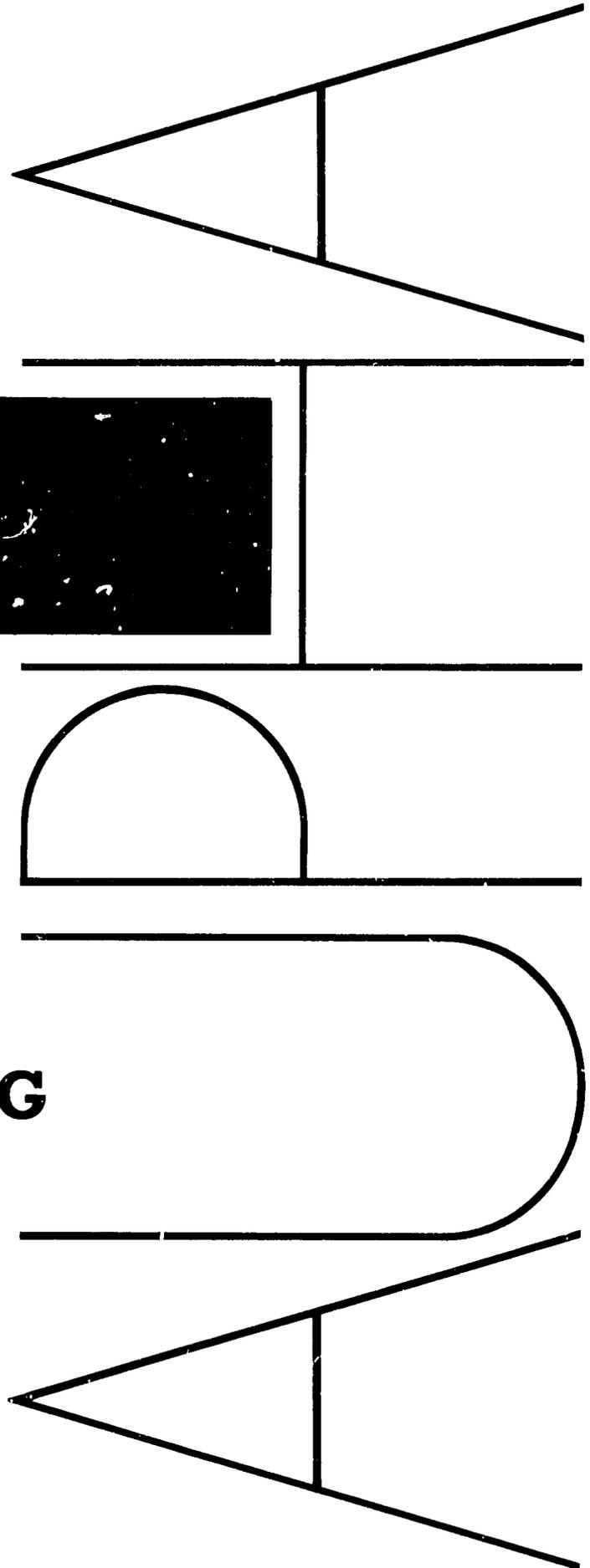




**MAPS**  
**HEALTH**  
**MANAGEMENT**  
**PROBLEM-SOLVING**  
**MODULES**



HEALTH MANAGEMENT APPRAISAL METHODS PROGRAM

AUPHA MANAGEMENT PROBLEM-SOLVING

(MAPS) MODULE

FINANCIAL MANAGEMENT

September 1981

AUPHA--THE HEALTH MANAGEMENT EDUCATIONAL CONSORTIUM  
Office of International Health Administration Education  
One Dupont Circle, NW, Suite 420, Washington, DC 20036, USA  
Telex 64148 / Telephone (202) 387-8811 / Cable AUPHA

This module was written by:

Olga Quintana, D.B.A.

This report was prepared with the generous support  
of the Office of Rural Development and Development Administration,  
Bureau for Development Support, of the Agency for International Development,  
Washington, DC, USA, under the Health Management Appraisal Methods Project,  
Contract AID/ta-c-1480.

Copyright ©1981, Association of University Programs in Health Administration

## TABLE OF CONTENTS

	<u>Page</u>
Preface	v
I. USER'S GUIDE	1
II. INTRODUCTION	12
<u>Problem Identification</u>	15
<u>Problem Solution</u>	17
III. ASSESSMENT	18
A. <u>Ministry of Health or National Health Authority</u>	18
Budgeting Questions	18
Accounting Questions	33
Auditing Questions	40
B. <u>District or Regional Offices of Health</u>	46
Budgeting Questions	46
Accounting Questions	50
Auditing Questions	52
C. <u>Hospitals</u>	53
Budgeting Questions	53
Accounting Questions	58
Auditing Questions	64
D. Summarizing the Assessment Process	65
References	76

## 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:

The AUPHA Advisory Committee:

Gordon Brown, Ph.D., Chairman  
Gary L. Filerman, Ph.D.  
Arnold D. Kaluzny, Ph.D.  
Peter Sammond

AUPHA International Office project staff:

Robert Emrey, Project Director  
Margaret Dodd Britton, Associate Director (1980 to 1981)  
Diane Wilson-Scott, Associate Director (1978 to 1980)

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 FINANCIAL MANAGEMENT

### 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  
FINANCIAL MANAGEMENT

II. INTRODUCTION

Rapid increases in the cost of health care, increasingly limited financial resources, and inflation mean that expenses must be watched and controlled more carefully.

The main purpose of this paper is to provide a tool for assessing the way financial information is obtained and used--an assessment of budgeting practices. This MAPS module is divided into sections for use by the ministry of health, district or regional offices of health, and hospitals. The module could easily be adapted to include rural clinics and primary health care programs.

It is well known that the budget is one of the best tools for planning and control. Hongren defines the budget as "a quantitative expression of a plan of action and an aid to coordination and implementation" (1977, p. 123). Budgets force the health care manager to plan ahead, and to quantify plans. They also make necessary the assessment of environmental forces and their impact on the organization. Budgets are good tools for evaluating performance and they make coordination among an organization's departments and programs easier.

Whether the organization is highly centralized or decentralized, problems in budget administration often prevent budget systems from being gradually implemented.

Budgeting involves planning funds for a future which may be full of uncertainties. The job of budgeting is often made more difficult by lack of accurate estimates, inflation, fluctuations in foreign exchange rates, and political instability.

Decision makers must have up-to-date information in order to make responsible predictions. Delays in preparing and approving estimates, and the unavailability of

relevant timely data often mean that a decision-maker has almost no current information upon which to make a decision.

Under conditions like these, forecasting involves a lot of guessing. Even after a final budget has been approved, several changes may take place, such as transfers among expense categories and increases in supplemental expenses.

It is extremely important for goals to be clearly established at the beginning of any budgeting process, and that planning becomes part of the budgeting process. Often budget makers really do not know exactly what they want to accomplish. That is why there must be an attempt to work out a set of criteria and guidelines for budget performance. These guidelines would improve the implementation and control of present methods for making the best use of available health resources within the existing limitations. In some cases, the political environment determines the possible range of alternatives which, in turn, affect the budgeting process. Nevertheless, some attempt should be made to pick out similarities and differences in the way countries budget for their health care expenditures.

L. Vann Seawell points out several conditions which are essential to the development of an effective budgeting program:

- Sound organizational structure, with clearly defined lines of authority and responsibility;
- Satisfactory chart of accounts (detailed listing of all accounts) that conforms to the plan of organization;
- Appropriate statistical data relating to the volume and scope of services; and
- Support of management and formal budgeting procedures (Seawell, 1975, p. 137-140).

This assessment module will help evaluate existing budgeting practices and point out feasible alternatives. Due to the fact that health care organizations with limited financial resources must respond to public challenges and try to meet constantly changing needs, budgeting has been identified as the key issue in this module on financial management.

The second component of this assessment involves the accounting function. Although accounting has been defined as "a service activity," "a descriptive analytical discipline," and as "an information system," its most essential characteristic is "the communication of information about economic considerations to interested persons" (Kiso, et al., 1977, p. 3).

