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EVALUATION
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**PROGRAM DATA FOR EVALUATION
OF FAMILY PLANNING PROGRAMS**

By

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PROGRAM DATA FOR EVALUATION OF FAMILY PLANNING PROGRAMS

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PROVIDING DATA APPROPRIATE TO THE EVALUATION PURPOSE

The purposes of evaluation will determine the kinds of program data family planning programs need to provide. Several purposes can be differentiated:

1. Legal requirements of government
2. Accountability, especially to the agencies providing support
3. Goal-setting for national, regional, and local programs
4. Program effectiveness in meeting its goals
5. Program efficiency

The kinds of program data needed to satisfy legal requirements vary remarkably from place to place, as does the ability of governments to process these data and provide useful and timely feedback. In developed countries, where data handling is largely computerized, it is possible to meet government requirements by simply sharing a computer tape. Unfortunately, in many developing countries it means keeping a duplicate set of records. It is appropriate for a private family planning program to demonstrate improved ways of collecting and processing program data.

Providing program data for accountability to funding sources offers a unique challenge since it should satisfy both individual program needs and regional needs for comparability of program data. For the individual program it represents an opportunity to justify past support and imaginatively identify new program needs. On a regional level, uniform and comparable performance data from the individual programs becomes a most powerful argument for the funding source to present to its donors. The need for collective efforts in the task of collecting program data for accountability is growing in importance.

Program data needed to set program goals can be simple or complex. The simplest data are the numbers of new acceptors served. If goals are defined in terms of prevalence of contraceptive protection provided, then data on both acceptance and continued use are needed. If goals are further refined in terms of high risk groups reached, additional program data is required. In any event, realistic goal setting must be supported by both demographic data that estimates total needs and by data related to the program's capacity in terms of budget and personnel.

The effectiveness of the program is judged from data which relate program inputs, outputs or effects to program goals or assessed needs of the population served. Inputs are the efforts and resources used by the program, whether purchased or donated. Program outputs are the services generated and program effects are the measured impact of the program in reaching its goals. Program goals are those parts of total needs identified that the governing body has set as priority needs to be met within a limited budget. Program data are needed for the numerator of this generalized index:

$$\text{Effectiveness Index} = \frac{\text{Program inputs, outputs or effects}}{\text{Program goals or needs}}$$

In order to evaluate the effectiveness of different aspects of a program, data must be available for the basic functions of the program. These include:

1. overhead to maintain the program
2. client recruitment
3. clinic services
4. follow-up care
5. information and education
6. training
7. research and evaluation

The efficiency of the program must be judged from data that relates program inputs, outputs or effects to program resources. The generalized index is:

$$\text{Efficiency Index} = \frac{\text{Program inputs, outputs or effects}}{\text{Program resources}}$$

If overhead costs are a high proportion of total costs, it is likely that the program is not efficient. However, apparent efficiency in one part of the program may make another ineffective. If counselling is too brief at client admission, continued use of contraception may be short.

Kinds of Data Available

Some of the main inputs and outputs of a family planning program are listed:

Recorded Input Data

Total Budget by Sources

Total Expenditures by:

Overhead

Program Activities

Line Items by Activity

In-Kind Contributions

Volunteer Time (hours and imputed value)

Clerical

Professional by Type

Commodities (type and imputed value)

Clinic - Contraceptive

Clinic - Surgical

Community Based Distribution (CBD)

Postpartum

Other

Clinic Sessions - Contraceptive

Number by Time of Day and Hours

Clinic Sessions - Surgical

Number by Time of Day and Hours

Medical Hours (including volunteers)

Clinic - Contraceptive

Clinic - Surgical

CBD

Postpartum

Other

Paramedical Hours (including volunteers)

Clinic - Contraceptive

Clinic - Surgical

CBD

Postpartum

Other

Commodities (type and value)

Clinic - Contraceptive

Clinic - Surgical

CBD

Postpartum

Other

Computed Input Data

Average Cost of Clinic Sessions by Hour and Type

Total Cost of Clinic, Postpartum and CBD activities by:

