Christian Relief and Development Association

TRAINING PROGRAMME ON ADVANCEMENT OF PRIMARY HEALTH CARE AND COMMUNITY BASED HEALTH CARE SERVICES MANAGEMENT

CCRDA

Prepared and Conducted By :
In-Service Training Unity
Community Health Programme,
Jimma University, Jimma
October 22 – November 2, 2001

Table of Contents

Page

HEALTH SYSTEM IN ETHIOPIA 2
Structure of the Health Care Services 4
SUPPLEMENTARY READINGS ON PRIMARY HEALTH CARE AND COMMUNICATION .....
PRIMARY HEALTH CARE .....
Types of Communication .....
SUPPLEMENTARY READINGS ON COMMUNITY BASED HEALTH CARE SERVICES (CBHCS) .....
COMMUNITY BASED HEALTH CARE .....
Community based distribution of contraceptives(CBD)
REVOLVING DRUG FUND SCHEME IN ETHIOPIA REVIEW OF EXPERIENCES .....
COMMUNITY BASED MALARIA CONTROL (CBMC) 60
MANAGEMENT OF UNCOMPLICATED MALARIA AT DIFFERENT LEVELS 62
SUPPLEMENTARY READINGS ON COMMUNICABLE DISEASES EPIDEMIOLOGY 67
Control Measures of Some Epidemic Diseases in Ethiopia 76
Epidemiological Surveillance 77
SUPPLEMENTARY READINGS ON HEALTH MANAGEMENT INFORMATION SYSTEMS 82
Health Management Information Systems (HMIS) 85
Problems of Health Information Management 86
Health Information Dissemination 87
SUPPLEMENTARY NOTES ON HEALTH PLANNING AND HEALTH SERVICES MANAGEMENT 103
1. Introduction to management 104
2. What is health and its relation with development in general? 105
3. Definition and principles of management 106

CCRDA

Health System in Ethiopia

By :-Makonnen Asefa

CCRDA

HEALTH SYSTEM IN ETHIOPIA

Background

Ethiopia has an area of about one million square kilometers. Administratively the country is mainly divided into nine regions, sixty-two zones and five hundred twenty-three woredas.

Its population size is about 62 million and over 85% of the people live in rural part of the country. The following table depicts the demographic character of the population.

Indicators	Value
Total population	61,672,000
Age structure	% of the total population
- Under 1 year	3.37
- Under 2 years	6.54
- Under 3 years	9.75
- Under 5 years	17.57
- Under 15 years	44.71
- Adolescent age group	33.72
Women aged 15 – 49	23.57
Pregnant women	4.05
Delivered women	4.05

Source : Statistical Abstract, 1998, CSA

2. Health System

A health system may be described as:

- a set of cultural beliefs about health and illness that forms the basis for health-seeking and health promoting behaviour
- the institutional arrangements within which that behaviour occurs and the socio-economic/political/physical context for those beliefs and institutions

It includes the following components:

- The individual, family, and community
- health care services : public sector and private sector
- health related sectors
- the international sector, including bilateral and multilateral donor agencies (UNICEF, WHO etc.) that may support health as well as development activities.

Ethiopia has extremely poor health status relative to other low-income countries mainly due to preventable infectious diseases and nutritional deficiencies.

CCRDA

Some comparative health development indicators for East African Region.

Indicators	Ethiopia	Kenya	Tanzania	Uganda	Remarks
Life expectancy at birth					
Male	49.7	57	49	43	in years
Female	52.4	60	52	43	
Infant mortality rate	105	57	86	99	per 100 LB
Total fertility rate	6.74	4.6	5.6	6.7	child/women
Maternal mortality ratio	1400	650	530	550	UNICEF/WHO estimate
Prevalence of child malnutrition	48	23	26	29	% of children under 5
Adult illiteracy rate					
Male	55	14	26	21	
Female	75	30	50	43	
Access to sanitation	10	69	75	97	

Source: World development report, 1998/99

Leading causes of morbidity according hospital and health centre reports, 1990 E.C. (MOH)

S.No	Diagnosis	Cases	Percent
1	Helminthiasis	276544	7.06
2	All causes of malaria	270169	6.90
3	Acute upper respiratory infections	258715	6.61
4	Dysentry	171339	4.38
5	Infection of skin and subcut. tissue	166251	4.25
6	Bronchopneumonia	158530	4.05
7	Gastritis and duodenitis	136759	3.49
8	All types tuberculosis	129232	3.30
9	All other diseases of genito-urinary system	113360	2.90
10	Accidents caused by five arms	110854	2.83

CCRDA

The burden of disease (BOD) as measured by premature death from all causes come from ten preventable causes dominated by communicable diseases as presented in the above table. According to MOH reports the leading causes of death in those who receive in-patient care are tuberculosis and malaria which account for about 30% of all in-patient death. Other important diseases leading to premature death includes prenatal and maternal mortality, AIDS and nutritional deficiencies. Some of these health problems have become more important over time, most notably, malaria, TB and HIV/AIDS.

The national health policy and strategy major objective is the provision of acceptable standard of comprehensive primary health care in an integrated, decentralized and equitable fashion. Its focus is preventive and promotive aspects of care with emphasis to combating infectious and epidemic diseases, promoting a healthy and safe environment and enhancing the health of the family, mothers and children.

Structure of the Health Care Services	
Administrative structure	Service delivery structure
Prime ministers office Ministry of Health Regional Health Bureau Zonal Health Department Woreda Health Office	Specialized hospitals and research institute Zonal Hospitals District Hospitals Primary health care unit

The function of the service delivery structure consists of:

- Primary health care unit (PHCUs), which comprises a health center with its five satellite community health posts (CHP) and serves 25,000 population. Each CHP serves 5,000 people. PHCUs are organized to provided comprehensive primary health care services.
- District hospitals (DHs) is the first referral for ten health centers. It serves as a training centre for front-line health workers.
- Zonal hospitals (ZHs), it provides specialist services in the four basic specialties as well as training to health centre staff.
- Specialized hospitals (SHs), it provides sub-specialist as well as clinical training for different categories of health professionals.

Health personnel: the quality of health service delivery suffers from shortage, poor distribution and inappropriate training of its health staff as well as from its under-utilization and lack of motivation. An estimated 20,000 health care workers provide services in Ethiopia, the majority in the public sector. The ratio one health care worker for about 3000 inhabitants is one of the lowest in the world.

The so called western/modern health system is underdeveloped and provides service to out half of the Ethiopian population. The majority of the population depends on self-care and traditional healer services. Considering the country's resources and culture there is a need to work more on the traditional, individual, family and community health care services.

CCRDA

Supplementary Readings on Primary Health Care and Communication

By :- Ashenafi Negash, MD+MPH (PHC)

CORD

Contents

		Page
	I. Primary Health Care	
1.	Concept and definition	3
2.	Terms used in PHC definition	6
3.	Elements of PHC.	8
4.	The PHC Strategies	9
5.	Pre- requites of PHC	20
6.	Advancement of PHC	22
7.	Implication of PHC approach for health system development	24
8.	Problems in PHC.	25
9.	PHC coverage indicators	29
	II. Communication	
1.	Definition	30
2.	The communication process	31
3.	Types of communication	32
4.	Communication stages	34
5.	Common communication approaches	37
6.	Methods of communication	37
7.	Barriers to effective communication	38
8.	How to overcome barriers of communication	40
9.	Characteristics of effective communication	42
10.	Listening	42
11.	Characteristics of good presentation	44
12.	Media	44
13.	Community & traditional media	46
	Biblography	56

CCRDA

I. PRIMARY HEALTH CARE

Concept and definition of primary health care

WHO defined health as ''... a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity", countries in the world were following different approaches to achieve this state. Through experiences from these countries the concept of PHC came into light in 1978 at Alma-Ata conference by drawing anew strategy to improve the health of the peoples of the world. The meeting called for urgent action by all governments, all health workers, all development workers, and the world community to protect and promote the health of all the people of the world.

Health, which is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity, is a fundamental human right and that the attainment of the highest possible level of health is a most important world-wide social goal whose realization requires the action of many other social and economic sectors in addition to the health sector.

The existing gross inequality in the health status of the people particularly between developed and developing countries as well as within countries is politically, socially and economically unacceptable and is, therefore, of common concern to all countries.
Economic and social development, based on a New International Economic Order, is of basic importance to the fullest attainment of health for all and to the reduction of the gap between the health status of the developing and developed countries. The protection of the health of the people is essential to sustained economic and social development and contributes to a better quality of life and to world peace.

The people have the right and duty to participate individually and collectively in the planning and implementation of their health care. Governments have a responsibility for the health of their people, which can be fulfilled only by the provision of adequate health and social measures. A main social target of governments, international organizations and the whole world community should be the attainment by all peoples of the world a level of health that will permit them to lead a socially and economically productive life. Primary health care is the key to attaining this target as part of development in the spirit of social justice. With these underlying concepts world health assembly reached at a consensus and defined primary health care as follows.

Definition of PHC--- ***''Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social land economic development of the community. It is the first level of contact of individuals, the family and community with the national***

CCRDA

health system **bringing health" care as close as possible to where people live and work, and constitutes the first element of a continuing health care process.**

Primary health care therefore:

1. Reflects and evolves from the economics and socio-cultural and political characteristics of the country and its communities and is based on the application of the relevant results of social, biomedical and health services research and public health experience;
2. Addresses the main health problems in the community, providing Promotive, preventive, curative and rehabilitative services accordingly;
3. Includes at least: education concerning prevailing health problems and the methods of preventing and controlling them; promotion of food supply and proper nutrition; an adequate supply of safe water and basic sanitation; maternal and child health care, including family planning ; immunization against the major infectious diseases; prevention and control of locally endemic disease; appropriate treatment of common disease and injuries ; and provision of essential drugs;
4. Involves, in addition to the health sector, all related sectors and aspects of national and community development, in particular agriculture, animal husbandry, food, industry, education, housing, public works, communications and other sectors; and demands the coordinated efforts of all those sectors;
5. Requires and promotes maximum community and individual self-reliance and participation in the planning, organization, operation and control of primary health care, making fullest use of local, national and other available resources; and to this end develops through appropriate education the ability of communities to participate;
6. Should be sustained by integrated, functional and mutually –supportive referral systems, leading to the progressive improvement of comprehensive health care for all, and giving priority to those most in need;
7. relies, at local and referral levels, on health workers, including physicians, nurses, midwives, auxiliaries and community workers as applicable, as well as traditional practitioners as needed, suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community.

Some terms used in PHC definition

Essential health care

Essential at this juncture is the basic and indispensable health service that aimed to relieve the priority health problems of the community in a comprehensive and holistic approach in accordance with the general principle of the PHC, i.e., with equitable distribution of health services and other social services depending on the economic status of a nation. For example, health care rendered at health center level may vary between countries but the essentiality should be the common denominator be it at health center level, clinics or hospital levels.

CCRDA

Practical

The selection of priority should be appropriate and realistic in relation to resources and international, national and communities' socio-cultural factors.

Scientifically sound

The health care methods, technologies and drugs that are used in health care should be explainable scientifically- consider some traditional ways of treating the sick persons that can not be explained scientifically, e.g. Uvelectomy

Socially acceptable methods

The local community should accept the methods we use in the implementation of PHC. Values, beliefs, culture, etc of the community should be considered, e.g. type of diet during the fasting period of Orthodox Christians-lentils can substitute beef.

Universally accessible

Health resources and services be redistributed and reoriented to the people with the greatest need and ensuring the accessibility to all people.

Note that the difference between equal distribution and equitable distribution.

Community participation /involvement

Active involvement of community members in PHC activities from the stage of problem identification to the stage of evaluation and health improvement attained by the community's own efforts with some technical assistance from the health workers ensure sustainability.

Affordable Health Care

Affordable health care means the use of methods that are cost – effective as well as the cost that the community members can afford to pay. It is the ability of the community members to pay for health services given.

Note that cost of health services includes-professional costs, capital expenses, running costs and capital expenses.

The first level of contact

This is included in the definition of PHC to mean that in the PHC approach the priority should be given to the primary medical care or important health services in relation to priority health problems of the community. The level of contact of individuals to health services may vary from country to country depending on the economic status to build health institutions and train health professions.

Elements of Primary Health Care.

Elements of PHC are also called contents or components of PHC. These elements may vary from country to country in number and type depending on the priority problem lists

CCRDA

and socioeconomic development. World Health Organization (WHO) recommended that PHC should include ***at least*** eight elements that now-a-days are twelve and more can be added to the list.

PHC should focus on the main health problems in the community, but recognizing that these problems and the ways of solving them will vary from one country or community to another. PHC elements are essential health service interventions that are considered important and that society decides should be provided to every one. These concepts are explicitly or implicitly underlie the values of equity, cost-effectiveness, transparency and solidarity.

PHC elements include at least:

- Education concerning prevailing health problems and the methods of identifying, preventing, and controlling them;
- Promotion of food supply and proper nutrition;
- An adequate supply of safe water, and basic sanitation;
- Maternal and child health care, including family planning;
- Immunization against the major infectious diseases;
- Prevention and control of locally endemic diseases;
- Appropriate treatment of common diseases and injuries;
- Provision of essential drugs.
- Control of AIDS;
- Control of Acute respiratory infections;
- Mental health;
- Dental health.

PHC includes all activities that contribute to health at the interface between the community and the health system. From the outset it was said that these comprehensive approach could be expensive and difficult to manage particularly for the developing nations. But PHC to be comprehensive, all development-oriented activities should be interrelated and balanced so as to focus on problems of the highest priority as mutually perceived by the community and health system. And that culturally acceptable, technically appropriate, manageable, and appropriately selected interventions should be implemented in combinations that meet local needs. This implies that single-purpose programmes should be integrated into primary health care activities as quickly and smoothly as possible.

The PHC Strategies

1. Universal accessibility

This implies the concept of human right that states every citizen has the right to access to health services and yet the priority be given to the most needy sector of the population of a country. This is insured by two levels of priority setting, i.e., at macro-level (at policy level and general strategy) and at micro-level at the interface between front-line health

CCRDA

workers and individuals, families and communities. Since we need to deal with the important problems of the community and the most underprivileged or neglected population in the world and within a country - '***equity***' come in play that indicates populations of the developing countries within the same country such as slum areas, rural areas, geographically inaccessible and neglected communities, mothers and children in the one family and so on are given priority.

2. Community participation/involvement

National and community self-reliance and social awareness are among the key factors in human development, and acknowledging that people have the right and duty to participate in the process for the improvement and maintenance of their health.

Governments encourage and ensure full community participation through the effective propagation of relevant information, increased health literacy, and the development of the necessary institutional arrangements through which individuals, families, and communities can assume responsibility for their health and well being.

Community involvement/ participation can be of two types:

1. Passive participation
   - The public utilizes the health services
   - Contributes money, materials & labor

2. Active Community involvement
   - Planning health activities
   - Managing health activities

The concept of Community empowerment & involvement has two important aspects

1. Political issue - democratic government
   - Socially accountable government.
   - Real community involvement
   - Personal responsibility for one's own and families health individual involvement.

2. The public must be informed & motivated in order to enhance community involvement.
   - The basics of the PHC approach
   - The PHC implication for their own role.
   - The technological tools at their disposal for taking appropriate
   - Health action.
   - Implementation of health services

CCRDA

The role of the Community in making choices & decisions regard to priorities & strategies should be a adequately supported by health education. Direct contribution of individuals can make is to function as voluntary health workers & perform a variety of simple but essential works. Community should provide optional support & collaboration while the role of health personnel is to provide guidance through health education is a means of changing attitudes in a positive direction.

Problems in community participation/involvement

Conventional Public health Planning

Public health planning has been given to the public health experts. Prioritization and decision-making were made at central level so that decisions were at the merit of authorities in contrary to the concept of community involvement and decentralization. Moreover donor agencies funded specific health activities and require tangible results in a short time to continue funding. These government and donor agencies centered activities marginalized Communities interest and reduced community involvement.

1. Lack of cohesiveness within communities, scattered nature of populations in rural areas and social stratification.
2. Lack of organizational structures. Organizational structures such as village councils and clubs are necessary to bring community members together for real participation.
4. Lack of information on alternative choices and their implication to communities.
5. Lack of interest on the side of health workers and/or illiteracy on the side of community members, result in information exchange difficult. For sustainable community participation health workers and community should work together.

