### BIBLIOGRAPHIC INPUT SHEET

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<td>Population</td>
<td>Experimental family planning programs: improving prevalence of contraceptive use</td>
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<td>Merritt, Gary; Gillespie, Duff; Maquire, Elizabeth; Heiby, James; Labbok, Miriam; Mutchler, David; Shelton, James</td>
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9. ABSTRACT

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AID 580-1 (4-74)
EXPERIMENTAL FAMILY PLANNING PROGRAMS:  
IMPROVING PREVALENCE OF CONTRACEPTIVE USE

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Office of Population  
Development Support Bureau  
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Paper Presented at the Annual Meeting of the  
Population Association of America, Philadelphia  
April 26-28, 1979
Arguments about the impact of family planning programs have recently been rekindled with focus again on demand versus supply issues. This paper presents data from a number of experiments that directly estimate existing levels of demand, mostly in populations where demand is presumed to be low and program conditions considered adverse. Several studies contrast prevalence of use of modern methods of contraception before and after intensive availability conditions are met. Data from these and other studies bear on issues for program improvement like: type of village agents; free versus charging for service; combination with simple health services; and mix of contraceptive methods. Results indicate that operations research experiments on delivery systems can identify ways to considerably improve prevalence of use and cost-effectiveness while also playing very useful roles in program policy.
Introduction

The U. S. Bureau of Census reported last December that growth rates in much of the world had declined significantly from 1966 to 1976 and that these were attributable mainly to declines in fertility in the developing countries (U. S. Bureau of Census, 1978). Mauldin and Berelson's now widely-cited paper from the Population Council on the "Conditions of Fertility Decline in Developing Countries, 1965 - 1975," argues that observed fertility declines can be attributed mainly to an interaction of socio-economic development and family planning programs. Countries with both active programs and improvement in development measures showed about a 30 percent decline in fertility. However, each set of variables provide independent explanation; declines were much greater in countries with active programs but little development (a 20 percent decline) than in countries with development and little family planning effort (5%). Recent work at the University of Chicago generally supports the Population Council report (Bogue).

Early analyses of World Fertility Survey data from developing countries indicates that many women now at risk of pregnancy report not wanting any more children; the unmet demand for family planning services appears to be quite high and largely independent of conventional social and economic variables (Rodrigues, 1978 and Brackett, et. al., 1978).

Population policy persons will continue to argue about what the prior, necessary conditions for fertility decline might or might not be. We adopt the assumptions that whatever the case with respect to necessary pre-conditions, family planning programs obviously play an important
role; that degree of public and private sector program effort (i.e., contraceptive availability) contributes greatly to prevalence of use of contraceptive methods; and that the prevalence of use is a powerful correlate of fertility levels.

Variations in program design are key elements in understanding variations in their performance, and should constitute a powerful—if only partial—explanation for fertility trends in each country.

Research Strategy

Since 1975 our group at A.I.D. has helped evolve a cross-cultural pattern of twenty-one (21) action research experiments in fourteen (14) countries. These studies address practical issues concerned with improving program design. We refer to this work as operations research (OR). All the studies fit the rubric, "community-based distribution." All studies aim towards groups with low previous access to services. All stress low-cost system maintenance. All entail active involvement both in practical commodity logistics and in policy change. Most require formal change of policies, medical norms, and training curricula in order to be implemented.

Several experiments entail initial systematic household delivery and provide interesting data for direct estimation of existing community "demand" for family planning methods. These studies generally confirm the view that when even only one effective, non-clinical method, like the oral contraceptive, is made readily available married women of all parity, educational, and economic levels will utilize the method.
Socio-economic differentials remain important, but considerable demand exists among all groups. The demonstration of this leveling effect frequently prompts change in host-country program policies.

Other OR studies are village-level. Like the household studies, they focus on program issues like: the important of the mix of methods made available; potential for combining with health and nutrition objectives; charging for services or commodities versus free provision, and optimal types of personnel.

In projects with household distribution, field procedures are devised which insure that the delivery system approaches full coverage of the treatment population through systematic visits to every household. How the canvassing of households is actually implemented varies from project to project and depends on such things as the terrain and population dispersion, availability of field personnel and the interests of the host-country government. The most effective way to insure complete coverage is through mapping the treatment population and assigning distribution grids to each distributor.