Recruitment

Admission Services

Follow-up Services

Total Cost of Other Program Activities

Recorded Output Data

New Acceptor Visits by Provider Type

Clinic - Contraceptive by method

Clinic - Surgical by method

CBD - by method

Postpartum - by method

Revisits by Provider Type

Clinic - Contraceptive by type visit

Clinic - Surgical by type visit

CBD - by type visit

Training Sessions by type and number of trainees

Informational and Educational Activities by:

Number of meetings and average attendance

Number of News Releases by Type

Research and Evaluation

Number of reports completed

Computed Output Data

Discontinuation Rates from Program by Reason

Contraceptive Discontinuation Rates by:

Reason for Admission Method Chosen

Contraceptive Prevalence Rates by Method Provided for:

Program acceptor population

Program target population

USING RECORDED AND COMPUTED DATA FOR EVALUATION

From the input/output data several key unit costs such as cost per sterilization and cost per contraceptive acceptor can be calculated. Input/output data permit the calculation of numerous indices of efficiency. Among these are:

1.
$$\frac{\text{Total Budget}}{\text{New Acceptors}}$$
2.
$$\frac{\text{Total Budget}}{\text{Total Current Acceptors}}$$
3.
$$\frac{\text{Total Budget}}{\text{Total Visits}}$$
4.
$$\frac{\text{Clinic Costs - Contraceptive}}{\text{New Contraceptive Acceptors}}$$

5. Clinic Costs - Contraceptive
Total Contraceptive Visits
6. Clinic Costs - Surgical
Surgical Procedures by Method
7. Postpartum Program Costs
Total Postpartum Acceptors
8. CBD Costs
Total CBD Acceptors
9. Follow-up Costs - Contraceptive Clinic
Continuation Rate of First Method
10. Total Acceptors by Method
Total Acceptors
11. Total Visits by Method
Total Visits
12. Total Visits by Method
Total Acceptors by Method
13. Total Acceptors - Contraceptive Clinic
Total Session Hours
14. Total Acceptors - Surgical Clinic
Total Session Hours
15. Total Acceptors
Medical and Paramedical Hours
16. Total Medical Hours
Total Clinic Session Hours
17. Total Paramedical Hours
Total Clinic Session Hours

18. Total Recruitment Costs
Total New Acceptors
19. Total Follow-up Costs
Total Re-visits
20. Total Costs
Total Clients Currently Protected

Setting Goals

Since effectiveness of the program is judged from the relationship between program performance and program goals or needs, the governing body of the program must define and agree upon the program goals. While the ultimate goal might be a perfectly contracepting population having the number of children they desire at the optimal time of reproductive life and consistent with socioeconomic goals of the family and community, in practice most programs must define more limited goals. In many areas the needs are so obvious and great, and the resources so limited, that thinking about the effectiveness of the program seems a luxury and one need focus only on efficiency.

In setting goals of the family planning program, the governing body must consider the level of awareness of the population, the present demand for services and alternative agencies able to provide service. Knowledge, attitude and practice (KAP) surveys and an inventory of possible sources of services can provide this information. If such surveys or inventories are not available, the educated opinion of community leaders must suffice. Available information should enable the governing body to decide how to divide resources between informational and educational activities and actual family planning services.

While it has been found, frequently by trial and error, that the family planning services to provide are those presently accepted and used, providers should also determine what services would most economically and safely lead to achieving the program's long-range goals. A first consideration is the division of services between "stoppers" and "spacers", that is, between sterilization and contraception.

To estimate the total potential number of sterilization clients, the provider must delineate the geographic area to be served and then estimate the number of families who have completed their desired family size. This estimate can be derived by comparing the model desired family size and the actual living children per family as determined from KAP surveys or records of contraceptive clinics in the area that inquire about total living children and additional children desired. A grid (Figure 1) plotting further children desired by living children will frequently show a consistent pattern pointing to a model desired family size as the number of living children where no additional children are desired¹. To the extent that this estimate is representative of the total population, it can be confidently applied to the total population of married couples in reproductive years.

