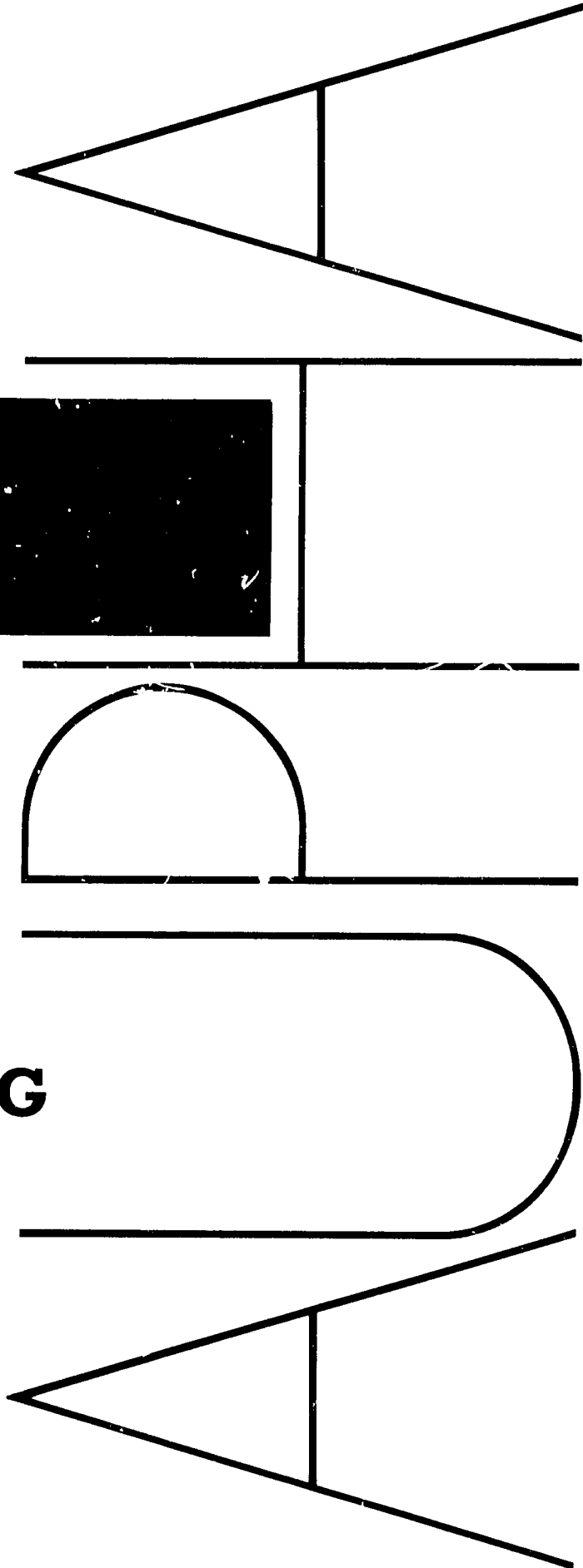


**MAPS**  
**HEALTH**  
**MANAGEMENT**  
**PROBLEM-SOLVING**  
**MODULES**



HEALTH MANAGEMENT APPRAISAL METHODS PROGRAM

AUPHA MANAGEMENT PROBLEM-SOLVING

(MAPS) MODULE

ORGANIZATIONAL DESIGN

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## PREFACE TO THE FIRST EDITION

In 1977 officials of the Agency for International Development (AID) approached the Association of University Programs in Health Administration (AUPHA) because AUPHA's mission to promote education in health administration throughout the world seemed appropriate to AID's need for specialized expertise.

A recurring problem was confronting AID in its funding of health, population, and nutrition programs: how could managers programs in host country organizations identify areas of managerial weakness and subsequently improve managerial processes or structures? The AID Office of Rural Development and Development Administration and the AID Office of Health envisioned a project to develop and test methods appropriate for management assessments conducted in developing country health programs, adaptable to the unique circumstances of individual countries.

The Health Management Appraisal Methods Project was designed to make available to developing country and international donor agencies a methodology for self-assessment of the management of health services. The assessment tools are the Management Problem-Solving (MAPS) modules.

The MAPS modules were developed through the worldwide consortium of health management specialists affiliated with AUPHA. Field consultations in Africa, Asia, Latin America, and the Near East over a two-year period were carried out to meet three interrelated project purposes: identification of methodology strengths and weaknesses, identification of management problems and solutions, and training of participants in the appraisal processes. In addition, each of the MAPS modules benefited from a review by an international panel of specialists.

The modules require additional development based upon field experience. This test edition is distributed for field testing. Please send suggestions for revision to AUPHA.

The management assessment modules were prepared as a result of a four-year effort by:

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Project work was coordinated at the Agency for International Development by the staff of the Office of Rural Development and Development Administration: Jeanne F. North (1980-1981), Monteze Snyder (1979-80), Dr. Kenneth Kornher (1979), and Dr. Charles Briggs (1978). Their support and encouragement were essential to these efforts.

Other individuals, including many AID and host country health officials, contributed countless hours of work and support on behalf of the project. The collaboration of all these people enriched every aspect of the work and was greatly appreciated by AUPHA.

## AUPHA MANAGEMENT PROBLEM-SOLVING (MAPS) MODULE ORGANIZATIONAL DESIGN

### I. USER'S GUIDE

The AUPHA MAPS modules are designed to help health facility administrators, government health officials, and others who seek information for the purpose of strengthening management practices in health service systems.

The modules are intended to be adapted for local use, taking into consideration available health services, local culture, existing administrative practices and their history, the political situation, and so on. Users are encouraged to change the order of sections in the modules, to alter individual questions to better meet their needs, or to omit questions or sections entirely, as appropriate.

The modules are intended to provide information for use in improving management practices in health services organizations of many types. The modules are not a complete management development package in themselves. Where a long term management improvement process is being considered, assistance from management development specialists is recommended, whenever possible, in addition to the study of these modules.

The remainder of this User's Guide contains suggestions on conducting management assessments with these modules. There are six modules, covering various aspects of guidance and support processes of health management. Four basic steps are outlined for users to follow during assessment: arranging for the assessment process, choosing the appropriate Management Problem-Solving (MAPS) module or modules, using the modules, and suggestions for taking action based on assessment results.

## Background

Managers of developing country health programs often are faced with a great variety of problems. Many of the most serious problems are outside of their control: epidemics, natural disasters, or shifts in population. The level of resources available is usually a political decision over which the manager has little influence, particularly when funds are being reduced. Managers need skills and energy to respond to the problems which such situations create. Sometimes the administrator must protect the organization, sometimes help the organization adjust to a new reality, and many times do more for the public with fewer resources.