Household distribution typically occurs only once or twice. After the community has been canvassed, the resupply and follow-up functions are handled by a village worker, frequently an excanvasser. The household distribution system becomes a village-based system. Because household distribution is a singular event, cost has not been a major restraint in introducing these systems. Canvassers or distributors are paid for
the actual canvassing and are not employed on a permanent basis. The cost of the actual household canvass is marginal relative to the other costs which are incurred in a village-based program, e.g., selections, training, supervision, commodities, etc.

Under a village-based delivery system, the fieldworkers are more reactive. While household visits are often made, they are not done in a systematic fashion and the usual manner in which a person receives family planning services is to visit the distributor.

Changes in Prevalence of Contraceptive Use

Contraceptive prevalence provides a good measure of program penetration and—if properly estimated—it provides a good measure of probable fertility impact. Prevalence estimates in these studies are based on area probability samples or on sample-validated service records.

Table I summarizes changes in prevalence in twelve (12) studies from eight (8) countries. All but the Nicaragua data come from household distribution projects; this program, incidentally, also showed the least increase in prevalence (only 3.9% after one year). Most studies showed dramatic increases in the prevalence of use; the median increase was 13 percent in only 13 months (Modified Matlab). In Haiti the change from 4.5 percent to 18.8 percent occurred in only eight (8) months. Populations with low baseline prevalence tend to show greater absolute increase than those with higher initial levels. Compare, for example, the changes in Mexico, Tunisia (1), Bangladesh (1), and Haiti, with the smaller changes in Egypt (1) and (2) and Korea (1). The Taiwan results reflect
considerable strengthening of public sector activity throughout all rural areas during the period of study implementation, perhaps a serendipitous and quick impact of the OR project on the larger program.

Differentials in contraceptive use have become a matter of increasing interest to us as data become more available. Figure 2 shows how the intensive availability experiment in Matlab, Bangladesh, tended to level out the differences in use associated with differences in educational groups. Table 2 compares the partial and zero-order correlations between selected characteristics and contraceptive use in rural Egypt. The explained variance attributable to these characteristics was about 19 percent before and 13 percent after the house-to-house canvass and distribution, a relative decline of about 30 percent. Most of this appears attributable to the lessened predictive power of parity, an observation confirmed by inspection of bi-variate cross-tabulation (not shown). We plan to soon examine all of these studies to describe apparent determinants of differential use of contraceptives.

Influence of Number and Type of Contraceptives

Family planning people have always emphasized the importance of having available within programs as wide a mix of types of fertility regulation information and techniques as possible. Since every method has certain negative features for some couples, the greater the range of methods offered, the greater likelihood couples will find a suitable method. The problem, of course, is making a wide spectrum of methods easily available.

In two projects, something of a natural experiment occurred. In (See Table 3) Tunisia and Bangladesh, the initial phase of the household distribution
in both countries emphasized the pill for a variety of reasons. At a later time, it was possible to introduce other methods. Table 3 shows the dramatic increase in contraceptive use after a greater variety of methods were introduced. A word of caution needs to be made concerning the Bangladesh data. While it is obvious that the contraceptive mix, especially Depo-Provera, resulted in an increase in contraceptive use, there were other programmatic changes that may have contributed to the increase in contraceptive use. First, the illiterate, local fieldworkers were replaced with more highly trained, literate women. Although there is no quantitative way to prove that these women have improved the level of contraceptive use, the project staff have little doubt that this is the case. Additionally, basic MCH services were introduced to the modified area. The major jump in prevalence occurred before these services were fully introduced, but it may be that these services have a reinforcement effect on users.

In the case of Tunisia, there were no other programmatic changes other than a wider number of methods offered. We venture to guess that there is no single program factor of greater importance than the range of methods offered.

Cost Measures:

The two most common ways that family planning programs are measured in terms of cost-effectiveness are the cost per acceptor and cost per couple-years-of-protection (CYP), with some persons carrying the CYP calculations a bit further to determine the cost per birth averted. All
of these output measures have the disadvantage of not giving one any indication of the cost required to attain a demographic impact from a program. In this sense, they can be very misleading, especially when various programs or types of interventions are compared.

