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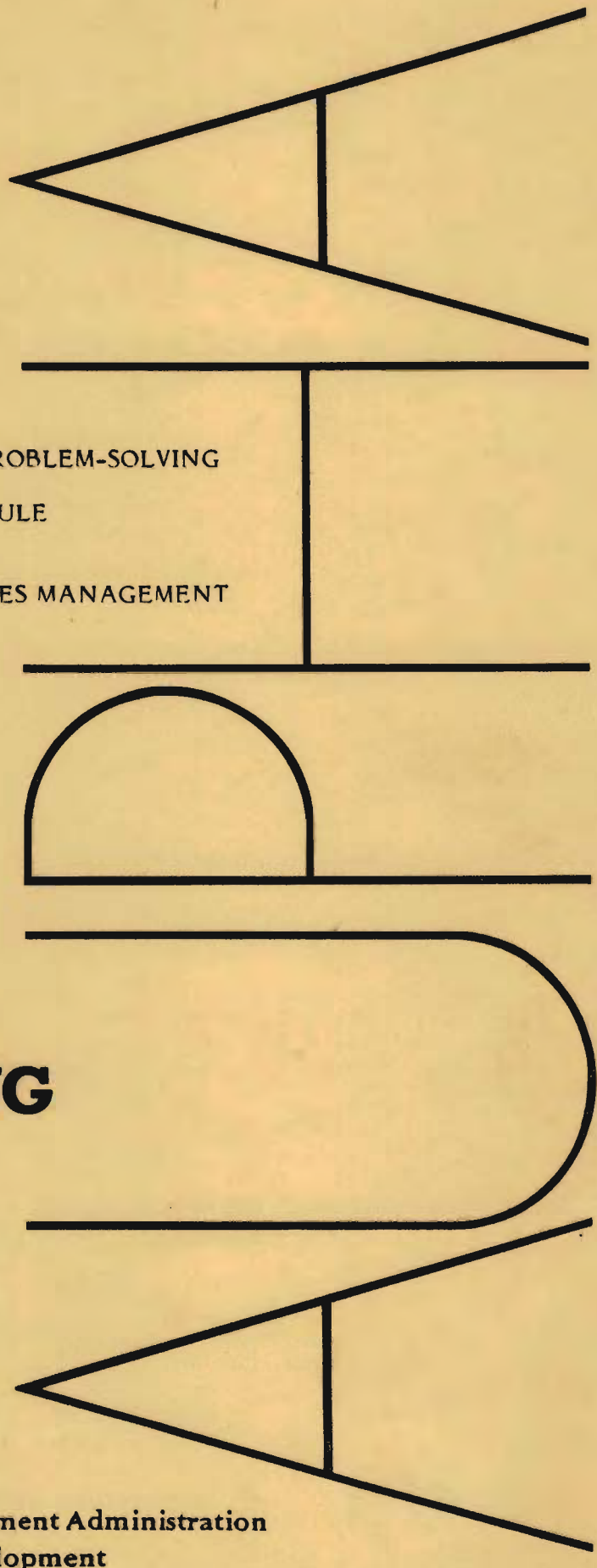

AUPHA MANAGEMENT PROBLEM-SOLVING

(MAPS) MODULE

MATERIALS AND FACILITIES MANAGEMENT

MAPS

HEALTH MANAGEMENT PROBLEM-SOLVING MODULES

Office of Rural Development and Development Administration
Agency for International Development

HEALTH MANAGEMENT APPRAISAL METHODS PROGRAM

AUPHA MANAGEMENT PROBLEM-SOLVING (MAPS) MODULE

MATERIALS AND FACILITIES MANAGEMENT

September 1981

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PREFACE TO THE FIRST EDITION

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

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

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

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

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

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

The AUPHA Advisory Committee:

Gordon Brown, Ph.D., Chairman
Gary L. Filerman, Ph.D.
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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

MATERIALS AND FACILITIES 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 asessment 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;
- Examinining 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

MATERIALS AND FACILITIES MANAGEMENT

II. INTRODUCTION

Materials Management

There are two ways to provide more health services. One way is to obtain more resources, and the other way is to make better use of existing resources. Every health service system can improve the use of existing resources.

The largest health service expense is for staff. The second largest expense is for the cost of materials and supplies, replacing and servicing equipment, and maintaining capital assets such as buildings. The cost of materials and supplies is a higher proportion of total operating expense in countries which depend upon imported goods. Therefore, a well-planned and operated materials and facilities management system makes it possible to serve more people.

The Materials and Facilities Management Function Defined

The object of materials management is to get high quality supplies at the lowest possible cost, and to control those supplies to reduce their cost to the system as much as possible. The materials and facilities management function consists of the following subfunctions:

- planning and budgeting for materials and supplies;
- procuring and purchasing;
- receiving and inspecting;
- storing and warehousing;
- controlling inventory;
- requisitioning and distributing; and
- handling of unused supplies and materials.

The decision to buy expensive equipment and to build facilities is not routine and is often included in the national planning process. Every level of a health service system is directly responsible for protecting those investments. Therefore, the materials and facilities management function also includes maintenance and repair of physical plant (buildings); expensive equipment such as communication systems and vehicles, and all other equipment.

To determine the importance of materials and facilities management to the health services system being assessed, answer the following question:

> For the past full year, what portion or percent of the total cost of operating the system or institution went to:
>
> Supplies, including food, pharmaceuticals, and other medical goods, paper goods, etc: ____%
>
> Equipment, including furniture, vehicles: ____%
>
> Personnel to buy materials, direct storage, inventory, transportation, accounting and paying for materials: ____%

If it is difficult to find what you think are realistic answers to the questions, there may be serious problems with the accounting system. Consider doing an assessment of the financing and accounting functions using the MAPS Financial Management Module.

Materials and Facilities Management is a System

The problem may be that the materials and facilities management function is not well organized into a system. A well organized materials management system delivers the right item to the place where it is needed, at the time it is needed, and at the lowest possible cost. To meet this objective, the system coordinates every aspect of the budgeting, buying, storing, and distributing and inventory control of goods, materials and supplies. The system controls all aspects of the physical facilities and environment, including equipment.

To determine if there is a system, list the job title and name of the person who is in charge of the following parts, or subfunctions, of the materials and facilities function:

Job	Title of person responsible	Name of current person
Planning and budgeting for materials and supplies, etc.		
Buying general supplies		
Buying drugs		
Buying laboratory equipment		
Buying linens		
Receiving and inspecting		
Storage		
Inventory control		
Requests for supplies and distribution		
Handling of unused supplies		
Equipment maintenance		
Building maintenance		

Add to the list if there are other individuals who are in charge of related activities.

Is there a single person or office to whom all of these people are accountable?

___Yes ___No

Name the person and/or office_____

Is there a written description of the authority and responsibilities of the person in charge of the materials and facilities function?

___Yes ___No

If not, try to write one:

_____

_____

_____

_____

Is it difficult to determine who is in charge of any of the subfunctions?

___No (that is, it was simple to identify who is in charge of all the subfunctions)

___Yes (those responsibilities that are not clear are:)

_____

_____

Are there written descriptions of the authority and responsibilities of each person in charge of a subfunction?

___Yes ___No

Whose responsibility is it to decide what the responsibilities are for the head of each subfunction?

_____

Try to write job descriptions for those jobs which do not have them.

Are there cases of more than one unit buying the same goods or services? (For example, do two departments in the same hospital each buy their own drugs? Do two small clinics or hospitals in the same system each buy X-ray plates? Do some outpatient clinics keep large amounts of supplies, while other clinics are short of the same things?)

How many different examples of duplication can you find in your organization? List them below.

Kind of duplication	Reason for duplication	Acceptable/ unacceptable

Answer this question: For each example you gave, can you explain why? Was it planned that way because it would help the total organization accomplish its goals? Or, did it develop without planning or control?

You must decide if the duplication is good or bad for your organization. When you consider the cost, space, personnel, problems of storage (damage or theft); does each duplication help to deliver the right thing, to the place where it is needed, at the time it is needed, at the lowest possible cost?

Most supplies, materials, and goods used by a health services organization are bought from a manufacturer, wholesaler, or importer. Sometimes the organization does produce or could produce the goods or services itself. The process of determining which is the best way to do it is called the "make or buy" decision. The factors which must be considered include:

- relative cost;
- relative quality;
- availability; and
- impact on hard currency reserves.

