MODULE 3

**District Health Management Team
Training Modules**

Management of Health Resources

AFR/DHS/03.03

Rufaro Chatora, Prosper Tumusiime

World Health Organization
Regional Office for Africa
Brazzaville

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Foreword

Health systems in Africa are undergoing considerable change, often in a context of ongoing health sector reforms. In most countries, decentralization of health services is very central to these changes, and consequently there is a need to prepare and empower those working at the district level for their new responsibilities and tasks. Many countries have requested WHO/AFRO to support them in the implementation of the change processes at the district level, and the Regional Office is giving special attention to these requests. Apart from the technical support that WHO can provide to the countries concerned, several support tools, modules and frameworks have been and are being developed to support the strengthening of district health systems.

   The training modules are intended for use by district health management teams (DHMTs) with the objective of developing the capacity to address the problem areas identified from the assessment of district health systems operationality. In addition, the modules could also be used during basic training of health personnel. Tools for the assessment of district health systems operationality are already available to the countries.

   Countries should make use of these training modules so as to enhance the effectiveness of the priority programmes they are implementing in order to improve the performance of their health systems. It is clear that the success of health systems largely depends on the performance of the health system at implementation levels, namely district and community. The training modules address practical issues critical for the improvement of health systems at those levels.

   I hope that countries and especially district health management teams in the Region will make optimal use of the training modules in order to enhance their capacity to address the priority health problems that we are facing every day.

Dr Ebrahim Malick Samba
Regional Director

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Acknowledgements

This publication is an effort to respond to the different needs for capacity building in management and implementation of health programmes and delivery of essential services. It reflects the thinking acquired from experience working with health sector reforms being implemented in the African Region.

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List of Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
CBD	Community-Based Distributor
CEDHA	Centre for Education and Development in Health, Arusha
CHC	Community Health Committee
CoC	Code of Conduct
DHB	District Health Board
DHMT	District Health Management Team
DHS	District Health System
DMO	District Medical Officer
EHP	Essential Health Package
EIP	Evidence and Information for Policy
FPP	Family Planning Programme
GPE	Global Programme on Evidence
HFA	Health-for-All
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HMT	Hospital Management Team
WHO/HQ	WHO Headquarters
HRH	Human Resources for Health
KSA	Knowledge, Skills and Attitudes
MCH	Maternal and Child Health
MOH	Ministry of Health
MoU	Memorandum of Understanding
NGO	Non-Governmental Organization
OAU	Organization of African Unity
OSD	Organization and Services Department
PHC	Primary Health Care
PoW	Programme of Work
PPAp	Project by Project Approach
RC	Regional Committee
SWAps	Sector Wide Approaches
TB	Tuberculosis
TBA	Traditional Birth Attendant
TH	Traditional Healer
UNICEF	United Nations Children's Fund
UNSIA	United Nations System-wide Special Initiative on Africa
VHW	Village Health Worker
WHO	World Health Organization
WHO/AFRO	WHO Regional Office for Africa

Overall Introduction To
The Modules

This is one of a set of four management training modules aimed at District Health Management Teams in the countries of the African Region.

There have been considerable achievements in African countries as a result of implementation of the Primary Health Care (PHC) strategy. However, health problems and ill-health continue to exist despite these laudable initiatives; for example, inequity in health care delivery still exists. Health systems and programmes are often blamed for inefficiency and ineffectiveness, putting them under pressure to be re-orientated and re-organized.

The setbacks have been partly attributed to the continuing economic crisis and lack of resources. However, much has to do with poor management, especially in the organization of district health systems and the difficulties faced in translating PHC principles and Health Sector Reform proposals into practice.

These problems can be attributed to lack of appropriate knowledge, skills and capacities among those who are responsible for managing district health systems and programmes. The gap which exists between training of district health managers and what they are called upon to do, poses one of the major issues to be addressed for the achievement of health sector reform objectives as well as the goal of Health-for-All.

Training of DHMTs in health management has been going on for some time. Different institutions have developed training materials; however, these materials are usually not based on the current thinking of practical health management requirements in the recently or impending decentralized districts.

The ongoing health sector reforms in African countries focus on the district health system. New and heavy responsibilities are placed on the shoulders of the District Health Management Teams who are the main implementers of national health policies and strategies. The Division of Health Systems and Services Development of the World Health Organization Regional Office for Africa therefore developed this set of training modules that addresses the knowledge, skills and attitudes required of District Health Management Teams to cope with their challenging new roles and tasks.

It is acknowledged that circumstances differ widely among countries in the African Region. The modules are therefore meant to be generic and should be adapted to country-specific circumstances as required. It is further recognized that learner needs of different district health management teams in countries can differ from one another; even learning needs among members within a particular team can differ. The course that is offered is therefore explicitly modular: it is not necessary that everyone study every unit in every module at the same level of detail. Although the modules were developed for DHMTs, they are also potentially useful for district-based managers of health programmes and other "extended" DHMT members. Furthermore, countries with regional or provincial health teams can benefit from the modular course by acquiring a common understanding with the DHMTs. This would strengthen their support function capacity.

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With this understanding, the main developmental objective of the modular course is:

To have in place DHMT members with adequate managerial skills and capacities for the implementation of Health Sector Reforms.

The district health management training modules have been developed to cover four major areas. Modules 1 though 3 should take a week each. At least two weeks should be set aside for module 4.

Module 1: Health Sector Reforms and District Health Systems

- Unit 1 Health Policy, Strategies and Reform
- Unit 2 District Health Systems

Module 2: Management, Leadership and Partnership for District Health

- Unit 1 Important Management and Leadership Concepts
- Unit 2 Team Work
- Unit 3 Multisectoral Collaboration: Partnership in Health Care
- Unit 4 Partnership Between Organizations
- Unit 5 Community Participation, Partnership Between Organizations and the Community

Module 3: Management of Health Resources

- Unit 1 Management of Human Resources
- Unit 2 Management of Finances and Accounts
- Unit 3 Management of Logistics
- Unit 4 Management of Physical Infrastructure
- Unit 5 Management of Drugs
- Unit 6 Management of Time and Space
- Unit 7 Management of Information

Module 4: Planning and Implementation of District Health Services

- Unit 1 Basic Concepts of District Health Planning
- Unit 2 Preparation for Planning
- Unit 3 Health Systems Research
- Unit 4 Steps in the Planning Process
- Unit 5 Essential Health Package
- Unit 6 Disaster Preparedness

Introduction To
Module 3

Introduction

The provision of health services involves putting together a considerable amount of resources to deliver a large variety of services. Effective district health services depend, to a large extent, on proper management of available health resources.

District health management teams need to be capable of managing the health resources allocated and available in a district. Such resources include human resources, physical infrastructure, finance, equipment, transport, drugs, supplies, time, space as well as knowledge, documentation and information. Most of these resources are expensive and in short supply. Health workers have a responsibility to effectively and efficiently use these scarce resources. Efficiency depends on how well these resources are managed.

This module considers the principles of management that govern the use of health resources to achieve efficiency and effectiveness in the delivery of health services at district level. DHMT members do not have to be experts in all the areas that will be addressed in this module. The module will help them to decide where, when and whom to consult when required.

Objectives

On the completion of this module, DHMT members will have acquired skills to better manage the resources at district level.

The module is divided into seven units as follows:

1. Human resources for health
2. Finance and accounts
3. Logistics
4. Physical Infrastructure
5. Drugs
6. Time and space
7. Health Information

Unit 1: Management of Human Resources for Health

Introduction

Human resources constitute one of the most important resources in health on account of its cost and the value it gives to the other resources. The importance of human resource rests on its ability to mobilize and manage other resources in the health care system.

Objectives

At the end of this unit, the DHMT should be able to:

- conduct human resource recruitment, selection and placement;
- design appropriate job descriptions and contracts for staff;
- induct and orient staff on their jobs;
- develop a sustainable system for human resources for health (HRH) advancement and capacity-building;
- promote staff motivation through appropriate leadership;
- carry out effective supervision and performance appraisal for HRH;
- communicate effectively with staff;
- promote continuing education in the delivery of health services;
- coordinate various activities in the district for effective integration.

> **ACTIVITY 1**
>
> - Discuss in groups the practical problems experienced in the district in the management of human resources for health.
>
> - Let participants share with the group human resource management issues that they encounter in their district.

1.1 Planning, Recruitment, Selection and Placement of Staff

Estimating requirement of human resources for health

Human resource planning includes the estimation of numbers and categories of personnel required both in the immediate and long term and the allocation of resources to train and pay these staff. There are four methods used in calculating health personnel requirements. These are:

Health-needs approach

The approach is based on assessments by experts of the future health needs of a population that is based on demographic and epidemiological forecasts. This approach is difficult to operationalize and would require extensive research.

Health care demands or utilization method

The health staff requirement is estimated by taking into account the effective demand, i.e. utilization of services. This approach can be operationalized through the use of Work Load Indicators, but this requires the availability of quality Health Management Information System (HMIS) and is not easy to use in complex institutions above the level of district hospitals.

Human resource to population ratios

The number of health workers required is calculated taking into account the population to be served, based on desired empirical or normative population to health worker ratios. The problem with this approach is that it does not take into account socioeconomic realities. The ratios have little meaning if health personnel are maldistributed.

Service targets

The approach involves the setting up of specific health-service targets and then assesses the personnel requirement to accomplish each of these by taking into account priorities, health needs and technical and financial feasibility of providing the services. This is the recommended choice in most cases.

The district health services should first work out an establishment for each level of health facility following national guidelines. In circumstances where there are no guidelines, negotiations have to be undertaken to arrive at a minimum acceptable staffing level within the available financial means.

If staff establishment levels exist already, staff registers for each health facility should be updated. However, it is better to allocate staff on the basis of workload indicators. To judge health centre workload you may wish to compare outpatient attendance and in-patient admission figures and correlate them with the staffing level. Obviously, more staff is needed where there is more work to be done.

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ACTIVITY 2

Determine the total staffing needs for the district health services based on uniform staffing standards. For each health facility and category of staff determine the deficits.

OPTIONAL ACTIVITY

When time allows, perform a workload indicator study using the existing WHO guidelines.

1.1.1   Recruitment and selection for vacant posts

Recruitment is the process of finding and attracting the right people to fill jobs that are vacant. Selection is filling the position with the right person.

The head of the unit where a vacancy has occurred initiates the notice of vacancy and recruitment for filling it. This notice should be brought to the attention of the unit or department handling personnel matters to ensure that requirements and job specifications are in order before official submission to the recruitment authority. Although in some countries with decentralization the recruitment authority is at district level, in the majority of countries in the Region it is still at provincial or central levels.

The administration should use the following steps for selection and recruitment:

BOX 1

- Candidates are identified through different means such as internal advertisement, employment agencies, external advertisement, staff appraisal, education and training institutions or unsolicited letters of applications, depending on prevailing regulations.
- All applications should indicate post applied for. The applications should have relevant copies of certificates and curriculum vitae.
- A shortlist of possible candidates should be made.
- An interviewing panel shall obtain and assess information on each candidate to determine suitability for the job, with technical guidance from the DHMT.

BOX 1   (CONTINUED)

■ Candidates to be interviewed should be informed of the time, date and place of interview well in advance. In conducting the interview, the panel will evaluate evidence of the candidates' capabilities in relation to the job description from the application form, supplemented by more recent detailed information about experience, knowledge of the job and personality of the candidate.

■ During the interview the candidates should be informed about the job and conditions of service.

■ An interview form containing issues to look for will be used during the interview process in order to ensure uniformity in the mode of assessment and to facilitate the need to direct and control the proceedings toward selecting a suitable candidate. Prior to commencement of the interview, the panel should be briefed on the programme and the method of interview to be followed and how to use the interview form.

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ACTIVITY 3

One of your professional staff has just resigned. Therefore, the post has fallen vacant. Discuss the procedure you will follow to fill the post. Conduct a role play interviewing the applicants.

1.1.2   *Providing job description and contracts*

Every employee should be provided with a job description. This is a valuable tool for management of work. Job descriptions state clearly what each worker is expected to do and prevent arguments on who should do what. They also facilitate the process of staff appraisal.

A job description will contain the following:

BOX 2: CONTENTS OF A JOB DESCRIPTION

Job title	Title of person doing the job, for example: "Nurse".
Date	The date the job description is approved, since it will be revised with time.
Job summary	This is a list of the main responsibilities.
Duties	Each duty shoudl be an identifiable entry, a recognizable part of the job. Each duty should correspond to one or more programme objectives.
Relations	This is related to the position to which the holder is accountable, as well as the positions, if any, he is to supervise.
Qualifications	Describes required qualifications and level of experience.
Training & development	Indicates training needs as worked out with job holder.