Data needed to estimate potential sterilization clients is summarized as follows (Figure 2):

1. Model family size
2. Distribution of married women of reproductive age by number of living children
3. Correction for age of youngest child
4. Correction for sex preference of offspring

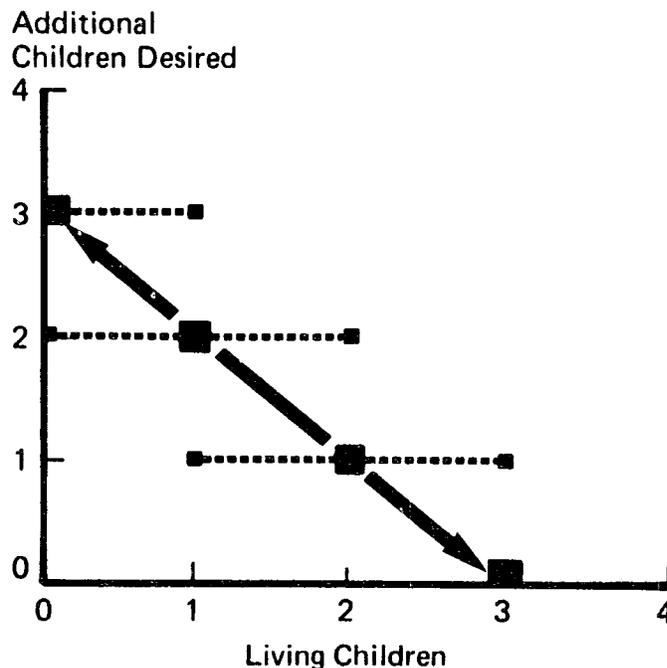
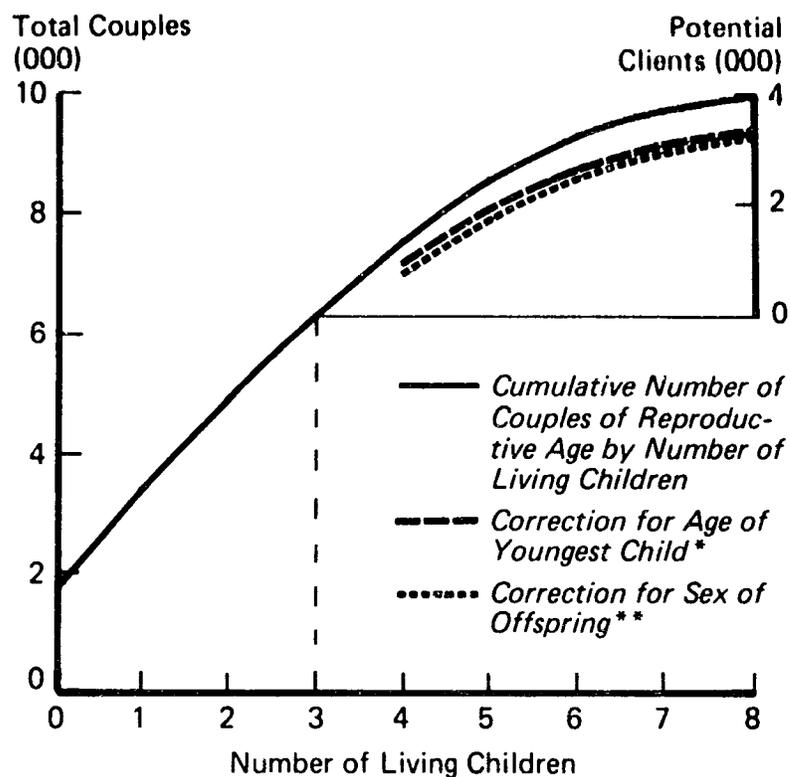


Figure 1. Estimating Modal Desired Family Size.
(Source: Kessel, E., reference 2)



* Youngest child for women with four living children should be greater than one year of age.

** At least one male living child.

Figure 2. Estimate of Potential Clients for a Sterilization Program. Modal desired number of children = 3. (Source: Kessel, E., reference 2)

The corrections for age of youngest child will depend on infant and child mortality rates of the area. Preference for a male child varies greatly in different parts of the world.

Once the potential clients for sterilization are determined, a judgement must be made in each cultural setting concerning what proportion may accept

sterilization now and in future years. From this, a target number may be chosen and used as the denominator for the evaluation index:

$$\frac{\text{Actual Number of Sterilizations Performed}}{\text{Target Number of Sterilizations Planned}}$$

The index can be graphically applied as in Figure 3.