The AUPHA Management Problem-Solving (MAPS) modules were designed to help managers identify situations under their control which may be decreasing the effectiveness of their programs; for example, problems such as supply shortages, operating hours which are unacceptable to workers or clients, or poor supervision of personnel.

What the manager controls, directs, or influences depends upon how the organization works and the type of post the manager holds in the organization. The manager of a private health center probably has control over most functions within the organization. The manager of a government health center, which is part of a national health service or a social security system, may have control over operations but have little decision-making authority. But, both managers carry out the same functions and have similar problems, possibly with different causes and different solutions. In all situations, it is clear that:

- Managers often have more authority, influence, or control over problems within the organization than they realize;
- Managers can often gain more authority, influence, or control if they have very good information; but
- Many times they do not have the information that they need.

The MAPS modules help the health services manager get the information needed to:



- Identify problems;
- Define problems correctly;
- Identify alternative solutions; and
- Determine problem-solving priorities.

If the manager works within a large system, for example, as a district or regional director of health, the manager may initiate solution of a problem by presenting the ministry with complete and accurate documentation describing a problem, the possible solutions, and their feasibility. If the manager has the authority to act, he or she needs the same knowledge in order to act wisely. In either case, the information needed is best produced by an assessment process.

The MAPS modules can be used as the basis for assessing many aspects of management in most health service organizations. However they are used, they must be adapted or revised to respond to the particular needs of the manager and the organization conducting the assessment.

#### Purposes of the Management Assessment Process

There are several ways in which the management assessment process can be used to improve the management of a health services organization:

- To take a look at the whole organization, identifying management strengths, weaknesses, problems, and solutions, and setting priorities for improvements. This total assessment may be helpful in preparing to combine two health service systems or before a major expansion of a system. It may be used before a new program director is appointed, to help identify the skills which are needed. A new director may use it to set priorities and goals. A donor organization may use it to determine what development is needed in order to use new resources effectively.
- To examine a part of an organization. A district director may want to assess one health center or hospital. The director of an organization can use assessment to determine how to improve functions such as accounting and financial management.
- To clearly identify a specific problem, list possible solutions, and settle upon the best solution. This takes the manager beyond a simple answer which may not solve the real problem. For example, if reports on laboratory specimens from a central laboratory are not reaching rural health posts, the problem may be a breakdown in laboratory equipment,

inadequate purchasing of laboratory supplies, poor vehicle maintenance, or inadequate personnel or financial management. Assessment helps clarify what contributes to the problem.

- To involve many people in the organization in the process of identifying and solving problems. When resources are scarce, competition may result instead of cooperation, so that available resources are not shared and are not used efficiently. The assessment process can bring together people from different parts of the organization to evaluate solutions and set priorities which all will understand and support. It is a course of action which does not itself require additional resources.
- To establish a management development program. Every health service organization can do a better job of serving the public and every health service administrator can do a better job of serving the organization.
- To identify training needs, opportunities, and priorities, and to develop formal training curricula. The assessment process is itself an effective management training device.
- To determine what assistance an organization needs in general or in dealing with a particular problem, by an outside consultant.

#### Step One: Arranging for Management Assessment

There are a number of points at which an assessment can be started. On the basis of discussions with managers in developing country health programs, the authors suggest that the following situations provide suitable opportunities:

- When activities are to be expanded because of increased budgets or new laws;
- When support from an external (donor) agency requires the development of new projects;
- When evaluation of activities or projects is required by an external (donor) agency;
- When new techniques are to be implemented, such as a change in accounting systems, or computerization;
- When a major natural disaster has changed the organization;
- When budgets are cut; and
- When there is a change in administration or government affecting the agency.

The decision to undertake an assessment is an important one. The process requires the time of employees who are busy with their day to day responsibilities. It may produce fears in employees who may think they are being judged on how they do their jobs. Or, it may be seen as a way to put people out of jobs or to reorganize responsibilities. Such fears can lead to a lack of cooperation.

It is important that everyone in the organization who may be involved in the process or affected by the results fully understand what it is and what it is not. They should be involved in discussion of how an effective process can help everyone do their jobs better. They should understand that it is usually not something imposed on them from outside, using someone else's standards. It is their own process, using their own standards.

The key to a successful assessment process is open communication with everyone who may be interested in or affected by the process.

### Step Two: Choosing the MAPS Modules That Fit Your Needs

There are six MAPS modules now available, with additional ones to be completed in new areas. The modules cover activities identified by practicing health service managers in developing countries as being of great significance and offering strong possibilities for improvements in their organizations. MAPS modules available can be used to assess the following functions:

#### Support Functions:

- Materials and Facilities Management: How the materials and supplies logistics system and facilities operations support the overall delivery of health services by the organization.
- Personnel and Human Resources Management: How employees (or potential employees) are contributing to the operation of the organization.
- Patient Services: How well the health services meet patients' needs, and how and whether patient expectations about health services differ from those of the organization.

- Financial Management: How flows of money are controlled for operation of current and future programs.

Guidance Functions:

- Organizational Design: How organizational units and work groups function and how various parts of the organization are coordinated.
- Community and External Relations: How the organization relates to outside institutions, the services it provides to the community, and external factors which constrain the organization's performance.

Each of the modules is unique in style and approach. This reflects the different situations a manager will find him/herself in within the various management functions, the level of information available on the particular subject, as well as differences in authors' approaches. In each case, it is important to note that these modules can only help you organize ideas and potential that already exist in your organization and are not intended to serve as master plans for restructuring an entire organization.

Any combination of the modules may be used. It may be best to start with the one which appears to deal directly with the most important problem and then go on to use the others as they may be helpful. It is possible that more than one of the MAPS modules will be needed for you to clarify your current situation and then to establish a workable plan of action for making changes.

There are many other approaches to management development in your organization in addition to the use of MAPS modules. The greatest benefit of this assessment will result from combining use of the modules with one or more of these other activities. While there is not enough space here to give a long description of all the other approaches, a few of the more important ones can be suggested: use of in-service training programs to expose staff to new ideas about health services management; use of outside management specialists; and, perhaps most importantly, encouraging managers to give special attention to the way they supervise their employees.

Supervision in health programs in most parts of the world involves a combination of regulation and education (a police function and a teacher function). It is seldom possible for the same manager to be effective in both types of supervision. The educator-type supervisor is more likely to benefit from the use and discussion of the MAPS modules than is the regulator-type supervisor.

### Step Three: Using the MAPS Modules

The MAPS modules guide managers' thinking and raise sensitive questions which can result in strengthening management practices. The modules are designed to encourage involvement by a variety of knowledgeable people, but could conceivably be used profitably by an individual manager operating entirely alone in considering ways in which the organization operates.