3. Inter-sectoral/multi-sectoral action for health

Realizing that in order to promote and sustain health care and overcome obstacles to its implementation there is a need for strong, coordinated, international solidarity and support, and welcoming the offers of collaboration from United Nations organizations as well as from other sources of cooperation,

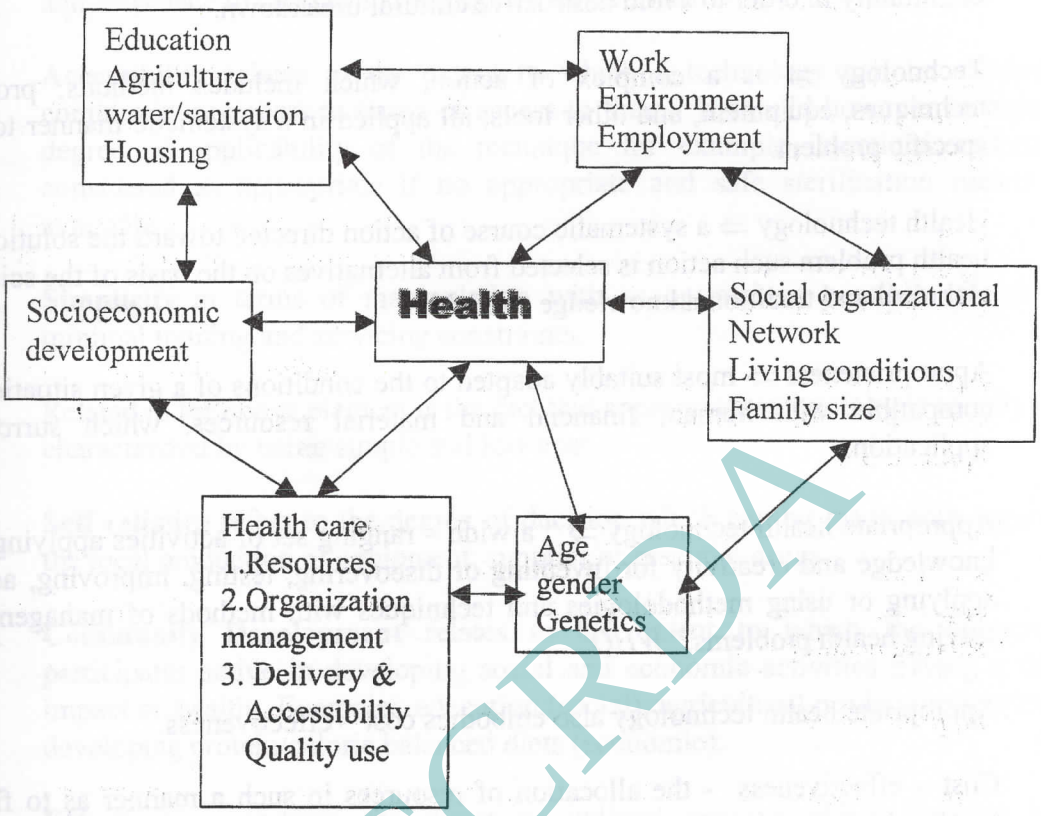
International organizations, multilateral and bilateral agencies, nongovernmental organizations, funding agencies, and other partners in international health acting in a coordinated manner should encourage and support national commitment to primary health care and should channel increase technical and financial support into it, with full respect for the coordination of these resources by the countries themselves in a spirit of self-reliance and self-determination, as well as with the maximum utilization of locally available resources.

Health of the people is affected by different factor, for example, education, housing, transportation, agriculture, behavior and so on. So different sectors should work with health sector. International and national no-governmental organization & bilateral cooperation between countries are necessary. All countries can learn from each other in

SCRDA

matters of health and development, countries share and exchange information, experience, and expertise in the development of primary health care as part of technical cooperation among countries, particularly among developing countries. So different sectors should work with health sector.

Determinants of health.



CCRDA

4. Use of appropriate health technology.

The Appropriate Technology approach recognizes that different countries and communities have differing cultural backgrounds, priorities, and motivational values, into which a technology must be integrated.

One of the purposes of an Appropriate Technology approach to development is to counteract the imbalance growth. The only situation in which tools, tcchnologies, or know-how from the industrialized parts of the world should enter developing areas is when they assist in activating and promoting local initiative, local understanding and local know-how, so that the local people can assume the responsibility for the technology. This responsibility in part means the capability to reproduce the technology in a form adapted by the indigenous population to suit their conditions and needs.

Because of the importance of local traditional, cultural and value systems, the Appropriate Technology approach attempts to diminish the influence of external cultural domination. One of the ways this is done is to encourage community participation in the development process. In this way, it will be possible to identify the cultural patterns within which a technology will be adapted. Reliance on local skills and resources helps to maintain and strengthen the relevance of local socio-cultural structures. Technological changes should be gradual and acceptable to the community in order to avoid destructive cultural breakdown.

Technology ⇒ is a complex of action, which includes methods, procedures, techniques, equipment, and other tools, all applied in a systematic manner to solve a specific problem.

Health technology ⇒ a systematic course of action directed toward the solution of a health problem such action is selected from alternatives on the basis of the scientific, technical and traditional knowledge available.

Appropriateness ⇒ most suitably adapted to the conditions of a given situation. It is compatible with human, financial and material resources, which surround its application.

Appropriate health technology ⇒ " a wide – ranging set of activities applying, skills, knowledge and creativity for inventing or discovering, testing, improving, adapting, applying or using methodologies and techniques with methods of management for solving health problems." *WHO.*

Appropriate health technology also embodies cost – effectiveness.

Cost – effectiveness - the allocation of resources in such a manner as to field the greatest benefit.

Benefits – are measured by the extent to which the health needs of the largest number of people can be met.

Appropriateness – being defined principally in terms of maximizing efficacy and minimizing cost.

Efficiency – most problems handled by the least trained health personnel.

Guiding of Criteria for selection of Appropriate Technology for Health

The following list of criteria could be considered for selection of Appropriate Technologies (health and health related) for solving health problems:

CCRDA

1. **Relevance** of the problem(s) arising or existing in a given area (district or province). The classification of the priority problems will be a decision to be made by the health authorities themselves.

2. **Acceptability** expressing the degree to which the community members are prepared to accept the application of the technology or not. Relevant education and information should help overcoming constraints due to behavioral attitudes and resistance to change and strengthen motivation.

3. **Accessibility** relates to the extent to which a technology can be applied to community members in terms of access to them. It should however include the degree of applicability of the technique for example injections cannot be considered as appropriate if no appropriate and safe sterilization means are available.

4. **Simplicity** in terms of manipulation with as optimal as possible effects and minimal training and servicing constraints.

5. Related to the above element is the fact that appropriate technology is usually characterized by being simple and low cost.

6. **Self reliance** refers to the degree of decision which can be made with regard to the local production of equipment, supplies or essential drugs.

7. **Community Development** relates to the extent to which the community participates active in developing social and economic activities having a direct impact on health. Example: education (social), agricultural production in view of developing protein/calorie balanced diets (economic).

8. **Effectiveness** portrays the direct or indirect positive effects on the local epidemiological conditions.

9. **Cost Effectiveness** gives an idea about the amount of overall expenses needed for obtaining a defined positive effect on the health priority problem (production, distribution, transport, taxes, duties training, etc ...)

10. **Flexibility** relates to the extent to which for example the quantity of drugs should be provided (i.e. according to age groups or groups at risk for one specific technique or to the possibility of discarding a given technique in favour of another one, which could have better effects. Appropriate actions or tools must be flexible enough that they can be easily modified in response to changing conditions or unforeseen difficulties.

CCRDA

11. Appropriate technology process must be compatible with the local ecology.

12. An appropriate technology should generate meaningful jobs. If a technology eliminates the need for certain categories of work, the displaced workers should be accommodated in productive capacity in some related area, preferably within the community.

13. The Appropriate Technology approach considers foreign capital as a complement to, not a replacement for, local capital.

14. Finally, an appropriate technology approach should ensure that relevant research activities are linked closely to the ongoing development activities in order to create independent and useful innovations.

Pre-requisites of PHC (Pillars)

1. Multi–sectoral approach
2. Community involvement /participation
3. Use of appropriate health technology
4. Political commitment.
   - Policy
   - Decentralization/democratization
   - Equity
   - Reorientation of health resources.
   - Allocation and distribution of available resources
   - Management.
     - ensuring equitable access to health services
     - promoting & protecting health
     - preventing & controlling specific problems
     - integrating health & human development in public policies

" Development" is the process of improving the quality of life through changes that result in.

- Higher standards of living.
- Increased purchasing power.
- Greater political participation.
- Access to basic goods & services.

Development is to improve the quality of life & therefore the health of the people. Optimal development requires healthy people & a health community.

CORDA

Health is the center of development. So that governments are expected and need to

1. Build healthy public policy

   - Health promotion policy
   - Legislation
   - Fiscal measures
   - Taxation
   - Organizational change

2. Create Supportive environments

   - Our societies are complex & interrelated. People & environment constitutes the basis for a socio-ecological approach to health.

3. Strengthen Community action

   Effective community action in:
   - Setting priorities
   - Making decision
   - Planning strategies
   - Implementing
   - Empowerment of communities
   - Ownership & control of their own endeavors & destinies.

4. Develop personal skills.

   Personal & social development though providing information and education for health & enhancing life skills - it increase the options available to people to exercise more control over their own health & over their environments & to make choices conducive to health.

5. Reorient health services

   Parties that work together in the promotion of health in health care system
   a. Individuals
   b. Community groups
   c. Health professionals
   d. Health service institution

Advancement of PHC

Advancement of PHC is assessed by the gap between the expectation and the reality in achieving its goal of *health for all*. Even though there were disparities between countries in the implementation of primary health care, advancement in general can been seen as successes and failures.

CCRDA

Successes

1. Concept of PHC has achieved widespread acceptance among governments, international & non-governmental organizations.

2. PHC has had considerable influence in promoting a more equitable distribution of health resources, reorientation of services and development of new types of health workers in many countries.

3. There has been extensive expansion of coverage of several PHC elements. Health status has improved, as indicated by lower mortality rates in all countries.

4. There has been rapid expansion of childhood immunization coverage, as indicated by poliomyelitis, measles, tetanus and Pertusis reduction.

5. Progress towards the achievement of global targets for eradication and control of selected diseases is encouraging.

   E.g.- Dracunculiosis.

6. Cardiovascular diseases have decreased in males in developed countries, partly because of a decline in smoking.

7. A number of countries have had rapid economic growth which have been accompanied by overall improvements in social conditions.

8. Rapid improvements in health in a number of countries indicate the strategies that should continue to be emphasized.

9. The dissemination of practical experiences in overcoming problems encountered in the implementation of PHC has been achieved and new methodologies & guidelines have been prepared by countries, WHO and other countries

Failures

1. Persistent weakness in the coordination of activities and resources have been demonstrated in the implantation of PHC by various governments, donor agencies and health workers.
2. Problem of priority – setting, that national health service continue to devote considerable resources to disease and conditions that do not affect large segments of the population.
3. The global economic recession, which occurred after PHC declaration affected many countries particularly poor countries, this resulted in a large decreases in resource allocated to health and deterioration of health services.

CCRDA

4. Epidemiological transition in developing countries
   - Cardiovascular diseases
   - Cancer
5. Inequalities in health and health care between different social, ethnic, gender & occupational groups have been seen in some countries.

Implications of the PHC approach for health system development

The redistribution of existing resources for health is a key change and may be effected with or without legislative and regulatory changes. Existing human resources for health may require reorientation to new goals and tasks in pursuit of the PHC approach. The majority of existing health workers do not possess the appropriate skills or conceptual awareness of the PHC approach. The training they received often emphasized clinical skills, rather than work within communities. Then, too, the skills required for PHC at all levels go well beyond technical competence. For example, if health is understood in broader terms, health workers will be able to identify the social and economic factors that are the main contributors to ill health in a given situation or among particular groups, for example, young children of families in certain occupational groups. They should be able to communicate with community leaders and other sector professionals in the search for solutions. Skills are required in management, community development, and epidemiology, as well as in integrating different programme tasks.

The way service within communities viewed among health workers must be changed. In government service, rural posts are often perceived as a punishment. Changing attitudes and increasing motivation will require appropriate incentives, new selection criteria for trainees and their teachers, and political enthusiasm for PHC at the highest levels of the health system. While some of these goals may entail added costs, there is much that can be done within existing structures, given sufficient leadership and commitment.

The relationships between health workers both horizontally and vertically need to be rethought in the light of PHC objectives. Rational analysis of the tasks to be performed and the resources available may mean developing new categories of human resources and retraining existing ones. In the long term the PHC approach should be incorporated into all basic training programmes of health workers.

Finally, the design, planning and management of the health system will often-required improvement. The PHC approach, which calls for greater community involvement, intersectoral collaboration, and the application of alternative technologies, will need more flexibility and a certain degree of decentralization. Technical planning functions will need to be more effectively integrated with the political decision-making process, and with planning in other development sectors. New institutional arrangements may be required for this. Health plans will need to incorporate specific equity goals from the start-for example, in the use of resources. New styles of management will be called for.

CCRDA

Christian Relief & Development Association
LIBRARY
P.O.Box 5674

The concept of decentralization of the management process towards the periphery of the health system has led to a growing interest in the district health system as the operational unit for health development. This will be necessary if greater responsibilities are to be assumed by both local health professional and local communities, which call & for the Community based health care (CBHC).

Problems in PHC

A. Nature of community involvement.
- Lack of community members 'participation
- Ambiguity about precise power & responsibility.

B. Political & Social organization.
- Political & bureaucratic unwillingness.
- Structure & tradition of formal health system .
- Protectionism, tear of loss of control

C. Operational issues
- Cost - personal time
  - Education
  - Back – up information
  - Compilation & dissemination
- Difference of vision between community and health profession.

D. Misunderstanding the meaning of PHC and clarification.
1. *PHC is only community-based health care.*
2. *PHC is only for poor people in developing countries, who can not afford real doctors.*
3. *PHC is concerned only with rural areas, simple, "Low-technology" interventions and health workers with limited knowledge and training and is opposed to doctors, hospitals, & modern technology.*
4. PHC is the first level of contact of individual & communities with the health system.
5. *PHC is a core set of health services, often referred to as the eight of twelve essential elements of PHC*
6. *PHC is cheap*

PHC Coverage indicators

- Level of health literacy.
- Availability of safe water at home or with in short walking distance.
- Adequate sanitary facilities at home or immediate vicinity
- Access of mother and children to local health care
- Birth attendance by trained personnel.

CCRDA

- Percent of children at risk immunized against the major infectious disease of childhood.
- Availability of essential drugs throughout the year.
- Accessibility of referral institutions.
- Ratio of population to different kinds of health worker in PHC and at referral levels.
- Health services
- Availability - Coverage
- Accessibility - geographically
  - Culturally (acceptability)
  - Economically (affordability)

- Generation of services from community.
- Health promotion
- Improve income
- Physical exercise
- Removal of undesirable condition.
- Alcohol, smoking, drugs (addictive)

Communication

Definition: Communication – Latin origin = communis = common

So it is the attempt of trying to establish commonness or common understanding Communication is the process of sharing ideas, information, knowledge, and experience among people.

Communication takes place:

- Between one person and another
- Between an individual and a group
- Between two groups.
- Communication facilitates creation of:
- Awareness
- Acceptance
- Action at
  - Individual level
  - All group level
  - Inter group level

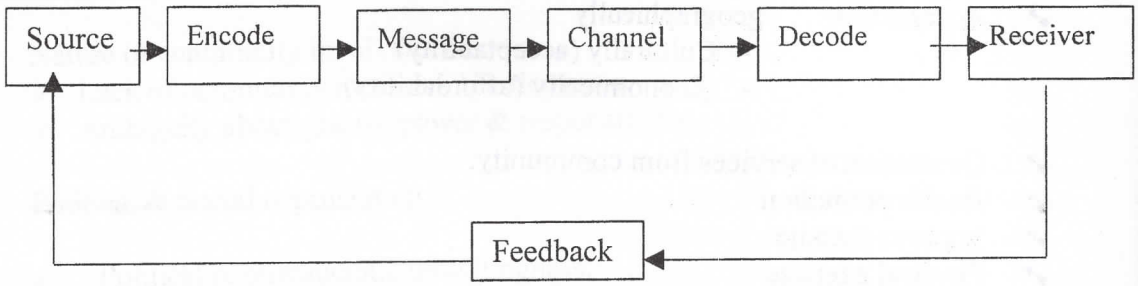
The communication process

The process always involves a sender & a receiver regardless of the number of people concerned; the communication process has a simple sequenced of six stages.