Health care managers, as key figures in the organization, must be interested in analyzing financial alternatives for their implications on the quantity and quality of health care provided. Therefore, government officials and managers in charge of allocating financial resources to the public health sector must be provided with useful accounting information. This information enables them to make decisions that lead to the best use of resources. Thus, general procedures are needed to develop an accounting system to generate this type of information. There is especially a need for a system to help establish records for efficiency and productivity in the health care sector.

This module will help you appraise your organization's existing accounting system and to analyze alternatives. Because data generated by the accounting system are major inputs in the budgeting process, accounting has been identified as the second main issue in this assessment module.

The third component focuses on the auditing function. Health care financing is closely related to political issues; thus, there is the need to place it on a high priority list at the national policy level. An audit program assists the evaluation of the efficiencies and inefficiencies of the existing systems, and also in the identification of the different financial requirements. In order to have an effective audit, there must be accounts to be verified and a system to be formally examined. In fact, the purpose of an audit of an organization's financial statements is to assure a reviewer that these external reports present fairly the organization's financial position as a result of its operations.

This module will not only help to evaluate auditing practices, but will also provide optional ways of strengthening the organization's internal control. A formal audit affects the reliability of the financial statements.

The following section presents a guide to using this assessment module.

## Problem Identification

Managers are responsible for making decisions which will influence the efficiency of operations. To be an effective decision maker, a manager must have accurate information available on a timely basis.

What follows here is a self-evaluation package of current budgetary and auditing procedures, including an evaluation of the accounting system. This will not provide answers to specific problems, but it will bring into focus alternative ways of looking at these problems and alternative ways of dealing with them. The module is divided into three working sections as follows:

- Part A. Ministry of health;
- Part B. Regional or district offices of health; and
- Part C. Hospitals.

Because the module is organized with these three levels of assessment (ministry, regional, or hospital), it is possible to examine budgeting, accounting, and auditing functions at only one level, or to assess accounting, for example, on one, two, or all three levels.

Each set of questions may be answered independently of each other. For example, one person making the assessment may choose to explore only the budgeting issue for the hospital level, or to evaluate all three functional areas simultaneously for hospitals. The following information may be helpful to you in determining who would be the best person to complete which sections and questions in the assessment.

### A. Ministry of Health

**Budgeting:** The questions in the budgeting section move from general to specific. The first ten questions are suitable for Ministry level decision makers. Questions 11 through 21 are more suitable for the chief financial officer. Question 22 should be answered by both; however, it is not necessary to answer this question if the auditing function is also being reviewed. Questions 6 to 9 in the budgeting section (and questions 2 and 3 in the auditing section) refer to program directors, which is a title used generally and could also refer to regional or district directors.

Accounting: Questions in the accounting section are suitable for the chief financial officer or someone highly involved in the accounting process. These questions also go from the general to the specific.

Auditing: Questions in the auditing section are more beneficial to chief financial officers and those in a position to evaluate the performance of the existing accounting system.

B. District or Regional Offices of Health

These questions are best answered by a district health director. A district accountant and a hospital director may be helpful in completing these questions.

C. Hospitals

These questions should be completed by the hospital director and accountant.

It is suggested that both a responsible manager and the chief financial officer work together on budgeting and auditing sections of the instrument. None of the sections should take more than one hour to complete.

Problem Solution

To start with, budget practices should be examined with the aim of improving existing standards. This will allow the budget to be seen as an important planning instrument. Accounting practices should also be closely inspected in order to determine the reliability of the financial information and its use in making reasonable estimates. Comprehensive formal audits are not possible until there is a system to be audited; however, the strengthening of internal control over purchasing, cash receipts, and disbursements could be readily achieved. Alternative ways for solving typical problems are dealt with at the end of section III. which follows.

AUPHA MANAGEMENT PROBLEM-SOLVING (MAPS) MODULE  
FINANCIAL MANAGEMENT

III. ASSESSMENT

A. MINISTRY OF HEALTH OR NATIONAL HEALTH AUTHORITY

Budgeting Questions

1. Could you describe how funds are set aside to meet expected expenditures?

---

---

---

---

2. Does the ministry have a budget?

Yes       No

A budget is a quantitative expression of a plan of action, and an aid to the coordination and implementation of the action. In its simplest terms, a budget is an expected outcome which becomes the ceiling the organization is to operate under. From a legal viewpoint, a budget is a plan of proposed expenditures for a period of time and the proposed sources of financing them. The appropriation process requires requisitions to be justified, consequently requisitions ought to be related to the various programs.

If your answer was "no" above, this is a serious weakness. No matter what size the organization is, a budget is a helpful tool in controlling unnecessary costs, and it makes for efficient operations. Even if your answer is "no," please go on to the next question.

3. What approach do you use in budgeting?

- Incremental (see below);
  - By program;
  - Planning Programming Budgeting Systems (PPBS);
  - Zero Base; or
  - Other (please describe):
- 
- 

In governmental and not-for-profit organizations a budget is an "operating plan."

Incremental budgeting involves accepting existing classifications so that the budget from the year before may become the starting point in drawing up next year's budget. The new budget is figured out by adding expected increases in salaries and other expenditures to the current year's figures. Decreases may result from reductions in operations. Under this approach, developing country managers construct a new budget based on expected increases or decreases in the budget of the year before. A useful application of this approach is to have budget-makers involved only with policies that differ from last year's policies, and to have the technical staff dealing with the necessary adjustments.

Program budgeting, also referred to as performance budgeting, involves having departments identify the different activities they direct. It may even point out areas where no programs exist. In program budgeting, areas of priority are identified by departments in consultation with community and political leaders. Budgetary guidelines are then developed. In the process, an estimate of resources needed to operate the various programs is drawn up and put into a budget. An important issue with program budgeting is making decisions early in the budgeting process on major programs in which an organization is going to invest its resources. Generally, this type of budget relates inputs to service output. The difference between program and performance budgeting is that program budgeting has a format which indicates the cost of a function as a whole, while performance budgeting relates inputs to outputs for each organizational unit or department.

Planning Programming Budgeting Systems (PPBS) involves identifying goals and objectives, setting priorities, searching for alternatives in meeting objectives, and using analytical techniques to find the least costly arrangement. It also involves the classification of costs by program, and the projection of costs for services provided. This budgeting approach came about because plans and programs were frequently not carried out by the same people or departments responsible for the budgeting and accounting functions.

Zero-Base budgeting requires department heads or program directors to list their budgets item by item and to justify requisitions for each, so that all the activities are justified.

Whichever approach is used, five basic steps should be followed in all budgetary procedures:

- Prepare a list of goals and objectives by priority;
- Estimate the cost of reaching the goals and objectives--last year's budget could be the starting point;
- Estimate expected revenues by source;
- Compare revenues and expenses, and build a realistic safety margin; and
- Submit budgets to the appropriate group for approval.

Also, setting goals and objectives may be simplified by making a priority list, to provide the framework for further decisions. For example, priorities may be classified as follows:

- Priority 1--Required by governmental regulations;
- Priority 2--Eliminate or control diseases (Identify and rank diseases);
- Priority 3--Eliminate a proven health hazard;
- Priority 4--Eliminate a potential health hazard;
- Priority 5--Improve convenience of services; or
- Priority 6--Increase the freedom from pain and anxiety.

4. Does this ministry have a procedural manual for budgeting and reporting?

Yes       No

The importance of a procedural manual is twofold. First, rules and regulations and a procedure to follow should be outlined in order to standardize the accounting system. Second, this manual covering every aspect of your system will be an information guide in times of confusion. It should be the responsibility of your chief financial officer to see that an efficient manual is written.