A typical module contains the following elements:

- Problem examples and issues;
- Introductory explanations of management practices;
- Guidance for setting criteria against which to judge current practice;
- Directions for gathering information and discussing the current practice in a given management area; and
- Questions which focus on particular activities or practices of importance in many countries and which are believed to be of value to the user.

The module user gets an opportunity to follow along familiar lines of thought, and also to raise new questions and see new perspectives on program operations.

The expected outcomes from the use of MAPS modules include the following:

- Consideration of objectives and criteria for particular management activities;

- Diagnosis of problem or particular management situations with information available to managers working in particular management areas;
- Inventory of actual problems and solutions;
- Recognition of areas which are not operating well and require more detailed problem analysis; and
- Indication of other management areas which may be causing problems (such as are covered in other MAPS modules).

In using the modules you should not expect that long-standing problems can be changed in a short period of time. Instead, expect that most problems will be handled gradually--of course, you should watch for chances to take rapid action when opportunities present themselves.

Selecting the participants: In organizing the effort to use modules and consider possibilities for problem-solving, you should be careful to select participants who have a diversity of relevant experience. Many module users recommend using a team approach. Neither single individuals nor large numbers of people are excluded from using these materials, but groups of three to five participants have been found very effective.

The various groups asked to participate or contribute should include, if possible, representatives from all levels in the organization's hierarchy who are affected by the management practices under study. The more broad the involvement, the more effective the assessment will be. To achieve greatest support for the follow-up results, all participants' ideas should be taken seriously. Top management support for the effort and knowledge of the use of the materials are essential to the success of the effort.

Defining objectives and timetables: Clear working objectives should be set for the effort. It is important that expectations and objectives be established in practical terms at the outset. A timetable is also important since many different people are likely to be involved in answering questions through interviews or directing attention to sources of data. It is helpful to decide who will be involved in the total

assessment process and who will be involved only in collecting the information specified by the module.

Reviewing the module: The teams then review the module they are working with. Each participant should have the opportunity to review the complete module to see how the section they are working on fits into the total assessment. Many chapters or subsections of modules begin with a general statement. The team must decide if the statement is appropriate for the organization. If it is not, the team may change the statement or write a new one which describes how the function would work if it adequately met the needs of the organization.

Adapting the module: The team then examines the questions in the subsection. The questions are not a checklist of good or necessary practices, rather they help identify what is being done now and what might be appropriate. Remember that the modules must be adapted to meet your needs. The printed forms cover what experienced health managers in many countries recommend should be included in an assessment--but only as a starting point. Modules should be modified to fit both the purpose of the assessment and the organization. The team may decide to rewrite the questions, selecting some to use and some to change. Some questions may be too detailed, and others may not be detailed enough. Some of the subsections include issues for the team to consider. The team needs several hours together for reviewing the subsection and reshaping it if necessary before beginning to collect information.

Conducting the assessment: The team then collects the information. When all the information has been assembled, the team meets to decide if any important information has been left out. That is, is the description complete?

When the team members are sure that they have developed a complete profile, they begin answering the assessment questions in part III of the module. Each module section ends by asking how adequate the section is to the needs of the organization as stated in the opening. If the group concludes that the management function adequately meets the needs of the organization, there are probably not many important management problems. If the conclusion is that the function does not

come close to meeting the standard in the opening statement, there are probably major management problems.

The team then decides what is the most serious problem, and defines it as clearly as possible. For that problem, the team then lists all of the solutions they can think of. For each of the solutions the team develops a cost estimate. The estimate should be well done, but you should not spend a lot of time developing detailed cost information.

Interpreting the results: At the end of each support function module (that is, all but the Organizational Design and Community and External Relations modules), there is a list of all of the management subfunctions. Each team identifies what it considers to be the most serious problem, solutions, and the cost of each solution. All of the teams come together and report so that everyone participating in the assessment process has the opportunity to learn what the other teams think are important problems.

The assessment teams together, or perhaps a coordinating committee, study each important problem, the solutions identified, and the possibilities of implementing them. Each of the solutions is then evaluated and given a score as follows:

1. = Very possible.  
The organization has all of the necessary resources and the authority to implement the solution.
2. = Possible.  
Some of the resources are available or they can be easily obtained.
3. = Questionable.  
It is not certain that the necessary resources can be obtained. Or, the authority is not clear.
4. = Probably not possible.  
The organization is not likely to be able to obtain the resources necessary, or, it may not have much chance to obtain the authority. Or, the solution may be possible, but it would take too long to implement it.
5. = Impossible.  
The solution cannot be seriously considered.



#### Step Four: From Assessment to Action

In making plans for resolving problems identified through using the module, the following general stages should be considered:

- Identifying alternative solutions to problems;
- Examining resources for each alternative;
- Examining constraints;
- Ranking the alternatives and determining which alternative best meets the agency's needs; and
- Designing a work plan for that particular alternative.

Involve the individuals who are likely to be affected in the evaluation of the solutions in deciding which is most important for the organization. These people will then be more likely to help achieve the solution selected.

Another action plan is to use additional management assessment modules to examine other units or functions. If you started with Materials and Facilities Management, it may be appropriate to use the Personnel or Finance modules for the next step.

The experiences of other managers in making changes to strengthen management practices in organizations like yours can also be of great value. Innovations in management practice are known to be passed from person to person. Practicing managers should keep attuned to the work of others and consider the possibility of adopting the established practices of other agencies for doing work described in this module area.

AUPHA MANAGEMENT PROBLEM-SOLVING (MAPS) MODULE  
ORGANIZATIONAL DESIGN

II. INTRODUCTION

Health care organizations are no different from other organizations; they are concerned with productivity and efficiency of production, and with proper management of scarce resources. Health care organizations are unique in two respects, however:

- They are concerned with life and death; and
- Their direct outputs are difficult to measure, especially in terms of quality of care.

How your organization is structured and how you arrange work groups have an effect on productivity and resource use. It is the purpose of this module to help you look at both of these, so that you may deliver better care to the patients you serve.

Organizational assessment is an attempt to provide operating managers with some formal measure(s) of the functional status of their organization. While this is usually done on an intuitive basis, the use of more systematic and quantitative approaches greatly increases the ability of the manager to diagnose problems, and to act appropriately to correct them.

While a thorough understanding of organizational design is just in the beginning stages, the basic concepts are available and provide a useful guide to the development of assessment tools and procedures.

The development of assessment procedures requires a firm understanding and agreement on the unit to be assessed. Is the primary unit the management of the organization and those individuals involved with it? Is it the entire organization, some unit in the organization, or both?

