and Lorna Lawrence (Vieux Fort); the nineteen peer counsellors; Ms. Madge Pierre, field worker supervisor and the team of six interviewers; and the young people who requested services and subsequently participated in the clinic, education and counselling activities as well as those who provided us with data in the baseline and followup surveys.

References

1. St. Lucia Government Statistical Office, 1984 Statistical Digest.
2. Bouvier, Leon F. 1984. St. Lucia: Yesterday, Today and Tomorrow. PRB Occasional Series. Population Reference Bureau, Inc. Washington, DC.
3. Government of St. Lucia, District and Central Registration 1984.

TABLE 1
SERVICE STATISTICS FOR TEEN CLINICS
JULY 1984 - APRIL 1986

	<u>TREATMENT 1</u> Marchand	<u>TREATMENT 3</u> Vieux Fort
<u>Total Number of Sessions</u>	336	306
Mean Number of Sessions	15	14
<u>Mean Monthly Attendance</u>	55	44
<u>Requests for Services</u>		
Family Planning	250	48
Other	1283	146
<u>Contraceptives Distributed</u>		
Condom (unit)	672	204
Pill (cycle)	427	41
Spermicidals (container)	96	-
Injection (ampule)	6	-

TABLE 2
SOCIO-DEMOGRAPHIC CHARACTERISTICS

	AREA 1	AREA 2	AREA 3	AREA 4
<u>Sample Size n</u>	284	198	357	130
<u>Mean Age (years)</u>	16.5	16.7	16.2	16.7
<u>Sex</u>				
Male	41.2	41.4	37.5	33.8
Female	58.8	58.6	62.5	66.2
<u>Union Status</u>				
Married ¹	3.9	6.1	4.7	2.3
Visiting	29.9	32.3	22.4	29.2
Single	65.8	61.1	72.8	68.5
No information	0.4	0.5	-	-
<u>Education</u>				
Primary	38.1	55.0	49.9	56.2
Secondary/Technical	60.9	44.0	47.9	43.8
Higher than Secondary	0.4	-	1.1	-
None/no information	0.8	1.0	1.1	-
<u>Occupation</u>				
Student	39.4	15.7	37.0	25.4
Employed	16.2	26.3	21.0	13.8
Unemployed	44.4	55.1	41.7	60.8
Other	-	3.0	0.3	-
<u>Mean household Size</u>	6.3	7.0	7.5	6.7
<u>Percentage Households with:</u>				
Radio	95.4	87.4	88.0	90.8
TV	82.0	42.9	58.0	63.8
Motor vehicle	28.5	25.3	36.4	18.5

¹Respondents who are legally married

TABLE 3
SEXUAL ACTIVITY AND CONTRACEPTIVE USE

	AREA 1	AREA 2	AREA 3	AREA 4
<u>Sample Size (n)</u>	284	198	357	130
<u>Ever had sex</u>				
Yes	51.1	59.6	42.6	48.5
No	48.9	40.4	57.4	51.5
<u>Used FP at First Sex</u>	<u>(n=145)</u>	<u>(n=118)</u>	<u>(n=152)</u>	<u>(n=63)</u>
Yes	10.3	20.8	23.0	17.5
No	86.9	77.1	75.7	82.5
DK/No information	2.8	2.6	1.3	-
<u>Method Used¹</u>	<u>(n=15)</u>	<u>(n=25)</u>	<u>(n=35)</u>	<u>(n=11)</u>
Condom	80.0	70.8	54.3	90.9
Pill	6.6	8.3	11.4	-
Other/can't recall	3.4	21.9	4.3	9.1
<u>Sex in Past 6 Months²</u>				
Yes	55.9	55.9	50.7	49.2
No	40.7	40.7	48.0	50.8
Can't recall/No information	3.4	3.4	1.3	-
<u>Used FP in Past Six Months¹</u>	<u>(n=81)</u>	<u>(n=66)</u>	<u>(n=77)</u>	<u>(n=31)</u>
Always	27.2	10.6	20.8	16.1
Sometimes	18.5	21.2	15.6	29.0
Never	54.3	63.6	59.7	48.4
DK/No information	-	4.5	3.9	6.5

¹Based on those who had used a method at first six months.