1.1.3 Contract

This is a binding agreement between two or more parties, e.g. an employee and an employer to perform given tasks. A contract indicates conditions to be fulfilled by both parties. In the HRH management context it entails the employee to fulfill job performance conditions and the employer to abide to remuneration and other motivational aspects. All these are regulated by legal and civil service regulations in most countries.

Components of a contract may include:

- terms of service;
- expected output;
- remuneration package;
- contract period;
- consequences and arbitration in case of breach of contract.

> **ACTIVITY 4**
>
> - Write your own job description and swap with your team members for comment. Compare with example given in the text.
> - Write an advertisement for a consultant needed to assist the implementation of health sector reform in your district. (For instance, a legal adviser to assist the establishment of district health board.)

1.1.4 Job induction and orientation

Job orientation is familiarization of a health worker to the new working environment. This is necessary for the fact that performing one's duties is determined by training and also by tradition and experience.

For example, a midwife who operates in a village will operate differently from the one in the hospital. The requirements of the programme will also determine the desired duties and responsibilities.

> **ACTIVITY 5**
>
> Discuss how you would orient a public health nurse who comes straight after training in a consultancy hospital to become in-charge of the district MCH services.

Each worker should be provided with norms and standards to be applied when carrying out the tasks expected of him or her. Norms and standards translate health objectives and targets of health teams to the amount of work and quality of care expected of each health worker.

1.1.5 Coordinating activities

Coordinating activities helps to bring activities into proper relation with each other and to avoid duplication by:

- distribution of authority;
- providing channels of communication;
- arranging the work so that the right things are done, in the right place, at the right time, in the right way, and by the right people.

1.2 Communication

Communication refers to the process of relaying messages in a way that is effective and resulting in a response. The communication process is inseparable from the management aspects of an organization. Good and effective communication promotes teamwork.

Personal relationships within a team can be difficult but poor communication can worsen them. To encourage communication the following should be emphasized:

- All team members and staff should be clear whether their views are well taken care of and should be encouraged to do so.
- A message or communication should be clear whether provided orally or written and simple language should be used.
- Conflicts are common, and they should be resolved in a way that will achieve constructive results.

1.2.1   The communication process

The following are the characteristics of a communication process:

- Communication involves people; to understand communication, you first have to try and understand people.
- Communication involves shared meanings. This suggests that, in order for people to communicate, they have to agree on the definitions of the terms they are using.
- Communication is done through symbolic gestures, sounds, signals, letters, numbers, charts, graphs and words. However, all these only represent or approximate the ideas they are meant to communicate.

1.2.2   Types of communication flow

- Downward communication: This is the most frequently used type of communication. Communicating downward can help the manager spell out objectives, change attitudes and mould opinions. However, there is a tendency to misuse this type of communication, especially when there are no efforts to encourage response through upward communication. The downward communication without an upward response is compared to a "one-way street". In other words, messages flow from one direction (from sender to recipient), without a feedback system.

- Upward communication: This is communication which flows upwards from a client and/or subordinate to the supervisor or manager. It enhances the sharing of opinions and experiences in the process of planning, implementation, monitoring and evaluation. Unlike downward communication, upward communication allows decision-making to take place at the grassroots level, managers being supporters and catalysts in this process.

- Horizontal communication: In this type of communication, there is lateral communication (i.e. between people working at the same level in the organization). Messages in horizontal communication usually relate to task coordination, problem-solving, information-sharing and conflict-resolution. In addition, an established horizontal communication in the district health management system could serve as a basis for collaboration, liaison and networking with all related sectors, government and non-government agencies, political leaders and multinationals and donor agencies.

1.2.3   Communication channels

These are the paths through which a message is transmitted from the sender to the receiver. For example, these can include telephone and radio.

With the advent of e-mail and Internet, networking is rapidly becoming a major type of horizontal communication flow that knows no borders. Wherever there is an existing telephone or radio connection and a computer, linking up to e-mail and the Internet is possible at little expense and is in almost all cases recommended.

1.2.4   Interpersonal communication barriers

A communication barrier is anything that stops a message from reaching its destination.

Causes of interpersonal communication breakdowns

Various factors can cause communication breakdowns. These include:

- poor appearance;
- strong emotions;
- prejudice or bias;
- jumping to conclusions;
- stereotyping;
- differences in perception;
- lack of fundamental knowledge;
- lack of interest;
- use of vague or very technical language;
- faulty communication lines;
- too many assumptions made by the receiver;
- unconducive atmosphere/environment;
- no terms of reference and/or lack of written instructions;
- failure by subordinates to judge accurately what should be in reports to superiors or failure to communicate at all;
- lack of informal or formal opportunities as a barrier to upward communication.

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ACTIVITY 6

Role-play: Arrange a role-play for two persons who may, for instance, depict a doctor and a patient. Each player first meets with a small group that jointly discusses how to create as many obstacles to communication as possible. When the play is over, discuss in plenary session what you observed and what barriers to effective communication were noted. Next, another couple plays, taking care that all the barriers to effective communication are removed.

1.2.5   Ways of minimizing communication barriers

Use of different communication systems, including formal and informal methods, will facilitate understanding between the sender and the receiver of the message within an organization.

Managers playing an active role in communication

To be a successful health manager, you must have good communication skills. By communicating effectively, you and your staff will be able to share experiences and have the same understanding about various issues. To achieve this, there must be a two-way open and mature interaction between you and your subordinates and colleagues. In this way, you will be able to solve any confusion and differences without causing any long-lasting ill feelings.

Understanding techniques

Understanding is the ability to interpret the communicator's message. Understanding is usually influenced by factors that surround the communication environment. The following techniques help you to understand:

- Learn to reach conclusions by deduction (inference).
- Reading helps you to become knowledgeable about different issues and also to increase your vocabulary.
- Asking questions and asking for feedback.

Feedback is the response a receiver gives to the sender of the message. Feedback can be satisfactory or completely unsatisfactory. It may also be misleading. Unfortunately, the sender may also expect to hear, read or see something other than the truth. In giving feedback, always consider the circumstances of the sender and the sort of response he/she wishes you to make. Consider:

- What is the first thing the sender wants to know?
- What are the essential elements to be included?
- What action do you want to influence which the recipient should take?

Think carefully about how you use the language and how you express yourself. There are always positive ways of saying things and getting things done.

ACTIVITY 7

As individuals, write down your own strong and weak points as a communicator. Then sit down with a trusted friend or colleague who has done the same. Share your strong and weak points and listen for the other to add to them. Now, write down a "statement of good intentions" to stick to your strong points and to improve on your weak points. Keep this list with you or put it up at a conspicuous place, where you will see it every day. For a whole week make improving on your communication skills your main agenda. Sit down again with your friend or colleague and evaluate your performance. As a follow-up, try to keep improving on your communication skills throughout your life!

1.3 Conducting Meetings

One important method of communication with your staff in the district is to hold regular meetings. These may be scheduled meetings, e.g. monthly, with an agenda. At such meetings, programmes running in the district can be discussed and recommendations made for future actions. Meetings also provide an opportunity:

- to clear or clarify confusion among members;
- to deliver new information on policy issues and plans to staff members;
- to discuss complaints and welfare issues from staff;
- for interaction between different health workers to share experiences;
- for timely attention to urgent issues and specific problems;
- for the adoption of decisions/resolutions/recommendations.

However, keep in mind that too many meetings can also interfere with the ordinary work routine and can become a burden.

How to conduct meetings depends on whether the meeting is small, large, formal or informal. The chairperson should be somebody who can encourage good communication. Quarrels and shouting at meetings indicate that communication is poor. With good communication and discussion, agreement and compromise should be the outcome.

The chairperson should control the meeting by ensuring that no rudeness is allowed, control and allow discussion and overrule irrelevant discussion. The chairman should also be mindful of time.

Committee meetings are a special type of meetings; members are appointed to perform defined tasks. There are two types of committees, advisory and executive. The advisory committee advises the committee that has the power. The executive committee has certain powers of decision of its own.

Preparation for meetings

When preparing for a meeting it is important to check for the following issues:

- The purpose of the meeting should be clear; for formal committee meetings, the agenda should state the purpose.
- Main subject matter/agenda: if a meeting has to be useful each person present must be informed beforehand about the subject matter and issues to be discussed. If the subject is new, somebody with knowledge on subject matter should introduce the subject.
- Decide on the type of meeting: should it be formal or informal? Should it be open to the public or be only for members?
- Size of the meeting; for instance, small meetings of ten persons or less are appropriate to share ideas or have a spontaneous discussion. Large meetings are more useful for communicating information and exchanging views rather than for discussion.
- Place, time and duration of meeting: the choice of the meeting place and time should be convenient to allow people to attend easily. People who work may prefer weekends.
- Who is convening and organizing the meeting: the convenor is the person who calls the meeting while the organiser makes arrangements for the meeting, informs members and speakers and provides information beforehand about the meeting (it could be the same person).
- Announcements or information about the meeting: all those who need to attend a meeting should know in advance about it.

1.4   Promoting Staff Motivation

Factors which encourage human resources to put in their best performance include:

- Environment: this should be conducive to work.
- Achievement: assist personnel to achieve work objectives.
- Recognition: recognize good work performance by giving praise where it is due.
- The work itself: explain to staff the value of good work.
- Responsibility: help others to take responsibility.
- Advancement: help others train for promotion.
- Self-improvement: provide opportunities for personal development through training.
- Salary and conditions of service for workers are important motivating factors.

1.5   Performance Appraisal

Staff performance is appraised in order that staff may learn from experience and therefore improve or maintain satisfactory levels of performance.

The purpose of Appraisal is to:

- Identify employees' current levels of job performance.
- Identify employees' strengths and weaknesses in order to determine individual's and organization's training needs.
- Assess the employee's level of contribution as a basis for determining salary/wage increments.

The appraisal process involves the following steps:

- deciding what aspects of performance to appraise;
- collecting the information needed to measure performance;
- comparing the results with relevant norms;
- judging the degree to which norms are met;
- deciding what to do next.

1.5.1 Preparing for performance appraisal

- The institution/DHMT develops norms and standards against which the appraisal is compared and judged. At this stage it is useful to consult job descriptions, work assignment instruction, technical procedure manuals and the like.
- Design and agree on performance appraisal tools, e.g. a checklist of key tasks to be appraised, a performance procedure manual, etc.
- Have a team which will conduct the appraisal in order to minimize bias and increase objectivity. It reduces complaints of victimization.
- Encourage individual self-evaluation or appraisal. The individual person being assessed must be satisfied of his/her own strengths and weaknesses. Only then can an individual aspire to correct mistakes and improve own performance.

1.6 Supervision

Supervision or "overseeing" refers to an activity of more experienced or higher positioned personnel whereby they support the work of their juniors so that it meets set standards.

1.6.1 Effective supervision

Supervisors are expected to be organized and technically competent. Supervisors must understand well the supervision process and plan ahead for it to be effective. Some supervisors have gone to visit health centres and the only thing they do is sign the visitors' book.

Supervision definitely means more than just a visit to a health facility. It means assisting health workers in achieving work outcomes, finding out work problems and challenges and together finding solutions to the problems.

Effective supervision should aim at encouraging team members to apply their ability and energy to work. It also means understanding what makes people dissatisfied at work.

There are three main styles of management on which supervision will depend:

- Autocratic: "Do what you are told and don't ask questions". The practice is that health workers have no choice to make and no influence on the type of work that is done. Sometimes, in emergencies, such authoritarian supervision can be acceptable.

- Anarchic/(Laissez faire): "Do what you like". Health workers have complete freedom of choice and can do as they like. This situation may be applicable to staff who are doing research. In many cases supervisors do not know how to supervise or what to look at.
- Democratic: "Let us agree on what we are to do". The supervisor says these are the results we have to achieve and this is the job to be done, let us agree together how best to do it. This is the usual style of choice in the supervision of district health work.

> **ACTIVITY 9**
>
> Role-play: Let three groups prepare for a role-play depicting a supervision visit to a health center, each group should prepare for a different supervision style, giving careful thought on how the supervisees will react. Role-play and then discuss in plenary.

The following are main motivating factors which a supervisor should aim at:

(a) Helping people to achieve work objectives

Most people like to do things well to succeed. Therefore, achievement is extremely important to the individual. Help them by giving ideas, advice and technical assistance.