In Table 4, two important points can be made concerning the cost per acceptor data for a number of national family planning programs. First, as noted above, the use of cost per acceptor data as an evaluation tool can be very misleading. For instance, the Dominican Republic had a relatively high cost per acceptor of $35.96 in 1976. Nepal, on the other hand, had a cost per acceptor in 1975 of only $13.75. What do these two figures tell one? Essentially, nothing. More important than cost per acceptor data is the fact that the WFS shows that Nepal has a contraceptive prevalence of only 2.3 percent. The comparable figure for the Dominican Republic is 31.3 percent. Indeed, based on the data presented in Table 4, one would be hard pressed to separate the good programs from the bad, unless "good" was defined as a low cost per acceptor and this would be an erroneous definition.

The second point, for which there should be little dispute, is that family planning programs may be expensive. While expensive is a relative term, when one considers that the cost figures are for acceptors, not users, and that many of the countries listed are not renowned for their successful family planning programs, then one should get a feel for the monetary requirements for alleviating the population problem.

The cost per CYP has one of the same drawbacks as cost per acceptor because it does not measure the extent of contraceptive use in a country
or program. But, it does have the advantage over cost per acceptor because it gives an indication of what inputs are required to maintain an active user for one year. The cost per CYP reinforces the point made earlier that the amount of resources currently being directed to the population problem are grossly inadequate. For example, Robinson found that the average cost per CYP for 28 countries in 1971 dollars was $56.40. He noted that this "Is considerably higher than is generally thought..."*

In Table 4, we see two sets of cost per CYP calculated by different CRL personnel. Besides showing that cost analysis carries a lot of subjective baggage, Table 4 again points out the danger of using only cost per CPY as a measure of cost-effectiveness. The cost figures in the table include only service delivery costs and, therefore, are somewhat lower than the actual cost. However, this still allows one to compare the relative effectiveness of the different interventions. If one were to only look at the cost per CYP, then intervention "A" (Household Distribution of Pills and Condoms) would clearly be the most cost-effective. However, also given in Table 4 are the levels of contraceptive prevalence reached for each type of intervention. While the cost per CYP for Intervention "D" (All Family Planning Methods with Upgraded Field Staff and MCH Services) is substantially higher than "A" ($2.30 or $4.25 versus $6.70 or $6.91), the contraceptive prevalence experienced under "D" is also much higher, 13 versus 36 percent. Using the rule of thumb that a 2 to 6 percent increase in prevalence* results

in a reduction of one point in the crude birth rate, the cost-effectiveness of intervention "D" is obviously superior to "A". With "A", the reduction would be from 2 to 6 points, while with "D", the reduction would be from 6 to 18 points. One must also wonder what the comparative CYP costs would have been had the order of introduction been changed.

**Charging for Services**

Charging practices naturally depend heavily upon what cost of long-term program financial support is made available. Public sector programs frequently can be either charge or free; private sector programs can be based upon volunteers, salaried, or commissioned agents.

Two popular notions exist about charging versus non-charging for contraceptives. It is often said that by charging for contraceptives the individual will value the item more and, thus, be more likely to use the method than if it were free. Contrastingly, others believe that a charge for contraceptives introduces an unnecessary barrier to acceptance and utilization. Related to this issue is the desire to have programs that help pay their own way.

Literally everyone seems to have an opinion concerning free versus charges for contraceptives, but we have little data to suggest general propositions. Looking at Figure 3, one could come to the conclusion that charging for contraceptives represent a significant barrier. Figure 3 shows the number of OC acceptors in the Thai Government program prior to October, 1976, when the Government charged 5 bhat (U.S. $0.25). Figure 4 shows the number of acceptors in the private sector CBFPS program that also sold OCs for 5 baht and another brand for 7 baht. As is
dramatically shown, the change from charge to free resulted in a substantial increase in the number of new pill acceptors in the government program and an equally dramatic drop in the number of new acceptors in the CBFPs program, which continues to sell OCs.