1. The sender wants the receiver to understand the message.
2. The message is encoded by the sender, who structures it into a logical form of code = language.

CCRDA

3. When the sender is satisfied with the encoding of the message; it is transmitted verbally or in writing or electronically, etc.
4. The message passes through the point of transfer from the sender to the receiver.
5. The receiver decodes the message.
6. The receiver then understands the idea that the sender wants to convey. Complete communication model



Source = person who thinks of all idea to be communicated, decides why it should be communicated and also decides on the intended impact.

Encoding = Translating the idea to be communicated into a message.

Message = An expressed feeling or idea.

Channel = The medium through which the message is transmitted.

Decoding = The hearing or seeing of the message /interpretation.

Receiver = The person to whom the message should be passed.

Feedback = The message from the receiver to the source that shows the level of understanding, acceptance or rejection.

Noise = *Anything not intended by the source and which interferes with communication or with the intended communication or with the intended meaning.*

Types of Communication
One-way communication.

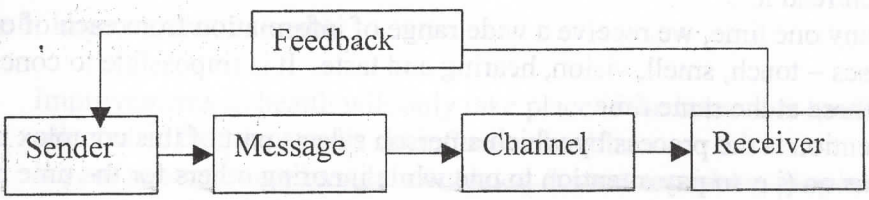
Sender → **message** → **Channel** → **Receiver.**

- Linear type of communication.
- No feedback.
- No opportunity to clear up misunderstanding
- Meaning is controlled by a receiver
  - what message
  - How much communicated

CCRDA

- No input from the receiver
- Motivation of the sender may be personal gain or public good
- Quick communication by an organization if the message is simple and needs urgent transmission; e.g. date & time of meeting.
- May be less effective

Two-way communication



- For more complex message
- Feedback is added
- Allows the sender to find out how much the message is received - can be monitored
- Can be adapted to suit the receiver's needs
- Sender can affect the quality and quantity of the feedback through the type of question chosen and the way it is asked.

Ensuring two – way communication

- Recognizing the responsibility for getting the process right
- Investing time so as to minimize problems later.
- Considering the needs of other people (receivers)
- Frame the message in a way that makes it easy for them to understand.

Feedback is vital to effective communication. Sending message is only one third of the job. The other two thirds are finding out what effect our communication has had on the receiver, and then correcting subsequent messages until the communication objective is achieved.

Communication stages

In health education and health promotion we communicate for a special purpose – to promote improvements in health through the modification of the human, social and political factors that influence behaviors. To achieve these objectives, a successful communication must past through several stages

Stage 1. Reaching the intended audience

- Communication cannot be effective unless it is seen or heard by its intended audience.
- A common cause of failure is preaching to the converted; e.g. posters placed at the clinic, and talks given at the antenatal clinics.
  These only reach the people who attend the services & are already motivated.

CCRDA

Communications should be directed where people are going to see them or hear them. This requires studying the intended audience to find out where they might see posters, what their listening and reading habits are.

Stage 2: Attracting the audience's attention.

- Any communication must attract attention so that people will make the effort to listen/read it.
- At any one time, we receive a wide range of information from each of our five senses – touch, smell, vision, hearing and taste. It is impossible to concentrate on all these at the same time.
- Attention is the process by which a person selects part of this complex mixture to focus on (i.e. to pay attention to one while ignoring others for the time being).
- Communication failures at this stage are:
  - Walking past the poster without bothering to look at it.
  - Not paying attention to the health talk or demonstration at the clinic.
  - Not stopping at the exhibition at the show ground
  - Turning off the radio programme or switching over.

Stage 3: Understanding the message (perception)

- Once a person pays attention, he/she then tries to understand it.
- Visual perception – understanding of visual messages
- Pictorial perception – understanding of pictures.
- A highly subjective process
- Two people may hear the same radio programme or see the same poster and interpret the message quite differently from each other & from the meaning intended by the sender.
- Interpretation of communication depends on:
  - -Complex language
  - If unfamiliar technical words are used
  - When pictures contain complicated diagrams & distracting details
  - When too much information is presented & people can't absorb it.

Stage 4: Promoting change (acceptance)

- A communication should not only be received & understood; it should be believed & accepted.
- It is easier to change beliefs when they have been acquired only recently.
- It is usually easier to promote a belief when its effects can be easily demonstrated

Stage 5: Producing a change in behavior

- A communication may result in a change in beliefs and attitudes but still not influence behavior

SCRDA

- When the communication has not been targeted at the belief that has the most influence on the person's attitude to the behavior; e.g. emphasizing on danger of diarrhea but failing to give enough emphasis to dehydration.
- Pressure from other people in the family or community may prevent from doing it.
- lack of enabling factors – money, time, skills, health services, etc., affects behavior.

Stage 6: Improvement in health.

- Improvements in health will only take place if the behaviors have been carefully selected so that they really do influence health.
- If your messages are based on outdated & incorrect ideas, people could follow your advice but their health would not improve – need accurate advice.

Common communication approaches

Informing - The new idea is introduced and made familiar to the target audience.
Educating - The new idea is explained including its strengths and weaknesses.
Persuading - The audience is given convincing argument that motivates them to take an action or accept a new idea.
Entertaining - The attention of the audience is drawn to the new idea by stimulating the audience's emotions

Methods of Communication

The four major methods of communication

1. Intra-Personal communication
2. Inter - Personal communication
3. Group communication
4. Mass communication

Intra-Personal communication

It takes place inside a person. It includes the beliefs, feelings, thoughts and justification we make for our actions.

Interprsonal Communication

It is face-to-face interaction between two people. For effective IPC, a community based development (CBD) agent needs to understand very clearly the needs of the client and also appreciate the cultural content that he/she is operating.

CCRDA

Group communication

It involves face – to – face communication with several other people . A small group is considered between three to fifteen people . The members they have a common interest and work together for a common goal. Groups have an impact on decision making that should be taken into consideration by a CBD agent.

Mass communication

– It is a means of transmitting messages to a large audience, that usually reaches a large segment of the population.

Barriers to Effective Communication

A breakdown can occur at any point in the communication process. Barriers (obstacles) can inhibit communication, resulting in:

- Misunderstanding
- Lack of response
- Lack of motivation
- Distortion of the message

Common barriers to effective communication:

- competition for attention (noise)
- Language /Vocabulary
- Age difference
- Socio-economic gaps
- Attitudes/Beliefs.

We cannot necessarily avoid or overcome all these barriers but we have to find ways of minimizing them.

Competition for attention (noise)

- a major distraction communicate.

a) Physical noise – avoidable
b) Internal noise any physiological or psychological state that could undermine a person's ability to communicate effectively:

- being ill
- bereaved
- overworked
- beset by personal problems.

CCRDA

- You may or may not be able to do anything to help in this kind of situation.

Language /vocabulary

- words used to convey abstract states or emotions, the meaning is less easily communicated using a lot of emotive language at work is likely to result in misinterpretation and misunderstanding.

Age difference

- Age difference between the sender and receiver is a barrier to effective communication; e.g. If the sender is young, inexperienced and not knowledgeable, there will be a communication barrier.

Socio-economic gaps

- Socio- economic gaps between a communicator and receivers are also barriers to communication.

Attitudes and Beliefs

- The community may have misguided expectations about the role of development or health worker; either think that development or health workers are supposed to do every thing for them or that they know too much and do not require services.

- Cultural beliefs of people influence the rate at which they accept and adopt new ideas & skills; e.g. normally the beliefs of a community may dictate what foods should be given to children and their related taboos.

How to overcome barriers of communication

The sender must know his/her audience's:

- background
- age and sex
- social status
- education
- job/work
- interests/problems/needs
- language

The messages must be:

- timely
- meaningful/relevant
- applicable to the situation.
- the audience must remove their own barriers.

CCRDA

Members of the audience could be:

1. The non-listener type – who refuse to listen
2. The know-it-all type – who thinks he/she knows the answer to everything.
3. The impatient type – who is reluctant to sit and jumps to conclusion.
4. The negative personality – who enjoys saying 'no' to everyone.

- Even if all the barriers have been removed, communication could still be a failure without good presentation. Good presentation requires complete understanding of the subject, establishing good relationship with the audience, choosing the right channels or media, proper utilization of the chosen media and using the multimedia approach.

Characteristics of effective communication

- All barriers have been removed or tackled.
- The proper media has been chosen.
- A good presentation has been made.
- Two – way communication has been established.
- It is only then that the sender can establish commonness with his/her audience

Listening

1) Definition

- being an effective listener is a skill that can be consciously developed and practiced in each new situation whether in :
- meeting
- consultation
- a telephone conversation
- a chance encounter in the corridor
- Heaving is passive, whereas listening as an active psychological process that enables us to attach meaning to the sound we hear.
- It requires concentration and effort.

2) The skill of effective listening involves

- Listening for message content
- Recognizing any potential carriers to effective communication either on your own or the sender's part.
- Listening for feelings – these will often be indicated by non-verbal cues accompanying the words, such as the tone of the voice.
- Responding through your own social expressions or body gestures, such as a nod or smile with out interrupting the other person's flow. This shows that you are listening and understanding what they are saying and feeling.
- Checking whether the verbal and non – verbal cues confirm or contradict each other.

CCRDA

- Encouraging the speaker to continue or expand

3) Pitfalls

Some of the common pitfalls that we can fall into while listening:

- Ignoring bad news.
- Ignoring good news.
- Deciding in advance that what we are going to hear is irrelevant and not worth listening to
- Interrupting
- Focusing only on the facts and ignoring other aspects of the message.
- Being "the wide asleep" listener who is only pretending to pay attention, is looking at the other person and appearing to respond to them but is actually mentally miles away.
- Letting emotions get in the way
- Refusing to listen to views or opinions that contradict your own, regardless of their worth; "closed mind" attitude is one reason why it is often so hard to initiate in organizations.
- Arguing when we disagree rather than thinking about the implications or possibilities of what is being said and evaluating them. Creative ideas can often emerge from disagreement, but only when we are prepared to mange the conflict in a constructive rather than destructive way.
- Being inpatient, wanting to put forward our own point of view without being prepared to let others have their way.
- Getting frustrated with the other person's delivery rather than focusing on the content of what they are saying.
- Listening to ourselves, thinking about our own input when we should be listening to the other person.
- Ridiculing others by dismissive, sarcastic or insulting comments or behavior. If you engage in this kind of listening behavior then you will be unable to collect the information you need, since no one will want to speak to you.

Characteristics of good presentation

1. Complete understanding of the subject
2. Establishing a good relationship with the audience.
3. Choosing the right channels or media
4. proper utilization of the chosen media
5. Using the multimedia approach.

Media

Definition of media - Media are means through which one can convey messages to target group (a community) or vehicles that carry messages from an originating point to a destination.

CCRDA

Communication using media

Purpose of communication is to pass on information.
Role of media available to development and health workers is to accelerate social change and development.

Choice of media is determined by

- the availability of message
- skills in the use of media

To use media effectively

- know the range of media available
- know how the media can be used in passing on messages
- how to produce & use communication materials.

Types of media:

Interpersonal - face-to-face, telephone, letter.
Group media/ community media - drama, dances, puppets, songs.

Audio-visual

- Films
- Slides
- Pictures
- Cassettes
- Newspapers

Mass Media

a. Print media - newspapers, books, posters, leaflet
b. Electronic media - radio, television

Community and traditional media

Community and traditional media are means of sending messages in a given community. These are usually developed over a period of time by the community to help in communication.

Traditional Media

Traditional folk media transmit messages and information through songs, dances, drams, puppets: storytelling and festivals.

CCRDA

- Traditional media deal with peoples' beliefs and values
- They have high credibility - very useful vehicles for passing on development information.
- Include a wide range of oral communication & visual aids.
- Easy to interpret as they stem from the community itself.

How these media can be used

1. To demonstrate to the community their felt need through drama
2. To break the barrier of communication
3. To create awareness within the community
   E.g. A talking drum – pass on messages or to call members of the community together.
4. To stimulate interest
5. To attract attention (pull crowds)
6. To bring about participation & involvement (by asking members of a community to compose songs, take part dramas and dances).
7. To get members of a community to discuss issues
   E.g.- after a drama

Traditional media that appear on special occasions and are only watched by a minority are an important part of a nation's history. The most important characteristic of popular media is that they are enjoyed today. They are living traditions, enjoyed by many people. Their popularity stems from the following.

- Their entertainment value.
- Their coverage of ideas and issues of universal concern such as love, marriage, honor, failure, success, jealousy, revenge, wealth, poverty, power, family and group conflicts and religion.
- The fact that even though they are based on tradition, they change and adapt to the new situations and incorporate the issues and concerns of the day.

Folk media that have been used in health education include:

- ***Storytelling*** - oral or written
- ***Drama*** - theatre as participatory performance, theatre puppets
- ***Songs*** - pop songs, folk songs
- ***Pictures***
- ***Cloth designs***

CCRDA

Storytelling

Storytelling is a good way to communicate health.

- Stories build on the impact of the spoken word-which is always more powerful than the written word;
- everyone is interested in stories; they can identify themselves with the characters;
- while educated people have been trained to think in a logical, organized way the story-format is closer to the way most people think;
- people remember information better when it is presented in a story-format than a formal talk or lecture;
- stories can make truth concrete – abstract ideas can be expressed in everyday terms;
- stories begin from things that people understand;
- stories help people to discover principles for themselves.

The health topic might form the main story. Another approach is to have the main story dealing with topics that have a high universal appeal, that might be intrigues, quarrels, sexual liaisons, arguments, encounters with ghosts or magic and include health issues as a sub-theme.

A well-developed story will provoke a response if people see it to be relevant to their lives. It should be told in an interesting way, changing one's voice to suit the different characters. The audience should be involved along the way with questions such as, 'Now what do you think happened next?' If people believe in the story and identify themselves with the characters they are more likely to remember the message and take action to change their situation and adopt health-promoting behaviors.

1. The teacher tells the story to the class from memory then asks the class questions afterwards to see what they have learned.
2. One student is chosen to repeat the story aloud and the teacher and other students comment.
3. The class then divides into groups of four or five, each of women then tells the story to his or her group until all have had a chance.
4. Each group then creates a drama from the stories with the students each acting a part.
5. The class comes together and each group presents its drama, which is then discussed, to the class.
6. The class evaluates the performance of each group and if desired choose the best.

CCDA

Drama and popular theatre

Drama (sometimes called 'popular theatre') can also be used to promote community participation.

In one approach, a drama group visits a community and develops the drama from local issues. Following presentation of the drama the community is involved in discussing issues and suggesting solutions. It is possible to stop the drama at different stages and ask for comments, suggestions or for the community to take part. You do not need professional actors and can develop a performance entirely using local community members where the process of development of the drama becomes as important as the actual performance.

A well-known example of the use of drama in this participatory way is the Laedza Batanani theatre project that was carried out between 1974 and 1977 in Botswana. The name means in the local language, 'The sun is already up – it is time to come and work together.' Its purpose was to present issues through an entertainment medium and 'wake people up' to take collective action to deal with them. They identify three stages in their approach to using drama: problem identification, drama-scripting and performance.

In the *problem-identification* stage the fieldworkers held workshops where a committee of elders in the community was selected and between 60 and 100 community members were invited. Small-group 'brainstorming' sessions were held. These produced a list of ideas from the community that could be grouped into five major categories: village development problems; family problems; value conflicts and social problems; economic concerns; and consumer concerns. The members of the community were asked to put the problems in order of importance and improvise short drama sketches to illustrate them.

The *drama scripting,* involved working with the persons selected the ideas that had been generated earlier. They added a set of characters, such as a miner, a drunkard, or grandmother, to produce a script that was entertaining but still contained key development messages.