(b) Giving praise when it is due

Getting recognition and award or praise on what you do from your supervisor can be very motivating. Lack of recognition can be very discouraging.

(c) Explain to your juniors the value of work

Some people may want to do useful and worthwhile work for themselves, while others may want it for their organizations or institutions. Some health workers may not realize their roles and contribution to their organization, especially those doing dull and repetitive work. Assure team members of the value of their work and the complementarity of the different inputs.

(d) Help other people take responsibility

To take responsibility is to accept the consequences, good or bad. Most people like to make decisions for themselves and accept responsibility for doing so. Don't always make decisions for them. Encourage independent thinking and decision-making together with the risks that go with it.

(e) Help other people train for promotion

Advancement is a form of recognition. Encourage people to learn and increase their knowledge and skills for professional advancement and promotion. Continuing education systems and plans should be developed for various cadres for on-the-job training and in-service education.

(f) Provide opportunities for personal development

People like to become mature, to develop as people. Health workers want to discover, develop, master and use their own abilities to the fullest extent. Initiative and creativity in the workplace must be encouraged and supported.

Some people are innovative at work and a leader must provide opportunities for such individual or group initiatives by giving high-quality supervision and support.

(g) Preparing and planning for supervision

Effective supervision is one which is facilitating, supportive, open to dialogue and involves participation of both the supervisor and the supervisee on a collegial footing or basis. Supervising means teaching or facilitating your junior to do things or tasks better. At the same time the supervisor is ready to learn and receive advice from a junior. Both of them learn and improve in the process. However, effective supervision needs to be planned. It must be differentiated from "a visit to a health facility and signing the visitors' book". It must look at performance, identify gaps and suggest on how to improve.

The following are some proposed steps you may take in developing a supervision plan:

- Review of past records/reports/information. A lot of information or reports or records exist in your district about health centres, dispensaries, communities, etc. Review such data or information. You learn about what the last supervision found and recommended for remedy. List the deficiencies or problems. These will be your areas of focus for supervision in addition to other areas   you may want to supervise in that particular health unit or facility.
- Prioritization. Often you may find that there are a number of deficiencies or problems identified previously from the reports or records. Assess the seriousness and magnitude of these problems vis-à-vis the quality of health services. Then prioritize them in order of their importance. These become your areas of focus in the supervision you want to carry or conduct.

1.6.2 Supervision checklists

The purpose of checklists is to guide the supervisor on areas to be addressed during supervision. It also serves as a reminder to the supervisor on areas, which would otherwise be overlooked. Checklist models have been developed to act as a guide.

It is expected that supervisors will prepare their own checklists based on the prevailing problems and situation. However, there are two categories of checklists.

The first one concerns administrative issues including points on:

- planning, monitoring and evaluation;
- financial management;
- facilities and equipment management;
- transport management;
- information management;
- human resource management;
- time management.

Then there are checklists to deal with technical issues; for instance, the health interventions packages to be supervised:

- clinical packages;
- public health packages;
- health-related interventions.

An example of a supervision checklist:

OPD-Case management

- Does the prescriber have appropriate qualifications?
- Is there privacy for the patients?
- Is the clinician-to-patient relationship good?
- Does the clinician give the patients enough time to explain their problems?
- Does the clinician explain to the patient regarding his illness and management plan?
- Is history-taking adequate?
- Is the patient examined?
- Does the treatment correspond to the diagnosis and is the treatment regimen correct and in accordance with the treatment guideline? Check:
  — Drug choice
  — Frequency
  — Course/duration.

Your supervision plan may be on a monthly, quarterly or annual basis. It prepares you to do supervision for improved performance rather than just a visit. Supervision always must result in positive change and achievement. A supervision plan should include the following:

- What is/are the objectives of the supervision visit?
- What is the priority problem?
- Priority interventions "what is to be done in order to solve the problem?"
- Where will the supervision take place?
- Who will do the supervision? Who are the targets?
- How will it be done or how will it be supervised?
- What tools shall be used?
- How shall you give feedback? For example, discuss with them your summary of findings/observations. Give strong and weak points.
- Follow-up plan. Agree with them on the plan and activities to be undertaken to improve the situation. Each party commits itself to certain activities.
- Date when the supervision is to be done.
- Develop supervision indicators.
- Summarize your supervision report by including:
  — When and where supervision was done and by whom?
  — Main objective of supervision;
  — Major findings (strong points and weak points), etc.
  — Recommendations/points of action.

■ Follow-up plan on what has been agreed in a verbal contract between the supervisor and the workers;

■ Discuss your supervision report with other DHMT members, put a copy in the relevant supervision file and send another copy to where supervision was done.

ACTIVITY 10

Prepare for and carry out a supervision visit to a section of the hospital or a health facility. Discuss the experiences in a plenary session.

1.7 Continuing Education

DHMT should recognize the importance of an efficient updated and motivated workforce for managing health services. It is the responsibility of DHMT to ensure that plans for continuing education for various health cadres are formulated both on long-term and short-term bases.

A human resource training profile for various cadres in the district must be maintained and regularly updated.

DHMT must conduct a survey or make a situation analysis of continuing education needs for various categories of health workers in the district and find out the performance gaps or differences for each cadre and prioritize the needs in accordance with what they actually see in the field.

ACTIVITY 11

Discuss continuing education activities in your district by describing the strengths and weaknesses and suggest ways for improvement.

The aim of continuing education is to:

■ share and exchange experience with colleagues;
■ avoid professional decay and continuing ignorance;
■ motivate health workers;
■ improve performance efficiency and proficiency.

1.7.1 Methods of continuing education

A variety of methods can be used in continuing education to update health workers. These methods include meetings, supportive supervision, workshops, seminars and distance education.

Continuing education plans for both long term and short term should include the following:

■ priority areas of training for each cadre;
■ specific training resources required;
■ budget for training;
■ date and venue;

- source(s) of funding;
- monitoring of training;
- inventory or availability of training institutions.

To ensure that continuing education of district health workers is implemented, DHMT must ensure that a number of conditions are fulfilled:

- there should be an organizational system and structure that is responsible for continuing education; this system should assure coordination and, where possible, integration of the hitherto vertical programme-based training activities;
- continuing education should be considered important enough to make adequate financial allocations for it;
- continuing education should be integrated in the development of health systems, therefore it should appear in the district health plan;
- the educational needs of individuals and teams should be taken into consideration and a proper information system on continuing education of individuals should be maintained;
- training should be well-targeted to ensure that those who are dealing with a particular health problem receive continuing education together;
- learners' educational levels and circumstances should be taken into account;
- learners should, as much as possible, be involved in the determination of their educational needs and in the planning of their continuing education;
- in continuing education, problem-solving, learner-oriented and work-based training methods should be employed;
- it is good to identify suitably experienced and qualified educational resource persons;
- such learning materials should be used or developed as are closely related to the expected educational outcomes;
- a dynamic resource centre with good networking functions is a great asset;
- supervision should be an integral aspect of the continuing education system;
- the continuing education system should practise quality assurance, self-evaluation and periodic external evaluation.

1.8 Managing Interpersonal Conflict

The heterogeneity of personnel within the organization leads to differences in the way of values, expectations, attitudes and interests, which invariably creates a fertile ground for conflict.

Potential sources of conflict include:

- competition for scarce resources;
- different values and interests of the people;
- antagonistic roles of different people;
- acquisition of power;
- communication breakdown;
- introducing change.

How to resolve conflict?

There are many ways of dealing with conflict:

- use of authority involves the use of legitimate power to bring about compliance;
- compromise involves bargaining and splitting the differences;
- third party intervention, which involves the use of a neutral actor as mediator.

Problem solving is a step-by-step process that proceeds as follows:

- define the problem or issue to be addressed;
- analyse the issues and generate alternative courses of action;
- evaluate the alternatives and select the best course of action;
- implement the decision or selected alternative;
- monitor the results and evaluate the impact.

The applicability of a method will largely depend on the circumstances of the cause of conflict.

ACTIVITY 12

Role-play: Recall a recent conflict that occurred in your district or work situation, identify the different parties and concerned individuals involved in this conflict, but make sure it is not a conflict that happened among the members of your learners' group. Assign the roles of the different parties and individuals involved in the conflict to individuals in your group and play out the problem, using various approaches to conflict resolution (authority, compromise, third-party intervention). In the plenary discussion after the role-play, follow the sequence of the problem-solving technique.

1.9 Discipline

Familiarize yourself with guidelines on disciplinary procedures. In any case the district should develop a code of disciplinary procedures in collaboration with administrators or personnel experts, who are specialized in this type of work. To ensure fairness and order in processing disciplinary cases, DHMT should preferably establish a disciplinary committee, which will be given responsibilities of looking into disciplinary cases.

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MODULE 3

Unit 2: Management of Finances

Introduction

Finances are among the most important resources of health services. Managing money in a health service is a complex and responsible work, which is done mainly by accountants or finance officers. Keeping account records accurately, up to date and adhering to financial regulations at all times is a major task of the accounts unit. In this unit the main focus will be on how to maintain proper accounting records and documentation. In view of decentralization being implemented in some countries, this unit also provides some aspects of financial management at health-facility level as well.

Objectives

After completion of this unit, participants should be able to:

- identify different sources of financing for health in the district;
- identify various types of funds;
- use proper accounting procedures;
- maintain properly the accounting and financial records;
- become familiar with different financial documents like ledger, cash book, receipts, issue vouchers, payment vouchers and invoices and how to use them.

2.1 Sources of Funds

Traditionally, in many African countries the government health services have been mostly financed through public funds through tax-based revenue collection. However, this has not been enough to cater to all the needs due to the ever-increasing disease burden, population growth and increasing health demands and expectations. Alternative health financing schemes are being put into practice to supplement the deficit.

The schemes advocated to fill the deficit include:

- user fees;
- community health funds;
- private and social health insurance;
- donor support.

2.2   User Fees

2.2.1   *Estimating, accounting and supervising user fees*

District health services in some countries are now engaged in a system of health financing in which users of health services and the community contribute to or pay for the use of health services. However, since the introduction of user fee systems, a number of problems have been noted; for example:

- user fees acting as a barrier to utilization of services by the poor;
- poor systems of collection, safety and use of such funds;
- thefts and poor accounting systems;
- unrealistic money returns as compared to the efforts and time spent on the management of the funds;
- apparent euphoria from ad hoc and unrealistically collected funds, without setting targets and probable estimates expected to accrue from such charges (e.g. estimated number of patients per year, month, day, type of services utilized and the costs of such services, etc.).

DHMTs are therefore encouraged to:

- establish appropriate user-fee schemes;
- set targets and estimates of health services consumption patterns and projected amounts likely to accrue per month/per year. This will help DHMT to evaluate the userfee schemes in a more realistic way.

2.2.2   Accounting of user fees

- establish proper user-fee collection, its use and accounting systems that will ensure maximum collection and benefit from the scheme;
- all collected patient fees should be recorded in OPD and inpatient registers;
- all patients who pay fees should be issued an official receipt;
- the original is given to the patient and the duplicate kept in the receipt book;
- at the end of the day all medical fees collected should be added up and reconciled against receipts issued on the day and these should balance.

The use of the fees raised by the health facility is determined and governed by financial regulations. To enforce these regulations it is important:

- to effectively and regularly supervise the user-fee scheme to detect areas of pilferage/thefts, etc.;
- to provide each health facility with a secure safe box where to keep user-fee charge collections before they are taken for banking;
- not to use the money collected at source before it is accounted for at district health office and banked in order to facilitate accounting through monthly bank reconciliation statements.

2.3   Ways of Fund Allocation

There are two types of funds available to the health facility, namely:

2.3.1   Invisible money

This money is not seen or handled. It is a paper credit given as allowance, allocation or warrant of funds. For example, the Ministry of Health can allocate money worth US$ 50,000 to the district hospital for purchasing drugs from the Medical Stores Department (MSD). The district orders drugs from the MSD; the drugs are supplied and costs are charged to the district account against the money allocated and held by the MOH.

2.3.2 Visible money or cash

This is the money that is seen and handled. Visible money can be obtained through:

- user fees;
- fund raising;
- donations;
- pre-payment arrangements;
- income-generating activities;
- grants and other allocations under a cash budget.

Cash can be given as imprest to a health worker to spend for the work of the health service. Since it is usually not safe to keep large sums of money in the health unit, it is advisable to deposit the money in a bank. However, where small amounts of money are needed the petty cash system is used.