On the other hand, other data suggest that charging for contraceptives has little impact on use. In the 38-village study in Menoufia, Egypt, there was interest in comparing free OCs with OCs for which there was a modest charge of 5 piastres (U.S. $0.07) per cycle. The main reason for this interest was that the government program charged this amount. As a result, half of the study population was charged 5 piastres per cycle for resupply, although all women were offered a free initial supply of 4 cycles during the household distribution, with those in the charging resupply area being told that they would be charged for resupply at the time of the distribution.

As shown in Table 5, the modest charge for a resupply of oral contraceptives and a free resupply system have comparable results. In terms of absolute increase in contraceptive use, the two types of delivery systems are almost identical except for the outlying villages under the "charge" resupply system which had a remarkable absolute increase in prevalence of 14.2 percent. In one of these two villages the resupply agent was a very active and highly motivated community development worker whose aggressive work accounts for the great increase.

Combining Family Planning and Health Services

Of the twenty one (21) active OR projects reviewed here, thirteen (13) have a health component in their delivery systems. Most of these
project designs did not arise specifically to test the comparative costs or benefits of integration but a few permit analysis in these terms. The Family Planning Health and Hygiene (FPHH) project in Thailand was conceived to test the relative cost effectiveness of different types of family planning delivery systems in rural Thailand. The hypotheses to be examined were:

a. Family planning services combined with health services will be more cost effective than delivery systems offering only family planning services.

b. Family planning services combined with health services will be more likely to be self-sufficient than family planning services alone.

c. The availability of free introductory supply of contraceptives will be more cost effective than delivery systems not offering introductory supplies.

The project has been implemented in 80 districts, covering a population of approximately 6 million.

Four contrasting operational models for community-based distribution of contraceptives were devised (all are quasi-commercial):

Model A  Only contraceptives provided by CBFPS, for sale at low prices.

Model B  As above, but with two months free introductory supply of pills and condoms to be distributed throughout the village to those eligible and willing to try their use.

Model C  As in Model A above, but combined with household drugs and orientation for health services/referrals.
Model D  As in Model C above, with initial free distribution of contraceptives as in Model B.

Figure 5 shows prospective cost-effectiveness results after a minimum of nine months of operation. The findings show that the cost per new acceptor is twice as great in the areas C and D in which both contraceptives and household drugs were distributed. All four sub-systems reach a steady state trend of gradual decrease in unit costs (costs per actual monthly acceptor levels) by the fifth ordinal month of operation. The visual contrasts are obvious, even dramatic. There can be little doubt that the most cost-effective system is Model A, nor that Models A and B together are more cost effective than C and D combined.

The administration of rural development programs is partly influenced by the distribution of population. Most Third World villages have about 1,000 inhabitants. While the people are talented and can be taught many tasks, the resources available for training and the costs of supervision make it uneconomical to attempt to solve anything but common problems. Unlike a city, the population is too scattered to carry the capital costs involved in creating infrastructures, whether of electricity or comprehensive health skills.

Family planning services are achievable because a significant proportion of village adults want, and have, a recurrent need for services which happen to be technically easy to supply. The family planning consumer, unlike many sick persons, normally make his/her own diagnosis. In addition, illness takes many forms and has many degrees of severity.
and complications requiring greater skill in treatment than the unified pattern of dose schedule and level needed to provide or use the pill, condoms, foams; or even injections.

Clinically, the FPHH project is **not** a family planning and health program in the sense that deaths are being prevented in the way births are being controlled. It could be argued that the distribution of toothpaste, sanitary towels or soap would be as relevant to health as most of the drugs included in the FPHH (or government village health volunteers, VHV) kits. This is not to degrade the usefulness of either household medicines or soap—both add to the quality of life; but neither provides benefits as significant as the public health benefits of preventing an illegal abortion or of saving a maternal death.

Once a contraceptive distribution system is in place, perhaps it should be easy to add other technical innovations one by one. The Thais are experimenting with adding parasite control, credit systems and agricultural innovations, as well as the distribution of household drugs can become justifiable, not on a philosophy that health and family planning must necessarily be linked, but as one choice from among many of improving the quality of life in a village. Thai society, like many others, spends a considerable proportion of its disposable income on medicines. Household drugs are appreciated daily domestic items often sold at considerably above cost. For CBFPS (and the government) to distribute selected, efficacious, safe household drugs at non-exploitive prices and by-passing the middleman is helpful to the villager.
Community Agents

A key element in operations research on community-based systems concerns the types of social organization that get put together. Of the many researchable facets of organization that are worth attention, the matter of strategy for identification and selection of the local community agents is among the most interesting. So far, we have only a few useful generalizations to offer regarding selection of types of agents. Obviously, they should be selected from among local residents and live in the communities they serve. Equally obvious, they should be respected persons, perhaps of somewhat higher social standing than most of their neighbors but there should not be considerable social distance. Literacy helps. Shopkeeper, retail outlets may be preferable in charge systems, but there is little data to suggest that this is important; there is no reason to believe that charge systems should be designed solely around commercial infrastructure.