Can you identify goods or services produced within your organization which could be bought outside? List each example below. Indicate for each how many years this has been done. Then list for each when the decision to continue production within the organization was reviewed.

Goods or Services Produced Within the Organization
Which Could be Bought from Outside

Name of product or service	Number of years of present practice	Year when decision to produce goods/ services last reviewed

Can you identify goods or services which your organization now buys which could be produced or provided within the organization?

Goods or Services Now Bought from Outside
Which Could be Produced Within the Organization

Name of product or service	Number of years of present practice	Year when decision to buy this product last reviewed

Is there an established process for deciding what will be made or provided within the organization and what will be bought from outside?

___Yes ___No

Should there be an established policy?

___Yes ___No

Who decides now? _____

Is the "make or buy" decision included in the authority of the head of the materials and facility management function?

___Yes ___No

If it is not, should it be? Explain.

_____

_____

A complete system includes a process of deciding to "make or buy." It establishes the measures against which a decision is made, applies the measures, and periodically reviews the decision because conditions change.

When a situation is not good for the organization, how can it be changed? Does a single individual have the authority to change the situation? Is the problem one of inappropriate regulations, laws, or policies which cannot be changed at your level?

In a system the subfunctions work together. For example, the supply room in the rural hospital keeps good records so that inventory can be quickly checked and accounted for. When a supply is needed, it can quickly be determined if it is available in any unit, can move it to where it is needed, and can account for it properly. Or when a vehicle part wears out, a new part is available in the warehouse because the person responsible for the preventive maintenance subfunction predicted that it might be needed, the budgeting was designed to provide the resources to buy the part, and the part was bought without delay. Therefore, the very expensive and necessary vehicle did not have to go out of service for lack of a spare part.

Think of specific examples of how the materials and facilities management subfunctions work together well in your system.

Which subfunctions work together well?

Which subfunctions do not work well together?

When the subfunctions do not work together and problems result, how can the problems be solved? Does a single individual have the authority to change the situation? Can changes be made? If not, why?

An effective system controls the process. In an effective system, when subfunctions are duplicated, it is because it has been determined that the duplication helps the system accomplish its goals. In a system in which there is not good coordination between subfunctions, it is because the system can do no more, within its resources and authority, to correct the situation.

The health system controls money carefully because there is not enough to accomplish all of its goals. Supplies, materials, and facilities are the same as cash.

The materials and facilities management system controls supplies and materials as if they were cash. An organized preventive maintenance program minimizes equipment breakdown time and maximizes the life of the equipment. The appropriate use of space also has an impact on cost as well as on the safety of patients, visitors and employees. Management of materials, energy, and facilities will become increasingly important in the future, in terms of both cost and technological expertise.

The materials and facilities management system supports the efforts of all other management systems, the most important of which is the patient and clinical management system. The life and death implications of providing surgical supplies and specialized equipment are obvious. The many other supplies and equipment provided for patient use may be less dramatic, but are equally as important. Providing these supplies and equipment in a cost effective manner concerns the financial management system, particularly in cash flow management.

The relationship between materials and facilities management and parts of the total management system becomes important in facilities' planning and budgeting for equipment expenses. Seeing the materials and facilities management as a system also encourages cooperation among departments and/or districts. Differences in opinion between various departments over policies and procedures may be resolved, and a sense of cooperation and confidence fostered, as understanding is reached through the systems link of related functions.

The major topics included in this assessment tool on materials and facilities management are:

- Planning and Budgeting for Materials;
- Purchasing;
- Receiving and Inspecting;
- Storage;
- Inventory Control;
- Requisitioning and Distributing Materials;
- Maintenance; and
- Environmental Management.

AUPHA MANAGEMENT PROBLEM-SOLVING (MAPS) MODULE

MATERIALS AND FACILITIES MANAGEMENT

III. ASSESSMENT

A. PLANNING AND BUDGETING FOR MATERIALS

The budget process begins with the collection of current and reliable information on prices of materials.

Next, a forecast of supplies to be used by each department or unit, based on past and projected usage, is prepared. This provides important information to the process of budgeting for the entire institution or system.

An effective inventory control process produces accurate information on what materials and supplies cost, changes in cost, rate of use, and stock on hand.

An effective buying, or purchasing, system produces information about expected increases in cost of specific items because increases are usually not uniform.

Knowledge of trends in supply costs can help not only in budgeting, but also in identifying good or bad effects of changes in policies, practices, or procedures. Since price, volume, and quality (product improvements) are all factors in supply costs, records should be kept of changes in these factors. This information can be used to identify what is responsible for variations between actual and budgeted supply costs.

1. Does your organization receive its budget for supplies and services from a higher level?

___Yes, from _____

___No, the budget is determined at this level.

2. If the answer to Question 1 is "yes," does your level (unit, organization) participate in the budget process?

___Yes If "yes," how do you participate?

_____

_____

_____

___No If "no," should you participate?

Can you identify specific problems in the process of developing a budget or in the budget itself which might be solved if you (or your unit) did participate directly in the budget process?

_____

_____

_____

Identify the reasons why you (or your unit) do not participate in the budget process:

_____

_____

_____

Can these reasons be changed?

___Yes ___No

Why or why not?

_____

_____

_____

3. If the answer to Question 1 is "no," the budget for supplies and services is prepared within your organization (unit, region, hospital). Do the people responsible for the materials and facilities function participate in the process of developing the budget?

___Yes ___No

4. In the budget process, the primary responsibility of the materials management function is to provide information. The information which follows is usually required for an effective budget process.

In column (1), indicate by "yes" or "no" if you are now providing the information to the budget process. Where you indicated "no" in column (1), indicate "yes" or "no" in column (2) if you are able to provide the information. In column (3), estimate the accuracy of the information provided (20%, 50%, etc.)

	Currently providing information? (Yes/No) (1)	Could provide information? (Yes/No) (2)	Estimated accuracy of information (percent) (3)
The cost of supplies purchased.			
The cost of supplies manufactured.			
The rate at which supplies are used.			
The value of supplies in stock.			
The rate of "supply shrinkage."			
Projected rate of supply use.			
Projected costs of supplies.			
Projected costs of contracts for services.			
Differences in actual cost of supplies from budgeted cost.			
Explanation of reasons for the difference in cost.			
Difference between projected rate of supply use and actual use.			

	Currently providing information? (Yes/No) (1)	Could provide information? (Yes/No) (2)	Estimated accuracy of information (percent) (3)
Explanation of reasons for the difference in rate of use.			
Other:			

5. Does the process produce a budget which is in fact an effective management tool for control of costs?

   Where does the budget system fail?

   _____

   _____

   _____

   Look back at column 1. Would the budget be more effective if the information you marked "no" was provided to the budget process?

   _____

   _____

   _____

   Look back at column 3. Would the budget be more effective if the percent of accuracy of information were increased?

   _____

   _____

   _____

6. What has been the percent increase in budgeted supply cost for the past two fiscal years?
   - o Last fiscal year: ___%
   - o Two years ago: ___%

7. What has been the percent increase in the actual supply cost for the past two fiscal years?
   - o Last fiscal year: ___%
   - o Two years ago: ___%

8. During the last fiscal year, how was the total difference between the actual costs and the budgeted annual supply costs distributed among the following factors?

- Price changes (Increases): ___%
- Volume (usage) changes (More use): ___%
- Product/quality changes (Better quality): ___%

Total difference must equal 100%

It is often useful to compare the expenses for supplies with the volume of services over several years, and to try to understand how much of the difference is due to price increases (inflation), how much to volume (usage) changes, and how much to product changes.

For the last three fiscal years indicate your:

	3 years ago	2 years ago	Last year
Annual supply expense	_____	_____	_____
Annual patient days	_____	_____	_____
Annual clinic visits	_____	_____	_____
Other measure of Volume (usage)	_____	_____	_____
	_____	_____	_____

The purpose of the budget process is to develop a budget which is actually used, is realistic, and is respected by all the staff and employees. The budget process is therefore carefully planned, and all employees are helped to understand and support the budget process.

The budget process demonstrates the effect on operating costs of buying many different things, paying for small orders, and of storing many things. Costs can be greatly reduced through the standardizing of equipment and supplies.