5. Are key personnel involved in budgeting?

Circle the number below which corresponds to their extent of involvement:

	Not involved at all	Very little involvement	Somewhat involved	Heavily involved	Totally involved at all levels
Controller (Chief financial officer)	1	2	3	4	5
Program director	1	2	3	4	5
Central government office	1	2	3	4	5
Other (Specify)	1	2	3	4	5

6. Are program directors responsible for developing their preliminary budgets?

Yes       No

If program directors are primarily responsible for day-to-day activities and decisions, they should be responsible for their program budgets. However, it is the responsibility of upper management to finalize any budget proposal, since there is a risk that program directors may make high estimates in order to appear favorably as the director whose program cost less than budgeted. The participation of program directors in the budget process is the best way to

draw up preliminary budgets, and also gets the director motivated, for he or she is contributing to the organization's goals.

7. Are program directors responsible for their final budgets?

Yes       No

A program director should not have the final authority over the budget, but should have a voice in developing the budget (refer to question 3). The overall decision should rest on the chief financial officer. The approval process may involve a committee representing different districts, or it may involve the minister and a few advisors. Once the budget is approved at the ministry level, it is presented to a central agency for a final approval. This central agency then will make the appropriations.

8. Are budgets used to evaluate performance?

Yes       No

It is imperative that responsibility centers be used. (These break down the organization into centers, each under the supervision of one manager who is responsible for costs under the center's control.) The manager or director should have a clear understanding of his or her responsibility and expected performance.

9. Are costs classified into controllable and uncontrollable?

Yes       No

Controllable costs are those which directors or managers can directly influence over a given period of time. It is important to note that controllable cost must be realistically classified; for what is uncontrollable by one manager with a limited amount of authority might be controllable by someone with higher authority. Therefore, the scope of circumstances must be objectively chosen. The importance of classifying controllable and uncontrollable costs are as follows:

- If responsibility for costs is placed on the manager, he/she should be responsible only for those that are under his/her control. If uncontrollable costs are a burden on the manager, then his/her performance rating might be unrealistic;
- Lack of motivation can result if a manager is constantly burdened by uncontrollable costs; and
- If uncontrollable costs are treated as controllable, consistent, suitable goals can disappear, and the manager's efforts will be in vain.

10. Do you think that your planning function is linked to your budgeting process?

Yes       No

The budget is an important instrument for planning and control. It is a quantitative plan of future actions, which serves as a basis for future control of such actions. Plans must be thought out and agreed upon before they can be written in quantitative terms.

11. Are actual versus budgeted reports prepared?

Yes       No

If "no," this may be a major weakness in your system. How do you judge if your budgets are within reason? How do you judge if actual results are good or just adequate? If you have a reliable budget and actual reports to measure against, then you can calculate variances which will act as signals to tell where inefficiencies occurred. Any variance should be explained by the manager in charge of the project or program.

12. Who approves or disapproves the budget?

---

Final approval should be made by an impartial higher management authority, such as a cabinet or another responsible government body aware of overall national goals.

13. On what basis are budgets for a new fiscal year developed?

- By regions or districts;
- By program. (Maternal and Child Health, Immunization, etc.);
- By division or department (Personnel, Accounting, Storage, etc.);
- For the ministry as a whole;
- Are line items employed (see below).

A line item classification may initially separate revenues and expenses; in addition, it may group revenues according to their sources, and expenses according to their characteristics. Salaries, insurance, supplies, x-ray film, drugs, repairs, oxygen and gas, chemicals, petrol, and depreciation are examples of expense categories.

The budgeting process requires a careful analysis and understanding of the circumstances and needs of an organization. The scope and importance of the desired information may determine whether or not the budget should be prepared by programs, divisions, and/or the ministry as a whole. In any event, a cost/benefit approach should be used. The decision maker may ask this question: "Are the benefits received (in the form of information) worth the time and expense?" When the ministry is not using detailed information (by programs or line items) in evaluating performance, a more general approach may give a reasonable starting point. Managers should not overlook the fact that in the long run, the benefits of detailed cost analyses outweigh the preparation costs.

14. Are the following budgets prepared?

- Operating budget  
\_\_\_ Yes      \_\_\_ No
- Capital expenditure budget  
\_\_\_ Yes      \_\_\_ No
- Cash budget  
\_\_\_ Yes      \_\_\_ No
- Program budget  
\_\_\_ Yes      \_\_\_ No

15. What time period does the budget cover?

---

The operating budget will usually cover one year and regular day-to-day operations. In an environment of socio-economic changes, managers will find continuous long-range planning and budgeting more useful.

A budget for capital expenditures reports planned expansions, such as new buildings or equipment acquisitions. A cash budget is a projection of cash receipts and disbursements. It is extremely useful in evaluating the cash position, and it indicates when there is a need for additional financing to cover deficits and when excess cash can be put to more profitable use.

A program budget reports on projected financial activities as they relate to a specific program.

16. Are budgets updated and adjusted?

Yes       No

Budgets must be flexible. The budget process does not function in a vacuum, but is affected by externalities, such as a change in government. If the budget is not adaptable to changes, it may cause damage to the organization by expressing unrealistic goals. Variances from the budget should be clearly explained; they will show whether they are due to internal inefficiencies or external events.

17. What information is used in preparing the budget?

---

---

---

---

The most common is last year's budget. This method takes a look at what happened last year and follows the same trends for the new year. This method has its weakness as it ignores current external circumstances. It is totally based on historical data. Care should be used with this approach.

A second common and sometimes mandatory approach is the use of funds expected to be available as set down by government public policy. If this is the case, a ceiling is set and a manager's task is to conform to it.

A third method is demand forecasting, which uses quantitative analysis of historical costs and fluctuations. Regression analysis is a statistical method for predicting a mathematical equation that represents the effects certain variables have on other variables, and is a strong tool used for prediction. It too has a weakness in that it is based on historical data and lacks justification for extending it into future periods. Other possible demand forecasting techniques exist.

18. How are revenues projected?

Commonly there are two types of projections: a long-range plan which may cover up to five years and a one-year short-range plan. Long range plans normally are developed in annual amounts, while short-term plans normally are developed by quarter or by monthly breakdown. In projecting long-range revenues, one may start by forecasting the general economy of the country; then one may forecast the amounts that may be used in health care. Finally, a plan for assessing revenues within the health care industry may be developed. For short-range revenues, a common approach is to plan for a twelve-month period. At the end of each quarter the projected revenues are examined and one additional quarter is added in the future. The following chart may serve as a starting point:

<u>Revenues</u>	Year 1		Year 2		Year 3	
	<u>Funds</u>	<u>%Total</u>	<u>Funds</u>	<u>%Total</u>	<u>Funds</u>	<u>%Total</u>
Central budget office	_____	_____	_____	_____	_____	_____
World Health Organization	_____	_____	_____	_____	_____	_____
World Bank	_____	_____	_____	_____	_____	_____
Agency for Int'l. Development	_____	_____	_____	_____	_____	_____
Other (Specify)	_____	_____	_____	_____	_____	_____

19. How are expenses projected?

Expenses ought to be kept at a level equal to, or less than, expected revenues. A good starting point for projecting expenses is to develop a salaries budget. Salaries often represent the largest percentage of operating costs, therefore each program director or supervisor should be asked to prepare a salary budget for his/her program or department. Note that in many developing countries budget items for drugs are much greater than allotments for salaries. Budgeting for supplies and other non-labor expenses should also be undertaken by the program director or by the supervisor. Items like depreciation, interest or rents would be budgeted by the chief financial officer. Recurring expenses should be analyzed, for they may, in fact, become fixed costs.

20. What statistical data is being collected?

- For volume of services, give examples:

---

---

---

---

---

- For scope of services, give examples:

---

---

---

---

---

This statistical information, when matched to cost information, would enable the analyst to develop cost per procedure and per unit of service, and would also aid in planning for expansion or decrease in services provided.

21. For the last three years what was the cost of administrative expenses?

	<u>Administrative costs</u>	<u>Total budget</u>	<u>Percent of total</u>
Year 3 19__	<hr/>	<hr/>	<hr/>
Year 2 19__	<hr/>	<hr/>	<hr/>
Year 1 19__	<hr/>	<hr/>	<hr/>

The main purpose of a health care organization is to provide health care services. These services become the output of the system, and administrative expenses are part of the overhead. A large percentage of the total budget should be devoted to providing health care and not to administering the

delivery of services. What is your goal for controlling administrative costs, as a percent of total costs?