Complex organizations have multiple goals, and a critical problem facing managers is how to identify which structural properties of the organization further the achievement of the goals. This process of identifying structural properties is called organizational design. It is the arrangement, and the process of arranging, an organization's activities, roles, or positions to coordinate most effectively with the interdependence that exists within and among its work groups. The purpose of this is to improve the efficiency, effectiveness, and adaptability of the organization (Kilman, 1977). Organizational design, as either a process or set of arrangements is important for several reasons:

- Providing health services is a collective activity. Organizations, rather than individuals, provide the framework for providing an ever increasing set of complex health service technologies; and
- Increased evidence indicates that design, rather than individual characteristics of personnel, is a critical factor affecting organizational performance. For example, health services research involving physicians has shown that differences among physicians do not account for as much variance in selected indicators of performance as the characteristics of the organizational structure within which they function (e.g., Rhee, 1977, 1976; Flood and Scott, 1978). The implications of this are great. As applied to quality assurance activities in hospitals within the United States, Palmer and Reilly (1979) have suggested that:

Changing the process of care at the individual level is not the only, nor necessarily the best, way of improving quality of care. To the extent that structural characteristics (design characteristics) determine the quality of care, efforts to improve care in the long run through changing the structure of care (design) may prove to be more cost effective than short run quality assurance programs.

While a number of design models are available, they tend to assume that the organization has some common purpose or goal that provides the rationale for a particular design. In reality, organizations work toward multiple goals, many of which are in conflict. This creates a considerable gap between theoretical design and the operational reality of the organization (Charnes and Schaefer, in press).

The purpose of this module is to describe a structured method for setting goals for an organization or specific work groups within the organization and for selecting the design features that work best toward overall organizational goals.

We want to caution you about several things before you begin working on this module.

- If your organization is an old one, it has probably been operating basically in the same way for years, possibly under the same management. If the design of your particular organization has remained unchanged for many years it may be very difficult to change even slightly. In the developing world, many countries operate under the bureaucratic structures which were established during colonial periods. It may be that small changes can be made at lower levels, without making large changes for the entire organization. There may also exist very strict codes for professional and personal behavior, which will affect not only the assessment process but also the implementation of any changes;
- In conducting this assessment, you will want to remember that people feel comfortable with what they know best. You may discover that the people in your organization find an assessment threatening to them because they assume that you are going to change the way things are. But, in fact, you may or may not decide to make changes in your organization as a result of this assessment;
- Any recommendations for change which are included in this module must be considered very carefully, for they may or may not be appropriate for your organization, given the particular goals and mix of resources you presently have;
- Any changes which you might decide to make as a result of this module would have to be made very gradually, in order to educate the members of your organization to the purposes and benefits of such changes.
- From our experience in assessment, we cannot tell you what is best for your organization or what would work best. However, we would recommend that you involve as many different levels of your organization as possible. If you only involve top management or physicians, then you will have a very limited view of what is going on. If you involve only one department, you will be putting together only one part of the picture of your organization. It is best that you have no fixed implementation plan in mind before you consult staff. Use staff input as justification for action you take. If you do not seriously consider the responses given by your staff, you may be confronted with two problems: wasted staff time in obtaining their responses, and negative feelings among your staff members.

Analysis of your entire organization will enable you to get a general picture of how your organization is structured. You may find that such a general analysis is really not helpful in giving you information about how the individual parts of your

organization are working. In order for your total organization to be functioning most effectively and efficiently, you want all its parts to be operating at their best. An overall analysis may give you some idea about how things are operating in general, but may not help you pinpoint particular relationships or problem areas. You may therefore decide that you should use the module to assess individual work groups.

This module may be used by any of the following organizations:

- Ministry of health;
- A department within the ministry of health;
- A hospital;
- A department within a hospital;
- A primary health clinic, either urban or rural; or
- Other health care providers.

Throughout the activities of this module, you will be examining the structure and function of your organization. You will need two valuable pieces of information: an organizational chart, and a statement of the goals of your organization.

If your organization does not already have an organizational chart, you should draw one, because you will need to refer to it as you complete sections of this module. Also, the chart will prove helpful in making comparisons between the way things are organized "on paper" and the way things may be organized in actual operations. Most organizational charts have a series of boxes connected together by lines, showing supervisors at each level. You may draw your organizational chart in the space provided on page 17.

If you have clear goals and objectives which you presently are working toward, then you do not need to develop new ones. If your goals are unclear or outdated, then it is important that you and your staff identify new goals and objectives at the beginning of this assessment. Clear goals will enable you to evaluate how your organization is operating, both in terms of efficiency and effectiveness. The first exercise in Section C is on goal setting and will help you develop and rank goals for your organization.

Within the module, there are frequent uses of the terms vertical and horizontal.

Vertical relations refer to a flow of communications, supplies, decisions, etc. from the "top down," as shown by the following examples:

- From the minister of health to the regional ministers;
- From a hospital director to the director of the laboratory department;
- From a health post physician to a village health worker.

Most vertical relations are from the "top down," but reports, records, and other types of communications are an important part of the vertical system in reverse--from the "bottom up."

Horizontal relations refer to communications, flow of resources, and contact:

- On the same level with an organization, for example: exchanges among rural health clinics, or exchanges among hospital departments within the same hospital; or
- Among organizations, as among the ministry of health and the planning, finance, and stores ministries.

This module differs from some of the other modules in this series because it helps you to conduct an assessment of organizational design, and then helps you identify some design strategies and how you would go about implementing them, if that is what you decide to do on the basis of the assessment responses.

Section A which follows is a discussion of organizational design variables and provides background materials for you in assessing your own organization. In Section A you will carry out the assessment on your total organization or on its work groups. In Section B you will consider different design strategies for your organization. Based on your answers from Section B, you will carry out certain exercises in Section C which will help you complete your analysis and determine action plans for each strategy.

ORGANIZATIONAL CHART

Name of your organization: \_\_\_\_\_

Director: \_\_\_\_\_

(--PLACE YOUR ORGANIZATIONAL DIAGRAM HERE--)

AUPHA MANAGEMENT PROBLEM-SOLVING (MAPS) MODULE  
ORGANIZATIONAL DESIGN

III. ASSESSMENT

A. ANALYZING DESIGN CHARACTERISTICS

For this section, you need to determine what you will assess, or your unit of analysis, for the rest of the module. What is your unit of analysis?

Work groups? \_\_\_\_\_

Your total organization? \_\_\_\_\_

Both? \_\_\_\_\_

If you are assessing only work groups, then you should first go to the section below on work groups, then to B. DESIGN ALTERNATIVES and Tables I and III, and finally to C. EXERCISES.

If you are assessing only the total organization, then you should go to the section in this chapter on Total Organization, and then to B. DESIGN ALTERNATIVES and Tables II and III, and finally to C. EXERCISES.