The final stage of performance took place in villages and at festivals. Following each performance the actors asked the audiences to join them in small-group

Their performances also included music and dancing. Simple books were produced based on the stories in the drama and these were given out to audiences and schools. Videotapes were made of performances and these were also found to stimulate discussion.

CCRDA

The Liwonde Primary Health Care Unit in Malawi provides a good example of how drama can be used as part of a primary health care programme. In 1985 their theatre team visited the Mwima community to find out their grievances. These included: absence of a nurse/clinical officer; lack of good protected water; lack of a proper market; various diseases such as diarrhoea, measles and scabies; and hospitals too far away.

After analyzing their research-findings, the team prepared a drama sketch about the location of wells in the village. The play was performed in the village bwalo, a square in front of the headman's house that is the traditional place for meetings. The actors did not use real objects but used mime and gestures to create in the audience's imagination features such as houses, goats, a well, a rubbish dump and babies' nappies.

The performance involved the community by directly addressing the audience on controversial issues. For example, when the actor playing a villager complained to the other actor playing the headman about animals fouling the well, the question was put to the audience, "Is that true? Is that how the well is supposed to be kept?' The audience responded actively, arguing with the actors and each other about the factual and moral issues raised in the play. Since issues about water and wells in rural Malawian society are traditionally the responsibility of women, women were involved in the discussions. Following the drama and a repeat performance, the villagers agreed to work together to improve the well.

The success stimulated the villagers' enthusiasm for primary health care and the health project followed this up with a play about the election of village health committees and the importance of community participation in matters of health. Then villages in the area formed village health committees which, supported by further drama sketches, actively promoted preventive measures. Topics covered included cementing of wells, chlorinating of wells, promotion of pit latrines and provision of basic medicines such chloroquine, aspirin and antibiotic eye ointment.

The success of the theatre programme in these villages led to the use of theatre in other communities. The Primary Health Care Unit held a five-day workshop to train other village health committee members in other communities on the use of theatre for primary health care. This led to an expansion of theatre activities. An evaluation of the theatre programme was carried out in the two areas where extensive use had been made of theatre methods. Between 1985 and 1987, there had been an increase in latrines built and a reduction in diarrhoea. But there had been little change during that same period in a similar area where there had been no drama activities.

Mime is a form of theatre acted out without words. This is of special value when there are many languages in a community. Since 1968 the Jagran Theatre Company in India has worked in Delhi's slum colonies, performing to audiences of up to 2000 people. With 14 languages and many hundred dialects, spoken theatre is almost impossible in these colonies but the language of mime communicates to all on the street or a village immediately.

CORDA

Jagran have described their approach as follows:

The Jagran troupe performs in the midst of slums and villages in various states of India. It is an informal affair. The message goes round by word of mouth. And it is a matter of minutes for crowds to assemble around the troupe. On the surface the show is entertainment, humorous and light-hearted. The audiences laugh at themselves. They laugh at the drunkard, at the villain who insists on dowry at the fellow who eats dirty food and suffers from diarrhoea. But beneath the slapstick and comedy are messages aimed to make the audience view their lives in a different perspective. The actors are members of the audience, dressed like them; but for the grease paint, the comic situations are theirs and so are the tragedies. And with all this identification, communication becomes almost complete.

One of Jargan's plays is calle *The Monster of Malnutrition.* The father and son are scared by a huge monster. They discover that this is due to their eating habits, so they change their diet to a healthy, balanced one and are able to kill off the monster. The facts of nutrition are introduced in a comical, humorous way so the audience are entertained but do not forget the point.

Puppets

Puppets are a form of drama with considerable potential for health education. Puppets may be part of the tradition of a country such as the Punch and Judy shown in Britain and the shadow puppets of Indonesia. One advantage of puppets is that it is possible for them to say things on sensitive topics that it would be unacceptable for an actor to say in a drama. People will accept puppets criticizing traditions and institutions. So puppets are particularly valuable for dealing with controversial topics the fear and anxiety that children have about going to stay in hospital or visiting the dentist.

- Different types of puppets are: *glove puppets* with heads made from paper mache or clay; *rod puppets* with figures on wooden rods; paper-bag puppets with faces drawn on paper bags; jointed puppets moved by string; and *shadow puppets* where a cardboard cutout casts a large shadow against a wall.
- Don't just wave the puppets around, make them do things-chase, nod, fight, hit and even kiss! Practise the movements in front of a mirror-or ask people to watch and five advice on your performance.
- Give the puppets names, special clothing and personalities. Lighten the tension by including humour. Include music and songs. Keep it simple – do not try to cover too much. Entertain – avoid preaching.
- You can make a proper stage that can be easily put up and taken down again for transportation. However, a wall or curtain for the puppeteers to stand behind is usually enough. A large piece of cloth can be hung across tow trees or across a doorway or the window of house.
- Choose the timing of the performances carefully. Find out when your audience-women, children or men – are free. Choose suitable locations. Markets, festivals, agricultural shows, health committee meetings or schools all provide good opportunities to use puppets. Make sure performances are well-publicized in advance

CCRDA

Many people see puppets as being relevant only for children and are surprise when they realize how useful they can be with adults. For example, in the Laedza Batanani theatre project in Botswana, a puppet show was given to entertain the children on the mornings of the theatre performances and the adults were also interested. They found that controversial village persons, such as the traditional healer, could be portrayed without giving offence, by using puppets.

As with drama, puppets have most impact when the community participates in the preparation of the programme, performing the show and can discuss it afterwards. Even so, puppets can be filmed and broadcast on television and provide entertaining and interesting health education to large audiences. The American programme *Sesame Street* uses a format of real actors, puppets and songs to provide a valuable educational experience and has been watched by millions of pre-school children throughout the world.

For further ideas on using puppets you can consult the excellent handbook *Puppets for Health* by Gill and Sue Gordon based on their extensive field experience in the Bawkur District of Ghana.

Songs

The words and music of songs can have a powerful effect on the emotions. Musicians carry great influence and are admired and looked up to. Songs can be used to rouse people to action and good examples of this are the stirring freedom songs of the black people of South Africa and the Civil Rights protest movement in the United States. People can be heard in the streets singing the jingles from television and radio advertising.

Bibliography

1. Dr. E. Tarimo and Mr. E.G. Webester. Primary health care concepts and challenges:Division of Strewngthening of Health Services. World Health Organisation (WHO), 1996.
2. New challenges for public health. World Health Organization(WHO), 1996.
3. John Hubley. Communicating Health, 1994.
4. Robert M Kaplan, James F. Sallis, Thomas L. Patterson. Health And Human Behavior.
5. James B. Mayfield. Go to the People

CCRDA

Supplementary Readings on Community Based Health Care Services

By :- Tefera Belachew, (MD, MSC,DLSHTM)

CCHDA

COMMUNITY BASED HEALTH CARE

Concepts of Community Based Health Care (CBHC)

1. **Definition:** Before directly going in to the different aspects of CBHC, it sounds better to have a common understanding of what the terms "community" and "community based health care "means. The terms will be utilized throughout this section in the context of the following operational definitions

   1.1. What does it mean by Community---It is a group of people living: -

   - In a geographical location
   - Sharing same resources
   - With similar problems
   - Having similar cultural beliefs
   - Having common concerns

   1.2. What is a Community Based Heath Care (CBHC)-- - It is a type of health care, in which the community takes the responsibility to initiate and sustain service to respond to their health needs, using locally available resources in the community.

This is achieved with full participation and involvement of the people in **decision making on:** planning, organizing, implementing, monitor evaluating these services.

CCRDA

2. **What is the Rational for initiating CBHC in Ethiopia?**

The basic essence of community based health care is to bring the basic health care to the place where the most needy people could access the services, which otherwise would have been impossible due to in accessibility (Geographic etc). The following are some of the points for the commencement of the CBHC in Ethiopia.

1. Most diseases originate from home due to bad behavior and habits
2. Health services are brought within easy reach in the community (accessibility):
   - Physical
   - Cultural
   - Financial
   - Functional
3. The health workers get to the root cause of the problem
4. Promotes awareness, sustainability, responsibility and ownership
5. It eases the work load at the health units for the staff
6. Community learn more about their own health
7. It cuts down the government and individual spending since it is cheap
8. It promotes good relationship between government workers and the community
9. Prevention is better than cure
10. It will reduce harmful cultural traditional behaviors as well as taboos.
11. Promotes beneficial traditional practices
12. Reduces suspicion of outside solution to local problems.

3. Principles of CBHC

1. **Community participation**

   Involvement of community in problem identification priority setting decisions maki organizing, implementing, monitoring and evaluation of the Health activities.

2. **Community empowerment**

   Having the authority to make decisions, providing them with knowledge and skills.

3. **Use the locally available resources**
   Identifying local resources;
   - Materials
   - Human
   - Funds

4. **Contribution for self reliance**

   Community contributes resources necessary for the services in order to redu independence on external assistance therefore increasing the potential for sustainability

5. **Community organization**

   Community is mobilized and structured to face the problem. This is a precondition action.

Community leadership

Community has to play leadership role in promoting community based health care services. The worker facilitates the process of decision-making and involvement through the provision of information and training.

Some examples of Community based health care that have been implemented in Ethiopia

Community based health care services that have been implemented in Ethiopia include the following among others:-

- Community based distribution of contraceptives (CBD)
- Revolving drug fund scheme (RDF)
- Community based Reproductive health (CBRH)
- Community based malaria control (CBMC)
- Community based Nutrition care(CBNC)
- Community Based Health Education (CBHE)

CCRDA

However, for practical reasons consideration of all these components may not be possible. Thus CBHC services like CBD, RDF, CBRH will be dealt with in this document.

1. Community Based Contraceptive Distribution (CBD)

Definition--CBD is a strategy of bringing FP services closer to the community, **using trained distributors** who are community members approved by the community they are to serve. The CBD agents in addition to providing some types of contraceptives also provide contraceptive education and refer clients who may require methods that CBD agents do not supply.

The CBD programme will consist of independent local community Based Distribution (CBD) projects, which will function under the organizational responsibility of individual communities. Government, non-governmental or private organizations, may assist the communities, which will appoint an implementing body (e.g. a health committee).

Experience in a number of settings has shown that this non-clinical access to contraception can improve the quality, accessibility and impact of Family Planning programmes.

CBD workers are selected from the community and by the members of the community. The number of CBD workers to be chosen for efficient functioning of local CBD projects is one CBD worker per 250 inhabitants; thus CBD workers will work in the immediate surroundings of their house, serving an approximate population of 40-60 households.

CCRDA

CREATING A FOUNDATION FOR COMMUNITY-BASED DISTRIBUTION

Before beginning to plan a CBD programme, it is important to establish a firm foundation consisting of five elements:

Clearly defined placement of the programme within the organizational structure of the host organization

Support from within the organization.

- A through understanding of the needs of the community to be served
- Support from the members of that community.
- Support from other organizations active in the community

This broad foundation is not only necessary for starting the programme, but also for ensuring that it continues.

PLACEMENT OF THE PROGRAMME WITHIN THE ORGANIZATION

CBD is presented in these guidelines as a discrete activity to avoid confusion with other activities, and to emphasize its unique qualities. CBD programs often operate in isolation from other activities within an organization, but even so, they must reflect and support the organization's overall service objectives.

The decision whether or not to integrate CBD activities within other service-delivery activities-or when to integrate them-is often made on practical grounds. In communities where other types of health care activities are already provided, it may be feasible to integrate CBD into those activities. In other communities where few, if any, health care services are available, it may be over ambitious to consider introducing a fully integrated programme that includes CBD. Indeed, the absence of other health care services in a community is often the reason for introducing CBD.

CBD is frequently implemented as an independent activity by non-governmental organizations involved in family planning. However, since family planning is a preventive health service, public sector CBD programmes are often located within maternal and child health an primary health care services, although functionally defined separate units may continue to exist.

CBD distributors often integrate other basic health services with their family planning activities. Similarly, CBD services may initially be integrated with maternal and child health services already provided through community-based volunteers. The degree of integration may vary from one location to another, and even over time, as the following examples illustrate:

Creation of a CBD sub-department within an existing division responsible for implementing a national family planning programme
Introduction of a contraceptive distribution component to the existing primary health care services offered through community health workers

Development of a CBD programme to provide a wide range of basic health services, including family planning, and operated by the maternal and child health care division.

Introduction of the principles of community-based distribution to various community-oriented activities such as agricultural extension services, adult literacy programmes, malaria eradication campaigns, and rural and community development efforts, but coordinated, monitored and evaluated by a central office in a separate institution.

Development of an integrated CBD and commercial retail sales programme that operates in conjunction with a network of family planning clinics managed by a non-governmental organization

CCRDA

Regardless of how the CBD programme is oriented within an organization, care must be taken to ensure that family planning is given the **same priority as the curative, medically oriented activities**. Thus can be largely accomplished during the initial planning stage by ensuring that the CBD programme has its own service-delivery objectives, work plans, budget, data collection tools, and reporting requirements.

ESTABLISHING SUPPORT WITHIN THE ORGANIZATION

Successful CBD programmes are those operated by organizations that recognize the value and importance of community-based family planning services. To assure support for the programme within the organization, programme mangers should take the following steps.

RELATE TO ORGANIZATIONAL GOALS

Most organizations that already provide family planning or primary health services will find that community-based distribution is compatible with their organization's overall goals. These goals may include:

- improving the access of low-income citizens to basic health services;
- increasing the use of safe and effective family planning methods;
- addressing the needs of women;
- Enhancing the effectiveness of child survival strategies in rural and poor urban areas.

However, in some cases, the organization may not have goals that can easily accommodate CBD. For example, the organization's goals may include:

- decreasing infant morbidity and mortality through the provision of neonatal intensive care services;
- providing immunizations and growth monitoring services to children of low-income mothers;
- Increasing literacy levels in rural areas.

In these instances, the organization will need to examine its goals and possibly expand them to include CBD. In all cases, support for the CBD programme within the organization will be greatly increased if it can be demonstrated that the programme will contribute to achieving the organization's goals.

SHARE INFORMATION

As with any new initiative, it is important that colleagues are kept informed about the plans and activities of the programme, This will help them understand the CBD programme and increase their willingness to support it. Similarly, other divisions of the organization should also be informed about the programme and encouraged to support it through their various activities.

CCRDA

In addition, colleagues should be included in planning the programme. This may take many forms, from simply soliciting comments from co-workers, to asking them to review planning documents or actually participate in the planning process.

WIN THE SUPPORT OF HEALTH CARE PROFESSIONALS

The success of the CBD programme will depend on the attitudes expressed by the local health care providers. Health professionals, particularly physicians, can have a strong influence on the community's perceptions of the programme, the choice of contraceptive methods offered, and the distributors. Therefore, they must be convinced of the quality and efficacy of the CBD programme and its contraceptive methods.

One of the most common difficulties facing CBD programmes is the resistance of health professionals, particularly physicians, to the idea of delegating certain aspects of service delivery to non-professionals. For example, CBD requires that distributors are responsible for counseling, checking clients for contraindications to contraceptive use, dispensing temporary contraceptives, and making referrals for other methods or clinical services.

Health professionals are often apprehensive about allowing non-professionals to prescribe and dispense oral contraceptives without assistance from a physician or nurse. This problem can be overcome by ensuring that distributors are given adequate training and provided with checklists to use in screening clients for contraindications, and by informing physicians of the excellent safety record of CBD programmes. This topic is discussed further on page 85. (For additional information about the safety record of CBD programme, see Serrano et al., 1987.)

CCRDA

UNDERSTANDING COMMUNITY NEEDS

Before setting out to win the support of the community, programme managers must decide where to introduce CBD services. To make this decision, they need to determine where the unmet need for family planning services is greatest.

Unmet need is defined as the number of fertile women at risk of pregnancy who do not wish to become pregnant, but are not using a modern method of contraception.

By determining the geographical location, the extent, and the characteristics of unmet need for family planning services, the programme manager will be better equipped to decide where to introduce services, and later, where services should be reduced or expanded. An assessment of unmet needs is an important management tool for the purposes of planning and allocation of resources. Furthermore, the assessment can be used as a basis for designing information and education activities.

Information about levels of family planning use may be available from national censuses and demographic surveys, or from special studies conducted at the regional or local level. It may also be available from service statistics maintained by the organization or other local service provider.

In addition, local health care providers and community leaders should be consulted, since they are usually aware of the family planning practices and needs of specific groups within the community.

Once the programme has been established, periodic surveys should be carried out to identify changes in the unmet need, and the demand for contraceptives. The surveys can also be used to evaluate the impact of the programme.