---

22. Does this ministry have centralized or decentralized purchasing functions?
- 

Centralized purchasing function means that supplies and equipment to be used by more than one project or program are purchased by one upper management source. All program directors would requisition supplies and materials from this source. In this way, careful inventory control is assured, as well as possible discounts for quantity purchases.

Under decentralized purchasing, each district director has the responsibility of maintaining and purchasing his/her own supplies and materials. This can lead to waste, excessive inventories, and higher prices. Although a centralized system is desirable, it should not be completely centralized. A district director should be able to reach out on his own for a supplier in times when immediate resources are needed.

23. Are appropriations known in advance?

Yes       No

When appropriations are known in advance, the ministry is in a better position to plan for its allocation among programs and/or districts.

24. Are amounts actually allocated the same as what was appropriated?

Yes       No

Sometimes appropriations are publicized, but then the actual allocation of funds do not fully materialize.

25. Are the districts informed of the funds allocated to them?

Yes       No

In order to encourage district participation in the budgeting process, they must be fully informed of the ceiling on their expenditures.

26. Are there any types of expenditure controls?

Yes       No

These controls may result from central government action. For instance, it may be required that expenditure approval involves several steps, which will vary with the amount of the expenditure.

27. Who disburses the funds?
- 

Funds may be distributed to the districts, they may be expended from the office of the controller at the ministry, or they may be disbursed centrally from the finance ministry.

28. After answering the above questions, you may be able to summarize your budgeting process. The following categories generalize and group together certain characteristics which, if they are present, may help you to identify your budgeting process. The categories are Type I, a centralized process, Type II, a partially centralized process, Type III, decentralized, and Type IV, is hybrid.

The budgeting function can be centralized or decentralized. Or, a hybrid form with elements of both can exist. In a highly centralized system (Type I), appropriations for health care are publicized in local newspapers, although actual allocations may be less than the appropriated amounts. Also, not much input is sought from the ministry of health personnel.

In a less centralized system (Type II), the minister of health presents a budget request to a cabinet which approves the amounts to be allocated to each ministry. In this budgeting process the minister depends upon available previous years' information for preparing budget requests. There is no formal

planning and very little district or regional participation. Once the minister is informed of the appropriations, funds are either assigned to specific purposes or kept in a general pool. The district directors are not told whether funds are set aside per district, assigned per program, or maintained in a pool.

In a completely decentralized system (Type III), the districts submit their own budgets, allocations are made directly to them, and they manage their expenditures.

A hybrid approach (Type IV) has both centralized and decentralized characteristics. Each district prepares their budget and submits it for approval or modifications to a budget committee within the ministry. A compiled version is then prepared and presented to the cabinet, or to another governmental body. Once the budget is approved, it is divided up by districts and each district director is informed of his appropriation. Disbursements, however, take place from the central office of the Ministry.

Which of the following looks more like your organization?

Type I--Centralized

- Lack of confidence in the budget at the ministry level
- No formal planning
- Budgeting is just filling out forms
- Appropriations are made and publicized for political reasons
- Appropriations exceed allocations
- Lack of control over expenditures

Type II--Centralized

- No formal district participation
- No formal planning
- Requisitions are prepared at the ministry level using last year's data and informal feedback
- No formal budgeting at the district level
- Lack of information at the district level
- Minister is like a father to district directors
- Appropriations are made by a cabinet or another responsible governmental body
- Allocations and appropriations are the same amount
- Most financial decisions are made at the ministry level

Type III--Decentralized

- Districts submit budget to a central agency
- Central agency makes changes and approves a final budget
- Appropriations and allocations coincide
- Districts manage their funds

Type IV--Hybrid

- Districts prepare and submit budgets to ministry of health
- Budget committee at the ministry of health adjusts and compiles budget
- Budget is approved by a central government body
- Allocations by district take place at the ministry of health
- Districts are informed of their allotments
- Disbursements take place from the ministry

29. Have these questions and answers correctly described the budgeting system of your ministry or national health authority? If not, add the important missing information:

---

---

---

---

30. How adequate is your budgeting system to the needs of the organization?

Very inadequate                      1      2      3      4      5                      Very adequate

Accounting Questions

1. How does this ministry use cost finding methods?

- Are fixed costs and variable costs classified separately?

Yes       No

- How are administrative and other overhead costs allocated?

Prorated by programs \_\_\_\_\_

By departments \_\_\_\_\_

Other \_\_\_\_\_

2. Are financial reports made available to all program directors?

Yes       No

It is important that all directors and those responsible for making decisions have adequate information on the operation of the organization.

3. Are financial constraints communicated to all program directors?

Yes       No

For a system to run smoothly and efficiently, program directors should be aware of any constraints placed on them. If at all possible they should be included in the decision-making process.

4. Does this ministry have a chart of accounts?

Yes       No

A chart of accounts is a listing of the groups on which accounting information is to be collected. It is the cornerstone of any accounting system, since it provides a complete classification of the accounts.

5. Does this Ministry have an accounting manual?

Yes       No

An accounting manual describes how transactions should be recorded and posted. It outlines the procedures to be followed in order to standardize the system. The manual, which covers every aspect of the system, is an information guide which also explains the different accounting policies. It is the responsibility of the chief financial officer to make sure an efficient manual exists.

6. Does this ministry use cash or accrual accounting?

---

Cash accounting is used when revenues are recognized when cash is collected. Similarly, expenses are not recognized when they are incurred, but when each payment is made. Since there is a possible lag time, cash accounting misrepresents income. In cases when determining income is not essential, cash accounting can be a practical approach to record keeping.

When accrual accounting is used, revenues are recognized when they are earned and expenses when they are incurred, not when cash is received or disbursed.

A third method which has been used by some regulatory organizations in the United States is called modified accrual. It combines aspects of both accrual and cash accounting. For instance, it may account for revenues and certain expenses on a cash basis and for other expenses on a accrual basis.

7. Indicate which of the following accounting records are maintained:

- Chart of accounts: A detailed listing of all of the accounts.
- General ledger: A summary of all of the accounts balances (assets, liabilities, and equities). Journal (see below) entries are posted periodically in the ledger.
- Payroll records: Detailed records of each employee's salary history.
- Cash receipts journal: Keeps track of all cash coming in to the organization.
- Cash disbursement journal: Keeps track of all cash going out of the organization.

- \_\_\_ Fixed asset ledger: A list of fixed assets and their balance.
- \_\_\_ Subsidiary ledgers: Detailed accounts of the master control ledger.
- \_\_\_ General journal: A chronological record of each financial transaction when it occurs. It serves as the original input document in the accounting cycle.

8. How many specific funds are maintained?

---

Since each fund is self-sufficient, it is a good practice to have a fund for each major program. This eases the accounting for transfers between funds.

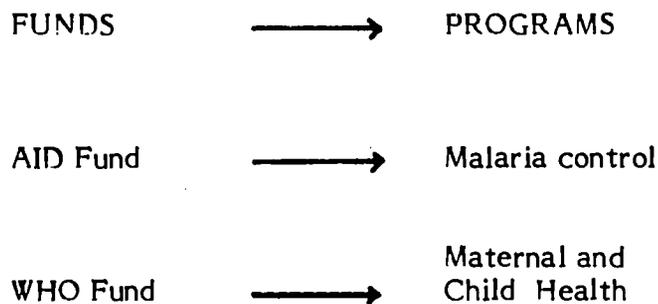
9. How many checking accounts are maintained?

---

Separate accounts may be maintained for specific reasons, such as payroll disbursements; however, careful control must be maintained on the number of accounts. In any event, the number of those authorized to issue checks should be kept to a minimum.

10. How are funds transferred from a given fund to a program?

At this point it may be useful to illustrate the flow of cash from funds to programs:



An initial step in finding the costs of a program or function is to classify expenses according to their behavior pattern, that is whether they are fixed or variable expenses.