Standardization of supplies allows for buying large amounts in a single order, saving paperwork, and resulting in quantity discounts. Standardizing equipment permits the interchange of parts, makes simpler the education of users, and minimizes the possibility of equipment misuse. A program to standardize equipment in a hospital should involve employees from nursing, medical, purchasing, administration, and support units.

9. Does your organization have written policies requiring as much standardization as possible?

___Yes ___No

If yes, does the policy cover <u>all</u> purchases?

_____

If no, what does it <u>not</u> cover?

_____

_____

_____

_____

Or, are there individuals or units which do not follow the policy?

_____

_____

_____

If a policy is not followed, it may be because it is not a good policy and needs to be improved.

10. When were the standardization policy and process last reviewed?

_____

Have the units or individuals which do not follow the policy been given an opportunity to suggest changes in it?

___Yes ___No

What changes should be made in the policy to make it more effective?

If the answer to Question 9 is "no," there is probably little standardization of supplies and equipment.

11. Can you identify specific examples of supplies and equipment which could be standardized to reduce variations?

You should consider:

___1. Medical/surgical supplies
___2. Forms
___3. Pharmaceuticals
___4. Laboratory supplies
___5. X-ray supplies
___6. Operating room supplies
___7. Laboratory equipment
___8. Wheelchairs and carts
___9. Vehicles
___10. Furniture and office equipment
___11. Uniforms and linens
___12. Cleaning materials

Are there different printed forms which produce the same information?
___Yes ___No

Could the parts be obtained more easily if vehicles were standardized?
___Yes ___No

Do different surgeons require different drapes and other supplies for similar procedures?
___Yes ___No

12. Is there a standardization committee which must approve the purchase of all new materials and supplies?

___Yes ___No

If yes, who is on it? (list)

_____

_____

_____

_____

Who could be added to make the committee more competent?

_____

_____

Who might be added to make the committee more powerful or respected?

_____

_____

When planning a new facility such as a hospital or health center, many decisions will be made which will affect the operating budget of the facility. Budgeting is a vital component of the materials and facility management function. All new building and renovation projects should consider the conservation of energy and resources, including electrical power and lighting, heat, gas, oil, and water. In day to day operations of the facility, employees should be aware of energy use and cost. Total life-cycle costs, including material, labor, energy, and operation costs, and the cost of maintenance activities, should be established for the facility and for equipment.

The location of departments or units can affect costs. In a hospital, very much personnel time is spent moving materials among departments.

13. Has there been a review of the movement of materials in order to identify ways to reduce transportation costs?

___Yes ___No

Successful management of this system depends upon a high level of cooperation and communication among all units. It is important that all employees understand the key elements of the supply system, including its methods of operation, interrelationships with other units, and the role and responsibility of each participant in the system. This understanding can be achieved through in-service education, written procedure manuals, orientation programs, and various other means.

14. What is your assessment of how well the supply system and materials budget process is understood by most employees?

	1	2	3	4	5	
Not Understood						Understood very well

What departments or units have the most serious materials supply budget problems?

_____

_____

_____

_____

Can these problems be solved by in-service education? By other ways?

_____

_____

_____

15. Have these questions and answers correctly described the materials budgeting and supply process? If not, add the important missing information.

16. How adequate is the budget process for the needs of the organization?

1	2	3	4	5
Not adequate at all				Very adequate

B. PURCHASING

The most common way of controlling costs and quality of goods and services is through a central purchasing system. Ideally, a central purchasing system controls all the purchasing in the organization. All or most purchasing is done by one unit or office. Special purchases, such as pharmaceuticals, fresh produce, and gasoline for vehicles, may be made by other offices but always according to procedures established by the central purchasing unit.

A well established central purchasing system helps ensure that the supplies needed will be available where and when they are needed. Central purchasing contributes to standardization by forcing departments to specify exactly what they need. The purchasing office then uses standardization to reduce the variety of supplies purchased. Paperwork is centralized. Purchasing staff become expert at operating a bidding system and negotiating with suppliers. The organization is more likely to obtain quantity discounts.

Many money-saving techniques used in private business are now being used in public institutions. These techniques include bidding, negotiating, and group purchasing. Even greater savings may result from applying the "prime supplier approach," whereby one institution (or a group of institutions) agrees to purchase all of a given category of supplies--for example, forms or bandages--used by the institution (or group) from a single supplier.

1. Does your organization have a centralized purchasing unit or system?

___Yes ___No

If yes, what percent of all purchases and service contracts went through the central purchasing unit last year? _____%

List in column (1) the units, departments, or kinds of goods and services which do not go through the central purchasing system. In column (2), indicate the main reason why purchases by that unit or of that kind do not go through central purchasing.

	Units/goods which do not go through central purchasing (1)	Reasons why central purchasing is not required (2)
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

2. Is there a possibility of saving money by bringing other purchasing into the centralized system? Consider:

- The possibility of purchasing larger quantities of a supply item;
- Purchasing more items from one supplier;
- Reducing the expense of purchasing; and,
- Reducing theft and personal deals.

3. Why have the number of exceptions from centralized purchasing not been reduced? What will need to be done to reduce them?

_____

_____

_____

_____

If there is no central purchasing system, each hospital department, ward, clinic, health center or other unit is purchasing for itself. There is probably very little control over how the organization's money is spent and whether the organization gets the full value of its money.

4. Does the purchasing unit have the authority to purchase materials and supplies of any value?

___Yes ___No

If not, what are the limits? (for example, up to a value of U.S. $1,000).

_____

_____

_____

Who must approve purchases or contracts over that limit?

_____

If the item is within the approved budget, does the approval process cause delays in ordering?

___Frequently
___Occasionally
___Never

Are there examples of orders being broken up to keep them below the limit?

___Yes ___No

Should the limit be reviewed to determine if it should be raised or lowered?

___Yes ___No

If a central purchasing unit has authority to purchase at any level, is there evidence that setting a limit would help to control resources?

___Yes ___No

5. Is your material manager or purchasing director a department head?

___Yes ___No

To whom is the materials manager or the purchasing director responsible:

_____

Which of the following units or departments are under the responsibility of the materials manager or purchasing director:

1. Purchasing ___
2. Central supply ___
3. Receiving ___
4. Linen process ___
5. Copying/printing ___
6. Pharmacy ___
7. Dietary ___
8. Messenger service ___
9. General stores ___
10. Other

_____

To be sure that the purchasing unit is not subject to pressure to favor a supplier who may not be the best for the organization, organizations have regulations on "conflict of interest." These regulations forbid buying supplies or equipment from companies owned by employees of the organization, or from companies with which employees have close personal ties (relatives, etc.).

6. Does your organization have a written policy on "conflict of interest" purchasing?

___Yes ___No

Can you identify cases when the organization paid more than it should, bought less than the best, or bought more goods than needed, because of a personal relationship?

_____

_____

_____

If there is no written policy, would these cases have been avoided by having a "conflict of interest" policy?

_____

_____

_____

If there is no written policy, and a policy would give the purchasing unit more freedom to make objective decisions, is there anything preventing its development?

___Yes ___No

7. In which of the following practices does your purchasing unit engage? (check as many as apply)

___ Bidding (asking for price quotations from several suppliers)
___ Negotiating
___ Group purchase contracts (several institutions purchase jointly)
___ Annual contracts
___ Prime supplier approach

8. Do you periodically review the purchasing methods used by your organization?
___Yes ___No

9. What is your organization's policy and procedure on obtaining and awarding bids for major equipment expenses?

_____

_____

_____

_____

_____

10. Who analyzes and compares the cost with the benefit of proposed major equipment prior to the decision to purchase, to lease, or to rent?

_____

Multiple-copy purchase order forms are sometimes used to help insure proper receipt, inspection, and payment for supplies. Purchase orders contain information about the cost of each item, the quantity ordered, and the quantity received. However, in some cases the multiple-copy purchase order forms may waste both time and money.

New technologies, such as facsimile copiers, can reduce the cost of producing and handling copies. Results include photo copiers, better inventory control and a faster purchasing process. As with multiple-copy purchase orders,

facsimile copies should be sent to the department receiving the item, to the accounts payable section, to the inventory control section, and then to the department which initiated the request.