²Based on a number of respondents who ever had sex

TABLE 4

SOURCE AND TYPE OF CONTRACEPTIVE USED BY TEENS AT
MOST RECENT SEXUAL CONTACT

	Condom (n=65)	Pill (n=24)	Injection (n=8)	Spermicidals (n=7)	Other (n=13)
Source ¹					
CBD outlet	27.7	4.2(1)*	-	14.3(1)	-
Pharmacy	24.6	8.3(2)	-	42.9(3)	-
Health Centre	18.5	62.5(15)	87.5(7)	-	-
FPA Clinic	1.5	16.7(4)	-	14.3(1)	15.4(2)
Private MD	-	4.2(1)	12.5(1)	-	-
Other	13.8	-	-	14.3(1)	84.6(11)
Don't know	9.2	-	-	14.3(1)	-
No information	4.6	4.2(1)	-	-	-

*Due to small sample size actual number of respondents in parentheses

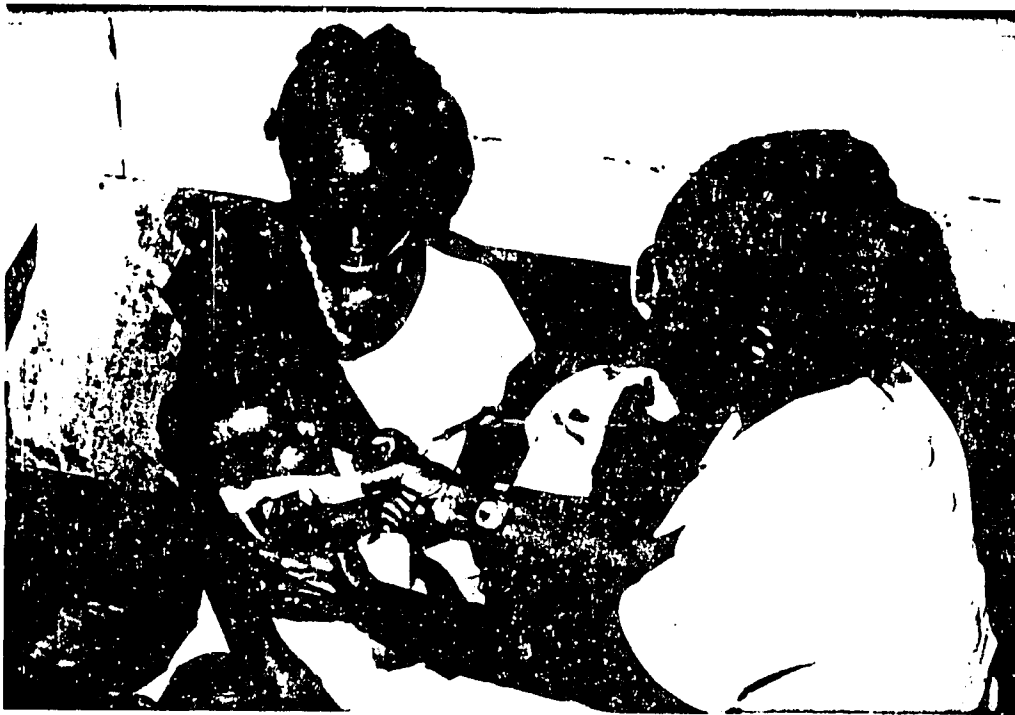
¹Based on users of each method across all four groups

TABLE 5
EXPOSURE TO PROJECT ACTIVITIES

	AREA 1 (Counselling Clinic)	AREA 2 (Counselling Only)	AREA 3 (Clinic only)
<u>Sample Size (n)</u>	284	198	357
<u>Percentage that:</u>			
- Knew about peer counsellors	3.9	20.2	N/A
- Had talk with a peer counsellor	1.8	8.1	N/A
- Knew about teen clinic	20.8	N/A	23.0
- Used a teen clinic	4.9	N/A	9.0

N/A - Not applicable. Service not available in that area

A TEST OF TWO STRATEGIES FOR DELAYING A SECOND
PREGNANCY IN TEENAGE MOTHERS



MINISTRY OF HEALTH
BRIDGETOWN, BARBADOS

A TEST OF TWO STRATEGIES FOR DELAYING A SECOND
PREGNANCY IN TEENAGE MOTHERS

INTRODUCTION

Barbados, a country of 300,000 people has a long tradition of family planning - being one of the first countries in the region to establish an official program (since 1955). This no doubt has been a major contributor to the significant decreases in birth rates and fertility rates over the past decade. Barbados currently has one of the lowest crude birth rates (18/1000) and total fertility rates (2.0 per woman) of any developing country in the world (1). In addition, contraceptive prevalence among women in union 15 to 49 years of age was 46.5 as of 1980-81 (2).