If you are planning to assess both, then complete the entire module.



Work Groups

The design within a work group depends on two things: the nature of the task; and the interdependence of the work group with other parts of the organization.

The nature of a task depends on how predictable it is and how complex it is.

1. How predictable is your work? During a normal week, do you have a lot of unexpected work to do?

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Very rarely have unexpected work						Very often have unexpected work

2. In the past three months how often did difficult problems arise for which there was no immediate or apparent solution?

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Once a week or less						5 or more times per day

3. How much do you have to depend on other groups within your organization (for obtaining materials, funds, equipment, clients, etc.)?

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Not dependent at all						Very dependent

You need to identify certain work group design characteristics. How is your work group structured? Do you have rigid lines of command? Does everyone know clearly to whom they report? Do you depend on a lot of information and supplies from a central source?

These are some of the questions on the type of organizational structure in which your organization is functioning. By identifying the characteristics of

your work group, you may discover opportunities for change, or opportunities to develop in more detail something which is already going on in part of your organization.

There are six design variables listed below which you should consider. You certainly should add any other variables which you think are appropriate for you to examine. You will find it helpful to talk to individual members of your staff (or try a committee) to help determine which variables, in addition to these, are important for your organization to consider. The design variables are as follows:

- Formalization;
- Centralization;
- Complexity;
- Goal setting;
- Vertical coordination; and
- Horizontal coordination.

Once you understand what we mean by these terms, then you can rate your work group on each variable.

Formalization refers to the degree to which work rules, policies, and procedures are standardized and followed in your organization. Rules, policies, and procedures are considered "formalized" when they are written down in detail.

4. How specific or general are the rules, policies, and procedures for coordinating and controlling the work activities of all personnel?

	1	2	3	4	5	
Very general rules, policies procedures	<hr/>					Very specific rules, policies procedures

5. How strictly are the rules, policies, and procedures enforced in your organization?

Rules are not enforced at all      1      2      3      4      5      Rules are very strictly enforced

Centralization is the extent to which each employee depends on activities performed by the supervisor.

6. In order to obtain materials, drugs, or information necessary to perform the functions of your organization, do your employees rely on their supervisors?

Do not rely on supervisor at all      1      2      3      4      5      Rely heavily on supervisor

Complexity refers to the number of different tasks or jobs which your work group performs.

7. During the past three months, how many of your employees performed the same basic tasks, or did each perform different tasks?

All performed same tasks      1      2      3      4      5      All performed different tasks

8. How easy is it to rotate the jobs of personnel in your work group, so that each can do a good job of performing other tasks?

Very easy      1      2      3      4      5      Very difficult

Goal setting refers to what your group is trying to accomplish and how you can measure performance.

9. Does your work group have specific performance goals?

No specific goals 1 2 3 4 5 Many goals

10. If your work group does have goals, estimate how often you have achieved them.

Achieved a few goals 1 2 3 4 5 Achieved many goals

Vertical coordination refers to the way in which work groups relate to other groups which are considered either superior or below them.

11. In the past three months, how often did your unit communicate with other units above you in the organization in each of the following ways:

Type of communication	Frequency				
	None	Monthly	Two times a week	Daily	More than daily
Letters/memos	_____	_____	_____	_____	_____
Telephone calls	_____	_____	_____	_____	_____
Conversations (face to face)	_____	_____	_____	_____	_____
Meetings	_____	_____	_____	_____	_____

Horizontal coordination refers to the way in which work groups relate to other work groups considered on the same level.

12. In the past three months how often did your unit communicate with other units which are at the same level within the organization?

Type of communication	Frequency				
	None	Monthly	Two times a week	Daily	More than daily
Letters/memos	_____	_____	_____	_____	_____
Telephone calls	_____	_____	_____	_____	_____
Conversations (face to face)	_____	_____	_____	_____	_____
Meetings	_____	_____	_____	_____	_____

13. Rate any other design characteristics you chose to examine.

Record your answers from the section above in the chart below, so that you may look at all the work group design characteristics at a glance.

Question 1:  
Predictability of tasks

Low                      1      2      3      4      5                      High

Question 2:  
Difficulty of tasks

Low                      1      2      3      4      5                      High

Question 3:  
Dependency on other groups

Low                    1            2            3            4            5                    High

Questions 4 and 5:  
Formalization

Low                    1            2            3            4            5                    High

Question 6:  
Centralization

Low                    1            2            3            4            5                    High

Questions 7 and 8:  
Complexity

Low                    1            2            3            4            5                    High

Questions 9 and 10:  
Goal setting

Low                    1            2            3            4            5                    High

Question 11:  
Vertical coordination

Low                    1            2            3            4            5                    High

Question 12:  
Horizontal coordination

Low                    1            2            3            4            5                    High

Question 13:  
Other characteristics

Low                      1            2            3            4            5                      High

Total Organization

It is often important to consider the design of the total organization--the sum total of all the work groups. This process of assessing the total organization is similar to but not identical to the process used for work groups.

Your organization functions within the larger environment outside your organization. The complexity of the environment, and its uncertainty are powerful influences on the basic design features of the total organization.

13. How do you meet environmental uncertainties such as service delivery problems and resource flows? Do a lot of unpredictable things occur? Are your resources and events unpredictable?

	1	2	3	4	5	
Very rarely	_____					Very often

Environmental complexity concerns the numbers of different problems, different services delivered, and different resources.

14. Does your organization deal with a lot of different services, various resources, different institutions, companies, etc.?

	1	2	3	4	5	
Only a few	_____					Many

Formalization refers to the degree to which work rules, policies, and procedures are standardized and followed in your organization.



15. How specific are the rules, policies, and procedures in your organization?

Very general rules, policies procedures      1      2      3      4      5      Very specific rules, policies procedures

Administrative intensity is the extent to which managers are available to resolve problems and supervise activities of the organization.

From the total number of employees in your organization, divide the total number of managers (supervisors) by the total number of nonsupervisory personnel.

The total number of managers = \_\_\_\_\_.

The total number of nonsupervisory personnel = \_\_\_\_\_.

The administrative intensity = \_\_\_\_\_ (Use this figure to answer the question below.)

16. Do you have enough managers to handle the problems which occur?

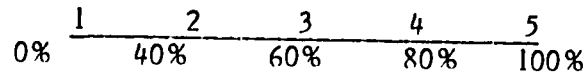
Not enough managers      1      2      3      4      5      Too many managers

Goals are the statement by critical decision makers in your organization as to what your organization is trying to accomplish. It is important to examine overall organizational goals and specific performance goals.