Fixed costs are those which do not change with changes in activity levels; they remain fixed within a relevant range. A careful evaluation of recurring and non-recurring costs may help in determining fixed costs.

Variable costs are those which vary directly with levels of activity. Short run decisions could affect variable costs, while fixed costs are more likely to be affected by long run decisions.

An example of a fixed cost is the salary of the administrator; examples of variable costs are vaccines for 20,000 immunizations, as opposed to 200,000 immunizations.

A second step in cost finding is to classify costs into direct and indirect. Direct costs are those which arise from the delivery of services, while indirect costs are associated in a more loose fashion, becoming part of the overhead.

Once these two classification steps are accomplished, several cost finding methods could be used. For instance direct apportionment. When direct apportionment is used, costs of the departments which provide support services are spread among the service departments by using a logical base, such as square footage.

Another cost finding method is called step-down method. When this method is used, costs of the support departments are allocated first to the other support departments and then to the services departments using a logical base for allocation. Generally the support department which serves the largest number of departments is allocated first.

The purpose of cost analysis is to relate expenses to the volume and type of services provided, in order to compare productivity and to make informed decisions.

11. How are capital expenditures accounted for?

---

---

---

Accounting principles for business enterprises tell us that when a capital expenditure is going to benefit several accounting periods, a portion of its cost should be allocated over its estimated useful life. In governmental accounting, expenditures for capital assets are treated in the same way as other appropriations, without allocating its cost, that is, with no depreciation.

12. What are your budgetary accounts?

---

---

---

---

Only the general ledger control accounts are needed: Estimated Revenues, Appropriations, and Encumbrances. These accounts should be supported by subsidiary ledgers.

At the beginning of the budget year "Estimated Revenue" is debited for the amounts provided in the budget. Subsidiary ledgers are then debited for the amounts taken from each source. These debits are offset by a credit to "Fund Balance" which is the equity section of business enterprises. The Fund Balance shows the amounts available for financing appropriations. Appropriations are accounted for by a debit to "Fund Balance" and a credit to "Appropriations". A combined journal entry is acceptable. Since administrators cannot incur unauthorized liabilities, it is recommended that Encumbrances Control accounts be debited and Reserve for Encumbrances be credited for the amounts of purchase orders. When items are received, this entry is reversed and an Expenditure account is debited with a corresponding credit to a Liability account.

Since amounts spent for salaries are relatively constant, there is no need to use the Appropriations account for this type of expenditure. The entry for salaries then would consist of a debit to Expenditures and a credit to Vouchers Payable. Any taxes withheld from the employees would also appear as a liability.

13. How do you account for purchase orders which remain open at the year's end?

---

---

It is possible that purchases ordered in one fiscal year are not received until the following year; therefore, care must be exercised so that these purchases are charged to the appropriate periods. This is accomplished through the use of a "Reserve for Encumbrances--Prior Year" account. At the end of the year the Appropriations account is closed and the open balance of the Reserve for Encumbrances is transferred to a Reserve for Encumbrances--Prior Year. When the items are received in year 1, Reserve for Encumbrances--Prior Year is debited and Vouchers Payable credited. A "Miscellaneous Account" of the Fund Balance account is used for any adjustments.

14. Do you use allotments?

Yes       No

Allotments are used to regulate expenditures so that they are evenly distributed throughout the year. Basically it is an internal allocation of funds on a periodic basis such as quarterly or monthly. When allotments are used, "Unallotted Appropriations" would replace Appropriations.

15. How does your accounting system provide information for budgetary control?

---

---

---

During the year estimated revenues and appropriations should be compared with actual revenues and expenditures; it is the function of the accounting system to make this information available to managers and other interested parties. These accounting system reports may point out, for example, that a reduction in appropriated amounts may be necessary due to decreases in revenue. This accounting entry would be a debit to Appropriations and a credit to Estimated Revenues. Similar entries would be made in the subsidiary ledgers.

To increase appropriations, a Fund Balance will be debited and Appropriations credited. If the increase in appropriations is the result of increases in revenues, then "Estimated Revenues" would be debited and "Appropriations" credited. It is also possible that amounts appropriated for a certain purpose turn out to be too large and that some of the amount should be transferred to another purpose. In this case, the following entries would be made: debit and credit to Appropriations in the general ledger, a debit to the subsidiary ledger Appropriations account for the decrease, and a credit to the subsidiary ledger Appropriations account for the increase.

16. Have the questions and answers correctly described your accounting system? If not, add the important missing information.

---

---

---

17. How adequate is your accounting system to the needs of the organization?

	<u>1</u>	2	3	4	5	
Very inadequate						Very adequate

Auditing Questions

This section covers the need for checks and balances. Any good accounting system has ways of spotting inefficiencies.

1. Is there one person primarily responsible for accounting?

Yes       No

There should be a primary chief financial officer or controller who is in charge of maintaining the accounting system. This person should completely understand the goals of the organization and the flow of the accounting system. He or she is the one person who should be totally involved with every part of the system, either firsthand or through reports that can be relied upon.

2. What kind of audits are undertaken?

- Financial audit \_\_\_\_\_
- Funds audit \_\_\_\_\_
- Operational audit \_\_\_\_\_
- Other (specify) \_\_\_\_\_

An audit is a systematic and formal examination of financial statements. It may expose clerical errors, theft, unwanted inventory, bad estimates, etc. A comprehensive audit might not be called for, but some sort of checks and balances are mandatory for an accounting system to run efficiently. Without an audit not much reliance can be placed on any reports or financial data generated by the organization.

Questions three to nine deal with adequate handling of purchases.

3. Are policies established for handling of purchase orders?

Yes       No

It is very important that control be maintained over any policy which deals with the purchasing function. It does not matter whether purchasing is

centralized or decentralized. There has to be a predetermined method for deciding the level of inventory to be maintained. There can be much waste as well as poor use of precious capital for unwanted inventory. A mathematical formula has been developed which can compute the most desirable amount of inventory. It is known as the Economic Ordering Quantity (EOQ).

It can be calculated as follows:

E equals the square root of the quantity (2 times A times P) divided by S.

E = Order size

A = Annual quantity used in units

P = Cost per purchase order

S = Annual cost of carrying one unit in stock for one year

This formula determines the most appropriate size of inventory, which makes the annual cost attributed to carrying the inventory as low as possible. When purchase orders are passed for approval, they should be carefully studied for accuracy and necessity. If this is done carefully, it will make the purchasing function more efficient.

4. Are receiving reports prepared?

Yes       No

It is critically important to keep track of what is received, since there could be complaints from the sources of supply. With careful, detailed records it will be very easy to track down any shipment in question. Without receiving records, managers cannot trace discrepancies in shipments.

5. Are receiving reports and purchase orders properly matched and verified before they are forwarded to the person in charge of preparing vouchers?

Yes       No

This function is also of critical importance. Did you receive what you ordered? Is what you received what you are getting billed for? If not, check

with the receiving records. If a discrepancy still arises, then the source should be contacted. Because you maintain comprehensive receiving records and purchase orders, you have evidence to plead your case.

6. Does the person preparing vouchers match invoices with supporting documents?  
 Yes       No

An invoice should not be passed for payment unless all supporting documents are in order. There should be approval of all vouchers sent for payment. This fixes the responsibility and therefore careful study of all documents will be assured.

7. Are accounts payable properly filed?  
 Yes       No

A careful record of accounts payable is a must. You should try to get a good credit rating with your supplier. Often suppliers give discounts for prompt payment. Take advantage of them.

8. Are adequate files for invoices kept? For how long?  
 Yes       No

---

Files for all purchasing documents should be kept in good order and up-to-date. Files should be kept for a reasonable length of time which will assure you that any discrepancy that may arise can easily be verified.

9. Are persons responsible for purchasing, receiving, and preparing vouchers separate from persons authorized to sign checks?  
 Yes       No

As a rule, the person with the responsibility to sign checks should be a person with a large amount of authority. He or she should be someone who as an impartial observer can spot a possible sore spot. But in any event, he or she should be a person who has no access to any records whatsoever.