Unfortunately, these statistics tend to mask a serious population problem; that of adolescent pregnancy. The statistics from the Queen Elizabeth Hospital (QEH) - which handles more than 90 percent of the total deliveries in Barbados, show that in 1983 births to women less than 20 years of age constituted 24.8 percent of all births at the hospital.

A number of programs have been initiated in Barbados to address the problem of adolescent pregnancy by promoting the use of contraceptives among sexually active teens and to prevent unwanted pregnancies. However, given the severe negative social, economic, health and demographic consequences, one aspect of the problem of teenage pregnancy which needs to be specifically addressed is the occurrence of a second pregnancy before the girl has reached the age of 20 years.

A project developed by the Ministry of Health in collaboration with Tulane University was designed to address that problem. Two strategies were tested: (1) special counselling during ante-natal clinic visits to the QEH and (2) post-partum home visits, to determine their relative effectiveness for achieving:

1. an increase in knowledge of contraceptive methods and their correct use among teen mothers; and
2. an increase in the use of contraceptives among teen mothers;

A measure of the relative cost-effectiveness of the two strategies for achieving the project objectives was also determined.

PROJECT DESIGN

To test these different approaches all teens in Barbados who gave birth from January 1983 to July 1984 were assigned to one of three groups:

- Group I: To receive special family planning counselling at QEH and three home visits (10 days, 5 weeks, and 12 weeks after delivery)
- Group II: To receive special family planning counselling at QEH and one home visit (10 days after delivery)
- Control group: To receive the standard prenatal care at the polyclinic and at QEH, but no additional counselling from the special family planning counsellor at QEH and no home visits.

The assignment of teens to the three groups was as follows. All teens who delivered from January - May 1983 were assigned to the control group: they received the "status quo" treatment prior to the introduction of any changes in the system.

Teens who delivered between July 1983 and August 1984 were randomly assigned to one of two treatment groups (I or II) using a random number table. These teens had been referred from the polyclinic to the QEH for pre-natal care, from the 24th week of their pregnancy (instead of the 28th week) where a special family planning counsellor provided counselling. This person was able to devote her full time to counselling, which was expected to provide teens with more in-depth information in a greater number of sessions.

Teen mothers in the two groups were visited in their homes after delivery for the dual purpose of checking on the health of mother and baby, as well as to provide further family planning counselling and contraceptive methods, where appropriate.

EVALUATION METHODOLOGY

The teens in all three groups were interviewed approximately six months after delivery in their home by a trained female interviewer. The topics covered in the interview included their situation prior to becoming pregnant, their knowledge of contraceptives, sexual activity since delivery, use of contraceptive methods ("ever", at the time of conception, and since resuming sexual relations after delivery), pregnancy status at the time of the interview, and attitudes toward the QEH counselling and home visiting.

Although the purpose of these interventions was to delay a second pregnancy in teen mothers, the limited time period for this project (29 months) meant that the teens could only be followed at the six month period. Of interest was their pregnancy status at six months and their reported use or nonuse of contraceptives at that time. It is hoped that

a second round of data collection can be carried out at an interval of 2-3 years, to measure the true effect of these interventions.

FINDINGS AND DISCUSSION

1. Socio-demographic Profile

The selection procedure used ensured that the three groups were very similar on socio-demographic characteristics. Data presented in Table 1 indicate that the mean age for each group was 18 years. The majority, seven out of ten, were in a visiting relationship or living with their boyfriend at the time of the followup interview. Eleven percent or less reported to be single.

The average size of the household in which the teen mothers lived was seven persons - which included the mother (in two out of three cases).