2.4 Account-keeping and Financial Reporting

The list below provides the main accounting documents and records, which are used in accounting.

General voucher

This is an official document, which is used for financial records of goods and services received or rendered.

General allowance claim form

This is a special form normally used for claiming allowances, e.g. on travel, lunches, etc.

Imprest request/retirement voucher

Imprest request form or voucher is a document that seeks all details of a requested/retired imprest (e.g. standing imprest, special imprest or safari imprest). This document will normally specify the purpose for which it is issued.

Cash reconciliation sheet

This sheet is used for keeping all cash received and paid. Thereafter, countercheck the balances on daily basis. Through the cash reconciliation process, one will be able to find out if there are any deviations from the laid-down financial regulations.

Monthly schedule of outstanding imprest

This is a monthly record showing all outstanding (not yet retired) imprests.

General ledger card

This is a document whereby all records on receipts and issues are posted on a daily basis.

Cash book

This is a book where all financial transactions are recorded on a daily basis.

Quarterly Budget Expenditure Report (QBER)

This is prepared quarterly by the Accounts unit. The report provides summaries of cost item expenditure and makes comparison of actual expenditure to budget for that quarter. They are completed in duplicate; one copy is sent to the central ministry and one copy is kept by the district.

Final financial report

This form reflects similar information to the QBER but it records cumulative expenditure to date. This is to be completed in duplicate with one copy submitted with the quarterly accounts.

Income register

This register is used by the Accounts unit to record all income received (cash or cheques).

ACTIVITY 13

Do exercises on preparing different accounting records like

- General voucher
- Allowance claim form
- Cash reconciliation statements, etc.

The facilitator will clarify on unclear issues.

2.5 Accounting for Money

2.5.1 Introduction

A health facility can receive funds for recurrent and development activities from different sources such as government, donors and user-fee charges. Funds need to be properly recorded and managed using financial and accounting documents/books.

Procedure of accounting/stores documentation

- All transactions in Accounting and Stores should be in writing using financial documents, i.e. ledgers, vote book, receipts, delivery notes, issue vouchers, payment vouchers, local purchase orders (LPOs), invoices, etc.
- All payments received, whether from patients or donors, should be recorded and acknowledged by receipts whereby a carbon copy should remain in the receipt book.
- A secure safe box should be available in each health facility to keep collected user fees for banking.

Keeping allocations ledger

The allocation of visible money may be granted either monthly, quarterly or annually. When the amount is granted, the date, the purpose and the amount are recorded in the allocation ledger-book. The reference number of the document that confirms the grant of the money is written in the column headed

"document reference folio number". This ensures that the original document can be found again when necessary.

The allocation ledger-book format appears as indicated in the table below:

TABLE 1: ALLOCATION LEDGER-BOOK FORMAT

Budget item:				
Date	Description/ purpose	Document reference (Folio no)	Order or requisition (debit)	Allocation (credit)/Balance

Source: Adapted from "On being in Charge: A guide to management of primary health care", WHO, Geneva, 1992.

When a purchase is made, the date, the order or requisition and the amount are also immediately recorded in a table like the one above.

Using a petty cash imprest system (or spending visible money)

"Petty cash" means a small amount of money set aside for small purchases. Most workplaces find it convenient to have some petty cash. Petty cash is advanced to the health worker to buy or pay for necessary small items needed in a health facility (e.g. stamps, bus fares, mending bicycle punctures, buying detergents, soap, etc).

The following box illustrates the contents of a simple petty cash-book where a sum of 50,000 is allocated.

BOX 3: AN EXAMPLE OF A SIMPLE PETTY CASH BOOK

Date	Details	Voucher number	Amount received	Amount paid out
1-7-2002	Allocation for 3 months (July-Sept.)	5	50,000	
3-7-2002	Kerosene	6		3,500
15-7-2002	Soap	7		1,400
1-8-2002	Stationery	8		15,000
28-9-2002	Taxi fare	9		8,500
29-9-2002	Total Balance		50,000	28,400 21,600
1-10-2002	Balance brought forward Allocation for three months (Sept – Dec)		21,600 28,400	

Unit 3: Management of Logistics

Introduction

The management of logistics involves management of materials including equipment, supplies, drugs and transport. Logistics is one of the resources required at our health facilities; hence, they need to be managed appropriately.

This unit is going to take you step by step on the management of logistics, which include selecting, ordering, storing, issuing and keeping of inventories. It also provides you with guidance on whether and when to buy particular equipment, or whether and when to carry out maintenance and repairs.

Objectives

After completion of this unit, participants should be able to:

- know types of logistics systems;
- explain the two types of stores (consumable and non-consumable stores);
- describe different types of procedures in the management of stores;
- acquire skills for managing stores;
- determine appropriate number and type of transport requirements;
- develop an integrated transport plan/system;
- monitor the use of transport.

3.1 Types of Logistics Systems

There are two general types of logistics systems.

3.1.1 Allocation or "Push" system

In a push system, the higher-level facility decides what commodities move down and when and "pushes" them down through the system.

3.1.2 Requisition or "Pull" system

In the pull system the lower-level facility orders commodities when it needs to, thus pulling supplies through the system.

The logistics systems may be mixed, i.e. a district store might push stock to a health facility every three months with a pull system operating between the regional/provincial/zonal depot.

The decision to use either a pull system or a push system is made based on the skills of management staff and availability of management information at all levels of the system.

3.2   Types of Stores

The two main types of stores are:

- consumable/recurrent, used within a short period of time (examples: matches, cotton wool, laboratory stains, paper, disposable syringes, needles, etc.);
- non-consumable/non-recurrent/capital, that are permanent and can be used for years.

3.3   Management of Equipment Procedures

The procedures in the management of equipment are as follows:

- selection and deciding on whether to buy particular capital equipment;
- ordering equipment from the stores or shops;
- storing (recording, labeling and holding equipment in a store room);
- issuing (giving out, recording the issue, balancing of remaining stock and receiving a signed issue voucher);
- controlling/maintaining (controlling consumables, maintaining and repairing non-consumable equipment);
- maintenance and repair, including maintaining a logbook for each equipment.

3.3.1   Selection and ordering of equipment

This process involves the following:

- Listing requirements: Based on past use and estimates of current use, comparison of prices and quality from several lists of items from shops, medical store or other suppliers, the quantity of each item required, purchase interval and whether the utilization rate of the items is reasonable or extravagant.

- Balancing requirement with available resources and making cost estimates. In view of resource scarcity in the health sector, there is need to prioritize purchases to tally with the available budget.

- Use of catalogues in ordering. A catalogue is a book that contains a list of articles available for purchase from a certain place. Since ordering by catalogue has the disadvantage that you do not see the items you are ordering, you have to ensure that you study the catalogue well, and note that the item numbers have correct description and the price quoted is what you are looking for.

- Completion of order forms or requisition forms. The requisition form will usually have the fol lowing details: item number, name of article, unit, quantity, price per unit, total price.

- Selection of appropriate equipment is essential for effective job performance. It must take into account not only the current but also the projected future workload. When the final decision is made, the problems of installation must also be considered. The electrical supply must be compatible with the requirements of the instrument, including the necessary stability. Other necessary services must be available; for example, gas and water supplies must be suitable. Temperature and humidity control must be available if required.

- The level of lighting must be adequate, and there must be sufficient working space. If the equipment is bulky, as in the case of X-ray equipment and some laboratory analysers, there must be facilities for moving the instrument to its working area. Stairways, elevators and doorways must be wide enough, and appropriate lifting gear must be available.

- The costs of acquiring and using any piece of equipment may be divided into two categories: capital costs and running costs. The capital cost is recognized at the time of purchase, but the running costs are frequently not fully appreciated. This may result in inefficient use or, in extreme cases, total abandonment of the equipment. Running costs must therefore be determined prior to purchase. There are four main types of running costs: maintenance, manpower, services and consumables.

- Manpower costs must include those of the operator and the personnel of the supporting services (excluding maintenance, which has been considered above). Costs must include not only the salary, but all the costs of employment, such as insurance, employer's contribution to pension schemes, and other costs or taxes, as appropriate.

- Services must include the costs of electricity, water, gases and any other similar supplies that are required since they represent a significant sum. The day-to-day running costs of all materials must be included under "consumables". For laboratory analysers, this would include reagents, plastics, calibrating and control materials.

- Whereas it is important to know what the overall running cost of each piece of equipment is, when budgeting for replacement equipment, it may be more important to know whether the new instrument will be more expensive or less expensive overall than the one it is replacing.

- Selection, purchase and installation of equipment must be primarily the responsibility of the head of the department and his staff. In making such decisions, both the capital and running costs must be taken into account. When choosing equipment, account should be taken of the availability of spares and the supplier's willingness to train the hospital staff appropriately.

- Unfortunately, it is only too frequent that equipment has to be abandoned because its running costs have not been budgeted for. Often, purchasing decisions are made for political or other non-specific reason, and this contributes to the numerous pieces of medical and paramedical equipment that are not used effectively in many countries.

3.3.2 Storing equipment

The systems for the physical control of equipment/supplies vary depending on:

- the staff available;
- the storage space available.

A number of concerns should be addressed at each location. These include:

- security of the physical inventory;
- physical layout of the facility.

Each new piece of equipment will usually be delivered accompanied by either an invoice if the item is not paid for, or a delivery note if it is paid for already. An invoice indicates the cost of the item in ques-

tion. Invoices and delivery notes must be placed in separate files normally kept for that purpose and labelled appropriately.

Receipt of the new item should be entered in the stock book or ledger book. You need to have a ledger book for consumable equipment, and an asset register for non-consumable equipment.

Keeping a ledger balance is a necessary requirement. Each type of item is recorded on a separate page of the ledger. Every time an item is delivered, the quantity received is added to the total in stock and the resulting number is the balance in stock. The ledger will have the following headings: item, date, received from, issued to, local purchase order (LPO) number, quantity received, quantity issued, and balance in stock.

3.3.3   Issuing equipment

After equipment has been ordered, received and entered in the ledger it is issued for use when needed either in the outpatient department, in the patient ward or outreach work station.

The procedures to follow when issuing items are as follows:

- Ledger record maintenance: When you have issued items, the balance of items remaining in stock is calculated by subtracting the quantity issued from the total in stock. When the balance on the records reaches a certain predetermined threshold level you need to order more items.
- Issue voucher: This is an official form on which the following are recorded: date of issue, what is issued, quantity, page number in the ledger, where is it to be used, who is responsible, signature of person responsible for its use, and the person who has collected the item from the store.
- The original issue voucher is kept in the store and a duplicate is given to the receiving officer or unit.

3.3.4   Inventory

- Is a list of items that are kept in a certain place.
- Each section/room of the health facility should keep inventory register of all stores and new supplies should be added to the list

3.3.5   Controlling of equipment

- Ensure that all consumable supplies are used carefully and that there is no wastage.
- Non-consumable supplies must be kept in good working condition. This is achieved by ensuring that the staff clean, inspect and keep equipment in good order; defects should be reported immediately, and equipment should be returned to its proper place after use. Use inspection checklist and inspection schedule to check on all equipment.
- Staff must be convinced on the need to keep equipment in good and clean condition.
- Inspection checklist - Equipment that easily breaks down should be checked regularly. Since inspecting equipment is not found to be interesting, staff and managers usually forget about it. It is therefore wise to establish special regular inspection schedules and prepare an inspection checklist to facilitate this work.

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MODULE 3

3.3.6 Maintenance of equipment

The maintenance of medical equipment is essential to ensure that they function correctly and efficiently and ultimately to ensure proper clinical management of the patient. It is, therefore, important that adequate standards of maintenance are achieved.

Maintenance of equipment may be carried out by hospital personnel employed to operate the instrument within a hospital service department, or by technicians/engineers contracted specifically to carry out this work.

Inevitably, however, the smaller the input by the manufacturer, the greater must be the input by the hospital. In many countries the manufacturers' presence, or that of their agents, is minimal and so there is no technical support. The level of support should be ascertained and taken into account during the process of instrument selection and purchase. The following steps are important for proper maintenance of equipment and vehicles:

- Operational manual of the equipment must be available.
- Maintenance schedules must be rigorously maintained.

The aims of maintenance are to ensure that equipment attains the standard performance characteristics set by the hospital, the manufacturer's specification, and the clinical requirements. It should be carried out on preventive basis rather than after a breakdown. A major breakdown can be a sign that the maintenance and servicing programmes have failed.