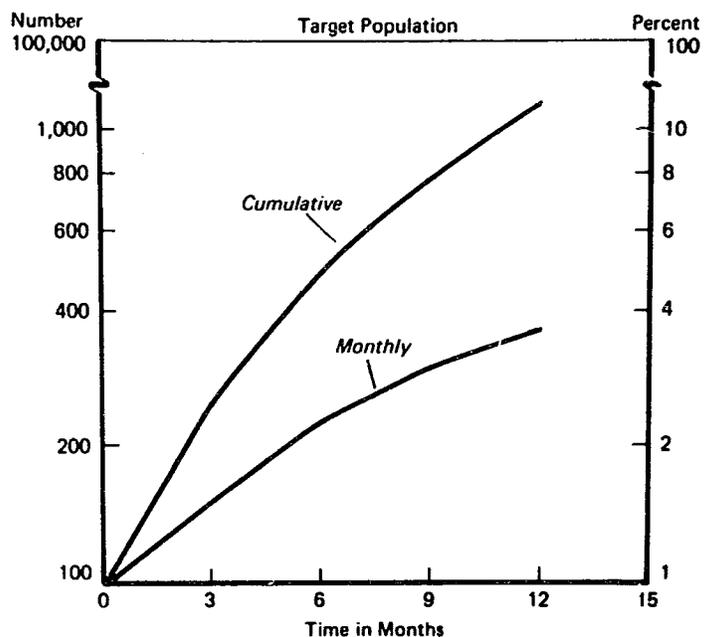


Figure 3. Sterilizations per Month. Total, cumulative, and percent of target population. (Source: Kessel, E., reference 2)

The potential acceptors of contraception can be similarly estimated for the balance of couples of reproductive age. Assumptions are needed concerning age at marriage or union and ideal spacing of children. In programs supporting a national policy to slow the rate of population growth, goals may be further expressed in terms of births averted by services provided.

With program goals defined, a number of indices of program effectiveness can be calculated using program inputs, outputs or effects as numerator and program goals as denominator such as:

$$\frac{\text{Clients Served by Method}}{\text{Potential or Target Clients by Method}}$$

It is also possible to estimate the impact of the program on health indices. For example, it is well known that child loss rates rapidly increase after parity 5. By estimating births averted by the program in this parity group, it is also possible to estimate child loss prevented.

The goals of the program may also be defined in terms of the kind of client served. In any community, family planning services benefit some couples more than others. Data needed to identify these high risk groups are an important part of program data. These data generally relate to client characteristics.

By far the most important client characteristics are age and parity, the foremost determinants of fertility and morbidity related to fertility. At least this information should be collected on all clients in both clinic and CBD programs. From an age-parity grid of acceptors, quadrants can be defined and priorities assigned. Bernard³ has suggested the quadrants shown in Figure 4.

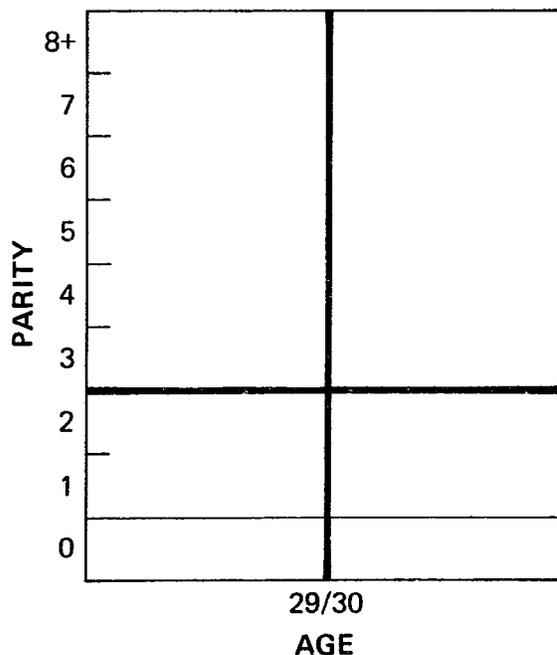


Figure 4. Age/Parity Grid for Identifying Target Groups. (Source: Bernard, R.P., *et al.*, reference 3)

In like manner, the median age and parity of the program population served, by method, can be plotted on the grid, as shown in the example in Figure 5.