11. Which of the following techniques are used in your purchasing process?

___ Single copy purchase orders
___ Multiple copy handwritten purchase orders
___ Use of multiple copy facsimile
___ None of the above

12. Do you establish standing orders or regularly scheduled shipments for routine stock items?

___Yes ___No

Complete the chart on the following page.

Standing Orders for Routine Stock Items

Item	How often restocked?	How long ago was order placed?	If bid on, how long ago?	Is this too long?

13. Does your organization communicate with the purchasing directors of other organizations in order to exchange information about the performance of suppliers, their marketing methods and prices?

___Yes ___No

14. If your organization has the authority, has there been joint purchasing with neighboring institutions and organizations?

___Yes ___No

15. If your organization does not have the authority to enter into joint purchasing to obtain quantity pricing, what can be done to obtain that authority?

_____

_____

_____

_____

16. Is there a written policy on salesmen having direct contact with department heads? (For example, must all salesmen register at the purchasing unit when entering the organization?)

___Yes ___No

17. Do you think control of purchasing would be improved if there was a written policy?

___Yes ___No

18. Are back-orders reviewed routinely to insure their delivery or cancellation?

___Yes ___No

After they are how old?

_____

Who reviews back-orders?

_____

19. How many purchase orders are unfilled at this time?

_____

20. How many of these are over 30 days old?

_____

21. What is the date of the oldest purchase order?

_____

22. Why is it still open?

_____

_____

_____

Effective purchasing requires proper development, approval, and documentation of all contracts and commitments for supplies, equipment, and services.

23. Is there a written policy governing all contracts and agreements to purchase supplies, equipment and services?

___Yes ___No

Does the policy state that only the purchasing manager shall initiate negotiations for contracts?

___Yes ___No

Does the policy require that contracts include:

___ Length of the contract
___ Exact description of goods or services to be provided
___ Terms of payment
___ Insurance and indemnity clause
___ Transportation charges
___ Terms of cancellation

24. List all the people who are authorized to sign contracts:

_____

_____

_____

_____

_____

Are there too many people who sign contracts?

___Yes ___No

Can the number be reduced?

25. Is there a written policy governing disposal of surplus, obsolete or outdated equipment?

___Yes ___No

Who decides that equipment should be replaced instead of repaired?

_____

_____

_____

Is there a problem because usable equipment is replaced?

___Yes ___No

Is there old equipment in storage which could be sold?

___Yes ___No

26. Is surplus, obsolete, or outdated equipment sold?

___Yes ___No

Does one office control all disposal and sale of equipment?

___Yes ___No

Is the money from sales controlled?

___Yes ___No

In spite of continuous inventory, organizations do find that a necessary supply is sometimes out of stock.

27. When a necessary supply is temporarily out of stock, is it possible to borrow the needed supply from another organization instead of buying a small quantity at a high price?

___Yes ___No

Can an agreement be made with another organization to exchange supplies?

___Yes ___No

Every organization needs some supplies which are not expensive, are needed immediately, or which could not be planned for. Such items are purchased directly with funds from "petty cash" or from a small fund especially for this purpose.

28. Does the organization have a system for purchasing from petty cash?

___Yes ___No

If not, is it necessary to go through the regular purchasing process for very small purchases?

___Yes ___No

Can the organization reduce administrative expense and paperwork by starting a system of petty cash purchasing?

___Yes ___No

If there is a petty cash purchasing system, what is the total amount of the fund, and what is the maximum purchase value which can be made:

Total Fund

_____

Maximum Purchase

_____

Is the total adequate?

___Yes ___No

Is the maximum too high or too low?

___Too High

___Too Low

Are petty cash purchases reviewed to be sure that the money is spent for items which are appropriate?

___Yes ___No

Organizations sometimes stock more items than necessary because they do not review the list of regular stock items in the inventory.

29. Count the number of stock items. How many can be dropped completely or ordered only when needed?

Category	Number of stock items	Number to be completely dropped
Forms and office supplies	_____	_____
Medical and surgical	_____	_____
X-ray	_____	_____
Dietary	_____	_____
Maintenance	_____	_____
Pharmacy	_____	_____
Other	_____	_____

Official inventory is what is counted at least once a year. It is shown on the regular inventory and the organization knows where it is.

Unofficial inventory is the supplies which are kept in the various departments, units, and offices after they are distributed. Frequently, supplies are ordered when they are not needed, or they are not returned if not used immediately in order to avoid future shortages. The result may be a large amount of money invested in goods which are not available to the organization, and which may not be adequately protected against theft and damage.

30. Estimate the value of official and unofficial inventory:

Category	Official inventory last fiscal year	Official inventory this year	Unofficial inventory this Year
Pharmacy			
Dietary			
Linen			
Central Service			
Surgery			
General Stores			
Maintenance			
Nursing Floor			
Stock			
Oil			
Other			

Is the unofficial inventory too large?

Can it be reduced?

31. Do the questions and answers correctly describe your purchasing system? If not, add the important missing information.

32. How adequate is your purchasing system to meet the needs of the organization?

1	2	3	4	5
Not adequate at all				Very adequate

C. RECEIVING AND INSPECTING

When materials and supplies are delivered to the organization, they are received, inspected, and transported either to storage or to the user. The receivers make certain that the organization has actually received what it is being charged for, that there are no damaged or lost materials and that all materials reach the storage area without theft.

The following questions are appropriate for institutions which order supplies from a regional or central source:

1. Where are materials received?

___Everything must go to one central receiving office.

___Materials are received at the following places:

Kind of materials or supplies	Where received

If all materials are not received at one office, could the institution reduce administrative expense and better control theft by requiring all receiving to be in one office?

_____

_____

_____

2. Is there evidence that some supplies and perishable food are <u>not</u> inspected for quality or for quantity?

___No, there are not any significant problems.

___Yes, sometimes supplies have been received and checked but later are found to be wrong or short or of poor quality.

Identify the kinds of materials and supplies with which you often have problems.

___ Perishable foods
___ Non-perishable foods (staples)
___ Drugs
___ Other medical supplies
___ Vehicle parts
___ Other (fill in):

_____

___ Other (fill in):

_____

How are these problem supplies inspected?

_____

_____

_____

3. When supplies are received, what forms or records need to be completed?

_____

_____

_____

When you try to find why there is a difference between what is in stock and what should have been received, do the records show that:

___ The supplies were not inspected when they were delivered.
___ Wrong or poor quality supplies were accepted.
___ The records show that the supplies were alright--but they are not. How did it happen?

Are the quantity and quality of supplies checked against the purchase order at the time they are received?

___Yes ___No

Is the price quotation compared with the price that was actually charged?

___Yes ___No

When there is a difference, what is done about it?

_____

_____

_____

4. What are the receiving hours?

_____

Are they long enough? ___Why?

_____

Are they too long? ___ Why?

_____

5. Who receives the invoices or bills when they arrive?

_____

_____

_____

6. Who has the responsibility to approve invoices for payment?

_____

_____

_____

Is the number of people who can approve invoices for payment a source of problems? Would there be fewer problems if fewer people approved invoices?

___Yes ___No

Is there a process of checking required for an invoice to be approved for payment? For example, is it required that someone:

1. Check the invoice against the purchase order?
2. Count the supplies?
3. Sample all boxes?
4. Test one item to see that it works?
5. Other

_____

6. Other

_____

7. Other

_____

7. On what percent of purchase orders is the price indicated before they are sent to the supplier?

_____

8. How many errors are found in invoices?

_____

What types of errors are found?

_____

_____

_____

When an error is found, how is the problem solved?

_____

_____

9. If the supplies include a packing slip which gives information about the order, is the packing slip attached to the receiving office copy of the purchase order?

___Yes ___No

If not, would doing so help solve problems later?

___Yes ___No

If there is no packing slip, have you considered making one as a record of what was received?

___Yes ___No

10. What purchase order copies do you keep in the purchasing department?

_____

_____

11. How are they filed?

___ By name of supplier
___ By date
___ By numerical order
___ By department
___ By other

_____

12. Is this the most useful way of filing?

___Yes ___No

If not, how can it be improved?

_____

13. Do unit or department heads have copies of all contracts that have anything to do with their units or departments?

___Yes ___No

If not, explain:

_____

_____

14. Do these questions and answers correctly describe receiving and inspecting in your organization? If not, add the important missing information.