10. Is employees' attendance documented?

Yes       No

You should keep detailed records on the attendance of your employees. These records will be important in case of any benefit plans and the like. Delinquency and tardiness should be noticed. In excess, either of these could mean an inefficient employee. Records should also be kept as supplemental data for employees when raises or promotions are being considered.

11. Are time cards used?

Yes       No

Time cards, which are punched in on time clocks, make for efficient and accurate payroll accounting.

12. Is each of the following tasks completed by a different person?

- Prepare payroll  
 Yes       No
- Distribute paychecks  
 Yes       No
- Maintain accounting of unclaimed checks  
 Yes       No
- Hire and terminate employees  
 Yes       No

Any good accounting system will try to separate these duties among various individuals. By having them independent, it is a check and balance against possible confusion.

13. Are appropriate payroll records maintained?

Yes       No

It is important that records be maintained to insure against any discrepancies, as well as to inform the government of employee incomes. Certain guidelines may already be set down by your government which are mandatory to follow.

14. Are complete payrolls reviewed and approved before disbursements?

Yes       No

This situation again is a check and balance. Have authorized persons check and approve payroll before disbursing.

15. Are bank accounts reconciled monthly?

Yes       No

An updated picture of all financial statements should be prepared monthly. It is important to see that bank accounts balance, for it is not uncommon for mistakes to be made. In general it is better to catch mistakes early, than to wait for possible bad effects to surface.

16. Are cash disbursements made using prenumbered checks?

Yes       No

A check and balance to maintain control over disbursements is important. Any disbursement should be carefully marked for the reason and to whom it was made.

17. Are all cash disbursements properly approved?

Yes       No

All cash disbursements should be approved so as to increase control.

18. Is there a clear separation of duties between those who have access to cash and those with access to the accounting records?

Yes       No

This is a must. Records can easily be changed to hide a deficiency. Consequently, care should be taken to separate these duties so as to minimize inefficiencies.

19. Have the questions and answers correctly described your auditing system? If not, add the important missing information.

---

---

---

20. How adequate is your auditing system to the needs of the organization?

	<u>1</u>	2	3	4	<u>5</u>	
Very inadequate						Very adequate

## B. DISTRICT OR REGIONAL OFFICES OF HEALTH

This section is especially relevant to district directors. It may be helpful to have the district accountant and a hospital director go over the material with the director.

### Budgeting Questions

1. How do you do your budget?

---

A budget should reflect the estimate of costs that will be incurred in carrying out the district's mission. It represents a ceiling for expenditures.

2. Who participates in creating the budget?

Budget committee

Ministry of health

District directors

Hospitals

Clinics or health care centers

Other

---

---

---

---

---

---

---

3. Who prepares the budget document?

District director

A district accountant

Other (specify)

---

---

---

4. Once the budget is approved at the district level, is it sent to the ministry of health?

Yes       No

5. Do district directors participate in the approval process at the ministry level?

Yes       No

6. Who approves the budget at the ministry level?

A committee \_\_\_\_\_  
The ministry \_\_\_\_\_  
Other \_\_\_\_\_  
Don't know \_\_\_\_\_

7. Who provides the guidelines for budgeting?

A statement issued by the president \_\_\_\_\_  
A statement issued by the minister \_\_\_\_\_  
No guidelines are provided \_\_\_\_\_

8. What data is used in drawing up the budget?

Last year's expenditures \_\_\_\_\_  
Estimates based on future needs \_\_\_\_\_  
None is available \_\_\_\_\_

9. How do you budget for non-recurring expenditures?

\_\_\_\_\_  
\_\_\_\_\_

Non-recurring expenditures may be major, such as the construction of a new facility or the purchase of a new machine, or minor, such as small repairs.

10. How do you deal with delays in allocations?

\_\_\_\_\_  
\_\_\_\_\_



16. If inadequate, please list items which, if available, will help in future budgeting. Examples will be cost of supplies, rents, transportation, payroll, etc.

---

---

---

---

---

---

---

17. Please refer to Questions 6 to 9 in the ministry budgeting section.

18. Have these questions and answers correctly described your budgeting system? If not, add the important missing information.

---

---

---

19. How adequate is your budgeting system to the needs of the organization?

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Very inadequate						Very adequate

Accounting Questions

1. Do you have an accounting function at the district level?

\_\_\_ Yes      \_\_\_ No

Often records are kept either at the hospital level or at the ministry level. However, it may be helpful to have certain record keeping activities at the district level, especially for inventories. Relying on information provided by the ministry or a hospital may cause unnecessary delays.

2. What kinds of accounting records are maintained?

● Payroll

Number and location of employees \_\_\_\_\_

Classification and salaries of employees \_\_\_\_\_

● Inventory

Number of items in inventory \_\_\_\_\_

Requisitions made by hospitals \_\_\_\_\_

Cost per item of inventory \_\_\_\_\_

Fixed amount ledger showing location  
of plant and equipment \_\_\_\_\_

Others (please list) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. What statistical information is collected or summarized in this office? For instance:

Number of births \_\_\_\_\_

Number of deaths \_\_\_\_\_

Cases of diseases \_\_\_\_\_

Others (please list) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. What do you do with this information?

Send it to the ministry

\_\_\_\_\_

Keep it for studies

\_\_\_\_\_

Both

\_\_\_\_\_

5. Who designed the accounting/record keeping system you use?

The ministry office

\_\_\_\_\_

Yourself

\_\_\_\_\_

No system

\_\_\_\_\_

Other (whom)

\_\_\_\_\_

6. Have the questions and answers correctly described your accounting system?  
If not, add the important missing information.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. How adequate is your accounting system to the needs of the organization?

	<u>1</u>	2	3	4	<u>5</u>	
Very inadequate						Very adequate

Auditing Questions

1. Please refer to the auditing questions 1 through 19 in the ministry section; after answering those questions, continue with the following questions.

2. How often is your district visited by auditors from the ministry?

- Monthly \_\_\_\_\_
- Quarterly \_\_\_\_\_
- Yearly \_\_\_\_\_
- Never \_\_\_\_\_

3. How often is your district visited by auditors from the ministry of finance?

- Quarterly \_\_\_\_\_
- Yearly \_\_\_\_\_
- Every two years \_\_\_\_\_
- Never \_\_\_\_\_

4. Have the questions and answers correctly described your auditing system? If not, add the important missing information.

---

---

---

5. How adequate is your auditing system to the needs of the organization?

	<u>1</u>	2	3	4	<u>5</u>	
Very inadequate						Very adequate

C. HOSPITALS

Budgeting Questions

1. How does this hospital prepare its budget?

---

---

---

A budget will show projected expenses. If expenses are expected to exceed revenues, alternative sources of revenue must be sought for the institution to continue operating.

2. Does this hospital have a procedural manual for budgeting and reporting?

Yes       No

A manual provides detailed descriptions of the budgeting process and the work to be done. A budget committee generally decides on the plan for expenditures.

3. Who is involved in budgeting?

- Department heads \_\_\_\_\_
- Controller \_\_\_\_\_
- Administrator \_\_\_\_\_
- Others \_\_\_\_\_

If department heads are going to be responsible for the performance of their units, they should be involved in the budgeting process. Estimates could be developed by using past experience, expected use and planning guidelines provided by upper management. Department heads cannot and should not budget for costs allocated to them according to some format developed at the accounting office. The reason is that individuals should not be responsible for those costs they cannot control. A function of the chief financial officer or controller will be to compile the financial information which can then be presented to a budget committee for modifications and approval.

4. What information is used to draw up the budget?

- A statement issued by the ministry of health \_\_\_\_\_
- Last year's budget \_\_\_\_\_
- Forecast of demand for health services \_\_\_\_\_
- A statement issued by the district director \_\_\_\_\_
- Other \_\_\_\_\_

In a governmental hospital a statement issued directly by the minister of health or district directors may give the legal financial constraints within which the budget must be calculated. The previous year's budget may be used as a starting point, with adjustments for inflation and expected changes in the level, intensity, and type of services. Top managers may be able to forecast demand for health services; if so, this information may be used to give planning guidance to the department heads.