In the VDMS Morrocco project, regular MOH fieldworkers were used for the household distribution. Many of these workers are males and there was serious doubt if they would be able to relate to women in a Muslim society. However, the initial data seems to show that males were just as effective distributors as females.

In the Family Planning and Health and Hygiene project in Thailand, it was thought that the most effective distributors would be retailers, since the program is a quasi-commercial delivery system which charges for contraceptives. Also, it was believed that the addition of health commodities to the system would make the distributors more effective.
Again, preliminary data do not support these contentions. In Figure 6, the cost per acceptor in baht is contrasted with the percent of shopkeepers in each district. Based on the above assumptions, one would predict that those districts with a high percent of shopkeepers and especially those that offered health commodities would be lower on the cost per acceptor scale since they would have more family planning customers than non-shopkeepers and generate more income through the sale of health commodities. As Figure 6 plainly shows, this is not the case. As the study was implemented, natural variations occurred in the selection of agents so that the proportion who are village shopkeepers varied greatly from district to district, as seen on the horizontal axis of Figure 6. The vertical axis shows net costs (in Thai baht) required for field support.

**Fertility Change**

While most of the studies will attempt to measure changes in births over time, the Matlab project in Bangladesh is unique in having a well-established vital events registration system. In the Modified Matlab project, we now have preliminary data which suggest that the intervention is having a dramatic effect on the treatment population. Preliminary data from this project show a marked and sustained decrease in births in the distribution area beginning in August, 1978, and no declines in the control area. This decline began approximately nine months after the modified project began and, thus, occurred at the expected time. Fertility has decreased by about 30 percent, which is
roughly the amount expected with the increase of prevalence experienced in the area. (See Figure 1) Future reports will describe the impact of other projects on fertility as the data become available.
Conclusion

Despite the reluctance of many demographers and economists to endorse the idea, family planning programs appear very instrumental to lowering fertility. Programs are becoming more effective and probably more efficient due to a continuing tradition of evaluation, trial and error, and deliberate experimentation. Integration of family planning and its contraceptive delivery systems with other programs is proceeding rapidly. Successful links with commercial sectors in a growing number of countries show that contraceptives can be made available cheaply and that they will be used. Public sector activities, especially in basic rural health and nutrition, can sometimes be neatly fitted to family planning programs.

The key strategic issue in program design for community-based systems seems to be simplicity, especially with respect to "integrated" projects. For government programs to work, our experience indicates that the effort to integrate various services should be kept very simple. This turns out to be no more or less true for developing country programs than for the U. S. Government. It is probably arbitrary what activities are integrated or combined as long as the number of activities expected of community agents is few—at least initially during the first years of rural outreach programs.

When simple contraceptive services are made available, especially in communities with low baseline prevalence of use, the studies reviewed here prove that the method prevalence of use will increase, sometimes dramatically. Socio-economic differentials in program utilization, though still significant, are swiftly reduced under conditions of improved availability. Our research will increasingly focus on the analysis of fertility differentials and while
it is no doubt true that contraceptive use and fertility decline are higher and more easily attained in some populations than others, our experience to date with 21 studies from 14 countries indicates no reason to delay implementation of programs while awaiting significant changes in what one policy person calls the "institutionally consolidated behavioral bases for fertility" (Demeny, 1979).