_____

_____

_____

_____

15. How adequate are the receiving and inspecting processes in meeting the needs of the organization?

_____

_____

1 2 3 4 5

Not adequate at all — Very adequate

D. STORAGE AND WAREHOUSING

In a health organization, an adequate system of storage has the following elements:

- enough space to make possible ordering or purchasing large quantities (to reduce costs or frequency of orders);
- is conveniently located; and
- secure from theft and damage.

Knowledge of storage space will help managers determine if the savings on large orders are being lost because of theft or damage.

What is shrinkage?

Shrinkage is the difference between the amount or value of supplies that enter the organization, and the amount or value of supplies that the organization actually uses for the purposes for which they were intended. Shrinkage is a measure of money lost to the organization, or services which the organization cannot provide. Shrinkage can be measured. The causes of shrinkage can be identified, and the places where shrinkage takes place can be found.

Some shrinkage is normal and expected. Drugs may become outdated, useless, or dangerous. Some food becomes unusable. Some shrinkage is caused by inadequate storage which permits damage by heat, cold, insects, rats, water, sand, or dust. Theft is a major cause of shrinkage.

Reducing shrinkage requires an investment in security systems, personnel, and/or buildings. Sometimes the cost of preventing loss is more expensive than the loss, but not usually.

1. Does each building or unit have a central storeroom where all supplies are kept until needed?

___Yes ___No

If not, are supplies sent to the unit which will use them (garage, office, kitchen, ward) when they are received by the organization?

___Yes ___No

If yes, does this system result in some units having more supplies than they need while others do not have what they need?

___Yes ___No

What are the reasons why a central storage room or system has not been created?

_____

_____

_____

_____

_____

2. Which of the following best describes the storage system in your organization:

___ A supply room for the purchasing department and a storage area for each of the high-supply user departments.

___ A central storage room or warehouse for all departments.

___ A mini-warehouse for your institution and access to a central warehouse utilized by two or more institutions.

___ Other

_____

_____

_____

_____

Is access to storage areas limited to certain people who have authority to enter the area?

___Yes ___No

If yes, could control be improved by reducing the number of people who have authority to enter the area?

_____

If no, can the number be controlled?

_____

_____

4. Approximately what percentage of the general storage inventory (on the basis of value) is maintained in the following locations?

a.	Central stores of the organization's main building	__%
b.	Nursing units (if any)	__%
c.	A separate storage building in the same area as the main building	__%
d.	A separate storage building at another location How far away? ___km.	__%
e.	Central supply	__%
f.	Pharmacy	__%
g.	Other (specify)_____	__%
	Must add to	100%

5. What storage space do the following areas have:

	Department	Area, in square Meters	Height of ceiling in meters
a.	General stores	___sq. mtrs.	_____
b.	C.S.R.	___sq. mtrs.	_____
c.	Pharmacy	___sq. mtrs.	_____
d.	Shipping and receiving	___sq. mtrs.	_____
e.	Laundry	___sq. mtrs.	_____
f.	Purchasing	___sq. mtrs.	_____
g.	Materials and management	___sq. mtrs.	_____
h.	Print shop	___sq. mtrs.	_____
i.	Other areas	___sq. mtrs.	_____

6. Look at the distribution of the inventory in questions 4 and 5. Should it be changed?

___Yes ___No

Are some areas overcrowded while other areas have too much space?

___Yes ___No

6b. If you watch the amount of space actually used in all storage areas for six months, can you find ways to change the areas to fit the actual needs?

_____

_____

_____

7. Is there storage off-site? (in a different location?)

___Yes ___No

If yes, does off-site storage make it harder to control theft?

___Yes ___No

Does off-site storage cause problems of delay because of transportation?

___Yes ___No

If there is not off-site storage, could the organization save more valuable space by creating an off-site storage area for reserve supplies or things that are not used frequently?

_____

_____

_____

8. Does a shortage of storage space make it difficult to order or purchase in large quantities?

___Yes ___No

If ordering or buying large quantities would reduce costs or solve other problems, what kinds of supplies would be ordered?

_____

_____

_____

_____

_____

_____

How much additional space is needed for each supply listed above?

Supply	Space Needed (square meters)
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

9. Is there a system for telling where each item is kept?

___Yes ___No

Is there any reason not to have a stock-location system?

_____

_____

_____

10. How are supplies arranged in the general stores area?
(check all the appropriate answers)

___ Separate areas for high and low-turnover supplies.
___ By groups of supplies used by particular departments.
___ By type of storage required.
___ Other (specify)

_____

11. Is there a person or office responsible for storage and giving out supplies?

___Yes ___No

12. Are drugs stored under the control of a pharmacist?

___Yes ___No

Do you have specific pharmaceutical storage problems caused by variations in any of the following?

___ Temperature
___ Light
___ Moisture
___ Ventilation

Are there regular inspections of all areas where drugs are stored to see that they are kept locked, clean, dry, and refrigerated when necessary?

_____

_____

Would inspections every week reduce loss?

_____

_____

Are antiseptics, other drugs for external use, and disinfectants stored separately from internal and injectable medications?

___Yes ___No

If drugs are kept in the same refrigerator as food items or blood, are they kept in a separate compartment?

___Yes ___No

13. Are all excess flammable gases and liquids kept in a storage area outside of buildings with patients?

___Yes ___No

14. What causes damage to your stored supplies? (heat, cold, water, mold and fungus, insects, rats, dust, sand, other?) In column (1), list the causes of damage, beginning with the most serious:

Causes of Damage (1)	Solutions (2)
A. _____	1. _____
	2. _____
B. _____	1. _____
	2. _____
C. _____	1. _____
	2. _____
D. _____	1. _____
	2. _____
E. _____	1. _____
	2. _____
F. _____	1. _____
	2. _____

Can the most serious problems be reduced by moving supplies to different storage areas?

___Yes ___No

Can the problem be reduced by ordering less of some supplies?

___Yes ___No

In column (2), for each spoilage problem, write down two solutions.

How much would each cost?

_____

What is the cheapest way to solve the problem? Can it be implemented?

_____

15. Do the questions and answers correctly describe storage and warehousing? If not, add the important missing information.

_____

_____

_____

16. How adequate is the storage system for the needs of the organization?

	1	2	3	4	5	
Very inadequate						Very adequate

E. INVENTORY CONTROL

A health organization has inventory control when it knows the location, amount, and value of all unused supplies. An effective materials management system has control and is responsible for all supplies, including those in storage areas, patient-care areas, garages, offices, and anywhere else where supplies may be kept. An effective system is one which controls both official inventory and unofficial inventory. The official inventory is the supplies which are in the storage areas and which show in the inventory control system records. The unofficial inventory are those supplies and materials which have gone out of central storage to the place where they will be used. Unofficial inventory is rarely counted, even though it may add up to more than in the central storage.

The purpose of inventory control is to make sure that the right supplies are available at the right place and at the right time. Another purpose of inventory control is to keep holding costs as low as possible. Holding costs are the costs of spoilage, theft, personnel to guard and count it, space which is not available for other needs, and the money which is invested in the supplies. If every institution or unit reduces holding costs, the organization will have more funds for other purposes. Inventory control makes sure that there is not an oversupply of some items.

Management should assess the holding costs for different categories of supplies. There are sometimes good reasons to increase stocks: central storage areas do not provide supplies promised in the budget; transportation from the port or from other cities may be a problem; there may be shortages of foreign currency, or a lack of cooperation by customs officials. Such problems are considered by managers in deciding what strategy to follow for each category of supplies.

Accurate and up-to-date knowledge of supply inventories is essential to keep the organization operating effectively. Information can be obtained by counting supplies, using a manual card system, or by using computers. Trying to control the inventory by looking to see what supply looks low will usually lead to shortages. A more accurate system uses an inventory card for each item; each new supply and each issuance are recorded on a card. There are a number of computer systems which do the same thing, and accounting functions as well.

The inventory control system will tell when to order and how much to order. The organization may use a "flagging" system which is an automatic method of signaling that the supply is down to the level at which it should be reordered. In a "minimum/maximum" system, supplies are ordered when the stock reaches a predefined minimum and the amount ordered brings the stock up to the maximum level. An economic order quantity (EOQ) formula developed for each item determines the quantity to be ordered. The formula includes the annual cost of the item, the costs of placing the order and the estimated holding costs of the item.