The outcome of pregnancy in terms of live birth, stillbirth, abortion and child loss after live birth provide further data to identify high risk groups. The illustration in Figure 6 indicates the need for sterilization services in Yugoslavia and abortion services in India, if we can assume that availability of abortion leads to lower infant and child mortality as it did in Yugoslavia. The same may apply to client groups within a single program.

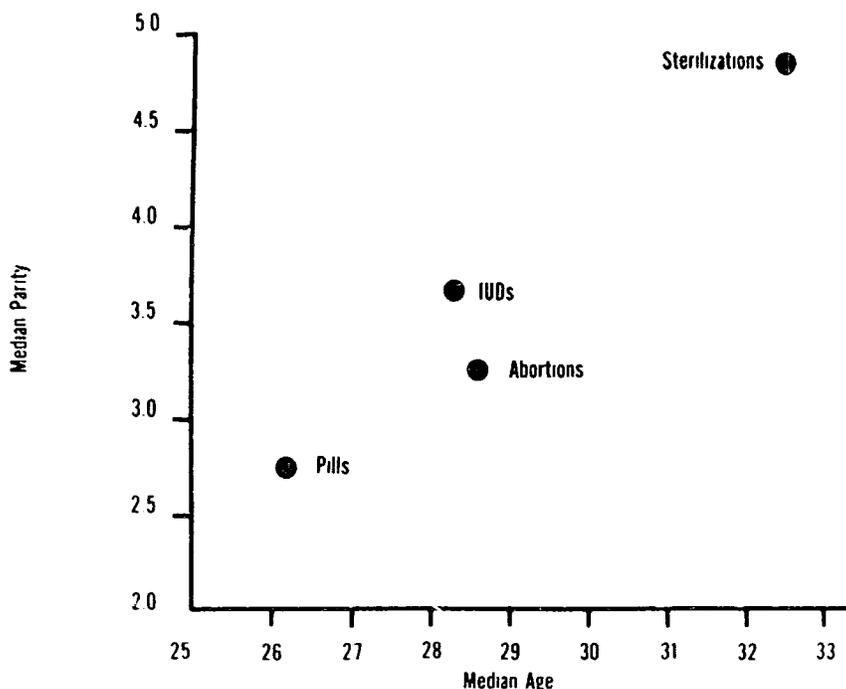


Figure 5. Fertility Control Acceptors by Median Age and Median Parity. (Source: reference 4)

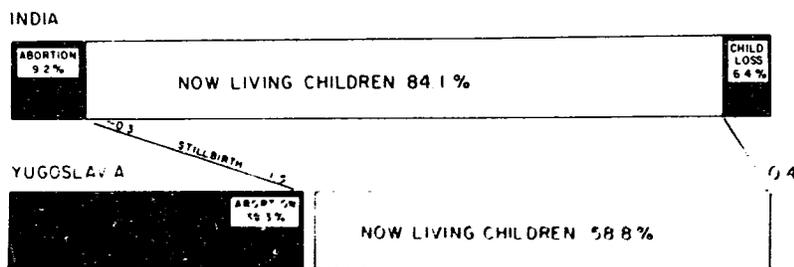


Figure 6. The Risk per 100 Pregnancies in Indian and Yugoslavian Women Prior to Requesting the Present Abortion. Studies in India ($N = 365$) and Yugoslavia ($N = 1174$), 1971. (Source: Kessel, E., Evaluation of a Sterilization Program. In: *Advances in Voluntary Sterilization*, M. Schima, I. Lubell, J.E. Davis, and E. Copell, eds. [Amsterdam: Excerpta Medica])

If child loss can be divided into infant and early childhood mortality, a further refinement is possible in identification of high risk clients. The prevalence of infectious diseases and weaning practices of the locality will determine the importance of this further breakdown in program data.

Finally, program data should be sufficient to monitor the best way to make services available. Urban, rural or slum location of clients, and availability of physicians and clinical facilities will frequently determine the balance between a clinic oriented and a CBD or camp type delivery system for both contraceptive and sterilization services.