3.3.7 Depreciation of equipment

This is the charge representing the utilization of a fixed asset each year during its life span. Depreciation is taken into account as the organization expects to replace its fixed assets after the life span of the equipment is completed, i.e. the organization would know exactly when to replace the equipment and, therefore, budget for it.

ACTIVITY 14

- As DHMT, identify some of the larger pieces of equipment such as X-ray machine in the health facilities in your district. Using the information given above, establish and find the value of all related costs.

- Establish what systems are in place in your district in relation to maintenance of buildings and equipment, including medical equipment. Judge in a group if they are adequate. Make suggestions for improvement and include them in your district plan.

- As a group, identify equipment to be bought using the purchase list, assuming that your district has been allocated USD 20,000 for procurement of new equipment. As a group, discuss and write down all criteria that are important in making the choice, determine all the related costs, and finally make your choice as a group. Use this type of reasoning in your district health planning exercise when it comes to making choices.

3.4 Management of Transport

3.4.1 Introduction

It is not possible for the DHMT to carry out meaningful health programmes without the support of a reliable transport system. The provision and operation of transport is the responsibility of DHMT. Transport management involves proper handling and effective monitoring of the use of vehicles and all other means of transport at health care institutions. There are various means of transport used. However, in this unit we will concentrate on motor vehicles only. The same principles apply to other types of transportation.

The role of DHMT as regards transport is:

- to ensure that the transport, which is provided and funded, will enable the achievement of the health programmes;
- to ensure that the transport which is provided is used effectively, safely and economically;
- to ensure that the transport staff are properly trained.

3.4.2 District transport tasks and procedures

General

- apply national/regional/provincial transport policies;
- develop district policies for issues such as vehicle parking overnight, transport staff to work and conditions for use of official vehicles for special private purposes.

Operations

- approve weekly/monthly transport plans;
- plan vehicle servicing and maintenance;
- arrange vehicle repair.

Financial

- prepare transport budget;
- check accounts for fuel/servicing, etc.

Monitoring and control

- transport inventory;
- transport schedules;
- collect log sheets;
- from log sheets check;
- distance travelled in km;
- utilization;
- availability;
- fuel consumption;
- fuel use (issuing and receiving records);
- actual expenditure against budget;
- accident report and investigation;

- vehicle expenditure;
- summary of monthly performance.

Personnel and training

- keep list of authorized drivers with valid licenses;
- arrange training and testing of drivers;
- discipline of drivers and staff on use of transport.

Planning

- assess transport needs of the district health programmes;
- recommend vehicle replacements.

BOX 4: AN EXAMPLE OF A VEHICLE LOGBOOK

Department:				Vehicle registration number:			
Date	Destination	Purpose of trip/journey	Authorized by	Odometer reading at start	Odometer reading at end	Fuel and oils	Signature

ACTIVITY 15

■ Collect the logbooks of the various vehicles that are stationed at district headquarters. In groups, study the log of the past one month, compare with fuel consumption. Discuss in groups what you learned from studying the logbooks. Is record-keeping adequate? Suggest and implement improvements.

■ Comparing transport inventory with the transport schedule, determine whether the use of transport is effective.

■ Identify major difficulties of accessing transport in your district and suggest ways of overcoming these difficulties.

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MODULE 3

Unit 4: Management of Physical Infrastructure

Introduction

Investment in upgrading and building new facilities requires knowledge about the extent and condition of individual facilities and an understanding of the effects that improved quality and changes to buildings and installations have on future recurrent expenditure. Maintenance is a key factor that needs to be considered at a time when an investment into the physical infrastructure is going to be made. An appropriate maintenance plan should then be prepared and its funding incorporated into the annual budgets.

Objectives

After completing this unit, the DHMT is expected to be aware of the most important concepts in physical infrastructure management. Participants should be able to:

- identify key problems of physical infrastructure management in the district;
- describe the basic information necessary to guide physical infrastructure priority setting;
- explain factors that influence the size and distribution of services at a health facility;
- estimate the recurrent implications of capital investment on physical infrastructure;
- describe the types of maintenance and the key elements of a maintenance plan.

4.1 Common Problems Faced in Physical Infrastructure Management

Given below are some of the common problems faced with regard to physical infrastructure:

- many patients bypass primary-level health facilities and head for secondary and tertiary-level facilities; hence, many health centres remain under-utilized;
- new or improved health buildings often require recurrent expenditure, which is not available in the government budget. Buildings are often completed but staff, equipment and consumables often take years to materialize;
- facilities provided at new institutions are often extensive and require more staff than is available;
- mistakes in design make it difficult to achieve required standards of functional quality and efficiency, and facilities are too difficult for available expertise and resources to maintain;
- buildings do not offer comfortable and safe places of work for health staff;
- in a number of cases, hygiene issues are not adequately taken care of.

Many of these problems are caused by mistakes, which could be avoided.

4.2 Setting of Health Infrastructure Priorities

Investment in upgrading and building new facilities requires knowledge about the extent and condition of individual facilities and an understanding of the effects that improved quality and changes to buildings and installations will have on future recurrent expenditure.

The following simple information can be used as a basis for discussion and setting of health infrastructure priorities:

- name of institution;
- location;
- catchment population;
- date of construction;
- date of most recent refurbishment;
- number of beds, if possible in different categories, e.g. male; female; maternity; paediatric; etc.;
- number of outpatient consultation rooms;
- number of major and minor operating theatres;
- number of staff houses in different categories;
- availability of electricity;
- fuel used in the kitchen.

When decisions are being made concerning individual facilities, these data need to be supplemented by on-site-collected observations. Note should be made that standard health centre plans are usually available at the Ministry of Health.

4.3 Factors that Influence the Size and Distribution of Health Services at a Health Facility

The size and distribution of services at various facilities are influenced by a number of factors, which include:

- frequency with which the population visit health facilities;
- services the population require when they arrive at the facility;
- capacity of individual staff members or items of equipment to satisfy the requirements of the population;
- rate of admission of inpatients;
- average length of stay of inpatients in the different wards;
- acceptable bed occupancy rate.

ACTIVITY 16

List five key problems of health physical infrastructure management in your district. For each of the problems, identify possible solutions.

4.4 Capital Investment and Recurrent Cost Implications

The rule of thumb used in many countries is that for every 1000 dollars spent in capital investment, 200 to 300 dollars must be found annually to pay for recurrent costs.

In health budgets, staff is a major cost component, and there is often a direct relationship between the space provided in a facility and the number of staff employed there. Clearly, the recurrent cost implications of capital investments in health infrastructure are critical and one should make every effort to keep space provisions and cost norms reasonable.

ACTIVITY 17

Identify a new physical structure in your district among the health facilities and do the following:

- Get an estimate of the cost of construction of the structure;
- From your record, find out on average how much money has been spent on recurrent costs of the structure annually;
- What percentage of the standard annual recurrent costs for such a structure does the actual expenditure cover?

4.5 Participation of Users in the Design Process

When planning civil works investments, representatives of the users should be closely involved. Users will be able to provide information on local conditions, which cannot be obtained from other sources. They can often explain local variations in utilization. For example, why are some days so busy and others so slack? How do distances influence the local population's attitude towards the referral system?

During the design process, the users should be asked for their opinions on the proposals being made and for their views on the implications of the decisions made.

To achieve the maximum benefits from involving representatives of the users, the following could be used as a guide:

- The users' participation should be systematic. They should be asked to nominate representatives and should be given ample notice of the meetings when they will be asked questions.
- The users must be clearly told the reasons for their participation. They must understand that their main function is exchange of information.
- The users must not be asked to undertake tasks outside their competence and their time should be used efficiently.
- The user should be recognized and their participation should be rewarded. They should know that their participation has influenced the results.

4.6 Maintenance

Maintenance should be a key factor in the design of any health capital investment project. Problems of maintenance should be anticipated and mechanisms put in place to cater to them in the following ways:

- Materials and items should require a minimum of maintenance, or be maintained by simple means.
- In all procurements of equipment and plant, adequate spare parts should be included for three years maintenance and service. Further, service contracts with suppliers should be proposed and funded where possible.
- Small workshops and maintenance stores should be provided, where possible, for health facility maintenance. (These could be central, regional or district workshops/maintenance stores).

Much of the maintenance required for health facilities (particularly in rural areas) can be done using basic-level skills, requiring few spare parts and very little organization.

Establishment of an effective system for dealing with simple routine maintenance requires the following activities:

- A team of maintenance workers should prepare the documentation on which maintenance planning can be based. This will include the following:

    — a list of all medical, kitchen and laundry equipment and location;
    — a list of all sanitary fittings and their location;
    — a list of all preventative maintenance jobs which have to be undertaken every day/week/month/year;
    — a list of tools and equipment required to carry out the repair and maintenance activities which have been described;
    — a work programme and schedule allocating the tasks to the maintenance staff;
    — prompt documentation of infomation regarding breakdowns and the need for maintenance.

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ACTIVITY 18

Prepare a simple maintenance plan for the structure you identified in activity 17.

Unit 5: Management of Drugs

Introduction

Essential drugs are those that satisfy the health care needs of the majority of the population and they should, therefore, be available at all times in adequate amounts and in the required dosage forms. They are identified by their international nonproprietary name (INN) or generic name (off patent and usually cheaper than the brand names or patent products).

Drugs are a special resource that needs to be managed carefully. When drugs are out of stock patients are unlikely to visit health facilities, not even for preventive advice. Some drugs are dangerous or addictive and all drugs should be kept properly. All drugs can expire while some drugs (for instance vaccines) need special transport and storage conditions. Furthermore, drugs are much-wanted items that are commonly stolen.

Anyone in the health service, including pharmacists, planners, storekeepers, prescribers, nurses and accountants, have to do with drugs or drug supply in one way or another. This unit can only touch upon the major issues concerning the management of drugs. More information on the management of drugs can be obtained from a training manual entitled: *A Training Manual on the Management of Drugs at the Health Centre,* WHO/AFRO, March 2001.

Objectives

After completing this unit the DHMT is expected to be aware of the most important concepts in drug supply management. Participants should be able to:

- Explain the components of a drug supply system;
- Explain the main steps in ordering drugs;
- Calculate drug requirements and make systematic observations about drug use;
- Describe proper management of a drug store.

ACTIVITY 19

Discuss reasons why drugs are wasted in your district and ways to minimize the wastage.

5.1 Components of a Drug System

A drug system comprises four important components as follows:

- Drug selection: This considers issues of drugs in terms of the needs, requirements and the types as well as their costs. DHMTs have to determine their needs/requirements and types of drugs before ordering or procuring them.

■ Drug procurement: When procuring drugs, DHMTs should select the drugs they need. This component should guide how much and which drugs you require and from where. DHMTs also need to be conversant with the existing procurement system like the selective, open tender or direct procurement. Moreover, you will have to establish a supplier evaluation system to guide you on various procurement procedures.

■ Drug distribution: Under this component DHMTs need to be aware of the centralized, decentralized and private sector distribution systems. Central distribution means that one organization is charged with responsibilities of procuring drugs and then selling/distributing to other public institutions or organizations. In a decentralized procurement and distribution system you could have stores at different levels, which make bulk procurement of drugs and later sell them to public or other institutions. There is also the private sector distribution system involving individual organizations allowed to procure drugs and sell them to institutions and the public. The drug management tools such as stock cards, delivery forms, bin cards, etc., should be used in order to keep track of the drug movement and to keep accurate records. Regularly-filled stock cards can help DHMTs to know, among other things, when to pass orders, based on data such as average monthly consumption, safety stock levels, lead time, losses/adjustments, etc.

■ Rational drug use: Drugs should be selected, procured and dispensed in order to be correctly used. A correct diagnosis, rational prescribing, correct dispensing of drugs and good patient compliance lead to their rational use. For safe, effective and prudent use of essential drugs, correct dispensing and labelling should be done and reliable information about drugs should be made available to patients.

5.2 Purpose of Drug Management

Drugs and drug supplies should be properly managed to ensure that they are available when and where needed. Management is further necessary to promote rational use of drugs by training and supervising health workers and educating the public and patients.

Drugs are generally wasted at different stages of the drug supply system due to:

■ improper selection of drugs;
■ ordering of the wrong quantities of drugs;
■ damage or theft during transport;
■ spoilage of drugs by wrong storage practices;
■ wasteful and incorrect prescribing;
■ wasteful dispensing;
■ poor explanation to the patient during dispensing;
■ poor use of drugs by patients.