1. Estimate what percent of the supplies within the organization are under inventory control; (that is, you know where the available supplies are and what they are worth).

A.	Nonperishable food	___%
B.	Vehicle parts	___%
C.	Drugs	___%
D.	Medical supplies	___%
E.	Paper goods	___%
F.	X-ray film	___%
G.	Office supplies	___%
H.	Laboratory supplies	___%
I.	Other	___%

2. From the list in question 1, make a list of the kinds of supplies with which you have the most shortage problems (that is, those which run out before new supplies arrive). List those with the most serious problems first, and those with less serious problems last.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

3. Is it correct that the kinds of supplies with only a small part under inventory control are the kinds which have the most frequent shortages and other supply problems?

___Yes ___No

4. Identify supply problems which could be solved if there was an effective inventory control system:

Supplies which are needed cannot be found, even when they are somewhere in the organization

___Yes ___No

Equipment cannot be used, because parts which regularly need replacement are not ordered until actually needed

___Yes ___No

Some supplies become outdated and useless because too many are ordered

___Yes ___No

Many small orders are placed for the same item because not enough is ordered at any one time

___Yes ___No

5. How is the information on levels of inventory maintained? (check all that apply)

___ By looking at the shelves in stock areas
___ Manual card system
___ Resupplied from regional or national warehouse according to their schedule
___ Computer system
___ Other

_____

6. Is the system adequate?

___Yes ___No

Could the levels of inventory control estimated in question 1 be increased by changing to another system?

_____
_____
_____
_____

7. How is the process of reordering or purchasing started?

___ Minimum/maximum ranges
___ Economic order quantity (EOQ)
___ Automatic flagging system
___ When the supply looks low
___ When the supply is gone
___ Other

_____

8. Does the organization know what it costs to maintain the inventory? That is, does it know:

___ How much the inventory is worth?
___ How much the holding costs are?
___ How much is lost because of theft?
___ How much is lost because of spoilage?

9. If the organization does not know, would it be useful to find out?

___Yes ___No

A centralized continuous inventory system tells the manager how much of a supply is on hand, where it is and what it costs. The entire inventory may or may not be in one place, but the inventory record is changed every time supplies come in or go out.

A centralized continuous inventory for general stores, dietary, central sterile supplies, pharmacy, and patient supplies is one way to control:

- hidden (unofficial) inventories, or hoarding of supplies;
- return of outdated materials for credit;
- duplicate storage of items in several locations; and,
- deterioration of supplies resulting from slow turnover in some areas.

10. Are inventory records which reflect the total amount of goods on hand maintained centrally?

___Yes ___No

If no, how do you know the level of your inventory?

_____

_____

_____

_____

_____

11. Is it important to have accurate up-to-date information on inventory on hand?
___Yes ___No

If no, why not?

_____

_____

_____

If yes, how can it be accomplished?

_____

_____

_____

_____

_____

The inventory turnover rate is calculated by dividing the value of the total annual purchases for supplies by the value of the year end (average) supply inventory. A low turnover rate may indicate an excess of inventory and an unnecessary tie-up of operating funds. On the other hand, a very high turnover rate may indicate inadequate storage, purchases in small quantities, and the loss of quantity discounts.

When examining turnover rates for various categories of supplies, it is also important to identify unofficial inventories in all departments, offices, and nursing units. In some health organizations, unofficial inventory can amount to five or ten times the quantity in the official inventory. That is the result of hoarding, and occurs because users lack confidence that they can get supplies when they need them.

12. What was your annual turnover for the following inventories for the last fiscal year?

Inventories		Turnover rate
A.	Nonperishable (staple) foods	_____(Times/Year)
B.	Vehicle parts	_____(Times/Year)
C.	Drugs	_____(Times/Year)
D.	Medical supplies	_____(Times/Year)
E.	Paper goods	_____(Times/Year)
F.	X-ray film	_____(Times/Year)
G.	Office supplies	_____(Times/Year)
H.	Laboratory supplies	_____(Times/Year)
I.	Other _____	_____(Times/Year)
J.	Total inventory	_____(Times/Year)

13. Is there a regularly scheduled review of the inventory to remove inactive or slow moving items?

___Yes ___No

___Every three months
___Every six months
___Every year

14. Is there a regularly scheduled review of the inventory to identify stock duplication (that is, two or more items which are used for the same thing)?

___Yes ___No

15. Does the organization have a catalogue which lists all supplies regularly kept in inventory?

___Yes ___No

Is it up-to-date?

___Yes ___No

If there is no catalog, would it help to have one?

___Yes ___No

16. Is there control of changes in the inventory or stock catalog (that is, control of additions, deletions, substitutions, or other changes in stock items)?

___Yes ___No

17. Are there established maximums, minimums and reorder points for inventory items?

___Yes ___No

18. Have unofficial inventories been checked?

___Yes ___No

Each unit must report all supplies on hand regularly?

___Yes ___No

Are there regular inspections of some or all units and departments to locate supplies?

___Yes ___No

19. Is the value shown on the inventory record checked against the actual inventory?

___Yes ___No

20. Do the questions and answers correctly describe the inventory control system? If not, add the important missing information.

_____

_____

21. How adequate is the inventory control system to the needs of the organization?

	1	2	3	4	5	
Very inadequate						Very adequate

22. Are the problems of supply mainly problems of the inventory system, or are the supply problems caused by the budget system, the personnel system, or some other system?

_____

_____

_____

_____

F. REQUISITIONING AND DISTRIBUTING MATERIALS

Supplies may be removed from central storage by a requisition form system. When the unit or department which uses the supplies needs more, a requisition form is filled out, listing what is needed. The form is brought to the storage room. The storage room either delivers the supplies to the unit which needs them, or a representative of the unit may pick up the supplies. If the storage room does not have the supplies on hand, the order is kept until the supplies are obtained.

The requisition form system provides information for continuous inventory control. The supplies distributed to the user-unit are deducted from the inventory control record. The requisition forms tell where the supplies went. The forms tell how fast each unit is using supplies. If there is a difference between the amount of supplies issued by the storage room (in response to a requisition from a clinic, ward, or other unit) and the amount received, it is clear that the supplies have been stolen or lost during distribution.

There are other systems for distributing supplies. Some organizations have a standing quota for each supply in each unit. A regular distribution (every month or week, for example) is made to bring the supply stock up to the quota. This is called the "par level" system. In hospitals there are systems in which each unit receives a cart stocked with the supplies needed for a specified period--usually 24 hours. At the end of the period the cart is replaced by a new one. The "exchange cart" system is based on forecasting what the unit will need. It also provides control for charging expenses to the unit, and for security if the carts are locked when filled in the storage room and unlocked ony when delivered to the ward.

The process of requisition and delivery of supplies may be used to ensure that charges, or bills for supply expenses are properly accounted for. This has use when either patients, a social security system, or insurance companies are paying for the health services. It is useful also when it is desirable to have a complete record of how each supply item is used. An efficient charge control system minimizes lost charges, late charges, duplicate charges, and incorrect charges for supplies provided or consumed. Such a control system may use a variety of methods to account for charges within the user department. Whatever methods are adopted, they must be supported by ongoing educational programs for all staff involved in the supply charge control.

1. What system is used to take supplies out of storage and distribute them to the departments, units, clinics, wards, or other units which use them? (check all which are used)

___ Requisition forms are completed by the unit which needs the supplies.
___ Units have a standing quota for each supply item used regularly, and the units are restocked from central storage according to a regular schedule (par level system).
___ Nursing units (wards) are supplied by exchange carts.
___ Other

_____
_____
_____
_____

Could the organization reduce the cost of distribution (the number of deliveries, personnel, vehicle use, etc.) by increasing the supply levels of the units?

_____
_____

2. If a requisition system is used, what are the problems? (check all that apply)

___ It is not clear who is responsible for filling out the requisition forms.

___ Someone must leave the unit to take the forms to central storage.

___ If supplies have to be brought back to the unit, there is a long waiting time for the supplies.

___ A vehicle must be used to deliver the requisition and to bring the supplies back. Vehicles are often not available when the supplies are needed.

___ If a vehicle has to be used, it is not available for other, sometimes more critical purposes.

___ The levels of supplies set for the units are too low. It is necessary to reorder too often.

___ Nurses or other personnel must take time to count supplies on hand every time a new requisition is prepared.

___ If supplies are to be delivered by central stores to the unit, it takes too long. The units order more than they need, or order before it is needed, to protect themselves from long delays in delivery.