Other Data Applications

While data to satisfy most family planning program evaluation requirements are available through census data or KAP surveys, information on location of medical manpower and clinic facilities, or information recorded on client records, other specialized program data are useful for special needs. For example, a postpartum program should collect data on deliveries and abortions to have better knowledge of the population served. In the same way "eligible couple" or contraceptive use prevalence surveys of communities served by the program give denominator data for the entire program and an estimate of the part of total contraceptive services provided by the program.

In every program, a few select clinics should be able to collect additional clinical data for new methods introduced into the program to evaluate their safety and effectiveness.

Special data of a market research nature are desirable from pilot CBD programs or to evaluate the effect on demand of introducing a new method in the clinic. An example of the latter is the introduction of an outpatient laparoscopic sterilization program as compared to an inpatient laparotomy sterilization program.

In a community where charges are made for sterilization procedures, the price (P) and number of procedures performed (N) is determined by the relationship between supply (or cost) of the service and demand (or what the public is willing to pay) for the services, as seen in Figure 7. If the traditional inpatient laparotomy method is replaced by an improved outpatient procedure, a shift in supply and demand is expected, as shown in Figure 8. By shortening hospital stay, the supply curve shifts down (S_1 to S_2). As the outpatient procedure is more desired, the demand curve moves up (D_1 to D_2). The new equilibrium price (P_2) is, therefore, likely to be established lower, with more procedures (N_2) being performed. This kind of program data is important to collect to determine rational allocation of limited resources.

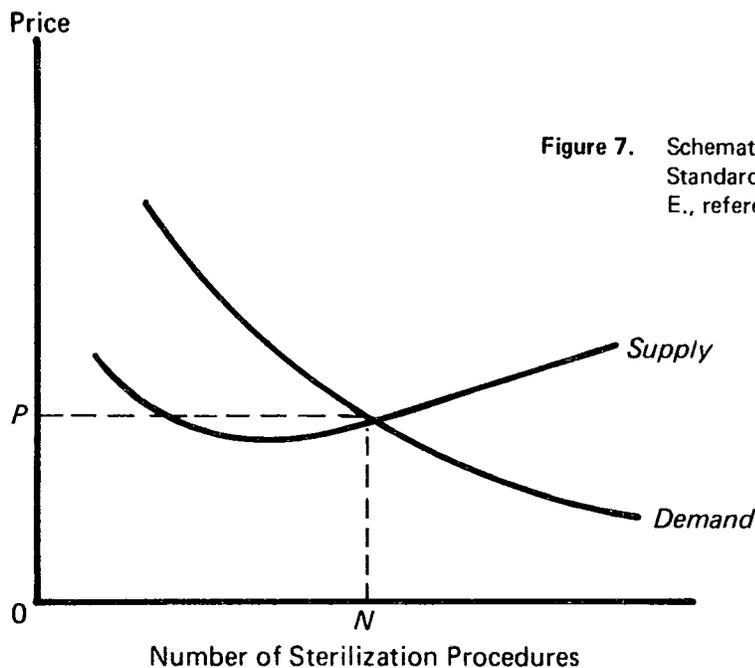


Figure 7. Schematic Supply and Demand Curves for Standard Sterilization Methods. (Source: Kessel, E., reference 5)

SUMMARY

Data for evaluation of family planning programs are needed for several distinct purposes.

1. Data to evaluate efficiency of the program relate program inputs, outputs or effects to program resources, especially in terms of costs. These data are available from service statistics and expenditure budgets.