Wasteful and incorrect prescribing is common. Often, too many drugs are prescribed for one patient encounter. Expensive brand names are still used instead of the recommended generic names. Drugs are prescribed without proper diagnosis. Antibiotics and injections are still over-prescribed even when the dangers of such a practice are known, e.g. problems related with resistance and transmission of disease.

5.2.1 Educating staff on the use of drugs

It is very important that all staff, including accountants, drivers, storekeepers, are educated on the importance and use of drugs as well as the way to handle them.

Regularly discuss standard treatments for common conditions in clinical and therapeutic meetings in your health facilities. The standard treatment guidelines should be available in every prescriber's office. Make sure that the common standard treatments are clearly displayed on wallboards and also inform all staff about the cost of drugs.

5.2.2 Educating patients and the public about drugs

Health workers may defend their wrong prescription habits by saying that is what patients demand. It is true; patients may demand injections or antibiotics even when this is not in their interest. Here, health workers need convincing skills in order to educate the patient on what type of treatment/drug is best for them.

ACTIVITY 20

Enact a situation where a prescriber in a health centre is consulted by a respected village elder with a common cold. The patient demands an injection with a strong antibiotic. How would you handle the situation?

5.2.3 Preparing standard drug lists

Each district should constantly work on standard drug lists and standard treatment guidelines. National standard guidelines exist but local conditions may differ. Standard drug lists for districts may therefore differ. Standard drug and treatment lists need further regular revision because recommended treatment can change. New diseases (for instance, AIDS) may appear and new drug treatments may become available.

5.2.4 Deciding between drugs to be included in the list

Working on standard treatment schedules and standard drug lists forces people to think about what they are doing. In addition, it encourages them to learn from each other through discussion. This alone is important to improve the quality of health services.

The important questions to ask when working on a standard drug list are:

- What diseases and conditions are common in the district?
- What is the standard treatment for these diseases and conditions?
- Which drugs are available or can be used for these conditions?
- What is the effectiveness, convenience, toxicity and cost of these drugs?

The following example compares three drugs for treating large numbers of patients with hookworm in a particular district:

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**BOX 5: COMPARISON OF THREE DRUGS
FOR TREATMENT OF HOOKWORM**

Criterion	Mebendazole	Pyrantel	Levamisole
Effectiveness against hookworm	+++	+++	++
Treatment course	One or two doses daily for three days	One dose (three for heavy infection)	One dose
Toxicity	Avoid in early pregnancy	None	None
Total cost	Very cheap	Very cheap	Moderate price
Administration	Oral	Oral	Oral

Source: Adapted from: On Being in Charge: A guide to management in primary health care, WHO, Geneva 1992.

ACTIVITY 21

You have to make a choice between the above three drugs. Discuss which drug you would choose. Write down the reasons why your group made the particular choice and discuss with the facilitator.

Answers to these questions will guide the decision about which drugs to include on the list. Standard treatments result from discussions about current treatment practices and the reaching of a consensus among prescribers. Standard treatment schedules ensure that everyone with a particular condition is treated rationally and equally. It further makes estimation of drug requirements and costing easy.

5.2.5 Calculating drug requirements

Ordering too many drugs is wasteful. They occupy storage space and there is the risk that they will expire before use. Ordering too few drugs will cause patients to suffer because they cannot be treated. Therefore, we should be able to predict as well as we can how much quantities of drugs have to be ordered. The purpose is to ensure that health services concerned have adequate supplies to treat their caseload of patients.

In most countries, the drug requirement is based on past experience, short-term reactions and sub-jective impressions of the quantities needed.

There are two main methods of estimating the requirement of drugs:

- The **morbidity method,** which estimates the need for specific drugs based on the expected number of attendances, the incidence of common diseases and the standard treatment patterns for the diseases considered. The quantity of the drugs given as standard treatment for each health problem multiplied by the number of treatment episodes of that problem, gives the total quantity of drugs required for it. It depends on the availability and reliability of the morbidity data.
- The **adjusted consumption method,** which starts from existing consumption of drugs concerned and then assumes that the same amount is needed this time. The adjusted quantities of drugs used per standard facility are converted into standard quantities per 1000 treatment episodes and these are then used to estimate the drug quantities required for each facility of that type concerned, according to its expected number of treatment episodes.

Example:

If on average ten adults per day are treated for malaria and the standard treatment for malaria in an adult is a total of 10 tablets (of 150 mg chloroquine base), you need for a three-month (90 days) period: 10 (patients) x 10 (tablets) x 90, that is 9000 tablets of chloroquine for a three month period, or nine bottles of 1000 tablets.

You may need additional chloroquine for the treatment of children and for prophylactic use.

ACTIVITY 22

Assume the standard treatment of complicated acute upper respiratory infection in adults in your district is two tablets of cotrimoxazole 480 mg twice daily for five days. On average five such patients attend per month. How many tablets of cotrimoxazole do you need to order for a three-month (90 days) period?

In ordering drugs state exactly the type required. Always use generic names, as they are usually cheaper. State quantity required, dosage form and strength.

Having ordered and received the drug kit, inspect the kit with a witness, preferably a recognized community representative:

- inspect the kit for any signs of tampering and sign if the kit is intact;
- check whether the cardboard box is dry and not torn or otherwise damaged;
- submit report on drug use on the previous period;
- enter the items from the kit on the ledger book.

Most likely you will be required in the near future to order drugs following the pull (indent) system, which is in many ways similar to the procedure for ordering equipment.

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ACTIVITY 23

List your requirement using the standard list of your district, state exact-
ly and precisely what you need and use generic names. Mention quanti-
ty, dosage form and strengths. Make a cost estimate and complete the
requisition form.

Ordering and receiving drug kits

In health centres and dispensaries you may be used to receiving or ordering drug kits. This has advan-
tages because the system is easy to operate. It also has disadvantages because the contents of the kits is
standard. You may therefore not receive some drugs that you need while remaining with excess drugs
that are not required.

DHMT members have a responsibility of instructing the person incharge of health facility on the
proper procedure for ordering, receiving and inspecting the drug kits.

Stocking and storing of drugs

Store drugs in an orderly manner and record them in a stock ledger or bin cards. Drugs should be kept
in a cupboard, dry and cool and away from light. Keep tablets in airtight tins or jars and clearly label each
container. Clearly mark all containers with drugs that will expire this year.

When storing and using drugs, remember FIFO and FEFO principles:

FIFO = First In First Out (first use the drug that first went in the cupboard)
FEFO = First Expire First Out (first use the drug that will expire first)

Dangerous drugs should be kept in a separate double-locked cupboard with a special issuing regis-
ter issued by the appropriate authority.

Issuing of drugs

Record issuing of drugs on the bin cards and stock ledger as required. Calculate the remaining balance
and check against what remains on the shelf. In this way you can:

- Notice when you need to order new stocks;
- Check drug use against patient treatment requirements;
- Be aware of discrepancies and changes in drug use.

Special laws control drugs on the "dangerous drugs list"; these drugs should be kept in a separate
locked cupboard and are only issued on prescription for individual patients.

Stock control system

When the stock management tools (i.e. stock cards, stock books, order books, etc.) are in place, it is possible over a period of one year or so to determine quantities required for consumption over a period of one month. On being able to determine monthly consumptions, it is then possible to calculate the amount to be ordered each time an order is placed, i.e. on a monthly basis. Taking care of delays that might occur from time to time with medical suppliers, it is advisable to calculate a minimum stock for each item.

Minimum stock level

This is the amount of each item required over a period of three months. When the minimum stock is ordered, there are hardly any supplies problems if the deliveries are constant. On receiving the orders, all the items are entered in the stock cards and the FIFO and/or FEFO rules previously discussed are applied.

Disposal of expired and unused drugs

Expired drugs and drugs that have been dispensed but remained unused have to be destroyed. Follow government financial orders and stores regulations. This is necessary because it is not ethical or rational to dispense drugs of questionable quality and destruction is necessary to remove the temptation to use unfit drugs.

Promoting prescription of generic drugs

A useful tool to promote generic prescribing is through preparation of a set of two alphabetical lists of all commonly prescribed drugs: one, listing generic names with the commonly used brand names, the other listing brand names with their generic name equivalents. This will help practitioners to recall generic names when prescribing.

5.3 Exercises on Investigation of Drug Use in Health Facilities

The drug use indicators are intended to measure specific aspects of the behaviour of the health provider in health facilities. These indicators can be quickly and efficiently used in many settings to assess potential problems in drug use and to prioritize and focus subsequent efforts to correct these.

ACTIVITY 25

As an exercise, study and apply the following 12 indicators for drug use in your district. For indicators 6-10 use information from the patient care forms (see page 47). Thereafter use the indicator consolidation form (see page 48) to present your results.

Twelve drug use indicators

1. The average number of drugs prescribed per consultation

Method: Collect the last 100 prescriptions from the outpatient department of the facility under study. Count how many different drugs were prescribed per prescription. Add and divide by 100 to get the average.

Comment: Preferably less than 2 drugs per prescription should be found on average. If more than two drugs are prescribed on average this probably means that there is wastage.

2. The percentage of drugs prescribed by generic name

Method: On the same 100 prescriptions that you collected (from 1), determine the total number of drugs that were prescribed by their generic name. Multiply this number by 100 and divide by the total number of drugs prescribed. You will need to discuss in advance which drug names you will accept as generic names.

Comment: Preferably all drugs should be prescribed by generic name to allow for the best choice and most economic procurement of drugs. However, strict quality control of generic drugs is necessary.

3. The percentage of consultations with an antibiotic prescribed

Method: From the same sample of prescriptions, count how many of the 100 prescriptions contain an antibiotic. You have to determine in advance what to consider as an antibiotic. It is recommended to count sulphonamides as antibiotics in the context of this exercise. Also count eye or skin ointments and mixed preparations with an antibiotic added as antibiotics.

Comment: Antibiotics are important and powerful drugs. They are commonly prescribed too frequently which is both wasteful and leading to the development of drug resistant organisms.

4. The percentage of consultations with an injection prescribed

Method: From the same sample of prescriptions (1), count how many of the 100 prescriptions contain an injection.

Comment: Injections are also prescribed too frequently. This is wasteful, often not rational (oral chloroquine achieves higher blood levels than

injected chloroquine) and dangerous in view of side effects and the risk of spreading AIDS.

5. The percentage of drugs prescribed from the district essential drugs list

Method: From sample (1) count how many of the prescribed drugs occur on the essential drugs list. Multiply by 100 and divide by the total number of drugs to get the percentage.

Comment: The Essential list has been chosen with care and should be adhered to. You may do the same exercise using your local district standard drug list.

6. Average consulting time; this measures the time that medical personnel spend with patients in the process of consultation and prescribing

Method: Simply sit outside or close to the consultation room and clock the time of at least 10 patients from entering until they leave the room. Add the total time and divide by the number of patients observed.

Comments: The amount of time spent on consultation tells us something about the quality of care given. From an example given by WHO patients spend on average 2-3 minutes with health workers in the consultation room; in other countries time spent is 10 or more minutes.

7. Average dispensing time measures the average time that personnel dispensing drugs spend with patients

Method: Measure average dispensing time by observing and recording the time the patient spends being attended at the dispensing window or sitting. Be sure to have a watch or timer that shows seconds. Observe preferably 20 patients, add the times and divide by the number of observations to get the average.

Comment: The dispensing time again tells us something about the quality of care; if the time is too short it is likely that the patient received insufficient information.

8. The percentage of drugs actually dispensed

Method: Check the number of drugs dispensed against the number of drugs prescribed. This requires that you get hold of the prescriptions. Observe at least 20 patients. Multiply the number of drugs dispensed by 100 and divide by the number of drugs prescribed to get the percentage.

Comment: This indicator measures the degree to which health facilities

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MODULE 3

are able to provide the drugs, which were prescribed. It tells you something about the drug situation in the facility but also something about the communication between the prescriber and the pharmacy department.

9. The percentage of drugs adequately labeled

Method: Add the number of drugs with adequate labels for each of 20 patients, multiply by 100 and divide by the total number of drugs dispensed to the same patients. An adequate label contains at least the patient's name, the drug name, the amount and when the drug should be taken.

Comment: Adequate labeling is a measure for proper dispensing practice.

10. The patient's knowledge of correct dosage

Method: This is slightly more elaborate than the other indicators. You need to interview several patients and check their knowledge against the prescription.