___ Supplies disappear in transport between central storage and the units.

Is there an established schedule for delivering supplies to the units which have requisitioned them?

___Yes ___No

Are the deliveries on schedule most of the time?

___Yes ___No

List any other problems:

_____

_____

_____

_____

3. If a par level (quota) system is used, what are the problems?

___ The quotas set are too low.
___ The supplies are not restocked up to the quotas.
___ The units are not resupplied on schedule.
___ The supply vehicle, or the person delivering the supplies, does not carry a large enough quantity and must return often to central storage.
___ Other

_____

_____

Could the organization reduce the cost of distributing supplies by increasing the supply quotas for the units?

___Yes ___No

4. If nursing units (wards) are supplied by exchange carts, what are the problems?

___ Not enough supplies are put on the carts.
___ The carts are in bad condition and need repair.
___ Supplies are taken off the carts between the central storage area and the wards.
___ The carts are not delivered to the wards on schedule.
___ Other

_____

_____

The actual use of supplies should be measured. The rate of use of supplies will change, therefore it is important to periodically review and change quotas.

5. Is there a periodic review of the supply quotas of all units (offices, health centers, wards, etc.)?

___Yes ___No

Who is responsible for setting supply quotas?

_____

How often are quotas reviewed?

_____

Should quotas be reviewed more frequently?

___Yes ___No

6. Are patients supposed to pay for supplies they use?

___Yes ___No

Do patients pay for supplies they use?

___Yes ___No

Are units (departments, wards, clinics, etc.) charged for supplies they use?

___Yes ___No

If there was an effective system for charging patients for supplies they use, would it help produce income?

___Yes ___No

7. In a hospital or clinic, what control mechanism(s) is (are) used to ensure that items which can be charged are charged to patients? (check all those that apply)

___ User departments are resupplied on the basis of the number of charge forms submitted for items used.

___ The value of chargeable items issued to the user department is compared with the amount charged to patients.

___ Sequentially-numbered charge forms are used.
___ Charge forms are attached to actual items.
___ An all-inclusive "supply charge rate" per patient day is used.
___ Other (specify)

_____

_____

Everyone in the organization uses supplies. Everyone must cooperate to make the supply system work correctly. Part of the system is teaching all employees how to use it.

8. Have the purposes and methods of the supply distribution system been explained to everyone in the organization who uses supplies?
___Yes ___No

How? (Check those that apply)

___ There are periodic in-service education classes for employees in which the system is explained and problems are discussed.
___ There is a manual of procedures distributed to all supply users.
___ The system is explained as part of the orientation program for new employees.

9. Do the questions and answers correctly describe the requisition and distribution system? If not, add the important missing information:

_____

_____

_____

10. How adequate is the requisition and distribution system to the needs of the organization?

1	2	3	4	5
Very inadequate				Very adequate

G. MAINTENANCE AND REPAIR

A coordinated equipment management program provides for the identification, inspection, and maintenance of equipment, including vehicles. Each piece of equipment, as well as the electrical and mechanical systems in buildings, must be identified and have a maintenance record that includes manufacturers' drawings, parts listings, operating instructions, service and lubrication information, wiring schematics, and recommended spare parts lists, as appropriate. Each piece of equipment and the electrical and mechanical systems must be routinely inspected, serviced, and maintained to ensure reliable day to day operation and maximum useful life.

1. Maintenance and repair services are: (check one)

___ Centralized at a higher level of the organization.
___ Centralized at this level of the organization.
___ Not centralized. There are separate departments, offices, or shops which are not under one authority (electrical, carpentry, painting, vehicles, etc.).

2. If maintenance and repair services are not centralized, have they been reviewed to determine if:

___ Skilled personnel could be used more efficiently?
___ The number of skilled personnel could be reduced?
___ There would be enough work in a skill not now available to justify adding an employee?
___ Machines and tools could get more use?
___ Supplies and spare parts could be better controlled?

3. Have specific descriptions of each repair and maintenance job been written?

___Yes ___No

4. Has there been an inventory of all equipment and building electrical and mechanical systems to identify each item which must be maintained and repaired?

___Yes ___No

If not, why not?

_____

_____

_____

How soon can an inventory be carried out?

_____

Has a maintenance record card been started for each item?

___Yes ___No

Maintenance records are the foundation of an effective equipment management program. These records should document equipment problems, their final solution, and a list of all replacements of parts. Electrical equipment used in hospital patient-care areas must be especially well maintained because of the potential hazards involved. Electrical safety testing and preventive maintenance should be documented, and records maintained in a permanent file.

5. Which of the following information is included on the maintenance record: (check those that apply)

___ Name of equipment or system
___ Location
___ Manufacturer
___ Date of last inspection

___ Dates of all tests
___ Lists of problems identified
___ The action taken to solve the problems
___ Parts replaced
___ Date of parts replaced
___ Cost of parts replaced

6. Who is responsible for the equipment and systems maintenance record?

_____

Is there a single person responsible for making a record for all equipment added?

___Yes ___No

If not, would having a single person responsible help reduce the number of items left out of the system?

___Yes ___No

When new equipment arrives, are all manuals and instructions reviewed and maintenance recommendations put on the maintenance record?

___Yes ___No

If not, is it because:

___ The manuals are not sent? (Can you get them?)
___ The manuals are in the wrong language? (Can you have them translated, or can someone read them to find the necessary information?)

Are all equipment manuals kept in one place and filed so that they can be found quickly when needed?

___Yes ___No

7. List major equipment items (including generators, medical equipment, vehicles) which are broken or not operating. (Each unit, department or ward may be asked to fill out a copy of this and the next page to give a complete picture of repair needs.)

On the next page, indicate for each piece of equipment: how long it has been out of operation and for which of the following reasons:

A. Lack of technicians to fix it;
B. Lack of personnel trained to operate it;
C. Lack of spare parts;
D. Lack of funds to purchase parts;
E. Lack of preventive maintenance;
F. Responsibility of other government department;
G. Manufacturer or seller not providing service;
H. Weather conditions;
I. Lack of fuel; or
J. Other:

_____

K. Other:

_____

L. Other:

_____

M. Other:

_____

Non-operating Equipment Inventory

Name of Unit: _____

Equipment name	Number of months out of use	Reasons (use letter code from previous page)

Scheduled preventive maintenance will reduce the number of times that equipment breaks, and assures getting the maximum life and value from equipment. A preventive maintenance system tells when each item of equipment should be cleaned, oiled, calibrated, adjusted, or should have parts replaced.

It is particularly important for systems which provide safety, life support, and are potentially dangerous and/or are very expensive to replace. This includes air-conditioning equipment, air-handling systems (ventilation, filtration, humidity), boilers, electrical power services, fire alarms and extinguishers, elevators, water supply, waste disposal systems, and medical gas and vacuum systems.

8. Does the equipment program in your organization include preventive maintenance schedules, with records kept, for:

___ Air-conditioning
___ Ventilation system
___ Filtration system
___ Humidity control system
___ Boilers
___ Electrical power services
___ Fire alarms
___ Fire extinguishers
___ Elevators
___ Water supply
___ Waste disposal
___ Gas system
___ Vacuum system
___ Other:

_____

_____

_____

_____

9. Is all electrical equipment used in patient-care areas tested prior to installation and use as part of the preventive maintenance plan?

___Yes ___No

10. Does the organization have written policies and procedures for: (check those that apply)

___ Use of any electrical device for patient care.
___ Methods and frequency of testing of specifications for performance and use (twice per year minimum) for patient care equipment.
___ Testing of new equipment before use.
___ Testing of non-patient care equipment such as electric beds, lamps, etc. (once per year minimum).
___ Tagging of defective equipment.
___ Written records of testing and service, including actions taken or recommended, and notification of responsible department heads.
___ Testing current leakage and grounding.
___ Restrictions on use of extension cords and adapters for emergency use only.
___ Prohibiting use of personal electrical equipment by patients and staff except with approval.
___ Labels on equipment stating where operating and maintenance manuals are located, or operating manuals are kept with equipment.
___ Scheduled preventive maintenance to clean, calibrate, and maintain electrical equipment in good repair.
___ Receptacle testing and inspection, including line voltage, polarity, grounding, retention, mechanical security, and physical integrity (once per year minimum).
___ Conductivity testing of floors in operating rooms, and of furniture (monthly, except yearly where flammable gases have been banned).
___ Line isolation monitor testing (weekly).
___ Daily testing of emergency power generation equipment.