5. Who approves or disapproves the budget?

---

At the institutional level, the budget may be approved by a budget committee or a board of directors. It may be further approved and/or modified by a budget committee at the district level, and then presented to another committee at the ministry level.

6. What reports are prepared?

- Budget only \_\_\_\_\_
- Actual only \_\_\_\_\_
- Actual versus budget \_\_\_\_\_

Reports showing budgeted versus actual expenditures should be prepared on a monthly basis. These reports will alert management about deviations from plans and enable corrective actions.

7. How does this hospital plan and budget for its capital expenditures?

---

---

Capital projects usually involve non-recurring major expenditures such as expansion of existing facilities and acquisitions of capital equipment. The difference between a capital expenditure and an expense is that the purchase of equipment involves a transaction in which an asset is acquired. An expense, on the other hand, decreases the organization's equity.

8. What budgets are prepared?

- Cash budgets \_\_\_\_\_
- Operating budget \_\_\_\_\_
- Capital expenditures budget \_\_\_\_\_

A cash budget projects cash receipts and disbursements. An organization may have large amounts of non-liquid assets and also have difficulties in meeting the day to day cash disbursements. Cash shortages may force an institution into unfavorable borrowing terms.

The operating budget is often the largest and one of the most important budgets. It reflects the majority of current operations.

A capital expenditure budget promotes planning for major acquisitions.

9. What is the budget period?

---

The budget period may cover from one to five years. It is a good practice to have continuous budgeting so that after the end of each month the following year's budget is updated.

10. How are revenues projected?

---

Revenues are gross receipts and receivables. They may result from rendering services to patients, from donations, or from other sources. Administrators may know ahead of time the expected revenues or they may have to develop a suitable method for forecasting them (see Question 4, above). Usually hospital revenues are classified as patient services, other operating revenues, and non-operating revenues.

11. How are expenses projected?

---

Expenses are decreases in equity which result from giving services. Limits set by legal provisions may provide the guidelines in budgeting for expenses (see Question 4, above).

12. Is the budget used to evaluate performance?

Yes       No

The budget could be efficiently used to evaluate performance when comparisons between actual and budgeted amounts are made. It must be indicated that the budget is not a tool for punishment but rather a means for better planning.

13. Regardless of your type of organization, the budgeting process is a sequence of steps involving preparation, approval, appropriations, and allocation. Please identify who is involved in these steps.

	<u>Clinics</u>	<u>Hospitals</u>	<u>Districts /Regions</u>	<u>Ministry of Health</u>	<u>Cabinet or Higher Govt. Unit</u>
Preparation	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
Approval	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
Appropriations	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
Allocations	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____

14. Have these questions and answers correctly described your budgeting system?  
If not, add the important missing information.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

15. How adequate is your budgeting system to the needs of the organization?

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Very inadequate						Very adequate

Accounting Questions

1. Does this hospital use the cash basis of accounting?

Yes       No

Under the cash basis of accounting revenues are recognized when payment is received and expenses when the disbursement takes place.

2. Does this hospital use the accrual basis of accounting?

Yes       No

Under the accrual basis revenues are recognized when earned and expenses when incurred, regardless of the timing of the actual disbursement. A method which sometimes is used is modified accrual. Under this method, most liabilities are recorded when incurred and revenues when received in cash.

3. Does this method provide the hospital with adequate reliable information?

Yes       No

4. Does this hospital use fund accounting?

Yes       No

A fund is an independent self-balancing accounting entity. The system should have as many funds as needed to show the financial condition of the institution. The main emphasis is to divide the funds into restricted and unrestricted categories. The unrestricted fund is usually called general or operating fund and includes the resources available for day-to-day operations. Funds may be restricted for specific purposes by some legally-binding agreement.

5. Which of the following accounting records is maintained?

Chart of accounts (a detailed listing of all of the accounts)  
 General ledger (a summary of all of the account balances)



Please identify if revenues coming from the ministry of health are pre-assigned to programs such as education and research, family planning, and infectious diseases.

8. Does the hospital have the practice of aging accounts receivable?

Yes       No

This practice groups accounts receivable by the length of time they remain outstanding, such as one month, three months, six months, one year. The longer an account remains uncollected, the greater the chances that it would be written-off.

9. Are deposits required from patients?

Yes       No

When deposits are required from patients the cash flow of the institution is improved. Deposits ensure the collection of deductibles that may not be paid by insurance companies.

10. What procedures are used to follow-up delinquent accounts? Please explain.

---

---

It may be helpful to the institution to have a patient representative in charge of follow-up procedures. This person will have a number of accounts under his or her supervision, and will assist patients in meeting their financial obligations.

11. What is the policy for "write-offs"?

---

---

When accounts receivable remain outstanding for a lengthy period of time the likelihood of collection decreases. At one point the decision to remove the receivable from the balance sheet must be made.

12. Are financial reports prepared?

\_\_\_Yes      \_\_\_No

Financial reports are financial statements and other reports showing the current condition of the various accounts. They should be prepared periodically in order to help control financial operations. At least once a year a comprehensive report should be prepared.

13. What financial reports are prepared?

- Balance sheet \_\_\_\_\_
- Income statement \_\_\_\_\_
- Statement of changes in financial position \_\_\_\_\_
- Cash receipts and disbursement statement \_\_\_\_\_
- Statement of changes in fund balances \_\_\_\_\_

A balance sheet is a statement that presents the financial position of the organization on a particular date.

An income statement, often called statement of revenues and expenses, shows the result of operations over a period of time.

The statement of changes in financial position explains the changes in working capital by analyzing non-current accounts.

A cash receipts and disbursement statement shows the cash flow of the organization.

The statement of changes in fund balances shows the changes in fund balances over a period of time, usually one year.

14. Calculate how many days revenue in accounts receivable:

$$\text{Days} = \frac{\frac{\text{Patient Accounts Receivable}}{\text{Receivable Revenue}}}{365}$$

15. Is the concept of responsibility center accounting emphasized?

Yes       No

Under this concept, the organization is broken down into responsibility centers. Each center is under the supervision of one manager who is responsible for costs under the center's control.

16. Are expenses classified as fixed or variable?

Fixed expenses do not change with variations in the volume of services. Variable expenses are directly related to levels of service.

17. How are the costs of the non-revenue producing departments allocated to the revenue producing departments?

---

---

Non-revenue producing departments are service departments such as plant maintenance which are needed to support direct patient service activities. Costs associated with non-revenue producing departments are allocated to the revenue producing departments because they are part of the total costs of rendering patient care (see Question 10, under accounting at the ministry level).

18. How are service rates determined?

---

---

Once costs are allocated to the revenue producing departments they must be related to the number and complexity of different procedures to arrive at a cost per unit of service. This is the cornerstone of rate setting. It should be pointed out that although rate setting is not a major issue in governmental hospitals, it becomes increasingly important when contracts are negotiated with third party payors.

19. Do you account for depreciation?

Yes       No

Depreciation is a process of cost allocation. When a capital asset like a new vehicle is acquired, its useful life may extend for several years into the future. Through charges to a depreciation expense account, the original cost is allocated to the different time periods.

20. What statistical information relating to volume and scope of services is collected?

---

---

---

These statistics may include number of admissions, number of discharges, mortality rate, number and type of operations, X-ray procedures, occupancy rate, patient days, average length of stay, etc.

21. Have the questions and answers correctly described your accounting system? If not, add the important missing information.

---

---

---

22. How adequate is your accounting system to the needs of the organization?

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Very inadequate						Very adequate

Auditing Questions

Please use Questions 1 through 18 asked in the section on auditing for ministries of health as well as the following questions.