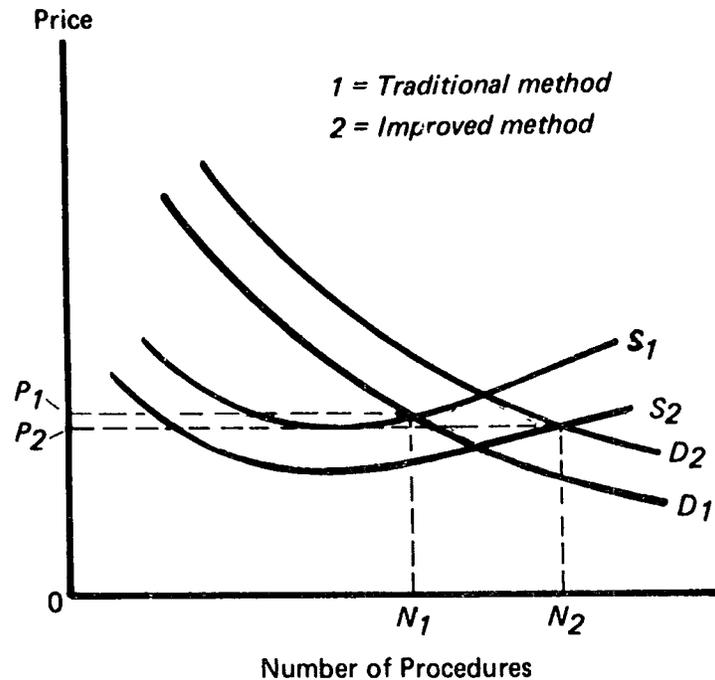


Figure 8. Effect on Price of Shift of Supply and Demand Curves When Laparoscopic Sterilization Service is Initiated. (Source: Kessel, E., reference 5)

2. Data for setting program goals are available from the census, KAP surveys or clinic records, as well as from general knowledge of the community in terms of availability of services. The goals must ultimately be set by the policy making body of the program.
3. Data to evaluate the effectiveness of the program relate program inputs, outputs or effects to the determined program goals or needs. If program goals include provision of services to high risk couples, additional data on client characteristics are needed to identify these high risk groups.
4. Denominator data is particularly desirable for postpartum programs, but may also be useful for general program services.
5. The introduction of new clinical methods requires additional clinical data from select centers to determine their safety and effectiveness.
6. Careful attention should be given to collecting data that will assure availability of services in an economical manner.

7. The introduction of new methods that are already proven safe and effective, requires data to evaluate costs and acceptability.

Providing data for all of these evaluation purposes in an economical and meaningful manner requires an integrated data system.

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FAMILY PLANNING CLINIC RECORD SYSTEM
COMMUNITY-BASED DISTRIBUTION OF CONTRACEPTIVES

INTRODUCTION

The records for the Community-Based Distribution of Contraceptives are designed as a record keeping system for household distributors (field workers and depot holders) and as a system to tie the Community-Based Distribution Program to the Family Planning Clinic Program. The primary advantage of the system is that it provides rapid, standardized computer feedback useful to the administrators of both programs. The feedback indicates distributors' performance, referrals to the Family Planning Clinic Program, and community participation in both programs.

ELEMENTS OF THE SYSTEM

Couple Registration Card

A household distribution worker (a field worker or a depot holder) completes a Couple Registration Card for each eligible couple in his area at the time of his first contact with the couple.

The Couple Registration Card is divided into several sections. The Couple Identification section (items 1-3) is part of the permanent record and is not sent for data processing. The Card Identification section (items 4-8) identifies the distributor and the couple. The Acceptor Number (item 7) is not filled in at this time. All subsequent data are controlled by the information recorded in the Card Identification section. The Couple Characteristics section (items 9-16) calls for data on age and parity and on the primary contraceptive method the couple used during the three months before contact. The Program Participation section (items 17 and 18) calls for information on the contraceptives supplied to the couple and any referral that is made to the Family Planning Clinic in the area. At the end of the month the distributor takes all Couple Registration Cards completed during the month to the Family Planning Clinic.

Before the distributor dispenses oral contraceptives, he takes a medical history from the woman. If answers to all of the questions are negative, the distributor supplies oral contraceptives, but if one or more of the answers is positive, he refers the woman to the Family Planning Clinic.

Acceptor Identification Card

When a man or woman is admitted to the Family Planning Clinic, an Acceptor Identification Card is completed and an Acceptor Number is assigned. Acceptor Identification Cards are filed alphabetically and are kept at the clinic.

A supervisor reviews all Couple Registration Cards turned into the clinic by the distributor at the end of the month and pulls Acceptor Identification Cards for those who are Family Planning Program acceptors. The Acceptor's Number is recorded on the Couple Registration Card. In turn, the Couple's Registration Number, date of first contact by the distributor, and the distributor's name and number are recorded on the Acceptor Identification Card. The Acceptor Identification Card is then returned to the main file.