17. Do you have performance goals for your organization?

Few goals      1      2      3      4      5      Many goals

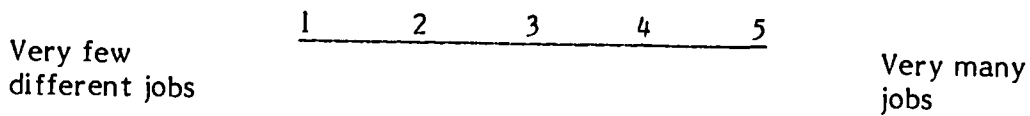
18. If you have organizational goals, what percentage were met last year?



Complexity refers to the overall division of labor among workers in the organization.

19. How many different jobs are specified in your organization? You can determine this by the number of different job descriptions.

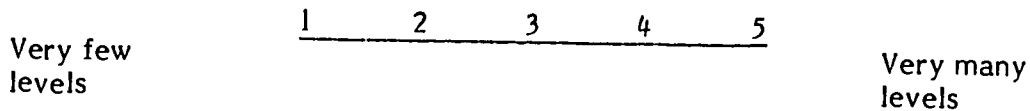
There are \_\_\_\_\_ different jobs in our organization.



Vertical division is the number of supervisory levels in the organization.

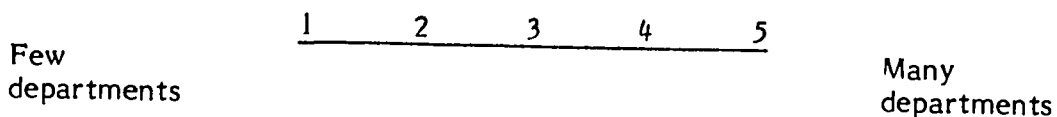
There are \_\_\_\_\_ supervisory levels in our organization.

20. How many different supervisory levels are there in your organization?



Horizontal division refers to the division of labor among work groups.

21. How is the work divided up into departments or work groups in your organization?



Record your answers from the section above in the chart below, so that you may look at all the total organizational characteristics at a glance.

Question 13:  
Environmental uncertainty

Low                      1            2            3            4            5                      High

Question 14:  
Environmental complexity

Low                      1            2            3            4            5                      High

Question 15:  
Formalization

Low                      1            2            3            4            5                      High

Question 16:  
Administrative intensity

Low                      1            2            3            4            5                      High

Questions 17 and 18:  
Goals

Low                      1            2            3            4            5                      High

Question 19:  
Complexity

Low                      1            2            3            4            5                      High

Question 20:  
Vertical division

Low                      1            2            3            4            5                      High

Question 21:  
Horizontal division

Low                      1            2            3            4            5                      High

## B. DESIGN ALTERNATIVES

In this section, you will consider possible design strategies which can improve your organization's overall performance. In the last section, you constructed a profile of present organizational characteristics for your work groups or for the total organization.

While most health service managers take pride in their practical orientation, they are sometimes forced to adopt or develop, by trial and error, some theory or model of the internal workings of the organization (Elmore, 1978). These theories or models of the organizational design process lead to different perceptions and conclusions, and thus to designs which are considered preferable. As described by Graham Allison (1971), "What we see and judge to be important depends not only on the evidence but also on the 'conceptual lens' through which we look at the evidence."

Several "conceptual lenses" or models are currently available to guide the design process of health service organizations. Each model provides a somewhat different explanation or highlights different design issues and emphasizes different factors important to the resolution of these issues. The approach presented in this module builds on the work of Jay Galbraith (1973), in which seven design strategies are presented. They represent ways of dealing with increasingly complex work flows, resource flow and dependence within the organization. As presented below, each strategy relates to specific design characteristics outlined in the previous section.

- **Rules and procedures:** Organizing tasks by specific rules, policies, or procedures. This is the simplest method of coordinating interdependent tasks within a work group, and perhaps the most acceptable;

- Referral to authority: Using authority in situations where there are no rules or procedures. When a person confronts an unexpected situation, he or she goes to the supervisor to solve the problem;
- Goal setting: Setting targets, and then getting a group consensus on achieving these targets;
- Creation of slack resources: Reducing the work load of different work groups. Individuals are required to do less, or at least to reduce the demands on existing resources;
- Creation of self-contained tasks: Creating independent work groups which have all the resources and skills to carry out their potential tasks;
- Development of vertical information systems: Developing ways to improve the vertical "top down" information process such as creating an assistant of information position; and
- Development of horizontal relations: Coordinating horizontally and keeping decision-making at the lowest work group level. This involves more personal contact among work groups at the same level.

These design strategies offer an array of interventions. Data suggest that where information associated with work and resource flow is moderately complex and uncertain, the design strategies of developing rules and procedures, referral, and goal setting would be appropriate.

However, as complexity and uncertainty increase, it is necessary to rely on other design strategies. Creation of slack resources and the creation of self-contained work units reduce the amount of information that the work group must handle. The development of vertical information systems and the development of horizontal relations are design strategies which attempt to increase the work group's capability to handle complexity and uncertainty.

The relationship of alternative design strategies to work flow characteristics is dependent upon existing theory, research data, and your own managerial judgment. Table I, Table II and Table III which follow show in brief the relationships between existing design characteristics and particular design strategies.

TABLE I  
WORK GROUP DESIGN STRATEGIES

<u>Work group characteristics</u>	<u>Suggested design strategies</u>
1. Work group performs simple and routine tasks, with predictable dependence on other groups. ( <u>formalization</u> )	Increase reliance on rules and procedures in your group.
2. Work group performs moderately difficult and variable tasks and is involved with complex and unstable vertical dependence. ( <u>centralization</u> )	Increase referral to authority within your work group.
3. Work group performs moderately difficult and variable tasks and is involved with complex and unstable vertical and horizontal dependence. ( <u>qualitative/quantitative goals</u> )	Increase reliance on goal setting activities in your group.
4. Work group performs difficult and highly variable tasks but is involved with a simple and stable horizontal and vertical dependence. ( <u>goals/standards; complexity</u> )	Increase allocation of slack resources and create self-contained tasks within your work group.
5. Work group performs very difficult and variable tasks with a complex and unstable vertical dependence. ( <u>vertical coordination</u> )	Strengthen the vertical information system.
6. Work group performs highly difficult and variable tasks in a complex and unstable horizontal dependence. ( <u>horizontal coordination</u> )	Develop horizontal relations among other work groups.

TABLE II  
TOTAL ORGANIZATION DESIGN STRATEGIES

<u>Total organization characteristics</u>	<u>Suggested design strategies</u>
1. Your organization is operating in a very complex and uncertain environment.	Develop self-contained tasks, vertical information channels, horizontal relations, and slack resources.
2. Your organization is operating in a less complex and more predictable environment.	Develop rules, set specific work targets, and establish referral to authority.
3. Your organization is operating in a very complex and somewhat uncertain environment.	Emphasize lateral relationships.
4. Your organization is operating in a somewhat complex but highly uncertain environment	Develop slack resources.