Today and the next few years will be critical for the consolidation of population and family planning programs, especially in developing countries. Future program design and management can now benefit from considerable past experience, including recent action research.
REFERENCES


DATA AND PROJECT SUMMARIES
TO ACCOMPANY PRESENTATION:

"EXPERIMENTAL FAMILY PLANNING PROGRAMS:
IMPROVING PREVALENCE OF CONTRACEPTIVE USE"

PART I

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10. Figure 6: Cost-Effectiveness by Agent Type and Service Type: Thailand

PART II

Operations Research Projects: Summaries
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Figure 1

Contraceptive Use and Birth Rates

From: D. Nortman and E. Hofstatter, Population and Family Planning Programs, page 90
Fig. 2 Education and oral contraceptive use among married fecund women, aged 15-44, in Matlab, Bangladesh, six months after household distribution. (Adapted from the report: Khan, A.; and Huber, D. 1976; Ravenholt, 1977)
TABLE 2

Socio-Economic Variables as Predictors of Contraceptive Use Before and After Household Distribution

38-Village Study, Egypt
(N = 20,988)

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<td>112.5*</td>
<td>.39</td>
<td>.30</td>
<td>145.9*</td>
<td>.31</td>
<td>.24</td>
</tr>
<tr>
<td>Husband's Education</td>
<td>79.5*</td>
<td>.14</td>
<td>.14</td>
<td>119.6*</td>
<td>.11</td>
<td>.13</td>
</tr>
<tr>
<td>Child Survival**</td>
<td>19.9*</td>
<td>.31</td>
<td>.09</td>
<td>17.2*</td>
<td>.21</td>
<td>.06</td>
</tr>
<tr>
<td>Years Married</td>
<td>17.4*</td>
<td>.30</td>
<td>.10</td>
<td>43.1*</td>
<td>.26</td>
<td>.11</td>
</tr>
<tr>
<td>Wife's Employment***</td>
<td>19.9*</td>
<td>.06</td>
<td>.06</td>
<td>12.4*</td>
<td>.04</td>
<td>.04</td>
</tr>
</tbody>
</table>

*P = <.0001

R² = .187
R = .433

** This ratio is the number of living children by the number of live births

*** The categories are: Not working; Working, unsalaried; Working, salaried.

From: S. Gadalla, Nosseir, Gillespie
TABLE 3

METHOD SPECIFIC CONTRACEPTIVE PREVALENCE
BEFORE AND AFTER IMPROVED METHOD MIX: TUNISIA AND BANGLADESH

<table>
<thead>
<tr>
<th>Before Distribution</th>
<th>After Distribution Concentrating on OCs</th>
<th>After Improved Contraceptive Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TUNISIA*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4/76</td>
<td>5/77</td>
</tr>
<tr>
<td>OCs</td>
<td>1.0</td>
<td>4.8</td>
</tr>
<tr>
<td>IUDs</td>
<td>1.6</td>
<td>3.0</td>
</tr>
<tr>
<td>Sterilization</td>
<td>3.5</td>
<td>6.3</td>
</tr>
<tr>
<td>Other</td>
<td>0.4</td>
<td>0.6</td>
</tr>
<tr>
<td>Total</td>
<td>6.6</td>
<td>14.7</td>
</tr>
<tr>
<td></td>
<td>BANGLADESH**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10/75</td>
<td>5/77</td>
</tr>
<tr>
<td>OCs</td>
<td>0.7</td>
<td>8.7</td>
</tr>
<tr>
<td>IUDs</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Sterilization</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Neosampoons</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Injectables</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Condoms</td>
<td>0.1</td>
<td>2.4</td>
</tr>
<tr>
<td>Other</td>
<td>0.3</td>
<td>1.9</td>
</tr>
<tr>
<td>Total</td>
<td>1.1</td>
<td>13.0</td>
</tr>
</tbody>
</table>

* Personal communication from H. Bchir, L. Toumi, and E. Mangu're; Feb., 1979.
TABLE 4

Two CRL Estimates of Cost (Service Intervention Only) Per Couple Years of Protection for Four Different Interventions with Contraceptive Prevalence Attained for Each Intervention: MATLAB