11. Give the following information on the operation of the physical plant (buildings):

	Yes	No	NA
a. Steam generation and distribution.			
The boiler operation is supervised by qualified personnel	—	—	—
The boiler water is treated to protect the boilers from corrosion.	—	—	—
The boiler water is tested and adjustments are made regularly.	—	—	—
Boiler efficiency is measured. If yes, by which of the following:	—	—	—
combustion controls	—	—	—
steam or water meters	—	—	—
meters for measuring fuel	—	—	—
carbon dioxide or air flow/ steam flow meters	—	—	—
stack temperature gauge	—	—	—
smoke detectors	—	—	—
Boilers are cleaned inside and out at least annually.	—	—	—
Boilers are inspected by the insurance carrier or government agency at least annually.	—	—	—
There are plant safety devices. If yes, they include:	—	—	—
low water cut out	—	—	—
high and low water whistles	—	—	—
combustion safety devices	—	—	—
other_____	—	—	—

The above devices are routinely checked and recorded by whom?

_____

_____

_____

	Yes	No	NA
b. Air conditioning is available.	—	—	—
If yes:			
Its operation is supervised by qualified personnel.	—	—	—
Filter changing, tube cleaning and other maintenance is on a regular schedule.	—	—	—
Units are checked thoroughly before the cooling season begins or before it is turned on.	—	—	—
There is a job description for the individual who maintains the air conditioning equipment.	—	—	—
If yes, it includes maintenance of:			
control systems	—	—	—
ventilating equipment	—	—	—
heating	—	—	—
humidity control	—	—	—
c. Electrical power and distribution.			
If a hospital, it is served by at least two sources of power.	—	—	—
If yes, there are:			
two power companies or other provider feeders from same power station by same route	—	—	—
two power feeders from different sources and by different routes	—	—	—
power generation by the hospital as primary or secondary source for entire plant	—	—	—
arrangements that in the event of a power failure, transfer of feeders or start up of generators will keep the entire hospital in service	—	—	—
The main incoming substation is adequate:			
for present load	—	—	—
and provides for growth	—	—	—
Transformer oil (or other fluid) is tested regularly.	—	—	—
Switch gear are regularly maintained and checked.	—	—	—

	Yes	No	NA
Emergency power generated is available only for vital services.	—	—	—
Provisions have been made for automatic transfer and starting of emergency generators.	—	—	—
The emergency unit is tested regularly with a load.	—	—	—
How frequently?			

The following are used to save energy:			
unneeded equipment is routinely shut down	—	—	—
starting of equipment is scheduled to reduce demand charges	—	—	—
power factor is calculated to determine if improvement is needed	—	—	—
estimated power costs are considered in evaluating new equipment to be purchased, particularly for large units such as for air conditioning	—	—	—
d. Administration and other departments are notified in writing of scheduled interruptions of services.	—	—	—
If yes, the notice includes:			
date	—	—	—
time	—	—	—
duration	—	—	—
areas affected	—	—	—
reason for interruption	—	—	—

12. Give the following information on work performance systems for boilers, air-conditioning and power supply.

a. There is a formal preventive maintenance program in effect	—	—	—
If yes, it includes:			
Detailed equipment records.	—	—	—
Schedules for the maintenance of all units.	—	—	—

		Yes	No	NA
	Location of each unit.	—	—	—
	Description of what and how to perform the scheduled tasks.	—	—	—
	A system of inspection and follow-up to determine if the work is actually performed.	—	—	—
b.	There is a formal maintenance requisition program in effect for:			
	routine work	—	—	—
	alteration or new work	—	—	—
	If yes, it includes:			
	forms and written procedures	—	—	—
	logging or some other method of recording work accomplished	—	—	—
	a well defined method of setting priorities and scheduling work	—	—	—
	a system for reviewing and measuring backlog of work, to enable the department head to make one of the following decisions:			
	permit the backlog to exist because there are many low priority jobs	—	—	—
	hire additional temporary help	—	—	—
	contract some of the projects out to private companies	—	—	—
	use overtime	—	—	—
	work is assigned only to a dispatcher or other responsible person in the department	—	—	—
	a work order is required before scheduling a job, except for emergencies	—	—	—
	a special way of handling emergencies	—	—	—

	Yes	No	NA
Records are maintained on the cost of work (staff and materials) for purposes of:			
cost allocation to other departments	—	—	—
equipment maintenance cost history	—	—	—

13. Give the following information on reference materials:

At least the following publications and materials are readily available and up to date:

Plans and specifications of buildings.	—	—	—
Catalogs, in a well organized file.	—	—	—
Equipment manuals, in a well organized file.	—	—	—

14. Do the above questions and answers correctly describe your maintenance and repair system? If not, add the important missing information.

_____

_____

_____

15. How adequate is the maintenance and repair system to the needs of the organization?

1	2	3	4	5
Very inadequate				Very adequate

H. ENVIRONMENTAL MANAGEMENT

The physical environment of a health service organization must be managed in order to protect patients, personnel and property from hazards. An effective environmental management program:

- identifies hazards;
- reduces them as much as possible;
- prepares staff to handle dangerous situations; and
- protects human life.

1. Who is responsible for the organization's safety program?

_____

Is it clear who is responsible?

Yes___ No___

2. Is there a safety committee?

Yes___ No___

Do the committee members represent areas of high risk?

Yes___ No___

Does the committee include some people with enough respect to influence other people?

Yes___ No___

When was the most recent meeting of the committee?

_____

How often does the committee meet?

The committee reviews all incident reports, which must be completed whenever there is a threat to life and property anywhere in the organization?

Yes___ No___

The committee makes inspections to discover and eliminate hazards.

Yes___ No___

3. Give the following information on fire safety:

	Yes	No	NA
Is there a written fire emergency plan?	—	—	—
Is the chief engineer responsible for the plan? If not, who is?_____	—	—	—
Are instructions given to all personnel on their part in the program?	—	—	—
Are all local requirements for fire control are being met?	—	—	—
Are regular fire drills held for all shifts:			
monthly	—	—	—
quarterly	—	—	—
three times annually	—	—	—
Are reports made on the fire drills, and reviewed by managers?	—	—	—
Is there a local fire alarm system?	—	—	—
Is the alarm connected to the local fire department?	—	—	—
Are local fire department personnel familiar with critical areas of the institution? (critical areas are those with patients or dangerous materials)	—	—	—
Are fire department inspections held regularly?	—	—	—

	Yes	No	NA
Are fire extinquishers serviced and tagged at least annually?	—	—	—
Are standpipe hoses inspected annually?	—	—	—
Are sprinklers or other fire detection devices installed in high risk areas?	—	—	—
Is there an active fire prevention program?	—	—	—

4. Who is responsible for maintaining garbage holding, transfer, and disposal free from insects and rodents, and for preventing the transmission of disease?

_____

5. Is there a periodic review of the prevention of hazards in disposing of:

___ Infectious wastes
___ Toxic chemicals
___ Flammable liquids and explosive gasses
___ Packaged caustic materials (acids or bases)
___ Radioactive contaminated wastes
___ Other:

_____

6. Do the questions and answers correctly describe the environmental management system? If not, add the important missing information.

_____

_____

7. How adequate is the environmental management system to the needs of the organization?

1 2 3 4 5

Very inadequate — Very adequate

I. SUMMARIZING THE ASSESSMENT PROCESS

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

Planning and Budgeting for Materials
Purchasing
Receiving and Inspecting
Storage and Warehousing
Inventory Control
Requisitioning and Distributing Materials
Maintenance and Repair
Environmental Management

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: _____

Solutions	Estimated Impact	Ease of Implementation

Priority problem: _____

Solutions	Estimated Impact	Ease of Implementation

Priority problem: _____

Solutions	Estimated Impact	Ease of Implementation

TABLE III, continued

Priority problem: _____

Solutions	Estimated Impact	Ease of Implementation

Priority problem: _____

Solutions	Estimated Impact	Ease of Implementation

Priority problem: _____

Solutions	Estimated Impact	Ease of Implementation

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.:

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