TABLE III  
DESIGN STRATEGIES AND CHARACTERISTICS  
OF WORK GROUPS AND TOTAL ORGANIZATIONS

Based on your understanding of the different characteristics and strategies, mark below the strategies which may seem appropriate to your organization.

Work Groups

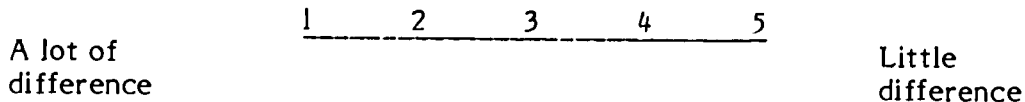
<u>Design strategies</u>	→	<u>Work group characteristics</u>
Rules and procedures		Formalization
Referral to authority		Centralization
Goal setting		Goals/qualitative/quantitative
Slack resources		Goals/standards
Self-contained tasks		Complexity
Vertical information systems		Vertical coordination
Horizontal relations		Horizontal coordination

Total Organization

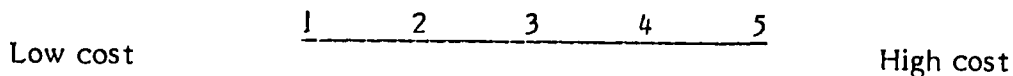
<u>Design strategies</u>	→	<u>Organizational characteristics</u>
Rules and procedures		Formalization
Referral to authority		Administrative intensity and centralization
Goal setting		Goals/qualitative/quantitative
Slack resources		Goals/standards
Self-contained tasks		Complexity
Vertical information system		Vertical division
Horizontal relations		Horizontal division

The selection of a design strategy occurs within a political context which determines its overall feasibility, and is dependent upon the insight of the manager and staff members. Now that the characteristics and potentially appropriate designs have been identified, weigh each of the alternative design strategies in terms of the difference the strategy would make (given the particular problems and issues confronting the organization) against the total cost (time, personnel, money, etc.) of implementing these strategies in the particular organization.

Estimated difference a strategy would make



Implementation cost:



After you rank these factors on a scale of 1 to 5, you can multiply the total score to obtain a priority for implementation score.

Estimated difference X cost = priority for implementation

For example, if you think one strategy would make some difference (a score of 3) but would have high costs in terms of time, supervision, and staff morale (a score of 5), your total priority score is 15. You might be more likely to favor a strategy which might make some difference (3) but would have a low cost to your organization (2), so that your priority score is 6. The smaller the priority score, the more favorable for you. Calculate and record your priority scores in the table below.

PRIORITY SCORES

<u>Name of strategy</u>	<u>Difference it would make</u>	X	<u>Cost =</u>	<u>Priority score</u>
_____	_____		_____	_____
_____	_____		_____	_____
_____	_____		_____	_____
_____	_____		_____	_____
_____	_____		_____	_____

After you have calculated a priority score for each possible strategy, then you may continue on to the next section, C. Exercises. The design strategy which has the lowest score has the best chance of being implemented in your organization. In C., complete the design strategy exercise(s) which corresponds to the strategy(ies) you have selected at this point.

### C. EXERCISES

Given the findings of your organization's assessment and the priority for implementation, what procedures or exercises are available to help the manager implement or achieve the preferred design? This section is a series of exercises appropriate to each design strategy. You should proceed to the exercises for the particular design strategies you selected in the previous section.

#### Goal Setting

This first exercise will help you examine the goals of your organization or work group. What is the purpose of your organization? Most organizations have one or two main goals, which are very general statements. All the people in your organization are working toward goals, and it is important that they are working toward the same, desired goals. If you have recently been through a process of defining goals and setting objectives, then you may use them here.

1. List your organization's goal(s) in the spaces provided below. If you have more than one goal, list them in order of importance from most important (#1) to least important.
2. Then list specific objectives for each goal. Beside each objective, write the particular indicator which will let you know whether or not you have attained your objective.

For example,

**Goal:** To improve the health of all citizens.

**Objective:** To increase the number of rural health posts

**Indicator:** Number of health posts

Most of your objectives will fall into one of several categories:

- Productivity--number of people served
- Efficiency--ratio of resources allocated to tasks accomplished
- Innovation--ability/willingness of your organization to adapt to changes.

### ORGANIZATIONAL GOAL(S) AND OBJECTIVES

Name of your Organization:

---

Goal number 1:

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<u>Objective</u>	<u>Indicator</u>	<u>Reached Objective</u>
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____

Goal number 2:

---

---

<u>Objective</u>	<u>Indicator</u>	<u>Reached Objective</u>
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____

ORGANIZATIONAL GOAL(S) AND OBJECTIVES

Goal number 3:

---

---

<u>Objective</u>	<u>Indicator</u>	<u>Reached Objective</u>
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____

Goal number 4:

---

---

<u>Objective</u>	<u>Indicator</u>	<u>Reached Objective</u>
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____

## Rules and Procedures

The purpose of this exercise is: to identify and evaluate activities of the organization by type and degree of formalization; and to determine whether existing rules or regulations need to be modified or new ones created, in order to establish the level of formalization which is considered optimal for your operations.

The chart which follows will help you to analyze the different tasks which you do and whether or not you have formalized procedures and rules governing them. Formalized rules and procedures are specified and written down. Informal procedures and rules are passed by word of mouth and may vary from person to person. For some activities it is essential to have rules and procedures to specify exactly what and how certain things are to be done. In other cases, rules and procedures may be too complicated and only serve to hamper the work you are trying to do.

For some activities, you may decide you should make your rules formalized. For others, you may feel that they should be more informal. For other activities, you may want to maintain the degree of formalization you presently have.

For example, one activity might be ordering drugs. Is there a formalized procedure? If yes, is it beneficial? If not, do you think the procedure should be formalized? Do you have a formalized procedure for scheduling patients' visits at your clinic? Do you think your current practice is helpful or harmful to your overall work?

1. List specific work activities and whether the corresponding rules and procedures are formal or informal. Fill in the corresponding columns A and B on the chart which follows.
2. Evaluate the rules and procedures you have for each work activity.
3. Indicate for each work activity whether or not you think it would be better to have rules which were more formalized or less formalized (column C).



4. If there would be negative effects to these proposed changes, these are treated as costs. In column D estimate the negative effect the change might have, using the following scale:

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Small negative effect						Large negative effect

5. How easy do you think it would be to put into effect the change?

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Easy to implement						Difficult to implement

Enter the number you chose in column F.