1. If there are outside auditors, where is their base location of operation?

- District office \_\_\_\_\_
- Ministry office \_\_\_\_\_
- Central government office \_\_\_\_\_
- Independent auditor \_\_\_\_\_

Independent auditors are firms specialized in auditing for-profit enterprises as well as not-for-profit entities. Their role is to offer an unbiased opinion on the fairness of the financial statements.

2. Have these questions and answers correctly described your auditing system? If not, add the important missing information.

---

---

---

3. How adequate is your accounting system to the needs of the organization?

Very inadequate                      1      2      3      4      5                      Very adequate

D. SUMMARIZING THE ASSESSMENT PROCESS

1. This module has helped you collect information on the following subfunctions or parts of the management process:

Ministry of Health or National Health Authority  
Budgeting--Accounting--Auditing

District or Regional Offices of Health  
Budgeting--Accounting--Auditing

Hospitals  
Budgeting--Accounting--Auditing

2. Using the adequacy scales you marked at the end of each section of the module, make a list of problems your organization has for each subfunction. Record your answers in Table I, which follows. Table I. will become a list of problems which are keeping your organization from performing effectively or meeting its goals.
3. Your assessment team should decide which is the most serious--or priority--problem for each subfunction. Record these answers also in Table I.
4. For each priority problem stated in Table I, list as many solutions as you can think of. Record these in Table II.

5. Using the scale below, decide which solution for your priority problems will make the most difference to your organization. Record the scores in Table III.

#1 A lot of impact  
#2  
#3  
#4  
#5 Very little impact

6. Estimate the ease of implementation for each solution. How feasible will it be to carry out this solution in your organization? Record these scores in Table III.

#1 Very easy to implement; very possible  
#2  
#3  
#4  
#5 Very difficult to implement; impossible

If you give a solution a #1, all of the necessary resources and authority are available. If you give a solution a #2, some of the necessary resources and authority are available and the rest can be easily obtained. A #3 means that the solution is questionable. It may not be possible to obtain the necessary resources and authority. A #4 will probably not work. A #5 is out of the question.

TABLE I.

PROBLEMS

Subfunction:

\_\_\_\_\_

Problems:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Priority Problem:

(The most serious of these problems)

\_\_\_\_\_

---

Subfunction:

\_\_\_\_\_

Problems:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Priority Problem:

(The most serious of these problems)

\_\_\_\_\_

---

TABLE I, continued

Subfunction:

---

Problems:

---

---

---

---

---

Priority Problem:

(The most serious of these problems)

---

---

Subfunction:

---

Problems:

---

---

---

---

---

Priority Problem:

(The most serious of these problems)

---

---

TABLE I, continued

Subfunction:

---

Problems:

---

---

---

---

---

Priority Problem:

(The most serious of these problems)

---

---

Subfunction:

---

Problems:

---

---

---

---

---

Priority Problem:

(The most serious of these problems)

---

---

TABLE II.

SOLUTIONS FOR PRIORITY PROBLEMS

Priority Problem:

\_\_\_\_\_

Solutions

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

---

Priority Problem:

\_\_\_\_\_

Solutions

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

---

Priority Problem:

\_\_\_\_\_

Solutions

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TABLE II., continued

Priority Problem:

\_\_\_\_\_

Solutions

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

---

Priority Problem:

\_\_\_\_\_

Solutions

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

---

Priority Problem:

\_\_\_\_\_

Solutions

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TABLE III.

ANALYSIS OF SOLUTIONS

Priority problem: \_\_\_\_\_

<u>Solutions</u>	<u>Estimated Impact</u>	<u>Ease of Implementation</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Priority problem: \_\_\_\_\_

<u>Solutions</u>	<u>Estimated Impact</u>	<u>Ease of Implementation</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Priority problem: \_\_\_\_\_

<u>Solutions</u>	<u>Estimated Impact</u>	<u>Ease of Implementation</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

TABLE III, continued

Priority problem: \_\_\_\_\_

<u>Solutions</u>	<u>Estimated Impact</u>	<u>Ease of Implementation</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Priority problem: \_\_\_\_\_

<u>Solutions</u>	<u>Estimated Impact</u>	<u>Ease of Implementation</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Priority problem: \_\_\_\_\_

<u>Solutions</u>	<u>Estimated Impact</u>	<u>Ease of Implementation</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

### Problem Analysis Suggestions

Moving from problem identification to problem solution is a very difficult task. Many solutions fail because they were not carefully analyzed before being tried; for example, required resources were not anticipated, staffing estimations were too low, work stages were not properly ordered, etc.

Once problems have been identified, it is helpful to classify problems. Is it a people problem or a technical problem? Is the cause of the problem inside your organization or outside it? Does the solution of the problem lie within your organization or outside? These answers will help you later as you analyze the difficulties with implementing each of these solutions.

A very important aspect of problem solving is how important the problem is to your organization. What impact will solving the particular problem have on the overall performance of the organization?

What are the strengths which you have in the organization which you can mobilize to help solve the problem?

The MAPS modules stop short of problem analysis. It is a very complex and important process which cannot be accomplished by writing down a few scores. There are several references which might be helpful to you in your analysis of problems solutions--weighing alternative solutions, analyzing constraints, assessing political influence necessary for implementation, etc.:

Abramson, Robert. An Integrated Approach to Organization Development and Performance Improvement Planning: Experiences from America, Asia, & Africa. West Hartford, Conn.: Kumarian Press, 1978.

Abramson, Robert, & W. Halset. Planning for Improved Enterprise Performance: A Guide for Managers and Consultants. Geneva: International Labour Office, 1979. (Management Development Series, No. 15)

Rainbridge, J., & S. Sapirie. Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects. Geneva: World Health Organization, 1974.

Brown, Gordon, A. Kaluzny, & H. Feirman. Options Analysis and Implementation in Management Assessment. Washington, D.C.: Association of University Programs in Health Administration, 1981.

Delp, Peter, A. Thesen, J. Motiwalla, & N. Seshadri. Systems Tools for Project Planning. Bloomington: International Development Institute, Indiana University, 1977.

Harari, Denyse. The Role of the Technical Assistance Expert. Paris: Development Center, Organization for Economic Cooperation and Development, 1974.

Mayo-Smith, Ian. Planning a Performance Improvement Project. West Hartford: Kumarian Press, 1980.

REFERENCES

- American Health Association. PIER, Executive Audit Book. Chicago: American Hospital Association, 1979.
- Caiden, N. "Budgeting in Poor Countries: Ten Common Assumptions Re-examined," Public Administration Review, January/February 1980, 40(1).
- Caiden, N., & Wildavsky, A. Planning and Budgeting in Poor Countries. New York: Wiley, 1974.
- Gross, M. J., & Jablonsky, S. F. Principles of Accounting and Financial Reporting for Non-profit Organizations. New York: Wiley, 1979.
- Hay, Leon E. Accounting for Governmental and Non-Profit Entities. (6th Edition). Homewood, Illinois: Richard D. Irwin, Inc., 1980.
- Henderson, C. W., & Williams, S. J. Medical Group Practice Assessment Manual. Denver: Center for Research in Ambulatory Health Care Administration, 1979.
- Hongren, C. T. Cost Accounting, A Managerial Emphasis. (4th Edition). Englewood Cliffs, N.J.: Prentice Hall, 1977.
- Kiso, D., & Weygandt, J. Intermediate Accounting (2nd Edition). New York: Wiley, 1977.
- Mittelstaedt, R., & Bly, J. Home Health Agency Management Audit Guide. Philadelphia: National Health Care Management Center, University of Pennsylvania, 1979.
- National Committee on Governmental Accounting. Governmental Accounting, Auditing, and Financial Reporting. Chicago: Municipal Finance Officers Association, 1968.
- Seawell, L. V. Hospital Financial Accounting Theory and Practice. Chicago: Hospital Financial Management Association, 1975.
- Vargo, R. J. Readings in Governmental and Non Profit Accounting. San Francisco: Wadsworth, 1977.
- Winkler, R. L., Smith, W. S., & Kulkarni, R. B. "Adaptive forecasting models based on predictive distributions." Management Science, 1980, 24, 977-986.