

PN-ABK-293  
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**MANAGEMENT INFORMATION FOR COMMUNITY-BASED SERVICES**

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*Presented at an MIS Session at Community-Based Family Planning Services Workshop sponsored by International Planned Parenthood Federation (IPPF) and the German Agency for Technical Cooperation (GTZ), Harare, Zimbabwe, 2-5 September 1991.*

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## INTRODUCTION

A simple working definition of a management information system (MIS), and one that is commonly used by the Family Planning Management (FPMD) project, is a system designed by an organization to collect and report information which allows managers to **plan, monitor and evaluate** the operations of their program. When managers have proper information, they can then make reasonable, informed management decisions. An MIS provides the formal information managers require to **evaluate, monitor, and plan** future program activities, in what ideally should be a permanent and ongoing process of providing important program data for management decision-making.

A management information system does not have to be elaborate in order to be valuable. The gold standard for an MIS should be: **is the information from the MIS being used to make decisions?** Unfortunately, admiration for the capabilities of today's computers often distracts

attention from this critical function of an MIS. Attraction to costly technological wizardry leads managers to ignore practical management concerns and results in: overloading the system with unnecessary data demands, taxing the abilities and patience of staff who collect and analyze the data, and, failure to use the data produced by the system. MIS experts and consultants have also unfortunately created a mystique around the concept of MIS. Especially for those involved in community-based services (CBS) in rural areas who don't have access to modern computer technology, it is important to understand that a good management information system is not measured in terms of the number of computers, but rather, in terms of whether it can generate information that is understood and used by program staff who make decisions about, for example, a project's scale of activities, its staffing patterns, the quality of care it offers, and its cost-effectiveness.

There are several general questions that should be asked before establishing or adapting an MIS:

1. *How can one ensure involvement of all potential users in the development of the MIS?*

Because the ultimate success of an MIS will depend on how information collected by the system will be used, it is critical to involve all potential users of the information in system's development or adaptation. Including all the users in MIS development will build ownership of the system, will help different categories of personnel understand the importance of what they are being asked to do, and will facilitate the rational use of the information once the system has been put into operation.

2. *What information does the organization currently produce on a regular and timely basis?*

There are unlikely to be any family planning agencies that do not collect data on their operations, and setting up a new MIS is no reason for an organization to abandon its old procedures. Improving the MIS will usually mean adapting or revising the existing system to better meet the needs of its managers. When a new program for community-based services is established, the organization must decide what new information must be collected and how this new information will be integrated into the existing system.

3. *What will be the role of community participants in the decision-making process?*

This is probably the most important issue for preliminary discussion. Especially in the case of community-based programs, the organization will have to face squarely the problem of how much authority community participants will have in management decisions. If data collection is geared to making information available for decision-making, will CBS representatives be given the power to make such decisions?

### **DESIGNING OR ADAPTING AN MIS**

Whatever the program setting, the five basic stages in the development or adaptation of a management information system for CBS are:

- **Identifying** the types of data that will be the basis of the CBS information system;

- **Collecting CBS data;**
- **Processing and analyzing CBS data;**
- **Reporting CBS data to relevant parts of the organization;**
- **Using CBS data to make management decisions.**

The tendency of many program managers is to want to collect too much data about client characteristics. The negative impact of collecting extraneous data is highly underrated. One "wrong" field on a data collection form often taints the whole form and the attitudes of those collecting the data.

Age, parity, reproductive and health history, and contraceptive method chosen are usually important to CBS managers, but often managers collect information such as educational level, race and religion which is interesting, but not critical for program decision-making. Unless there is continuing use for this information, collecting it on a regular basis will burden the staff and will not be useful in day-to-day decision-making. This kind of information does not have to be collected routinely, but can be obtained when needed through other means such as sample surveys.

## **WHAT DATA SHOULD BE COLLECTED?**

Program managers usually recognize five different categories of data. **Resources or inputs** are personnel, contraceptive commodities, and money used for program activities. **Outputs** are the type and quantities of goods and services produced by a process or a program such as the numbers of clients served, training sessions held, referrals made, couple-years of protection, etc.. **Process or activities** measures show the activities that will be completed to achieve a specific objective over a specific period of time, such as, how many clients are seen each day or per provider, or how many trained workers use IE&C materials during clinic sessions. **Results** measures, such as, how many people are resupplied by CBS workers three times a year, how many people are contacted by the CBS workers during the period, etc., show the immediate effect of the program activities on the target population in relation to the objectives of the program (number of new clients in the program area, number of continuing users, etc.). **Impact** measures show the long term effect of the program activities on the overall population such as changes in the health and fertility levels.

An MIS for a CBS program should provide information that focuses on areas requiring management attention and resources. Uses for this information include:

- monitoring the CBS program;
- evaluating the CBS program activities;
- regulating the performance of individual staff members in the CBS program;
- maintaining inventory and resupply for CBS activities;
- integrating CBS information with information collected by other program areas.

In a CBS program, there are usually at least three levels of responsibility: the field level, the field supervisory level, and the program level. Each level will collect and use information differently.