Your total score may give you an idea as to which areas you want to start working on first. The lowest total score will be the easiest for you to implement.

In order to proceed from here, individual work groups would need to develop rules and procedures where indicated, or begin eliminating rules and procedures which are hindering organizational operations.

There are two areas which need to be followed up after changes are identified. Implementation dates need to be chosen, and a way to train and inform the staff and to check to see that the changes decided upon are actually being implemented needs to be organized.



### Referral to Authority

The purpose of this exercise is to assist your organization in identifying: patterns of referral in your decision process; possible blocks in the process; and decisions which are inappropriately referred. In others words, how many decisions are referred to a superior?

This exercise will help you analyze decision-making in your organization, and to determine whether, in your opinion, your decisions are too centralized, that is, work is held up because a decision has not been made by a superior, or decisions are involving too many people at lower levels in the organization so that it is counterproductive to the flow of work.

1. On the chart which follows, develop a sample list of representative decisions for your work group (or organization).

Who makes most of the decisions? Are decisions made by many people within your organization, or are they made by relatively few individuals?

2. Fill in on the chart the types of decisions which are being made and by whom. In the fourth column, show whether or not you feel this manner of decision-making hinders or helps the work flow. For example, if one nurse makes all the major decisions on his or her nursing unit, or if one doctor makes all the decisions about ordering drugs, there may be a backlog of work awaiting their particular decisions. These decisions may be administrative decisions, or ones that involve direct patient care. On the other hand, if many people are involved in each decision, it may delay the decision process, but, in the long run be more effective in that your employees were involved in decision-making process.



The above chart permits an analysis of the decision making effect on the work flow within the organization. There are basically two types of decisions being analyzed here: important decisions (complex), and operational (routine) decisions.

The following questions will help you analyze some of the data in the chart.

1. Are most of the important decisions made by high level personnel?

Yes       No

2. Are high level personnel making a lot of routine decisions?

Yes       No

3. How involved are the employees in the decision-making process?

---

4. Is there an incomplete assignment of decision-making authority?

Yes       No

5. Are decisions made at lower levels subject to approval (and veto) at higher levels?

Yes       No

6. To what extent are decisions being referred upward in the organization?

---

It may be that high level personnel are wasting valuable time on operational decisions and are also slowing up the work flow in the organization. If so, these decisions should be assigned to lower levels within the organization. Decisions for which enough information is available within the work unit, and for which acceptance by the work group is an important factor, should not be referred to a higher level but should be assigned to the work unit. Decisions for which information is not available within the work group and for which acceptance in the work group is not important, should be made at a higher level.

Identify decisions which should be kept in your work group which now are being referred to higher levels, and those which should be referred to a higher level.









### Horizontal Relations

The purpose of this exercise is to provide you with information about how much you relate to other work units in your organization in terms of communication and resources. You probably have a good idea already whom you deal with and whom you do not, but this exercise will help you put down on paper some of the relationships and to analyze what is going on.

The following section will help you conduct an analysis of communication among different work groups. It is really best if the work groups themselves complete this section, for they are not at the top of the organization but are inside it and have a view of the organization far different, perhaps, from your view as a manager. When analyzing the tasks of a work group, it is particularly important to try to determine how dependent a work group is on other parts of the organization. Groups can be dependent on other parts of the organization to perform certain tasks, or to supply information and equipment.

How much are you in communication with other organizations (or other parts of your organization)? A rough analysis will at least tell you who you have a lot of contact with (perhaps too much) and with whom you are having little or no contact.

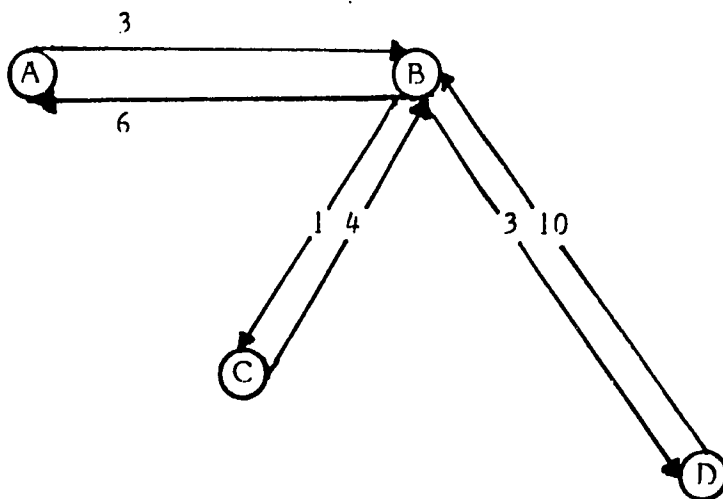
In the chart on the following page fill in the number of times you have communicated with other departments or organizations, and the number of times they have communicated with you.

Fill in the appropriate names for "senders and receivers." For a work group analysis, you would be examining communications among work groups (for example, departments) within your organization. For a total organization communications analysis, senders and receivers could include other organizations, regional hospitals, and clinics. Record the number of communications you have had in the past six months. (One communication unit = one phone call, one letter, one meeting, etc.)

### COMMUNICATIONS INVENTORY

<u>Senders</u>	<u>Receivers</u>					<u>Total Sent</u>
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	
A.	_____	_____	_____	_____	_____	_____
B.	_____	_____	_____	_____	_____	_____
C.	_____	_____	_____	_____	_____	_____
D.	_____	_____	_____	_____	_____	_____
E.	_____	_____	_____	_____	_____	_____
F.	_____	_____	_____	_____	_____	_____
G.	_____	_____	_____	_____	_____	_____
Total received	_____	_____	_____	_____	_____	_____

You may take the information in the chart and graphically represent it to show how different groups communicate with each other. The picture points out very clearly which parts of the organization are "out of touch" with one or more parts of the total organization.



**DRAW YOUR COMMUNICATIONS DIAGRAM BELOW**

From examining the chart and diagram, you should be able to make a few summary statements. With which parts of the organization do you need to be in closer communication? What can you do in order to establish better communication with them?

<u>Department</u>	<u>How to Communicate Better With Them</u>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

### Slack Resources

The purpose of this exercise is to take another look at indicators for organizational goals. You may be able to reduce levels of performance in some areas so that you may use those resources where they may be needed more. If you did not do the goal setting exercise, you should refer to it, because for this exercise you will either need to develop organizational goals and objectives or use existing ones which your organization is currently operating under.

Using the indicators listed in the goal setting exercise, is it possible to reduce the quantities or level of performance without reducing the organizational performance too greatly? The goals should still be challenging but reasonable. Following the format in the goal setting exercise, you may want to revise some of your objectives in order to develop some slack resources which you can apply where you need them most.

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