An Acceptor Identification Card will be prepared for couples who have not been seen in the Family Planning Clinic. An Acceptor Number will be assigned and recorded on both the Acceptor Identification Card and Couple Registration Card. The date of the first contact by the distributor, Couple Registration Number, and the distributor's name and number are also filled in on the Acceptor Identification Card. The date of the first visit to the Family Planning Clinic will be recorded when the husband or wife is admitted to the program. The new Acceptor Identification Cards are filed with the others in the clinic. When the husband or his wife is admitted to the Family Planning Clinic for the first time, a member of the clinic staff will look through the Acceptor Identification Cards to see if the couple has been assigned an Acceptor Number by virtue of the couple's participation in the Community-Based Distribution Program.

Processing of Couple Registration Cards

Items 4-18 are recorded on a paper overlay of the Couple Registration Card. Once all Acceptor Numbers have been assigned and recorded, the paper overlays are sent for data processing. The Couple Registration Cards are returned to the distributor for his permanent records. The distributor should file them alphabetically. Information from the Couple Registration Cards is used to develop standard tables and indices on couples participating in the Community-Based Distribution Program.

Daily Register

Each subsequent visit a participant makes for a contraceptive supply is recorded on the distributor's Daily Register. The distributor records the husband's and the wife's names, their address, contraceptives supplied, program status, referral to the Family Planning Clinic, and the date of the next visit. At the end of the day the distributor pulls each couple's Couple Registration Card. He records their Couple Registration Number on the daily register and records the date of the visit, contraceptives supplied, and date of the next visit on the Follow-Up Record on the back of their Registration Card.

At the end of the month the distributor takes the paper overlays of the Daily Register to the Family Planning Clinic with his new Couple Registration Cards for the month. The distributor keeps the copies of the Daily Register for his own records. The paper overlays are sent to data processing.

USEFULNESS OF THE SYSTEM

The information recorded on the Daily Register will permit calculation of indices related to program participation status. Information from both the Daily Register and the Couple Registration Cards turned in at the end of the month will permit calculation of indices related to the distributor's workload, inventory of oral contraceptives and condoms, couples referred to the Family Planning Clinic, and the number of couples participating in both programs.

Periodic evaluations of the Community-Based Distribution Program can be enriched by reviewing standard feedback from the Family Planning Admission Record for those couples participating in both programs. Follow-up information on those same couples can be gathered for a specific time period through standard feedback from the Family Planning Clinic Status Report and the distributor's Daily Register.

Use of Couple Registration Cards for an Eligible Couples Survey

There are two different systems by which the distributor can complete Couple Registration Cards. Under one system the distributor completes Couple Registration Cards only for those couples who actually accept contraceptives or are referred to the Family Planning Center. Under the other system the distributor completes a Couple Registration Card for each couple with whom he makes contact although the couple may not accept contraceptives or referral to the Family Planning Center. The administrator of the Community-Based Distribution Program must decide which system the program will use.

Completing Couple Registration Cards only for contraceptive acceptors or couples who accept referral to the Family Planning Center will save the distributor's time. Data generated from completed Couple Registration Cards will be specific only to those couples. There will be no group of couples who did not accept contraceptives or referral for comparison.

Under the other system the distributor completes a Couple Registration Card for each couple with whom he makes contact. The completed Couple Registration Cards will provide the distributor's supervisor with a concise record of all new contacts that the distributor makes. This system will also serve as an "eligible couples survey" for the distributor's catchment area. Data generated from the completed Couple Registration Cards will identify such characteristics as the eligible couples' fertility history, desire for additional children, and history of contraceptive use. Program administrators can then compare the characteristics of those couples who accept contraceptives or referral to the Family Planning Center with those who do not in order to assess the impact of the Community-Based Distribution Program and to identify "high risk" couples.

Once all couples are surveyed there will be a denominator for all calculations of program impact. If the catchment areas of the Family Planning Clinic Program and the Community-Based Distribution Program are the same, data from the Couple Registration Cards will also provide denominator information for the Family Planning Clinic Program statistics.