Although the final choice of what information to collect will depend on the organization and management structure of the CBS program, and the kind of decisions program managers and community participants will make, it is likely that some of the following information will be needed.

At the field level:

- basic client characteristics (for example, name/address/sex/age);
- type of contraceptive distributed to each client;
- money collected and outstanding bills (if the system collects money);
- number of information and education contacts made;
- number of referrals by method.

Certain information collected at the field level will be aggregated, analyzed, used, and forwarded to the field supervisory level such as:

- the number of contacts;
- the number of effective referrals;
- the number of active users;
- monies collected and outstanding.

Effectively using this information at the program level will allow program managers to determine:

- the use of different commodities and the amount needed for resupply;
- program performance that creatively combines information into useful performance indicators (for example; cost by acceptor, etc.);
- how individuals and teams are performing by comparing data between them;
- cumulative income generated by program.

## **COLLECTING MIS DATA**

It should be a rule to keep data collection forms as simple as possible, and to train the staff responsible for data entry on how to avoid making errors. These are related factors, because the design of a form is closely related to the accuracy of the data it will yield.

For example, if the form lists too many data items on a single page, does not label items clearly, and contains no instructions, or confusing instructions, then the likelihood for error is considerably greater. In addition, if the data collection system requires re-copying data from one form to another and then to a third summary form, or if space intended for data entry is cramped, or if handwriting is illegible, the information may not be usable. In community-based programs, therefore, where the staff's educational levels may be lower than in clinic-based programs, it is essential to keep forms simple.

## **ANALYZING AND REPORTING DATA FROM MANAGEMENT INFORMATION SYSTEMS**

It is important that the data produced by a management information system be assembled to be **clear**, **accessible** to a wide range of users, and **relevant** for program decision-makers. Endless summaries of service statistics, in tabular form, which are hard to read, and even harder to interpret, will undoubtedly find their way on to a dusty shelf or into an unopened archive file, and be of use to no one. Care must be taken to adapt the MIS report to the educational and technical level of the anticipated user. In community-based programs, where distributors may be unable to read or write or may have poor literacy skills, use of icons or symbols, might be more acceptable than data presented as column totals and percentages. Trend data, for example, can be dramatically displayed in a chart, rather than through numbers. Data presented at a village, regional or national level is

more interesting when presented on maps with effective use of colors, and if human beings and human lives, rather than dry figures, are shown to be the observations of importance. Finally, an effective MIS should simplify external reporting while addressing the program's management needs.

### **HOW SHOULD MIS DATA BE USED?**

It is helpful to remember that people need to learn how to interpret and use data not just collect potentially useful data. MIS data will be used differently by a broad range of decision-makers at different program levels. In a community-based services project, for example, in order to plan a schedule of visits, distributors or CBS workers should know how many contraceptive users live in their neighborhood, what methods they use, how many users they must visit each month, and also, the number and location of potential users. This same information might be used by a CBS supervisor to plan support visits and to decide how large a supply of contraceptives to give each distributor. A program officer for a CBS project needs the same information to decide on the appropriate ratio of users and potential users to distributors. Similarly, information about continuing users (the proportion of all users recruited who are still using a method a year later) might be used to determine which CBS distributors are performing well and which need more support. Information on contraceptive supplies distributed can also be used to determine, for example, whether the CBS strategy is cost-effective.

## **CONCLUSIONS**

A management information system will work best if all staff members are involved in its development in some way, if everyone involved is clear about the system's objectives, and if everyone knows what information is being collected and how it is being used.

To assess whether an MIS is meeting a program's needs, managers should ask whether it provides both routine and special information to its decision-makers. Many times routine information needs to be complimented by periodic special studies and surveys.

To find out whether the system is working properly, they should ask whether data are collected on a regular basis, whether the system operates at all levels, whether it contains a mechanism for feedback, and whether reports produced by the system are timely and useful.

The design of the MIS should ideally start at the design stage of the program or project. Once the program is determined, managers must answer some of the following important questions.

- If a community-based service is centrally organized and monitored from a remote national or regional Capital, what incentives are there for volunteer field workers to devote time to data collection whose results will

be communicated to a level with which they are never in contact, and from whom they receive no feedback?

- If volunteers in a community-based project are not given authority to make decisions about their work, is it ethical to expect them to collect data that they will never share?
- Are the data that an MIS will produce going to be used for long-term planning and evaluation of a CBS project, or simply for its day-to-day management at the local level?
- Should the MIS for a community-based service, administered by an organization that is involved in other forms of service delivery be separate from, or compatible with, the system used for clinic or mobile services?
- What role should donors play in the design of an MIS for a community-based services program?
- How much information does a CBS project actually need and use? Should local distributors, for example, be expected to maintain records of the numbers of referrals they make? How are those data used by the managing organization? Do they reveal anything about the way a project

is operating, and about how well the workers are performing? A similar question could be asked about the number of data items traditionally collected in clinic-based programs, but which may be inappropriate to include in a community-based service.

- If a number of different agencies within a single country are all engaged in community-based family planning services, should some attempt be made to coordinate and standardize the MIS approach and output measures used by diverse projects?