The three groups were similar on their level of education. Eighty percent had attained some level of secondary education. Only a small percentage (less than 20 percent) were employed at the time of the interview. However, approximately 72 percent of those who were not employed reported to be seeking work.

2. Events Surrounding the Pregnancy

In 70-76 percent of the cases in each group, this was the teen's first pregnancy. However, 23-26 percent in each group reported one previous pregnancy and 1-4 percent reported two previous pregnancies. Only one teen reported three previous pregnancies. Approximately half of these pregnancies had resulted in a live birth.

Half of the teen mothers were neither in school nor employed at the time they got pregnant. Approximately one quarter were in school, and just under 20 percent reported to be employed.

One in five of the teens in each group claimed that their pregnancy was planned. However, in the large majority of cases, it was not.

More than half of the teen mothers reported that they were not using a contraceptive method at the time of conception; however, 29-32 percent in the treatment groups and 44 percent in the control group claimed that they were.

3. Counselling on Birth Control

While all pregnant teens are supposed to receive some counselling on contraceptive methods during their prenatal care, the current program was established to strengthen this counselling effort.

Almost all teens in the two treatment groups (99 percent) reported to have received counselling on birth control during their visit(s) to the Queen Elizabeth Hospital, compared to 83.9 percent in the control group. While this difference is statistically significant ($p < .05$), the percentage for the control is high. This can be explained by the fact that the control group also received some counselling from another source, but of a less intensive nature. Teens in the control group were more likely to report having been counselled elsewhere (61 percent), in comparison with those in the two treatment groups (50 and 51 percent, respectively).

Again, almost all the teens in the two treatment groups (98 and 100 percent, respectively) reported that they had been visited by a

nurse since the delivery; whereas, only 39 percent in the control group had been visited. These visits were probably conducted by the public health nurses from the polyclinics who are assigned to visit women at high risk and/or those who experienced complications.

4. Knowledge of Contraceptive Methods

The teen mothers in this study generally knew about a number of the various contraceptive methods for preventing pregnancy. The data in Table 2 indicate that the pill and condom were the two most widely known methods (by at least 98 percent of the teen mothers in all groups, with no significant difference in knowledge between these groups).

The next most widely known methods were female sterilization, the IUD, foaming tablets, the injection, the diaphragm and contraceptive foam/cream/jelly. For all of these methods the teens in the two treatment groups were more likely than those in the control to have heard of these methods. Nonetheless, well over half of the teens in all the groups knew of these methods.

5. Use of Contraceptive Methods

5.1 Ever Use

For each method that the respondent claimed to know, she was asked if she had ever used this method. These results are also presented in Table 2. The methods which the greatest number of these teens have ever tried were condoms (52-65 percent in each group), the pill (51-57 percent), withdrawal (36-38 percent) and foaming tablets (20-35 percent).

Teens in the treatment groups were more likely to have used either condoms or foaming tablets than those in the control. Less than 15 percent of teens in any group had ever used the IUD, foam/cream/jelly, the injection, diaphragm, rhythm or other method. In the latter three, a higher percentage in the treatment than control had ever used these.

To summarize the findings regarding ever use, for two of the ten methods, ever use was higher among the treatment groups; for one of the ten (the pill) ever use was higher for the control group. Overall, the percentage that had ever used at least one modern method was similar for the three groups, ranging from 82-88 percent. Thus, while the project interventions appear to have increased experimentation with a few methods, they did not increase the overall percent that had ever used a modern method.

The reasons given for not using a method were fear of side effects, preference for spontaneous sex, desire to have a baby, negative rumors, objection of the partner, inability to obtain a method, dislike of birth control, and others.

Among the relatively few teen mothers who had never used a contraceptive method, the main reasons given were ignorance, dislike of birth control, rumors about the methods, objection of the partner, preference for spontaneous sex, and other reasons listed in Table 3.

5.2 Use of Contraceptives Since Delivery

The main objective of this study was to increase contraceptive use among teen mothers, in an effort to delay a second pregnancy.