During the planning sage, a small-scale survey should be carried out to assess the demand for contraceptive and to identify any factors that limit their use. The survey should be repeated annually, or as necessary, to assess unmet need, to identify factors preventing contraceptive use, to measure levels of client satisfaction, and to determine patterns of continuation and method switching.

However, not all women will be in need of family planning services. This may be because they are pregnant, breast-feeding, infertile, or because they do not with to use a modern method, owing to concerns about safety, mortality or other issues.

For planning purposes, a conservative approach is recommended that limits the definition of unmet need as "the percentage of fertile women at risk of pregnancy who do not wish to become pregnant, have the desired number of children, are not breast-feeding, and are not using any contraceptive method". This definition will be useful for determining where to introduce services, since it will identify the communities most in need of family planning services.

A second approach defines unmet need more broadly, as "all women who wish to limit or space their births, but who are not using an effective contraceptive method". This definition will be useful for designing an IEC campaign because it identifies, as far as possible, the number, characteristics and location of all potential users of modern contraceptives.

While there is no perfect formula for estimating unmet need for family planning in any given community, the following steps may be used to identify the communities most in need of services:

Begin with the estimated number of women in the population.

Subtract the number of women who are under 15 and over 49 years of age. (They are not usually in need of family planning services.)

CORDA

Christian Relief & Development Association
LIBRARY
P.O.Box 5674

Multiply the answer by 60%. (At any given time, approximately 40% of women of fertile age are not living in union, are pregnant, breast-feeding, or trying to become pregnant.)

Subtract the number of women who currently use a safe, effective method of family planning. The remaining number is an estimate of the unmet need for family planning.

CCRDA

IMPLEMENTATION OF CBD

CBD Worker Selection

CBD workers are selected from the community and by the members of the community based on the **following criteria: -**

- A permanent resident of the community
- Socially and culturally accepted by the community
- Preferably literate, able to both read and writes in the local language
- Volunteer to work as CBD agent distributing oral contraceptives, spermicides and condoms home to home in the community
- Age between 20-50 years
- Sex-male or female
- Preferably married
- Known or believed to treat the matters of others confidentially
- Willing to promote FP IEC and counseling.

CBD WORKER TRAINING

CBD workers are trained for a period of ten days. The Ministry of Health has developed a standard curriculum. CBD training will cover the following subjects:

- Simple human anatomy and physiology of reproduction
  Menstruation and conception
- Concepts and benefits of Family Planning
- An introduction to the various methods of contraception used in Ethiopia. (pills using the available checklist, barrier methods especially condoms)

Population issues, population policy and the health of mothers and children referring to the health risks of having children:-

-Too early - at maternal age below 18 years
-Tool late - at maternal age above 35 years
-Tool soon - at inter-pregnancy period less than 2 years
-Tool many - at parity higher than five and unwanted pregnancy
-IEC and counseling
-Recording and referral
-Reporting
-Simple logistics management
-Tasks of CBD Workers

CBD-workers will provide condoms, vaginal tablets/foams/jellies and oral contraceptives. If a risk factor is identified, the client will be referred to the CBD supervisor in the health institution. Clients who wish to use methods other than those available with CBD worker will be referred to the nearest health facility were such methods are available.

CCRDA

CBD workers, working under the supervision and management of personnel of health institutions will:

Provide information on all methods available in the country.
Provide progestin only and combined oral contraceptive pills, condoms, vaginal foams and jellies.

The CBE-workers keep a simple record of their family planning activities and submit to the next higher level.

The CBD workers can levy a fee from the client for the service provided, the range of fee will be 0.50 to 2.00 Birr per service provided depending on local authority decision. Likewise, exemption, as well consensus on how the money collected is to be used should be arrived at by the same.

The CBD workers could also be remunerated in kind and could be given items like **hats, umbrellas, boots and raincoats on a regular basis.**

If possible at community level, the CBD workers are supplied with a **"CBD Tool Box" which will contain the following items:-**

-Lockalbe "CBD Tool Box"
-"CBD Diary" for 2 years)
-Demonstration booklet
-Bal-points
-Copies of check list forms
-Condoms
-Foaming tablets
-Cycles of low oestrogen combined oral contraceptives and minipills

THE CBD MANAGER

The local CBD project manager meets the CBD workers under her/his care once every month. In these meetings he/she checks on the activities of the CBD workers and reports them on clearly marked, separate "CBD" sheets of the clinical Daily Activity Register.

Facility (clinic based) Family planning services

All health institutions in Ethiopia, rural and urban, both government operated and private will provide Family Planning services

The table below shows the methods to be provided at various health institution levels.

FACILITY TYPE OF METHOD TO BE OFFERED Hospital□Voluntary Surgical Contraception, NORPLANT, IUCD, Combined oral, Progestin only pills, Injectables, Barrier and Natural methods Health Center□Voluntary Surgical Contraception Norplant,

CCRDA

IUCD, Combined oral, Progestin only pills, Injectables, Barrier and Natural methods: Health Station Combined and progestin only pills, Injectables, Barrier methods and Natural methods **CBD, outreach and social marketing Combined and progestin only pills, natural method, all barrier methods except diaphragm. Outreach services can provide injectables as well** □□Family planning services should be provided daily and should be integrated with other Maternal and Child Health services.

In addition to outpatient clients, Family planning counseling and service should be made available to post-partum and post abortal women.

All health workers providing Family Planning services should have involved in training in Family planning should undergo a course in Training of trainers (TOT)

It is desirable that FP programme mangers at the National, and Regional levels should have a course in FP programme management. If resources allow, similar courses should be made available for zonal programme managers.
Hospitals should have a minimum of 6 trained personnel, Health Centers a minimum of 4 and Health posts 2 trained people.

NGO/PRIVATE SECTOR PARTICIPATION IN FP PROGRAMME

The Ministry of Health recognizes the important role and contribution of NGO and the private sector to family Planning programme.

Non Governmental organizations are invited to continue to take part in FP including CBD projects, but will have to obtain written permission to do so from the Ministry of Health and shall function within the activities described in that permission and according to the service standards and guidelines. The NGO as well as private sector are required to monthly report the Family Planning activities to the family Health Department of the Ministry of health and or to the Local Health authority.

CCRDA

BIBILIOGRAPHY

Family health department (MOH), and COFAP. Curriculum for the training of community based reproductive health agents (CBRHA), Addis Ababa, June 1997.
MOH. Guidelines for family planning services in Ethiopia. MOH: AA, 1996.
WHO. Community based distribution of contraceptives- A guide for programme managers> WHO: Geneva, 1995.

2. REVOLVING DRUG FUND SCHEME IN ETHIOPIA REVIEW OF EXPERIENCES

Definition--- Is A scheme whereby the community is made accessible to essential drugs at a cost relatively affordable by revolving a drug fund through the structures of the community and their involvement in the designing, implementation, monitoring and evaluation of the scheme. This is achieved in such a way that after an initial capital investment, drug supplies is replenished with monies collected from the sale of drugs with minimum profit.

WHY RDF NECESSITATED?

In RDF, a sum of money (contributed by the government, donors, or community) is used to purchase an initial stock of essential and commonly used drugs to be sold, ideally at a price sufficient to replace the stock of drugs and ensure a continuous supply. The reasons usually given for establishing RDF are:

Essential drugs are a critical component of effective preventive and curative health care

Increased availability of drugs is perceived as real improvement in the quality of care Drugs are tangible and most patients are willing to pay for them.

Patients may attach greater value to drugs for which they have paid. A potential result is improved adherence of patients to treatment.

The drug budget being allocated to health institutions is inadequate. Hence the majority of the rural population are inaccessible to the basic and essential drugs.

RDFs Linked to essential drugs programmes offer the potential for increasing the efficiency of drug services as well as generating additional revenue.

Increased price awareness by prescribers and patients may result in improved use of drugs A significant number of CHAS are trained and not yet included in this scheme, which is believed to have a negative effect in CHA'S morale and contributes for high attrition in some areas.

It was the intention that the community participation inherent in this approach will **reverse** the trend toward urban, hospital-based care and vertical programs. Therefore the objective of RDF is to maximize access if not profit.

A central goal was to generate funds for **expansions in local health services** through the introduction of user fees, prepayment schemes, and revolving drug funds.

- Un-affordability and inaccessibility of high-priced private pharmacies on the island to the most needy and the majority of the population

CCRDA

WHAT FACTORS NEED TO BE CONSIDERED IN ORDER TO MAKE RDF SCHEME SUSTAINABLE?

The following issues are related to the sustainability of the RDF schemes: -

- Community And Political Support,
- Affordability
- Institutional And
- Financial Sustainability
- Demand Driven Supply
- Administrative Cost
- Workload on the CHA Etc.

SOME RDF SCHEMES AT THE HEALTH INSTITUTION LEVEL IN ETHIOPIA

6. The Bamako Initiative

A health reform package initiated by the World Health Organization (WHO) and UNICEF at a 1987 meeting of African Ministers of Health, has reached thousands of local health centers in many countries with its community participation program. A central goal was to generate funds for **expansions in local health services** through the introduction of user fees, prepayment schemes, and revolving drug funds.

The concept of community co-financing is based on local involvement in selecting target health reforms, generating income, and managing programs rather than a top-down approach where programs and user fees are imposed on a community. **Health management committees at all health facilities** are responsible for implementing the reforms and being accountable to the community. To compensate for the limited management skills at the grass-roots level, there has been training of the committees.

Under the Bamako initiative, **UNICEF was providing free drugs** to participating countries for the 1st few years; drugs were sold to patients; and communities will control the finances. The aims were to establish **a Revolving Drug Fund (RDF)** to pay for future drug supplies and to use leftover money to maintain and improve primary health care services.
The question of whether services are sustained when the free drugs stop remained to be answered.

Host governments were expected to commit to continued financial and supervisory input and to maintaining control over their own health services. Communication between staff and government were be established and maintained. Gradual and sensitive introduction, with careful monitoring of equity, utilization, and rational drug use, were considered essential to prevent failure of this scheme [1,2].

CCRDA

To increase the availability of essential drugs and medical supplies, while at the same time decreasing the costs to the government of supplying these items, Dominica's Ministry of Health has proposed establishment of a national Revolving Drug Fund (RDF). An operations research study was conducted in 1983-86 to identify key operational issues related to the design and implementation of the revolving drug fund. The issues designated as requiring a major policy decision in order for work on the revolving drug fund to proceed was finance (capitalization and pricing), management information and accounting systems, distribution, and IEC/publicity. The basic design of this system was that, after initial capitalization, monies would be spent for drug procurement and would be replenished by drug sales.

A management information and accounting system (MIS) was identified as a critical component of the revolving drug fund model to coordinate management of both financial and material assets. A review of the experience of this study led to the identification of the following factors as critical to the implementation of an effective, efficient revolving drug fund at the central level:

- Coordinated leadership and management
- Adequate staff
- Adequate capitalization
- And assurance of reimbursement.

The major obstacle in revolving drug fund development remains the reluctance on the part of the government to institute user payment for drugs at the peripheral level. If consumer payments are not introduced, it is likely that the revolving drug fund will face problems such as delays in payment from the treasury because of inadequate government funds, delays in payments to overseas suppliers, and shortages of drugs. In such a case, consumers would again have to be given prescriptions to go to high-priced private pharmacies on the island [3].

An operations research study was conducted in 1984-85 in Northwest Liberia to identify and develop effective community financing schemes to offset the costs of primary health care services. At meetings with the village leaders, the following possible financing schemes were considered: fee-for-service, drug sales, personal payment, production based prepayment, income generation schemes, community or individual labor, donation or ad hoc assessments, and festivals or raffles.

The schemes that ranked the highest on a preference matrix were

drug sales,
community labor,
Production-based prepayment,
And donations.

A strategy combining these schemes was implemented in the study villages. All of the revolving drug funds sustained in the **25% mark-up in sale price** at the village level; **stocks of drugs increased and diversified**. Additional funds and support have been raised through community labor, donations, and farm contract work and applied to the direct support of primary health care.

CCRDA

The establishment of Village Health Committees (VHC) has provided a framework for continued efforts to improve primary health care on the local level. Although production-based prepayment and communal labor were not completely implemented during the test phase, village councils have affirmed these strategies as desirable. A combination of financing schemes allows people to contribute to primary health care according to their means and increases the potential for success [4].

Method for financing pharmaceutical supplies has been the establishment of revolving drug funds (RDF) in which, after an initial capital investment, drug supplies is replenished with monies collected from the sale of drugs. Frequently, however, the funds actually recovered are insufficient to replenish supplies and the fund is soon depleted.

EXPERIENCES FROM A VARIETY OF COUNTRIES SUGGEST SEVERAL CAUSES FOR THE FAILURE OF SOME RDF.

The following list is some of factors that are incriminated as a cause of failure:

- Under estimation of capitalization costs;
- Prices set below true replacement cost or frequent failure to collect payment
  Delays in cash flow which make funds unavailable for replenishment of drug stocks
  Rapid program expansion for which additional capital funds are not available;
- Losses due to theft and deterioration of drugs;
- Unanticipated price increases due to inflation or changes in parity rates; and
- Foreign exchange purchase restrictions.

FINANCIAL PLANNING FOR A RDF INCLUDES 4 ANALYTICAL TASKS:

Assessment of the potential market
Estimation of the costs of a RDF
Establishment of cost-recovery objectives and

Definition of the role of subsidies and surcharges. It is necessary for planners to consider all of the cost categories associated with starting and maintaining a revolving drug fund: drug costs, operating funds and capitalization costs. RDFs offer an appealing and potentially successful means of supplying basic pharmaceutical needs for many Third World countries [5].

The Latin American studies relevant to community financing comparative analysis has produced 9 reports describing research projects conducted in Honduras, Bolivia, Haiti, Dominica, Jamaica, Mexico, Brazil, and the Dominican Republic.

There were 4 major categories in this schema: establishment and maintenance of scheme (community participation, objectives: preventive versus curative services financed, contributors/benefactors: equity question, linkages with other financing schemes, management of financing scheme, and resources mobilized); cost (cost analysis methodology, costs: capital and recurrent, cost containment/cost management, prices/fees/charges); demand (willingness to pay, ability to pay, political demand for health care); and Community financing methods (revolving drug funds, fee-for-service, and community income-generating activities) [6].

CCRDA

A study funded by Primary Health Care Operations Research on the characteristics community financing schemes in Thailand has identified 5 such types of funds.

1st are single purpose, profitable primary health care (PHC) funds largely drug funds that se large numbers of households.

2nd are single purpose, subsidized PHC funds mostly small, undercapitalized nutrition a sanitation funds that provide services to a limited number of households.

3rd are comprehensive PHC funds again mostly drug funds with additional PHC servic (nutrition, sanitation) that enroll and serve large numbers of households, have diverse source income, and are profitable.

4th are multipurpose funds that provide a diversity of PHC and other services (e.g., agricultu loans, retail sales) and tend to have high enrollment, activity, service, and profitability.

5th are health care funds, prepaid curative health insurance schemes, that generally have hi levels of household participation and health service utilization. Successful funds tend to have th following characteristics: strong leadership, a compact village, compensation of managers, acti health officer, some external assistance, a high profit rate, diversified sources of incom diversified services, and high levels of household participation.

As a result of this research, the Ministry of Public Health has encouraged existing profitab revolving drug funds to diversify, and the possibility of using community funds as a centr mechanism for financing rural health care is being investigated [7].

The target population for this project was children under 5 years, pregnant women, and lactati mothers. Operations research addressed the following issues: services to be provided, servic providers, participation criteria, price of services, income levels in the community, an willingness of the community to participate [8].

The relative advantages of eight financing schemes, fee-for-service, drug sales, person prepayment, production-based prepayment, community labor, individual labor, donation and a hoc assessment, and festivals were assessed in meetings with community leaders. And a combination of 4 of these schemes (drug sales, community labor, production-based prepayme and ad hoc assessment) was identified as most feasible. Villagers buy essential drugs and se them at a 25% markup in order to create a revolving drug fund. Participating household contribute a share of coffee, rice, and cocoa cash crops to the primary health care fund and pa of the proceeds of a communal rice farm will be allocated to this end. In addition, each villag selected a village health worker for training. Supervisory visits to participating villages hav indicated a high degree of AA

Community involvement is critically important in the development and running of revolvin drug funds. Assessment of the extent of the following four major points as mark of communi participation is essential for the revolving drug fund scheme to be effective, efficient an sustainable.