Comment: This indicator shows how well the patient was informed. It tells us something about the likelihood that the medication will be followed as intended.

11. Availability of a copy of the essential drug list (and other independent drug information) on or near the desk of the prescriber

Method: Simply observe if you can see the essential drug list of national formulary on the desk of the prescriber or somewhere closely at hand.

Comment: serious rational prescribers should regularly consult the essential drug list or national formulary. You may extend your investigation by looking for other sources of independent information. The problem is deciding on what is independent. Most information (such as African MIMS and several free journals) contains information provided by the pharmaceutical companies and is not independent. The newsletters from WHO, Healthlink, and INRUD are independent.

12. The availability of a number of predetermined key drugs that should always be available in a particular health facility

Method: Before starting the investigation, make a short list of 10 - 15 essential drugs that the team agrees on. Then visit the health units and simply note which items are available.

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PATIENT CARE FORM

Location _____

Investigator _____ Date: _____

Serial No.	Patient indentifier (if needed)	Consulting time (mins)	Dispensing time (secs)	No. of Drugs prescribed	No. of Drugs dispensed	No. of drugs adequately labelled	Knows dosage (0/1)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
Count				███	███	███	
Total							
Average				███	███	███	███
Percentage	███	███	███	% of prescribed	% of dispensed	% of cases asked	

*0=No 1=Yes

Source: Managing Drug Supply: The selection, procurement, distribution and use of pharmaceuticals, Management Sciences for Health and WHO, 1997.

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INDICATOR CONSOLIDATION FORM

Location:

Date:

Date	Facility	Avg. drugs prescribed	% Generics	% Antibiotics	% Injections	% On EDL	Consultation time	Dispensing time	% drugs dispensed	% adequate label	% adequate knowledge	Impartial information	% drugs in stock
Mean													
Maximum													
Minimum													

Source: Managing Drug Supply: The selection, procurement, distribution and use of pharmaceuticals, Management Sciences for Health and WHO, 1997.

Unit 6: Managing Time and Space

Introduction

For a long time, management of time and space has not received adequate attention as resources. But, on the other hand, consideration of these resources in the day-to-day running of health services will improve the efficiency of our interventions and the ability to achieve set targets. Proper use of space may also lead to savings and overall improvement in job performance.

6.1 Managing Time

Time is not often thought of as a resource. However, it is a non-renewable resource, and no event can take place unless there is time for it. The way we manage time describes our personalities.

Time management depends a lot on the DHMT's ability to manage themselves first before managing other subordinate health staff. This unit is concerned with two aspects of time management:

- finding out how staff spends time in a health service;
- planning the use of time according to the work to be done, using timetables, schedules, rosters and programme charts.

Objectives

After completion of this unit, participants should be able to:

- reflect on their own and other staff members' use of time;
- plan the use of time in accordance with the work to be carried out.

6.1.1 *Making the best use of time*

Sometimes it is useful to know what proportion of time is spent on certain activities. For example, it may take four hours to travel to a distant health unit where only one hour is spent on work, followed by four hours to return. In this case the ratio of time spent on health work to that spent on travelling is 1 to 8. In such circumstances it might be decided to visit less often, and to stay overnight and work the following morning. Then the journey of four hours is followed by four hours of work on that day and four hours on the next morning, and a four-hour return journey. This makes the ratio of work to travel 8 to 8, which is a more efficient use of time and gives a better service to the people.

Health workers need to be conscious of their clients' waiting times for services they offer and try as much as possible to minimize the waiting time. This will improve user-satisfaction. While clients are waiting for a service, they could be provided with health education talks or any other pertinent information.

ACTIVITY 27

Time monitoring: Make a time log form, one sheet of A-4 for a week. Divide the space over the weekdays. For the duration of one full week, every team member records how he/she has been spending his/her time. Analyse and discuss these forms after a week, find out how much time has been devoted to effective technical work, meetings, administration, private affairs, interferences, waiting for transport, travelling, etc. Knowing where your time goes is the first step toward better time-management; on the basis of the analysis, identify time-wasters; discuss and decide what to do to make more efficient use of DHMT members' time.

6.1.2   Time plans in a health facility

Events are arranged in daily, weekly, monthly or yearly time periods depending on their frequency or regularity.

Time-plans are written in various common forms known as timetables, schedules or programmes. They are variously known as:

Timetable - For daily, weekly or monthly regularly recurring events.
Schedule - For intermittent, irregular or variable events, including details of where the events take place.
Roster - For duties planned for different staff members, for different times, in turn.
Programme - For long-term arrangements of survey on different events or activities, of which the time-plan is only one part.

A well-managed health unit may need the following time-plans:

- a weekly timetable showing the time of the week when certain regular events always occur (e.g. staff meeting);
- several schedules showing the detailed dates on which intermittent events occur and where they occur (e.g. visits to peripheral health units or mobile clinics);
- several duty rosters for different sections of the work (e.g. night call, outpatient duties);
- a programme of any special health activity (e.g. a nutrition campaign);
- an annual overview of events.

6.1.3   Preparing a health unit timetable

All the activities that happen regularly each week should be listed and then arranged in an appropriate timetable grid according to local working hours, as shown below.

Example:

Health unit weekly activities and timetables.

List of regular activities:

Outpatients	-	Daily
Ward	-	Three times a week
Hygiene round	-	Once a week
Stock inspection	-	Once a week
Office correspondence	-	Once a week
Tuberculosis/Leprosy clinic	-	Once a week
Home visits	-	Twice a week
Staff meeting	-	Once a week
Clinical seminar	-	Once a week
District visit to peripheral health unit	-	Once a week

BOX 6: AN EXAMPLE OF A HEALTH UNIT TIMETABLE

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
7.30 – 10.30	Outpatients	Outpatients	Outpatients	Outpatients	Outpatients	Outpatients Ward rounds
10.30 – 11.00	BREAK					
11.00 – 12.30	Ward round	Office	Ward round	TB/Leprosy clinic	District	Hygiene round
12.30 – 14.00	BREAK					
14.00 – 16.00	Stock inspection	Home visits	Staff meeting	Clinical seminar	Home visits	

Source: On Being in Charge: A guide to management in primary health care, WHO, Geneva 1992

6.1.4 Preparing a health unit schedule

A schedule is required when a different activity, or the same activity in a different place, occurs at intervals or over time. For example, home visits may be made daily or several times a week, but they may cover different villages or different types of diseases at special times. It may be decided to have an inspection every Monday but to inspect a different part of the health unit each week.

To make a schedule, each different activity or each different place is listed and assigned dates in turn. It is essential to have a calendar showing the dates of the chosen interval. Similarly, mobile teams may travel on the same day each week but visit a different area.

Scheduling for mobile team visits requires a map showing routes, distances and travel times. Travel times will depend on the state of roads, the nature of the terrain and other factors as well as the distance. It may be possible to leave half a team at one place while the rest go on to another, thus saving time. Returning by a circular route and visiting yet another place later in the day may also be possible.

6.1.5   Preparing duty rosters

A duty roster is a time-plan for distributing work among staff members in turn. Duty rosters are common in all types of health work. They are needed for three purposes:

- To distribute work fairly and evenly including outside normal working hours (e.g. night, week end, holidays and overtime duty).
- To distribute work equally among the various members of the unit, e.g. in maternity work; for instance, midwives could rotate between the mobile team, the delivery unit and the clinic.
- To divide extra duties between the whole staff; for instance, supervision of the nutrition garden, making education posters, tracing defaulters and doing the hygienic inspection.

6.1.6   Rules for duty rosters[1]

When rotating several people (or groups) through several types of duty stations there are two important rules:

- The length of time of each duty period must be the same as for all other types of duty periods. A duty period may be a day, or a week or a month, but all periods must be the same within a single roster.
- The number of people (or groups) working in turns must exactly divide into the number of duty stations or duty periods; for instance, three people cannot be rostered through five duty stations, or five people through three duty stations. In such cases, either the duty stations or the staff need to be grouped so that the number of staff groups equals or exactly divides by the grouped numbers of duty stations.

A duty roster may be prepared as shown in Box 7 on the next page.

6.1.7   Preparing a programme chart

A programme is a plan that outlines a series of events or activities that will take place in the future. A programme usually includes what will be done, where it will take place, who will do it, and when it will occur. The time plan is therefore only part of the total programme.

A simple programme of health education may be a series of monthly discussions in the community, indicating when different health workers will help with discussions on various health problems. In more complex programmes later activities depend on earlier ones; for example, to organize a special or extra immunization programme, it may be necessary first to order the equipment (e.g. syringes) or, if a new activity is to commence, a staff member may have to be sent on a training course, and the public must

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1 Qualified nurses and nurse tutors are usually expertly trained in the production of duty rosters, they should teach the other team members.

BOX 7: DEPARTMENT OF PHARMACY DUTY ROSTER

Week : 23 – 29 November 2000							
NAME	MON.	TUES.	WED.	THUR.	FRID.	SAT.	SUN.
Pharmacist Moyo	7.45 am-4.00 pm (C)	7.45 am-4.00 pm (C)	7.45 am-4.00 pm (C)	7.45 am-4.00 pm (C)	7.45 am-4.00 pm (C)	Off duty	Off duty
Ph. Tech. Tshuma	7.45 am-4.00 pm	7.45 am-1.00 pm	7.45 am-1.00 pm	Off duty	Off duty	7.45 am-12.00 noon	7.45 am-12.00 noon
Ph. Tech. Zuze	7.45 am-4.00 pm	7.45 am-4.00 pm	7.45 am-4.00 pm	7.45 am-4.00 pm	7.45 am-4.00 pm	Off duty	Off duty
Disp. Ass. Rwodzi	7.45 am-4.00 pm	7.45 am-1.00 pm	7.45 am-1.00 pm	Off duty	Off duty	7.45 am-12.00 noon (C)	7.45 am-12.00 noon (C)
G/N Shumba	7.45 am-4.00 pm	7.45 am-4.00 pm	7.45 am-4.00 pm	7.45 am-4.00 pm	7.45 am-4.00 pm	Off duty	Off duty
GH Banda	Off duty	Off duty	7.45 am-4.00 pm	7.45 am-4.00 pm	7.45 am-4.00 pm	7.45 am-12.00 noon	7.45 am-12.00 noon

Note:
Tea breaks: First : 10.00 am – 10.30 am
Second : 10.30 am – 11.00 am
Lunch breaks: First : 12.00 noon – 1.00 pm
Second : 1.00 pm – 2.00 pm
(C) : On call

be informed. There are several ways to make a programme chart. A convenient way is to list the activities in the order in which they must occur, down the left side of the page, then fill in the weeks or months across the top of the page and then show with a line opposite each planned activity when it is to take place.

6.1.8 Preparing a year calendar

In the course of a year many things may happen that are outside the normal routine. These may be matters of administration such as annual stocktaking, estimates, annual reports and statistical returns, or they may be external events such as festivals, elections, courses and seminars, or visits by dignitaries.

To see the whole year at once, it is very convenient to have a one-page annual calendar or year-planner pinned on the wall, with important events marked.

This has two functions:

- It acts as a reminder of definite events, usually outside one's control.
- It shows where it is possible to fit in new events such as special meetings or periods of travel.

ACTIVITY 28

Participants work individually and try to list all the activities and tasks they are expected to perform during a day and indicating time to accomplish each activity/task. Compare the activities and time-plan in a plenary.

6.2 Managing Space

This section is concerned with two kinds of space, and how to make the best use of them in providing health care.

- The buildings and settings where health care is given;
- The geographical or catchment area served by the district/health facility.

Objective

After completion of this section, DHMT members should be able to:

- arrange working space so that work flows smoothly to the convenience of clients and staff;
- use space properly;
- identify on a map the catchment area of health services areas.

Arranging workspace

Good management takes care in arranging the space where staff work, or keep materials. The small size of the building or of individual rooms, or their awkward shape leaves little room for managers to organize space utilization.

There are no complex rules about the arrangement of working space. Only two simple questions need to be answered.