Over three quarters of the teens in each group had sexual relations since delivery, see Table 3. Six percent or less resumed relations in the month after delivery, while this jumped to 30-37 percent of the different groups by the second month. Over half of the teens who had resumed sex by the time of the survey had done so by the end of the third month; indeed, the mean age of the child when the mother first resumed sexual relations was 11-12 weeks for all three groups. In over 4 of 5 cases in each group, teens who had resumed sex had had relations more than once.

Among those using a method since delivery, the two most frequently mentioned were condoms and the pill. Foaming tablets were used by a quarter of the teens in the two treatment areas but less so by teens in the control.

In the majority of cases, the teens reported use of contraceptives to be their own choice (62-76 percent in the different groups). However, the FP counsellor appears to have a strong role. The partner also plays a role in this decision.

At least one-fifth of the teens in each group had not yet resumed sex by the time of the followup survey six months after delivery. These respondents were asked if they planned to use a contraceptive the next time they had sex. While an expression of intent in no way guarantees actual practice, the results nonetheless suggest that the project interventions had a positive effect on intent as almost all the teen mothers expressed an intention to use a contraceptive the next time they had sex.

5.3 Source of Method

The findings indicate that the type of contraceptive and source of the method are related. The main sources for the pill are the polyclinics and the BFPA. By contrast, for the condoms and foaming tablets, the pharmacy and QEH ward were most frequently mentioned, followed by the polyclinics. IUDs were obtained primarily from the BFPA and the QEH clinic. Half the users of the injection received it at the BFPA with the polyclinic and private physician mentioned less frequently. Finally, the few users of foam/cream/jelly reported the polyclinic and QEH ward as the main sources of this method.

6. Knowledge of Correct Use of Methods Among Users

One of the objectives of the project was to increase knowledge on the correct use of the methods. Each respondent was asked a series of questions only on the method(s) she had ever used. The data suggest that the project interventions (counselling at QEH and home visiting) had a positive effect on knowledge of how to correctly use the pill.

On all six questions, regarding knowledge of the pill teens in the two treatment groups were more likely to give the correct response than those in the control group. Those who received only 1 home visit were more likely to give the correct answer than teens who received 3 visits.

7. Current Pregnancy Status

At the six-month followup survey, 15 of the 573 teens for whom information was available (2.6 percent) reported to be pregnant

again. Because follow-up interviews were conducted only six months post partum it is difficult to say whether the intervention had an effect on delaying a second pregnancy.

8. Analysis of Project Costs

The two main purposes of the cost analysis were: (1) to determine what it would cost to replicate this type of service activity, and (2) to determine the relative cost of the two interventions, one of which included only one home visit, the other which included three home visits.

From the start of the program, a system of coding all project expenses was established. Each item was coded on the basis of the type of expense, source of funds and treatment group.

The results of the cost analysis are shown in Table 4. The total cost of the project was \$124,418 Barbados dollars (or \$62,838 in U.S. dollars). One quarter of the total was used for research, approximately two-thirds for service activities, and the remaining 10 percent for administration.

The key finding of the cost analysis involves the costs which could be allocated by treatment group. The traceable costs for the Group 1 intervention were over three times as high as for the Group 2 intervention. One would expect this difference in costs, given that Group 1 included three home visits vs. one home visit for Group 2.

Given the findings of the survey, the conclusion from these cost data are that the additional two visits have relatively little effect and yet represent considerable additional expense. Thus, if home visiting of teen mothers is to be continued in the future, it is

recommended that only one visit per teen (unless circumstances dictate otherwise) be made.

These findings lead to two conclusions. First, the experimental treatments had some effect on family planning knowledge and on contraceptive use among teen mothers who had resumed sexual relations. However, a longer period of time is needed to more adequately evaluate the true effect of these interventions on preventing a second pregnancy.

Second, the intervention with a single home visit appears to be as effective as the intervention with three visits in terms of family planning knowledge and use. Thus, if home visiting of teen mothers is to be continued in the future, it is recommended that only one visit per teen mother be routinely made.

ACKNOWLEDGEMENTS

Several organizations and individuals were involved in the design and execution of this project and have given valuable assistance in making it a reality. Special thanks to the Ministry of Health; nursing staff at the government polyclinics who adjusted their schedules to routinely refer pregnant teens to the QEH; Dr. Yvonne Rotchell for her assistance in the design of the study; the Barbados Family Planning Association who provided the project nurses with contraceptives for the home visits; the project staff Ms. Boyce, counsellor, nurses Gumbs and Phillips-Gay and the interviewer Ms. Norville. And finally special thanks to the teen mothers who participated in the project.