CCRDA

1. **Needs Assessment**

Community members involvement in needs assessment and priority setting
Community members role in decision-making
Demand and (willingness to pay, ability to pay, political demand for health care etc.)

3. **Assessment of organization of the community**

- Functional community organizations
- Organized health/development committees
- Functional relationship of the community, RDF management and government structure
- Existence of efficient RDF at the nearest government health structure
- Types of RDF schemes- CHAs with CHP, CHAs with drugs in boxes and CHAs with no CHP or drugs in boxes

4. **Management perspective**

Decision-making structure

- Responsibility and accountability of RDF team
- Representation of the decision-making structure
- Monitoring of equity, utilization and rational drug use mechanisms
- Management information and accounting systems
- Adequately trained and remunerated staff
- Linkages with other financing schemes
- Management of financing scheme and resources mobilized
- Compensation mechanism of the management

Resources mobilization

Determination of resources contributed by the community and decisions how the resources are used

Initial capital investment and financial planning
Assessment of the potential market

Estimation of the costs of a RDF

Establishment of cost-recovery objectives
Definition of the role of subsidies and surcharges
Consideration of cost categories associated with starting and maintaining Revolving Drug Fund:

Drug costs
Operating costs
Capitalization costs

CCRDA

Options put in place
- Fee-for-service
- Drug sales and amount of mark-up sale prices
- Income generating schemes
- Production based prepayment
- Personal payment
- Community or individual labor
- Donations

Leadership
Strong and representative leadership (governance)
Active and committed district health team

IMPLEMENTATION OF RDF AS CBHC

RDF schemes have since long been implemented in the different parts of Ethiopia through community health posts and community health agents. In Irish assisted zones like in Sidama, Gurage, Estern Tigray and Jimma, they are being implemented through community based malaria control agents in addition to the above community health agents.

Implementation Planning

Implementation planning involves decisions about bottom-up versus top-down implementation, phasing and pilot testing, and development of RDF procedures.

Bottom-Up versus Top-Down Implementation

Bottom-up versus top-down development of user charges is both a policy question and an implementation question. It is rarely feasible to introduced fees at all levels at the same time. Therefore, should fees be introduced first at the hospital level or at the community level? Arguments favoring starting at the top include the following (Griffin 1988; Blakney et.al. 1989):

Equity: Higher-level facilities generally serve populations that are better able to pay for services and have access to other health providers.
Reinforcement of referral system: Introducing charge at higher levels encourages the use of cost-effective lower level services.

Revenue potential: Higher-level facilities provide large volumes of more costly drugs and other services.

Administrative capacity: Senior managers, drug management staff, accountants, and other necessary staff may be better equipped to undertake the additional administrative burden.

Impact evaluation: It is easier to monitor the health care and financial impact of user fees at a smaller number of more accessible facilities.

CCRDA

Arguments favoring starting at the level of the community or primary care facilities include:

Demand: Communities are actively interested in ensuring a regular supply of essential drugs.

Lack of alternatives: rural populations often have fewer choices in health care, If the government or community cannot provide drugs, they may go without.

Support for prevention: Increasing drug availability at the primary health care level also attracts people for essential preventive services.

Community involvement: A bottom-up approach provides greater opportunity for community involvement. Also, government or donor start-up funds may be supplemented by community contributions.

The relative strength of the case for bottom-up versus top-down implementation varies with local circumstances. Too often, however, the choice is strongly influenced by local political pressures or donor interests rather than by the merits of each approach.

Experience and careful monitoring can help determine the viability of an RDF at each level. The cost of establishing and maintaining user fees at the lowest level may be greater than the revenue collected.

Phasing and Pilot Testing

Most countries find it unworkable to implement an RDF at all levels and in all parts of the country at the same time. Success depends on developing and testing fees, drug supply procedures, and financial management systems. This is best done through pilot testing or phased implementation.

Pilot testing an RDF in one province or one district before it is implemented nationally enables systems to be developed and monitored under close supervision. In countries such as Nepal, Nigeria, and Liberia, different approaches to RDFs in different parts of the country allowed cross-fertilization of experience.

Pilot tests can be misleading, however, if they are conducted only in more accessible, better organized areas; if they are conducted with much more intensive technical and financial support than could be expected with national implementation; or if they result in systems suitable to the pilot area but less suitable to other parts of the country.

Phased implementation, beginning at the higher levels of the system, offers the advantage of firmly establishing effective drug supply, financial management, pricing, exemption, and accountability systems at each level before proceeding to the next level. A phased approach can help build public acceptance, test and revise fee structures, develop management capacity, and train staff over a reasonable period of time.

CCRDA

With phased implementation, the high-level facilities in each area serve as training and demonstration centers for the next level: provincial hospitals establish their systems, then become training sites for district hospitals; district hospitals develop their systems and become training sites for health posts or community health workers. Following the management development approach described in Country Study 34.1, it may take six to eighteen months to develop, implement, and reinforce RDF management systems at each level.

With either a pilot or a phased approach, an RDF can not expand any faster than the capacity of the supply system to provide a steady supply of essential drugs.

Development of RDF Procedures

An essential aspect of any approach is the development of procedures for drug and financial management. Normally, a procedure manual or set of manuals should be developed. Shorter versions of these manuals, including one page checklists, can be prepared to address the information needs of specific levels and functions.

Pricing and Equity of Access

RDF pricing and exemption policies are critical for ensuring that patients in need of essential drugs and medical supplies receive them and that the RDF does not decapitalize. these two requirements pull in opposite directions, creating a constant tension. And prices, as well as the accompanying polices with regard to exemptions, are the mechanism by which the necessary balance is achieved.

Pricing Strategies

Pricing for RDFs involves two related questions: what type of drug fees should be charged, and what should the level of fees be?

Type of Drug Fee. Alternatives include course-of-therapy fee, prescription fee, item fee, multilevel item fee (price bands), and variable item fee (see Figure 44.3). These mechanisms can be compared with respect to the following criteria:

Impact on prescribing practices: Does the fee create incentives for prescribing more drugs or fewer drugs, higher cost or lower-cost drugs?

Impact on patients: Is the fee likely to dissuade patients from buying needed drugs, or does it create incentives for patients to use drugs more cost effectively? will patients feel that they have paid a fair price?

Ease of collection and accounting: How easy is if for health staff to calculate the required payment, to make change, and to keep accurate payment records?

CCRDA

Balancing drug costs and revenue: How closely do the fees received for individual durgs balance the actual cost of drugs dispensed?

The impact of fees on prescribing practices is not shown in Figure 44.3 because it depends on whether health staff salaries or bonuses depend on revenue derived from drug fees. Like private practitioners, government and community health care providers are likely to prescribe more drugs and more costly drugs if their income depends on drug sales.

Course-of-therapy fees, multilevel item fees, and variable item fees can all differ for individual drugs, In such instances, the fees charged to patients can be based on the actual cost of the drug, an assessment of the health impact of the drug, or a combination of these factors. Pricing can be based on the VEN system: for example the equivalent of $.10 per item for vital drugs, $20 per item for essential drugs, and $ 30 per item for nonessential drugs. With this approach, vital drugs may be sold at prices lower than their replacement costs.

With the variable item fee, the price can be based on a fixed percentage markup over cost, a variable percentage markup, actual cost plus a fixed dispensing fee, or another formula. For example, higher-cost drugs or drugs with a greater health impact may have a lower markup.

It is important to consider ease of collection and accountability, because administrative and accountability problems are major constraints on the success of RDFs.

EVALUATION OF RDF

Once the RDF scheme is made functional, it needs a continuous monitoring and evaluation---a process that should by and large involve the community.

In so doing one could Compare the outcome measures between Community health agents (CHA) with RDF in the CHP and without CHP but with drugs in a box and CHAs with CHP but no RDF, etc.

The outcome measures could among others be:-

-Attrition of Community health workers
-Sustainability
-Service utilization
-Accessibility
-Affordability
-Reduction in overall morbidity and mortality
Cost-effectiveness
Activity profile
Organization capacity of the local community
Organization capacity of the health services
Communication

CCRDA

BIBILIOGRASPHY

McPake B. Initiative for change. HEALTH ACTION. 1994 Jun-Aug;(9):7

Garner P..The Bamako initiative. British Medical Journal. 1989 Jul 29;298(6694):277-8.

.: Center for Human Services. Primary Health Care Operations Research Project [PRICOR]. Developing a revolving drug fund for Dominica.Chevy Chase, Maryland, Center for Human Services, PRICOR, 1987 Mar. 17 p. PRICOR Study Summary

.: Center for Human Services. Primary Health Care Operations Research Project [PRICOR. Planning and evaluating community financing in Kolahum district Liberia. Chevy Chase, Maryland, Center for Human Services, PRICOR, 1987 Mar. 11 p. PRICOR Study Summary

.: Cross PN; Huff MA; Quick JD; Bates JA. Revolving drug funds: Conducting business in the public sector. Social Science And Medicine. 1986;22(3):335-43.

Pipp M. Community financing: comparative studies [memorandum]
[Unpublished] 1986 Jan 6. [3], 22 p.

Center for Human Services. Primary Health Care Operations Research Project [PRICOR]. Community financing. PRICOR. PRIMARY HEALTH CARE OPERATIONS RESEARCH. 1985 May;:4-5.

Cole AK. Final report on planning and evaluating community financing in Kolahun District, Liberia. [Unpublished] [1985]. 15, [41] p.

Jonanathan D. Quick and others. Managing drug supply, 2nd. Ed-management science for health : in collaboration with WHO, 1997.

CCRDA

Community Based Malaria Control (CBMC)

By :- Makonnen Asefa

CCRDA

COMMUNITY BASED MALARIA CONTROL (CBMC)

Malaria remains the major disease of public health importance in Ethiopia. It leads the list top diseases for outpatients morbidity. Malaria is also among the leading causes of hospital death. It is estimated that about two third of the country's population are at risk of malaria infection. In Ethiopia, generally areas below 2000 meters altitude are considered malarious. Occasionally malaria transmission occurs in previously non-malarious areas including areas above 2000 meters altitude when microclimate and weather conditions become favorable. Due to the topography and climate of the country, malaria transmission in most parts of Ethiopia is unstable and hence communal immunity to the disease is underdeveloped. Consequently, the population at risk is exposed to frequent waves of epidemics.

Malaria control strategy

The current strategy for the control of malaria in most countries of Africa south of the Sahara has the following objectives:

- To prevent and reduce malaria deaths (case fatality and malaria mortality)
- To reduce malaria sickness (malaria morbidity)
- To reduce the duration of illness.

Achievement of these objectives calls for the development of the following approaches:

- Accessibility of the total population at risk to prompt diagnosis or recognition of malaria
- Adequate treatment of malaria
- Recognition of severe and complicated malaria
- Clinical recognition and management of treatment failures
- A referral system within the PHC system
- Protection of groups at risk of severe malaria by chemo-prophylaxis and personal protection measures
- Health education
- Public awareness of the appropriate use of antimalaria drugs
- Collection and analysis of malaria data and monitoring of actions taken
- Initial and in-service training of health workers in the current antimalaria activities

Malaria control in the endemic area of the country should be developed as part of the general strategy of primary health care. The general health services need to develop and expand progressively and to bring antimalaria activities to the most PERIPHERAL PARTS OF THE COUNTRY providing appropriate technical and logistic support mainly through the district level and under the guidance of a central core of malaria expertise.

IMPLEMENTATION OF CBMC

It is a pre requisite to have a functional primary health care unit and kebele association which could give a strong support to the CBMC scheme. The CBMC agent could be one of the CHWS with a special training on malaria control at the community level. A seven day malaria training course will be given. A guidebook for reference and a pictorial diagram with age-specific drug regimens should be provided to the agent.

CCRDA

MANAGEMENT OF UNCOMPLICATED MALARIA AT DIFFERENT LEVELS

Uncomplicated or non-severe malaria is mainly characterized by clinical symptoms such as fever, chills, shivering, headache, joint pains and generalized ache in the presence of asexual forms of malaria parasites in blood sample, without any of the complications described under section 1.1.4. Patients with uncomplicated malaria may also have symptoms such as nausea, vomiting, abdominal pain, diarrhea, thirst and poor appetite.

1.1 *CHWS*

1.1.1 Diagnosis

At this level, diagnosis is based on the patient's symptoms and signs and a simple history. In a malarious area, a patient with fever or a history of fever at lest within the past two days is assumed to have clinical malaria.

In a non-malarious area, a patient with fever or history of fever at least within the past two days and with a history of travel to malarious area within the last two weeks is assumed to have clinical malaria. However, other common causes of fever such as measles, pneumonia, meningitis, upper respiratory tract infections etc. should be also looked for.

2 Treatment

2.1 Drug therapy

At this level, sulfadoxine-pyrimethamine is the first-line treatment for uncomplicated malaria. Tablets contain 500 mg sulfadoxine and 25 mg pyrimethamine. A treatment dose of sulfadoxine-pyrimethamine is a single oral dose given as 25 mg/kg body weight sulfadoxine, 1.25 mg per kg Pyrimethamine.

Give the drug under supervision. Advise patient to remain nearby for about an-hour. If vomiting occurs within one hour after a dose, give an additional half dose. If vomiting persists, refer the patient to the nearest health center or health station.

Tell the patient that:

- he has got malaria;
- malaria is transmitted by mosquitoes;
- malaria can be prevented by eliminating mosquito breeding places and by using insecticide treated mosquito nets;
- early treatment is important to prevent severe illness and death due to malaria;
- return to the health post if fever persists or hc/shc is still sick after 72 hours after a dose of sulfadoxine-pyrimethamine.

CCRDA

2.2 Supportive treatment

A patient with uncomplicated malaria may require additional treatment to correct conditions such as dehydration, high fever and anemia.

- In the case of high fever (rectal temperature above 39°C in children), give paracetamol and advice patient to receive tepid sponging and fanning.
- For patients with moderate dehydration, give oral rehydration salt (ORS) and advise to take increased amount of clean water or other fluids. In the case of infants, encourage mothers to provide extra breast-feeding.

2.3 Follow-up

If fever persists for more than 72 hours (3 days) in a patient treated with sulfadoxine-pyrimethamine, give full dose of chloroquine and advise the patient to return to the post if the symptoms persist after 48 hours (2 days). At these times, refer the patient to the nearest health station or health center.

Chloroquine tablets are administered as 25 mg/kg body weight chloroquine base over three days (10 mg base/kg body weight on days 0 and 1 and 5 mg base/kg body weight on day 2).

2.4 Referral

A patent with one or more of the following conditions, should be referred immediately to the nearest health center or hospital:

- Altered consciousness (e.g. confusion, sleepy, drowsy, comma)
- Not able to drink or feed
- Frequent vomiting
- Convulsion or recent history of convulsion
- Unable to sit or stand up
- No urine output in the last 24 hours
- Bleeding
- Jaundice
- Difficult breathing
- Other conditions that cannot be managed at this level

If the patient is conscious and can swallow the drug, give full dose of sulfadosine-pyrimethamine before referral. Indicate all the findings and drugs given on the referral paper.

CCRDA

2.5 Health Station

2.5.1 Diagnosis

At this level, malaria diagnosis is based on signs and symptoms of the disease. Simple examinations using thermometer, stethoscope and sphygmomanometer should be done. History of travel to malarious areas during the last 15 days and previous treatment with antimalarias for current illness should be enquired. Clinical examination should particularly focus on detection of severe or danger signs (described under section 1.1.4) other possible causes of fever, anaemia and hydration status of the patient.

At this level, malaria is diagnosed as the presence of fever or recent history of fever, after exclusion of other major causes of fever. Other major causes of fever, which may be identified at this level, include (among others) measles, tonsillitis, pneumonia, otitis media, and upper respiratory tract infection. However, it should be noted that malaria illness might coexist with these other major causes of fever.

2.5.1 Treatment

2.5.1.1 Drug therapy

In health stations, the first-line treatment is a combination of oral sulfadoxine-pyrimethamine and chloroquine, both given full doses.

The total dose is 25 mg/kg body weight chloroquine base administered over three days in combination with 25 mg/kg body weight sulfa component of sulfadoxine-pyrimethamine as a single dose. Chloroquine tablets are available in 50 mg, 100 mg and 150 mg bases while syrup contains 50 mg base in 5 ml.