<table>
<thead>
<tr>
<th>Intervention Description</th>
<th>Estimate I U.S.</th>
<th>Estimate II U.S.</th>
<th>Change in Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Household Distribution of Pills and Condoms</td>
<td>2.30</td>
<td>4.25</td>
<td>1 to 13</td>
</tr>
<tr>
<td>B. &quot;A&quot; with Addition of Depo-Provera</td>
<td>3.40</td>
<td>8.10</td>
<td>13 to 21</td>
</tr>
<tr>
<td>C. All Methods with Upgraded Field Staff</td>
<td>6.39</td>
<td>6.68</td>
<td>21 to 27</td>
</tr>
<tr>
<td>D. &quot;C&quot; with Addition of MCH Services</td>
<td>6.70</td>
<td>6.91</td>
<td>27 to 36</td>
</tr>
</tbody>
</table>

DS/POP/R

January, 1979

NEW NEW PILL ACCEPTANCE: OCTOBER 1975 - OCTOBER 1977

(Please note that Figures C and D have different vertical scales)

FIGURE 4

CEPPS NEW PILL ACCEPTANCE: OCTOBER 1975 - OCTOBER 1977

(Please note that Figures C and D have different vertical scales)
TABLE 5

Contraceptive Use by Type of Resupply System Among Married, Fecund
Women 15-49 Years of Age Interviewed Before and
8 Months After the Household Distribution

<table>
<thead>
<tr>
<th>Type of Resupply</th>
<th>Number of Women (1)</th>
<th>Percent of Universe (2)</th>
<th>Before</th>
<th>During</th>
<th>After</th>
<th>Percent Change***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>N (3)</td>
<td>(%)**</td>
<td>N (5)</td>
<td>(%)**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(4)</td>
<td></td>
<td>(6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Absolute (7)</td>
<td>Relative (8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FREE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. With Clinic</td>
<td>7,431</td>
<td>(35.4)</td>
<td>1,442</td>
<td>(19.4)</td>
<td>2,103</td>
<td>(37.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1,985</td>
<td>(18.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Adjacent to Village with Clinic</td>
<td>2,567</td>
<td>(12.1)</td>
<td>500</td>
<td>(19.5)</td>
<td>687</td>
<td>(24.0)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>687</td>
<td>(26.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Outlying from Village with Depot</td>
<td>636</td>
<td>(3.0)</td>
<td>43</td>
<td>(6.0)</td>
<td>70</td>
<td>(11.0)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>70</td>
<td></td>
<td>1,985</td>
<td>(100.0)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>10,634</td>
<td>(100.0)</td>
<td>1,985</td>
<td>(18.7)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CHARGE

|                                       |                     |                         |        |        |        |                  |
|                                       | Absolute (7)        | Relative (8)            |        |        |        |                  |
| d. With Clinic                        | 8,342               | (39.7)                  | 1,682  | (20.2) | 2,402  | (81.4)           | (8.6)   | (42.9) |
|                                       |                     |                         | 2,402  | (28.8) |        |                  |         |        |
| e. Adjacent to Village with Clinic    | 1,091               | (5.2)                   | 270    | (24.7) | 349    | (11.3)           | (7.3)   | (29.3) |
|                                       |                     |                         | 349    | (32.0) |        |                  |         |        |
| f. Outlying from Village with Depot   | 921                 | (4.4)                   | 69     | (7.5)  | 200    | (21.7)           | (14.2)  | (189.9)|
|                                       |                     |                         | 200    |        | 2,953  | (100.0)          | (9.0)   | (46.1) |
| TOTAL                                 | 10,354              | (100.0)                 | 2,021  | (19.5) |        |                  |         |        |

* Percent of all users** Users as percent of all women in this resupply category
*** Change as percent of all women in resupply category
Figure 5

COST-EFFECTIVENESS

Costs per Monthly Active User by Distribution Model: 80 Districts, Thailand, 1979

Models:
A = Contraceptives Only
B = Contraceptives Only (2 free cycles)
C = Contraceptives and Medic
D = Contraceptives and Medic (2 free cycles)

CD = 97.0
AB = 45.7

Herritt, 2/79
After data from Hech
Figure 6

COST EFFECTIVENESS BY AGENT TYPE AND SERVICE TYPE, 40 DISTRICTS

Contraceptive Retail Sales Program: Thailand, 1979 -

* = Model A: Contraceptives only, sold through shopkeepers and other rural agents.

@ = Model C: Same as "A" but combined with retail sales of household drugs, referral for health services, and minimal health training of agents.

Merritt, 2/79
After data from Mechai, CBFPS/Thailand