REFERENCES

1. Population Reference Bureau. 1985 Population Data Sheet. Washington, DC.
2. Nair, Neal Kar, 1982. Fertility and Family Planning in Barbados Findings From the Contraceptive Prevalence Survey 1980-1981. The Barbados Family Planning Association and Westinghouse Health Systems.
3. Senderowitz, Judith and Paxman, John M. 1985. "Adolescent Fertility Worldwide Concerns." Population Bulletin, Population Bureau, Inc. Vol. 40, April 1985.
4. Jagdeo, Tirbani P. 1984. Teenage Pregnancy in the Caribbean. International Planned Parenthood Federation, Western Hemisphere Region, Inc. New York and Caribbean Family Planning Affiliation Antigua, W.I. 1984.

TABLE 1
PERCENTAGE DISTRIBUTION BY GROUP ON SELECTED
SOCIO-DEMOGRAPHIC CHARACTERISTICS

	GROUP I	GROUP II	CONTROL	p value ¹
<u>Sample Size (n)</u>	266	235	255	
<u>Mean age</u>	17.8	17.7	17.5	.016
<u>Union status</u>				.689
Visiting boyfriend	72.9	68.1	71.0	
Living with boyfriend	18.8	21.3	17.6	
Single	7.1	8.9	10.6	
Married	1.2	1.7	0.8	
<u>Mean Number in Household</u>	6.9	7.6	7.2	.030
<u>Education</u>				
Primary	20.3	19.6	17.3	.561
Post-primary	78.6	78.7	82.4	
Other	1.1	1.7	0.4	
<u>Currently Employed</u>				
Yes	18.8	15.3	17.3	.588
<u>Seeking Employment</u>	<u>(n=216)</u>	<u>(n=198)</u>	<u>(n=211)</u>	.348
Yes	75.5	72.7	69.2	
No	24.5	27.3	30.8	

¹ A value of less than 0.05 indicates that there is a statistically significant difference among the groups on this variable as tested by Chi square. If the p value is greater than 0.05, the three groups are considered to be similar on this variable.

TABLE 2

KNOWLEDGE AND USE OF CONTRACEPTIVE METHODS

<u>Sample Size (n)</u>	GROUP I 266	GROUP II 235	CONTROL 255	p value
<u>Has heard of:¹</u>				
Condom	100.0	99.1	98.4	.136
Pill	99.6	98.7	98.4	.382
Female sterilization	97.0	96.2	83.5	.001
IUD	95.5	94.5	87.8	.002
Foam tablets	94.4	92.8	74.9	.001
Injection	90.6	88.5	83.5	.044
Diaphragm	75.2	74.0	50.6	.001
Withdrawal	71.1	73.2	75.7	.489
Foams/creams/jels	64.7	67.7	55.3	.012
Male sterilization	50.0	50.2	50.6	.991
Rhythm	24.1	25.5	23.5	.868
Other	4.9	0.0	5.6	.022
<u>Has ever used:¹</u>				
Condom	65.0	58.7	51.8	.009
Pill	51.1	52.3	57.3	.337
Withdrawal	35.7	38.3	36.5	.830
Foam tablets	34.6	29.4	19.6	.001
IUD	14.7	8.9	12.5	.144
Foam/cream/jels	7.5	4.3	5.1	.256
Injection	6.8	6.4	6.7	.984
Rhythm	3.8	3.8	1.6	.242
Diaphragm	0.4	0.0	0.4	.636
Other	0.8	0.0	0.0	.398
Has ever used a modern method	88.7	83.8	83.5	.170
<u>Reason never used a method:²</u>	<u>(n=25)</u>	<u>(n=30)</u>	<u>(n=33)</u>	.505
Ignorance	56.0	40.0	24.2	
Dislike birth control	24.0	43.4	36.4	
Negative reports re birth control	16.0	16.7	30.3	
Partners objected	16.0	10.0	12.1	
No reason	8.0	6.7	12.1	
Spontaneous sex	8.0	3.3	6.1	
Wanted baby	4.0	6.7	9.1	
Never considered birth control	0.0	3.3	3.0	
Other	4.0	0.0	6.1	

¹ The percentages reported in this section refer to the percentage that have heard of or have used each method; the percentage who have not heard or used is not given (but can be calculated by subtracting the percent that have "heard" or "used" from 100). Each method is considered a separate question or variable, and thus there is a p value for each method.