Example: For an adult patient weighing 50 kgs or more:

First day: 3 tablets of sulfadoxine-pyrimethamine and 4 tablets of 150 mg base chloroquine.
Second day: 4 tablets of chloroquine
Third day: 2 tablets of chloroquine

2.5.1.2 Supportive treatment

See Section 1.1.2.2 for details.

2.5.2 Referral

See section 1.1.4. for details.

If the patient is conscious and can swallow the drug, give the full dose of sulfadoxine-pyrimethamine and the first dose of chloroquine before referral. If the patient cannot take oral medication, give sulfadoxine-pyrimethamine intramuscularly Indicate all the findings and medication given on the referral paper.

CCRDA

1. CHEMOPROPHYLAXIS

Malarial chemoprophylaxis is indicated for non-immune travelers from malaria-free to malarious areas and for pregnant women living in malarious areas.

The recommended chemoprophylaxis regimen for non-immune travelers and pregnant women is weekly chloroquine combined with daily proguanil starting 2 weeks before departure, during the whole stay in the malarious area, and for 4 weeks after returning to the malaria free-area.

It has to be clear that no drug can guarantee absolute and complete protection against malaria infection. Hence, travelers or pregnant women should be strongly advised to seek medical help if malaria symptoms develop.

2. USE OF ANTIMALARIAL DRUGS IN EPIDEMIC CONTROL

Emergency mass drug administration is recommended to control malaria outbreaks. Either febrile patient or the whole community at risk (both sick and healthy) may be treated based on the severity of the epidemic.

At least 50 blood slides have to be collected from febrile patient in the epidemic affected area in order to determine the plasmodium species that caused the epidemic. For practical purpose, the dominant species is assumed to be the cause of the epidemic.

For falciparum epidemic, full treatment dose of sulfadoxine-pyrimethamine in combination with primaquine is recommended for mass treatment. The gametocytocidal dosage of primaquine for adults and children above four years is 0.5-0.75 mg base/kg in a single dose, i.e., 30-45 mg base for an adult. For vivax epidemic, full treatment dose of chloroquine is recommended.

The Role of Community in Control and Prevention of Malaria

What individuals do when they have fever or other symptoms suggestive of malaria can be important for the eventual successful diagnosis and treatment of malaria. Furthermore, what individuals, families and communities do to protect themselves against mosquito bites and to reduce mosquito breeding can be important in reducing risk of infection. Health education has an important role to play in bringing about desired changes in human behaviour regarding treatment, personal protection, and other forms of risk reduction.

People should understand the importance of prompt and adequate treatment of suspected malaria, especially in the high-risk groups such as young children and pregnant women.

Reduction of contact between people and mosquitoes

Enabling communities to gain the skills necessary for the safeguard and promotion of health is a major objective of health education. Through community involvement, lay and professional people study health problems, pool their knowledge and experience, and develop ways and means of solving the problems. Our role is to help the community organize itself so that learning will take place and action will follow.

CCRDA

The agent at the community level should advise on house site selection, vegetation clearance and personal protection measures. In this regard, communities should be advised to:

- Screen homes or bedrooms
- Wear protective clothing (trousers and long-sleeved shirts) outdoors in the evening and at night
- implementing drainage and water management and the need for their participation in these activities
- undertaking community clean-up campaigns to eliminate debris that may hold water
- reclaiming land by filling and drainage

Individuals should be given information which will help them understand the rationale of what is being done and to encourage them to participate in these activities. They should also be given information on why and how to keep the area around their houses clean of undergrowth and water holding plants as well as containers which might breed mosquitoes (tin cans, tyres, etc.)

Bibliography

1. MOH. Malaria diagnosis and treatment guidelines for health workers in Ethiopia. Addis Ababa 1999.
2. WHO (Afro). Malaria, a training guide for district health workers on malaria control in tropical Africa. Brazzaville, 1992.
3. WHO. The community-Based malaria control programme in Tigray, Ethiopia.
4. MOH. Proceedings of national conference on roll back malaria in Ethiopia. Addis Ababa, 2000.

CCRDA

Supplementary Readings on Communicable Diseases Epidemiology

By :- Makonnen Asefa

CRDA

Christian Relief & Development Association
LIBRARY
P.O.Box 5674

COMMUNICABLE DISEASE EPIDEMIOLOGY

INTRODUCTION

A communicable or infectious disease is an illness caused by transmission of a specific infectious agent or its toxic products from an infected person or animal to a susceptible host, either directly or indirectly. Some of the greatest triumphs of epidemiology have stemmed from the prevention and control of communicable diseases, as with Snow's work on cholera and, more recently, the eradication of smallpox.

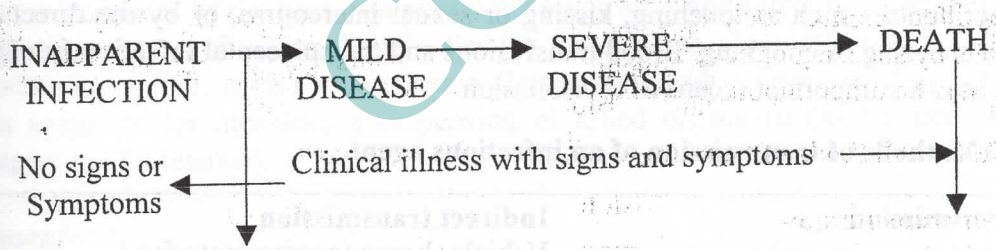
Communicable diseases continue to present the most important acute health problems in all countries. In most developing countries, communicable diseases are still the major causes of both morbidity and mortality.

An endemic disease is one that is usually present in a given geographical area or population group at relatively high prevalence and incidence rates, in comparison with other areas or populations. Endemic diseases such as malaria are among the major health problems in developing countries. If conditions change, either in the host or the environment, an endemic disease may become epidemic.

Chain of Infection

Communicable diseases occur as a result of the interaction of the agent, the transmission process and the host. The control of such diseases may involve changing one or more of these components, all of which are influenced by the environment. These diseases can have a wide range of effects, varying from in apparent infection to severe illness and death (Fig 1.1).

Fig. 1.1 The spectrum of illness from communicable disease



The major thrust of communicable disease epidemiology is to clarify the processes of infection in order to develop, implement and evaluate appropriate control measures. Knowledge of each factor in a chain of infection may be required before effective intervention can take place. However, this is not always necessary; it may be possible to control a disease with only a limited knowledge of its specific chain of infection. For example,

GCRDA

The infectious agent

A large number of microorganisms cause disease in humans. Infection is the entry and development or multiplication of an infectious agent in the host. Infection is not equivalent to disease. Some infections do not produce clinical disease. The specific characteristics of each agent are important in determining the nature of the infection, e.g., the types of toxin produced by the agent and its physical structure. The end result of infection is determined by a large number of factors involving all stages in the chain of infection. The pathogenicity of the agent, its ability to produce disease, is measured by the ratio of the number of persons developing clinical illness to the number exposed to infection. Virulence, a measure of the severity of disease, can vary from very low to very high. Once a virus has been attenuated in a laboratory and is of low virulence, it can be used for immunization, as with the poliomyelitis virus. Infectivity is the ability of the agent to invade and produce infection in the host. The infective dose of an agent is the amount required to cause infection in susceptible subjects.

The natural habitat of an infectious agent is called its reservoir, and may include humans, animals and environmental sources. The source of infection is the person or object from which the host acquires the agent. Knowledge of both the reservoir and the source is necessary if effective control measures are to be developed. An important source of infection may be a carrier, i.e. an infected person who shows no evidence of clinical disease. The duration of the carrier state varies between agents. Carriers can be asympotomatic throughout the course of infection or the carrier state may be limited to a particular phase of the disease. Carriers played a large role in the worldwide spread of the human immunodeficiency virus.

Transmission

This, the second link in the chain of infection, is the spread of an infectious agent through the environment or to another person. Transmission may be direct or indirect (Table 1.1)

Direct transmission is the immediate transfer of the infectious agent from an infected host or reservoir to an appropriate entry point through which human infection can take place. This may be by direct contact such as touching, kissing or sexual intercourse, or by the direct spread of droplets by sneezing or coughing. Blood transfusions and transplacental infection from mother to fetus may be other important means of transmission.

Table 1.1 Methods of transmission of an infectious agent

Direct transmission	Indirect transmission
Touching	Vehicle -borne (contaminate food,
Kissing	water towels, farm tools, etc.)
Sexual intercourse	Vector-borne (insets, animals)
Other contact (e.g. childbirth,	Airborne, long-distance (dust, droplets)
medical procedures, injection	Parenteral (injections with contaminated syringes)
of drugs, breast-feeding)	
Airborne, short-distance	
(via droplets, coughing, sneezing)	
Transfusion (blood)	
Transplacental	

CCRDA

Indirect transmission may be vehicle-borne, vector-borne, or airborne. Vehicleborn transmission occurs through contaminated materials such as food, clothes, bedding and cooking utensils. Vector-borne transmission occurs when the agent is carried by an insect or animal (the vector) to a susceptible host; the agent may or may not multiply in the vector. Long-distance airborne transmission occurs when there is dissemination of very small droplets to a suitable point of entry, usually the respiratory tract. Dust particles also facilitate airborne transmission, for example, of fungal spores.

The distinction between types of transmission is important when methods for control of communicable diseases are being selected. Direct transmission can be interrupted by appropriate handling of the source; indirect transmission requires different approaches, such as the provision of mosquito nets, adequate ventilation, cold storage for foods, the reduction of overcrowding, and a supply of sterile disposable syringes and needles.

HOST

The host is the third link in the chain of infection and is defined as the person or animal that provides a suitable place for an infectious agent to grow and multiply under natural conditions. The points of entry to the host vary with the agent and include the skin, mucous membranes, and the respiratory and gastrointestinal tracts.

The reaction of the host to infection is extremely variable, being determined by the interaction of host, agent and transmission factors. Infection may be unapparent or clinical, mild or sever. The incubation period-the time between entry of the infectious agent and the appearance of the first sign or symptom of the disease-varies from a few days (e.g. foodborne infection by salmonella) to years (AIDS).

An important determinant of the outcome of infection is the degree of natural or vaccine-induced resistance or immunity of the host. Immunity develops after and infection, after immunization, or through transmission of maternal antibodies via the placenta. Immunization is the protection of susceptible individuals form communicable disease by the administration of a modified living infectious agent (as for measles), a suspension of killed organisms (as for pertussis), or an inactive agent (as for tetanus).

Environment

The environment plays a critical role in the development of communicable diseases. General sanitation, temperature, air pollution and water quality are among the factors that influence all stages in the chain of infection. In addition, socioeconomic factors, such as population density, overcrowding and poverty, are of great importance.

CCRDA

Epidemics

Epidemic: is the occurrence in a community or region of cases of an illness, specific health-related behaviour or other health-related events clearly in excess of normal expectancy. The number of cases indicating presence of an epidemic will vary according to:

. infectious agent
. size and type of population exposed
. previous experience or lack of exposure to the disease
. time and place of occurrence

Epidemicity is thus relative to usual frequency of the disease in the same area, among the specified population, at the same season of the year. A single case of a communicable disease long absent from a population or the first invasion by a disease not previously recognized in that area requires immediate reporting and epidemiological investigation. Two cases of such a disease associated in time and place are sufficient evidence of transmission to be considered an epidemic.

It is important to note the following points from the above definition of epidemic:

a. it may include any kind of disease or injury including non-infectious conditions
b. there is no general rule about the number of cases that must exist for an outbreak to be considered an epidemic
c. there is no specification or geographic extent; an epidemic may cover few households in a village or an entire nation or may even be worldwide in distribution.
d. an epidemic may encompass any time period

Example:
. Few hours as in chemical intoxication or bacterial food poisoning
. Week as in influenza or hepatitis
. Several years as in AIDS

e. A disease that remains epidemic over many years eventually may be considered endemic

Types of Epidemics

There are two principal types of epidemic:

1. **Point -Source (common-source) Epidemic:** is an outbreaks caused by simultaneous exposure of a group of susceptible persons to a common source of pathogenic organisms or chemicals or any other noxious influences. The etiological agent is transmitted by water, food, air or inoculation. It can result from a single exposure of a population group to the agent, from repeated multiple exposures or from continued exposure over a period of time. They are usually characterized by explosiveness of onset and limitation or localization in time, place and person. This type of pattern is typical of water and food borne diseases.

   Example: Food poisoning

CCRDA

2. Propagated of Progressive (contact) Epidemic: is an outbreak in which organism is propagated in the community by passage from person to person so that the initial rise in the number of cases is usually gradual. This type of outbreak occurs where the agent is spread through contact between infected and susceptible individuals by means of the respiratory (e.g., measles), anal - oral (e.g., shigellosis), genital (e.g., syphilis) or other route, or by insects and arthropods (e.g., malaria). In this type the epidemic extends over a number of incubation periods.

The classification of epidemics by their mode of transmission provides basis for considering possible measures to prevent occurrence of epidemics in the community.

Causes of Epidemic (when do epidemics arise?)

Any communicable disease in an individual or in a community results from a dynamic interaction between the agent, the host and the environment. On the basis of this ecological concept the disease causing organism (agent) and man (the host) are always engaged in a constant struggle for survival. Which one will overpower the other will depend on the environment in which they interact. Generally speaking any change in the equilibrium between agent, host and environment leads to an epidemic situation.

Endemic

Endemic refers to the habitual presence of a disease in a given geopraphic area. These are diseases that are always present in the population at roughly constant level. The prevalence and incidence of the disease are fairly constant over time.

Examples: Tuberculosis Ethiopia

Sporadic

Sporadic diseases are those which are not normally present in the population but give rise occasionally and irregularly to epidemics.

Examples: Plague

Endemic disease can rapidly become epidemic due to one of the following reasons:

- An accumulation of susceptible individuals either by birth (newborns) or
- immigration form non-endemic area. e.g., new comers from highland or non-malarious area to a low land malarious area.
- Ecological change. e.g., favouring breeding of an insect vector in malaria.
- An increase of the organisms on carriers or animals before it occurs in human population e.g., plague epidemic in rats and yellow fever epidemic in monkey before it develops in man.

CCRDA

Pandemic

Pandemic is an epidemic occurring over a wide area and usually affecting a large proportion of the population e.g., AIDS

Investigation of an Epidemic

In the investigation of an epidemic it is wise to follow a systematic routine, although public reaction, urgency and the local situation may make this difficult. The following list of steps need not always be undertaken in the order given and some are done concurrently.

1. ***Verification of the Diagnosis***
   - Take as detailed history as possible from informants
   - Make tentative differential diagnosis
   - Make all arrangements including laboratory equipment on the basis of the tentative differential diagnosis
   - Do clinical and laboratory studies to confirm the diagnosis. This should be done except few situations where the urgency demands immediate action on the basis of clinical diagnosis alone.

2. ***Verify the Existence of an Epidemic***
   The existence of an epidemic could be ascertained by comparing the current incidence of the disease with its usual incidence in the community. Approximate estimates of pervious incidence of the disease could be obtained from clinic and hospital data and by questioning the local people

3. ***Identification of Affected Persons and their Characteristics***
   3.1. Case Definition: It is important to define what constitutes a case so that field workers can distinguish between a case and a non-case. This definition may be modified later but it is important to develop a definition before the searching of cases.

4. Details of each confirmed or suspected case: This must be taken in order to obtain a complete picture of the epidemic. The usual details are name, age, sex, occupation, address, recent movements, details of symptoms and other details depending on what is suspected. All this information is best recorded on specially prepared record forms.

5. Active Search for Additional Cases: this step is extremely important. Some of the cases may be mild and can only be identified by careful interviewing of all persons who are related in time and place with the already known cases. In the case of food poisoning all persons who attended the meal should be identified and interviewed. All health facilities including dispensaries and village health workers should be visited for cases that were not reported.

CCRDA

4. Descriptive Analysis

This process is essential to the basis for determining the source of infection and the mode of disease transmission. This is done by relating the outbreak o time (when), place (where) and person (who) from the known cases.

4. Time: An epidemic curve which plots cases of a disease by the time of onset of illness is an essential part of the analysis. The curve indicates the type of the outbreak-point-source or propagated type. From this the nature of the source and the type of the disease could be reasonably guessed.

The epidemic curve can also provide further information. If the organism and, therefore, the incubation period is known the probable time of exposure can be determined. Conversely if the time of exposure is known the incubation period can be calculated & this is the clue to the causative organism.