- What work has to be done?
- Could this space be arranged in another way that would make the work easier?
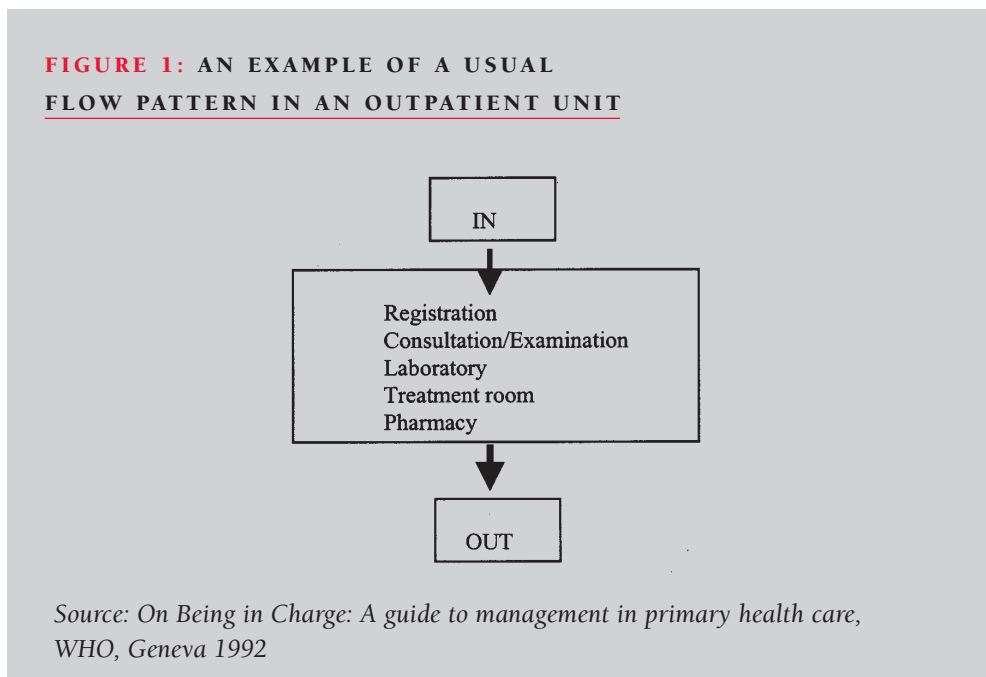
Arranging work-flow

One of the features of many health units is the lack of order in which people are dealt with while waiting to be attended. There may be people sitting or standing in queues in the same space. In such cases people get in one another's way and impede the work of the staff. Most of these problems can be improved by developing a smooth "work-flow".

Work-flow is an arrangement in which a series of work functions are coordinated in space and time so that delays are minimal. The greatest obstacle to the organization of work-flow is one of attitude. Congestion and queues are now so common in health services that most people regard them as normal or inevitable and make no effort to prevent them. Some people think that long queues show how busy and hard-working they are.

Work-flow in an outpatient department

To organize the work-flow in an outpatient department each stage must be examined separately. If there is a queue, it is a sign that work-speed or work-efficiency must be improved or that work-distribution must be changed.

FIGURE 1: AN EXAMPLE OF A USUAL FLOW PATTERN IN AN OUTPATIENT UNIT

```
          ┌──────────┐
          │    IN    │
          └────┬─────┘
               │
               ▼
┌──────────────────────────────┐
│  Registration                │
│  Consultation/Examination    │
│  Laboratory                  │
│  Treatment room              │
│  Pharmacy                    │
└──────────────┬───────────────┘
               │
               ▼
          ┌──────────┐
          │   OUT    │
          └──────────┘
```

Source: On Being in Charge: A guide to management in primary health care, WHO, Geneva 1992

It is essential to examine the whole process. Removing a queue from one stage may result only in creating a queue at another stage; for instance, if registration is speeded up and patients get their cards quickly a queue may form outside the examination room. If the position at the examination room is improved, patients may have to wait at the pharmacy for their drugs.

Improving work-flow

Good work-flow has been achieved when each patient can go through each stage in an orderly manner with only a very short waiting time. The following are some ways to avoid delays:

■ Every door should be labelled so that patients know where to go.
■ At registration, there should be registration points for review patients and for new patients.
■ Review patients should be allowed to keep their cards or be given numbers by which their cards can be found rapidly.
■ A workable filing system should be established by which record cards can be found rapidly.

At the waiting station

Based on the clinical presentation a nurse should screen patients so that patients presenting with serious condition should be attended first.

At the examination room

For best use of the examination room:

- Patients returning daily for a course of treatment should go directly to the treatment room.
- Clinic days should be established for special conditions that require more time, e.g. tuberculosis, leprosy and malnutrition.
- Appointments with busy officials should be made during times when they are less busy.

In the pharmacy

- A stock of written instructions to patients on how to take routine courses of drugs should be kept.
- Routine courses of drugs should be pre-packed.

ACTIVITY 29

Group work

Visit a nearby health facility (hospital/health centre). Select station (OPD, ward, etc.).

Make a list of the functions, activities and tasks normally performed in each room. This may vary according to the day and time, hence record the use of space accordingly.

Then think of the patients and other people who use these rooms, noting down their numbers, age groups, sex and special needs. Assess the suitability of the available space in each room for the people involved in the listed functions, activities and tasks by answering the following questions.

For each of these assessments, note things that may be unsuitable and need improvement, then think of possible changes for improvement. Discuss in plenary.

- Is floor space adequate?
- Do furniture and equipment leave enough space for people to move?
- Is access (entry) and exit through doors easy?
- Is the seating arrangement suitable?
- Is the space hygienic?
- Is lightning and ventilation adequate?
- Is the noise level tolerable?
- Is the flow of clients smooth?

Identifying the catchment area

DHMTs need to know their geographical area. This helps them to know the distribution of health facilities and their service area. This will enable them to assess their performance in their working area.

It is important to know the catchment area because it:

- Provides information on the total population served.
- Provides the basis for calculation of target population groups.
- Allows better planning of outreach mobile services and home visiting.
- Facilitates planning for community involvement so that it can cover all parts of the population.

Health services coverage indicators

Coverage can be viewed from different points such as:

- Availability coverage: people for whom the service is available.
- Accessibility coverage: people who can use the services.
- Acceptability coverage: people who are willing to use the services.
- Contact coverage: people who are actually using the services.
- Effectiveness coverage: people who receive effective care.

ACTIVITY 30

Using the knowledge of your catchment area, discuss the above coverage indicators and their effect on the utilization of services. Discuss the reasons for decrease or increase in coverage and how to improve the situation.

Uses of maps in health work

Maps can show the distances[2] to various health units and villages and can further be used to:

- Plan routes and decide on the mode of transport to be used
- Learn about the population distribution and density of an area
- Learn about the different types of communities in the area

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2 Distance may be indicated in kilometers or as travelling time.

Unit 7: Management of Health Information

Introduction

Information is an important resource. DHMT members rely on both informal and formal sources of obtaining information in the health care delivery system to make rational decisions. Management of health information refers to the process of data collection, analysis, interpretation, utilization and dissemination of such information for decision-making. Although the overall management of health information in a country is done by the central-level Health Information Systems Unit, utilization of the information at points of collection and at district level is vital for improvement of performance of health systems. Management of such important health or health-related information enables DHMT members to come up with sound evidence-based planning, monitoring and evaluation. In this unit, DHMT members will learn briefly about data collection, analysis, dissemination, storage and use.

Objectives
After the completion of this unit, participants should be able to:

- determine different types of data and their sources;
- identify different methods of data collection and analysis;
- use available health information in health care;
- properly maintain information for current and future use.

DHMTs will have to follow a series of steps in the management of information as follows:

7.1 Identification of Information/Data

The DHMT should identify relevant areas on which data and information should be collected. Such data and information should be tailored to the needs of the programmes and services in place for their efficient and effective performance and continuing improvement. Opportunity should be taken to utilize ongoing efforts in data collection such as the data obtained from the assessment of the operationality of district health systems.

ACTIVITY 31

Select one of the programmes that is being implemented in the district. Discuss the relevant data/information you would require to effectively monitor its implementation. Identify which information is readily obtainable through the existing health information system and which is not. For the information that you are not able to obtain through the existing health information system, suggest ways in which you could get such information.

7.2 Data Collection

Data refer to figures and statements, which have not yet been analysed and interpreted into facts. Data are usually generated by different sub-units of an organization, e.g. service facilities, personnel, buildings, equipment, financial department, transport and community, etc.

Data collection refers to collection of figures and statements on a specific area of study. It can be done through formal and informal methods. Informal information includes patient's complaints, relatives' dissatisfactions, rumours, unofficial discussions, written suggestions, etc. The formal information reaches the DHMT in the form of routine statistical and management reports. Data collection should be simple and quick. Data collection should focus on indicators, which can be used to measure achievement or otherwise of national priorities.

7.2.1   Types of data

There are two main types of data available, which are:

- Quantitative data, based on measurement of quantity or frequency, and are described in numerical numbers, e.g. height, weight, number delivered, etc.
- Qualitative data, expressed in terms of categories or classes, e.g. sex, ethnic groups, etc.

7.2.2   Sources of data

There are many and various sources of data in the district, which may be external or internal. These include:

- routine health care records - from designed forms, registers, etc.;
- registrations of vital events, e.g. births, deaths, marriages, migrations, etc.;
- population census;
- surveys;
- community health reports - interviews, questionnaires, discussions, etc.

7.3 Data Analysis/Processing

Data are compiled and examined carefully in order to come out with facts that can be reliably used for decision-making. Data should be analysed at each level so that decisions can be made. Analysed data are

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MODULE 3

called information, which is interpreted into facts that can be used for decision-making. Simple mathematical comparisons using totals, averages, proportions and percentages can be obtained. These help to visualize differences, trends, shortages and excesses. They can also be used to compare with the national standards.

Summarized data can further be presented using simple tools, which make it easier to visualize and understand better. These include:

- frequency distribution table;
- line graph;
- histograms;
- bar and pie charts, etc.

7.4 Data Reporting/Dissemination

The analysed data should be presented to other members and the findings discussed with them on how to solve the identified problems.

Unfortunately, dissemination of information is often forgotten. Providing a feedback of information to the data providers is essential.

7.5 Storing Information/Data

Data have life spans depending on their importance. Therefore, data need to be stored.

Data can be stored in many ways depending on the availability of technology and importance. The common ways used for this purpose in the district include:

- files;
- special forms;
- registers;
- computers.

Issues to consider in data storage are:

- accessibility to information;
- confidentiality of information.

A resource centre or district health library should be established or strengthened if already existing to provide access to knowledge and information that exists already. A resource centre is a much more dynamic concept than the traditional library. A resource centre should form part of a network, where possible with e-mail and Internet connection. A resource centre should be located at a convenient spot that gives health workers easy access. Some of the things a resource centre manager can do is:

- Maintaining and updating a collection of relevant publications and documents, including reports, policy papers, etc.
- Ensuring the reception of regular relevant newsletters, periodicals and free publications.
- Do literature searches on topics of interest to the health of the district. (For instance, many WHO publications can be accessed via the Internet).
- Maintaining an awareness service; announcing on a notice board or by personal notification the arrival or recent publication of relevant articles and other publications.
- Classify various types of documents. (For the relevant classification consult the librarian of the MOH or medical faculty; consultancy services are also available in this area).
- Display the documents and other publications in a systematic and attractive manner.
- Maintain a catalogue.
- Maintain a loan and attendance register.

It is recommended that the DHMT should select a district health resource centre manager and deputy and provide for their further short-term training.

7.6 Use of Information

Information can be used to:

- quantify health problems and needs, health-related problems, their distribution, determinants and consequences;
- prioritize health problems and needs, select interventions and develop plans;
- determine the size, distribution and other characteristics of the target population, both demo graphically and ecologically;
- quantify the type and distribution of remedial services to be taken against determined available resources;
- provide a baseline in the planning for monitoring, evaluation of the effect (outcome) and impact of the services on the health status of the community.

What should be done when establishing health management information system for a health facility?

- determine the catchment/service area.
- calculate target populations. This will give you the denominator for each indicator.
- design data collection tools.
- identify indicators, i.e. low and high threshold values.
- train data collectors in the community, health facilities and DHMT, etc.
- design a simple data analysis procedure.
- design a reporting system from lower level to the central level and vice versa.
- design a report format.

Factors to be taken into consideration in the design and management of data/information include:

- completeness: Does it provide information on all aspects of the health system without unnecessary distortion and duplication?
- consistency: If similar information is provided by different sources, is the definition consistent?
- clarity: Is it clear what all the elements are actually measuring?
- cost: Does the actual usage of each element justify the costs of its collection, analysis and reporting?
- technology: Does it have implications for the use of information processing technology?
- access: Is it held in a form in which it is easily retrieved by those with legitimate access? And who should these people be?
- confidentiality: Does it ensure that people without legitimate intention are effectively denied access?

Suggestions for Further Reading

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