² Based on those respondents who had never used a method; multiple responses allowed. Total may exceed 100 percent of n.

TABLE 3
USE OF CONTRACEPTIVE SINCE DELIVERY

	GROUP I	GROUP II	CONTROL	p value
<u>Sample Size (n)</u>	266	235	255	
<u>Has had sex since delivery</u>				.698
Yes	81.6	78.7	77.6	
No	18.4	20.9	22.0	
No information	0.0	0.4	0.4	
<u>Age of baby at mother's first sex since delivery¹</u>	<u>(n=217)</u>	<u>(n=185)</u>	<u>(n=198)</u>	.360
Less than one month	1.8	1.1	2.0	
One month	4.6	4.9	3.0	
Two months	32.3	37.3	29.8	
Three months	36.9	25.9	31.8	
Four months	13.8	20.5	19.7	
Five months	9.2	7.0	10.6	
Six months	1.4	3.2	3.0	
<u>Sex more than one since delivery</u>				.461
Yes	86.6	82.2	84.8	
No	13.4	17.8	15.2	
<u>Has used birth control since delivery²</u>	<u>(n=202)</u>	<u>(n=163)</u>	<u>(n=164)</u>	.0004
Always	79.7	80.4	65.9	
Sometimes	19.8	16.6	34.1	
No information	0.5	3.1	65.9	
<u>Method used since delivery²</u>				
Condom	42.6	39.3	31.7	.098
Pill	35.6	44.8	56.7	.001
Tablets	22.8	20.2	11.6	.019
IUD	15.3	8.6	12.8	.150
Injection	6.9	3.7	7.3	.309
Foam/cream/jel	4.5	0.6	2.4	.074
Other	1.0	4.9	6.7	.028

¹ Based on those respondents who had sex since delivery.

² Based on those respondents who had sex since delivery and used birth control; multiple responses were allowed.

Table 3 (cont'd)

	GROUP I	GROUP II	CONTROL	p value
Reason birth control not used since delivery ³	(n=13)	(n=21)	(n=34)	.686
Dislikes birth control	(.46)	(.52)	(.35)	
Negative reports	(.07)	(.05)	(.06)	
Unplanned sex	(.08)	(.09)	(.12)	
Irregular sex	(.08)	(.00)	(.03)	
Breastfeeding	(.00)	(.00)	(.03)	
Other	(.54)	(.71)	(.62)	

³ Based on those respondents who had sex since delivery, but did not use birth control; multiple responses allowed. Total may exceed 100 percent of n. Due to the small n, proportions were given rather than percentages.

Table 4
CURRENT PREGNANCY STATUS¹

	GROUP I	GROUP II	CONTROL	p value
<u>Sample Size (n)</u> ¹	262	227	84	
<u>Currently pregnant</u>				.025
Yes	1.1	2.6	7.1	
No	98.1	95.6	92.9	
Don't know	0.8	1.8	0.0	

¹Based on cases where this information was available.

TABLE 5
PROJECT COSTS IN BARBADOS DOLLARS

A. Breakdown by Type of Costs

<u>Type</u>	<u>Amount (Barbados)</u>	<u>Percent of total</u>
Service	80,524	64.7
Administration	12,749	10.3
Research	31,145	25.0
TOTAL	124,418	100.0

B. Breakdown of Service-related Costs by Treatment Group and Project Year

<u>Treatment Group</u>	<u>Year I (1983)</u>	<u>Year II (1984)</u>	<u>Year III 5 months 1985</u>	<u>Total 1-83 to 5-86</u>	<u>Percent</u>
Group 1	11,122	21,045	---	32,165	34.4
Group 2	4,348	4,851	---	9,199	9.9
Non-traceable	20,491	28,328	3,124	51,943	55.7