4.1. ***Place***: Spot map is constructed by plotting all the cases by location. This will help to identify the way the disease is distributed in the community. Clustering of cases on a spot map may indicate a possible source of infection.

4.2. ***Person:*** Analysis of the cases by personal factors such as age, sex, occupation, etc. gives you the profile of those affected by the disease. This may give clues as to the source of infection.

In order to gain a true picture of the disease this profile must be related to the characteristics and distribution of the entire population at risk. This is achieved by calculating rate of illness in the population at risk by age, sex, occupation, exposure to specific food and other related attributes.

5. Formulate and Test Hypotheses as to Source and Spread of Disease

Identify type of epidemic-common source versus propagated. Consider possible source or sources from which disease may have been contracted on the basis of descriptive characteristics defining the population at the highest risk of acquiring the disease. Compare ill population (case) with well population with regard to exposure to the postulated source. Make appropriate attempt to confirm epidemiological findings by laboratory tests (samples of blood, faeces, food and so on).

6. Management of the Epidemic

6.1. Treatment of cases-the first action is to treat cases

6.2. Prevention of spread and commencement of control measures -depending on the type of the disease the immediate measures include:

- Chemoprophylaxis for immediate contacts
- Immunization
- Isolation of affected persons or quarantine

CCRDA

- Attack source & mode of transmission

  . Protection of water sources
  . Food hygiene
  . Vector control

- Health education - this has a large part to play in preventing the spread of the epidemic.

6.3. Writing a report. Three types:

- Popular account for laymen
- Account for Ministry of Health
- Report for publication in journals

6.4. Continued Surveillance of the Population:

This is to detect further rises in incidence and to ensure the effectiveness of the selected control measures.

Important points:

1. There should be no delay in the management of epidemics. It should be treated as emergency! Start to act with what you have until you get all you need.
2. The control of epidemics is much simpler with community participation. Control of epidemics by mass vaccination, environmental intervention, mass chemotherapy, Chemoprophylaxis is best achieved by mass mobilization for action.
3. Do not undermine outbreak reports by the community because that is one of the main sources of getting epidemic reports.
4. The best way to recognize the emergence of epidemics in time is to develop vigil and continuous surveillance system, with very frequent compilation and analysis.

CCRDA

Control Measures of Some Epidemic Diseases in Ethiopia

Disease	Specific treatment	Vaccination	Chempro-phylaxis	Isolation	Concurrent	Environmental
Mening-Ococal Meningitis	Crystallin Pencillin or Kemicetine Injection	Polysaccharide a +c vaccine to close contacts and crowded institutions: bracks, prisons, schools.	Rifampcin to very close contacts of patients	for 24 hours after start of treatment	Articles soiled with discharge from nose and throat of patients	Avoid crowding
Malaria	Chloroquine Comaquin Primaquine	None at present	Chloroquine	not necessary		. *Clear mosquito* breeding places by filling and draining
Typhus	Tetracycline or Chlora-mphenicol	of very little value		not necessary if DDT has been sprayed	delouse all in the area using 10% DDT or 1% Lindane	Bath, wash and boil clothes to kill lice
Relapsing fever	Pencillin	-	-	same as thphus	same as typhus	same as typhus
Typhoid and Paratyphoid	Chloram-phenicol	-	-	not necessary	articles soiled with patient fecces	very important measure . disposal of human waite . safe water . fly control . person hyg.
Bacillary dysentery (Shegillosis)	. fluid and electrolyte replacement . antibiotics: - bactrium - ampcillin - tetracycline (resistance a problem)	none at present	-	enteric precautions during acute illness	of feces and contaminate d articles	. food hygiene . health edu. very important
Cholera	fluid and electrolyte replacement important	vaccine of no practical value	mass chemo-prophylaxis is not helpful but for household contacts tetracycline is recommended	isolation with enteric precautions necessary	of feces and vomitus and of linens and articles used by patients	very important as in typhoid and bacillary dysentery

CCRDA

Epidemiological Surveillance

Surveillance: is an ongoing scrutiny of the factors that determine the occurrence and distribution of diseases with the purpose of detecting changes in trend or distribution in order in initiate investigative or control measures. Surveillance is not only confined to the field of health but can be used in all other disciplines.

Surveillance of Infectious Diseases

Surveillance of infectious Diseases: is defined as the regular collection, summarization and analysis of data on newly diagnosed cases of any infectious disease for the purpose of identifying high-risk groups in population, understanding the modes of transmission, and reducing or eliminating its transmission. Each case should be reported promptly. Information about the patient should include name, age, sex, address and source of referral.

Purpose of Surveillance

The purposes of surveillance have been mentioned in general terms with the definition. In order to make them more clear they are listed below:

- Early recognition of acute or emergency health problems which demand immediate action e.g., Epidemic of disease
- Recognition of seasonal and long-term term trends of diseases enabling to make reasonable prediction of situations ahead of time
- It serves as a guide for planning, implementation, monitoring and evaluation of health programmes for the control of diseases.
- Essential for proper assessment of priorities in public health programmes.

Components of Surveillance

A surveillance system could have the following components:

1. surveillance of cases
2. Surveillance of animal reservoirs or vectors
3. Surveillance of environmental factors relevant to health
4. Surveillance of demographic changes

Surveillance of cases of a specific disease in a defined population is the major component of a surveillance system. The selection of diseases for surveillance is dependent on the available resources, magnitude of the disease, the feasibility of control measures and the need for monitoring and evaluating the performance of a control programme.

CCRDA

Source of Data for Surveillance

The methods used for surveillance are distinguished by their practicability, uniformity, and frequently their rapidity, rather than by complete accuracy. The data sources include:

- Morbidity and mortality reports
- Special reports of field investigations of epidemics and of individual cases.
- Isolation and identification of infectious agents by laboratories.
- Data concerning the availability, use and untoward effects of vaccines and toxoids, immune globulins, insecticides and other substances used in control programmes.
- Information regarding immunity levels in segments of the population.
- Community-community health workers and members of the public such as school-teachers, students and religious leaders could be asked to report cases.

It is thus clear that collection of surveillance data involves a variety of sources with a multidisciplinary approach involving microbiologists, biologists, entomologists, veterinarians, pathologists, clinicians, economists, statisticians, sociologists and others

Methods of Surveillance

There are a number of surveillance methods which could be broadly classified into two types:

1. Active surveillance
2. Passive surveillance

Both types have their advantages and disadvantages

1. Active Surveillance:

Is the collection of data usually on a specific disease for relatively limited period of time by regular outreach on the part of health department personnel. By arrangement, designated health personnel are called at regular intervals (e.g., twice a week, weekly, monthly) to collect information on presence or absence of new cases of a particular disease and to record demographic data, data of onset, and other information relevant to that particular disease such as travel, personal habits, occupation, food consumption and so on. Negative information is also included. Disease surveys and investigation of outbreak are two important types of active surveillance.

While the data that is collected through this method is complete and accurate, it requires good organization, funds and manpower depending on its scope. Thus, it has a limited scope in a limited area and in a given period of time and because of this it lacks continuity.

CCRDA

Conditions in which active surveillance is appropriate:

- For periodic evaluation of an ongoing programme
- For programmes which have time limit of operation i.e., eradication programmes e.g., smallpox programme used this method extensively.
- With the occurrence of unusual situations is being investigated, when a high-risk season or year is recognized and when a disease appears in a new geographic area or is found to affect a new subgroup of the population. It maybe done when a previously eradicated disease, a particularly severe disease, or a disease of previously low incidence suddenly reappears or occurs at a high level of incidence.

Active surveillance cannot be used for routine purposes.

2. Passive Surveillance

It refers to data generated without solicitation, intervention, or contact by the health agency carrying out the surveillance. In many countries there are laws requiring the reporting of a large number of infectious diseases. The data obtained using this method are to a large extent unreliable, incomplete, inaccurate and most of the time not available on time and may not give the kind of information desired. This is mostly true in developing countries like Ethiopia. On the other hand, it has a wide coverage and does not require special arrangements, nor does it require a lot of funds. But despite its advantages it still can be indicative if not conclusive. So, one must always try to improve the recording and reporting of data in the health institutions because it is the only cheap method and continuity can be maintained. However, it should also be clear that both methods can be used simultaneously. Effective surveillance depends on the synthesis of all the data derived from the surveys which are relevant to the particular problem. The detailed organization of surveillance varies from place to place, but the basic feature is the mechanism by which pertinent by competent professional, thereby providing the logical basis for effective action. Most major control and eradication programme now place considerable emphasis on surveillance in making the initial assessment and in evaluating the progress of the programme. Routine disease surveillance based on health facility reports, review of records and sentinel disease surveillance are types passive surveillance.

The techniques of surveillance in the health field are now being applied to such problems as the environmental hazards associated with atmospheric pollution, road traffic accidents, to non-communicable disease such as cancer, and to social problems such as drug addiction, delinquency, prostitution, etc.

Steps in a Surveillance System

1. Collection of Data

Each case of a disease in the area should be recorded. An essential item of information is diagnosis. Any or all of the following information on each case could be included: Name, age, sex, address, occupation, vaccination or treatment, place of infection (if known), source of infection (if known), exposed susceptible.

CRDA

2. *Compilation and analysis of Data*

Each case reported is entered into a register and at the end of the reporting period analysis can be made of cases by person, place and time. The analysis provided the number of cases of a disease occurring, when they are occurring and who are getting the disease (place, time, person).

3. ***Formulation of Recommendations***

Based on the analysis and interpretation recommendation are made for action.

4. ***Dissemination and Feedback***

The results should be passed to relevant person and institutions particularly to:

4.1 Higher authorities
4.2 To persons & institutions involved in notification
4.3 To persons & institutions involved in relevant control programme
4.4 To persons & institutions likely to provide any useful information.

* **Diseases Under Surveillance in Ethiopia**

Among the diseases that are under surveillance globally the following are considered in Ethiopia.

1. Diseases Subject to International Health Regulation
   1.1. Cholera
   1.2. Plague
   1.3. Yellow fever
2. Diseases Under Global surveillance
   2.1. Epidemic typhus
   2.2. Relapsing fever
   2.3. Influenza
   2.4. Malaria
   2.5. Meningococcal Meningitis
3. EPI Target Diseases
   3.1. Measles
   3.2. Whooping Cough
   3.3. Tetanus Neonatorum
4. Diseases of Regional Interest
   4.1. Severe Diarrhea
   4.2. Cerebro-spinal Meningitis
   4.3. Trypanosomiasis
   4.4. Infectious Hepatitis
   4.5. AIDS

CCRDA

Bibliography

1. WHO. Basic Epidemiology. Geneva, 1993
2. Meseret Shiferaw , Haile Fanta, 1990. Epidemiology: A manual for Health Workers and Students in Ethiopia. Ministry of Health, Addis Ababa

CCRDA

Supplementary Readings on Health Management Information Systems

By :- Fasil Tessema

CRDA

Management Information Systems (MIS)

Managerial functions – planning, organizing, leading, and controlling are necessary for successful organizational performance. Undertaking these managerial functions is an information-intensive process. Therefore, to support these functions, systems for supplying information to managers are of especial importance. Only with accurate and timely information can managers monitor progress towards their goals and turn plans into reality. If managers cannot stay "on track", anticipating potential corrections, developing the skills to recognize when corrections are necessary, and then making appropriate corrections or adjustments as they progress, their work may be both fruitless and costly.

Information systems are being used to produce more than routine business reports. Managers at all levels are looking for information systems provide the necessary information for effective operation. How quickly and accurately managers receive information about what is going right and what is going wrong eventually determines how effective the control system will be.

Before embarking on the detailed discussions of MIS, it would be ideal if we briefly go through the fundamental concepts of information and its nature. Different scholars have looked at information from different point of views and perspectives. In some literatures we find the term "**Information**" and "**Data**" are being used interchangeably. For there is no hard and fast rule which dictates us to define a given term or concept universally, the following definitions are selected and presumed to suit our subsequent discussions.

Data: are unorganized facts/figures about events.

Information: can be perceived as data that have been processed/analyzed and organized in some meaningful way. From this definition one can connote that analyzed and organized facts supposed to provide meaning to the receiver. This makes information contextual because it exists in the mind of the person. It involves the cognitive power of the person to generate meaning.

Information shares many properties with other resources: it has value and can be managed. Information also has its own special qualities: it is consumed or expended like money, and it ages.

Factors affecting the "value" of information

One can evaluate the information received based on the following factors:

Timeliness: information must be available to the right person at the right time for the appropriate action to be taken.

Quality: the more accurate the information, the higher its quality and the more securely managers can rely on when making decision.

Completeness: this refers to the adequacy of information. The information provided supposed to have integrated facts on the critical aspects of the business or the event under investigation. The

CCRDA

adequacy of information that managers obtain determines the accuracy of decision he/she will make.

Relevance: the information that managers receive must have relevance to their responsibilities and tasks. For instance, inventory level information is irrelevant to the personnel manager. Similarly, the manager in charge of inventory control does not need to know about the status of staff members in other departments.

MIS: *is a system whereby accurate and timely information made available to management in view of facilitating the decision-making process and enabling the organization's planning, control, and operational functions to be carried out effectively.* **MIS** provides information on the past, present, and projected future and on relevant events inside and outside the organization. By and large, MIS serves as a signal that denotes the current state of the organization.

Information for planning

Information is referred at all points in planning, although the type and indeed the accuracy necessary will vary at each stage. Planning is concerned with implementing decisions about change. In order to make, justify, and implement these decisions, information is needed.
The collection of information is viewed by some planners as a mechanical process involving statisticians, accountants, and record clerk, and as a rather tedious and marginal activity as far as the real work of planning is concerned. Such view is not only unsustainable, but also foolish, if planning is to achieve its purpose of implementing necessary changes.

1. **Information is a basis for planning**: information is the lifeblood of the planning process. Without information it would be difficult to make any realistic decisions at all. We have argued that, to be successful planning needs a combination of a 'rational' process and political analysis. Both of these starnds need to be based on information. The actual selection of information itself is, however, not a totally objective process. Criteria are needed to select those aspects of a situation to be studied in more detail. These criteria are then translated into information needs. For example, concentration on the collection of information on particular groups in society (such as by social class, gender, age or area of residence) may imply interest in them as priority groups. Similarly, information about socio-economic or infrastructural factors (such as housing) suggests a particular view of health. Planner may look for specific information to enable them to pursue particular predetermined ends. The participants in the planning process all have their own preconceptions and values, which affect where they concentrate their attention.

2. **Information is power**: a planner with a confident grasp of information is in a strong position to convince others of her/his case. Anyone involved in the planning process cannot afford to underestimate the importance of access to and familiarity with information.

CCRDA

When we look at the information needs of managers at each level we recognize the following

- Top level managers need information that will inform long-range strategic plans and decisions.
- Middle level managers are responsible for making tactical decisions. Thus, they need information to allocate resources and establish methods needed to implement top- level plans.
- Lower level managers make the day-to-day operational decisions and control specific tasks. Thus, they need information that enables them carry out these routine activities.

Health Management Information Systems (HMIS)

Like other information systems, Health Information System involves the process of data collection, analysis, presentation and utilization by the health personnel engaged in the management and provision of health care services. The health information serves as the basis for rational policy making, planning and managing the overall health care services.

Without a sound information system, good planning is impossible. Where there is no planning, there will be problem in the utilization and allocation of scarce resources. Therefore, the development of strong health planning within the health administration requires a well organized Health Information System (HIS) as a prerequisite since objective decision making is not possible without valid, relevant and timely information.

A health information system comprises an information process and management. Therefore, designing a health information system requires systematic attention to each component of both the information process and management structure. The following figure shows the component of health information system and the interrelationships between these components.

The figure denotes that through the information process, raw data or inputs are transformed into information that can be used in decision-making. The information process involves data collection, transmission, processing, and analysis. The ultimate end of the production of information is for use in planning and management of health services. The management structure ensures that quality information is produced.

Basically, the main purpose of having health information system is to collect, compile, analyze, document and utilize health information so as to be able to:

- identify the health problems of the population concerned
- plan health service activities to be performed at different levels of health services
- prioritize and tackle the important health problems
- monitor performances at different levels of health system

To materialize the aforementioned purposes, information required includes:

- information on population along with the demographic and other characteristics
- health status of the population
- information on health care activities such as preventive, curative, promotive etc.
- information on the economic sector such as agriculture, education etc.

CCPDA

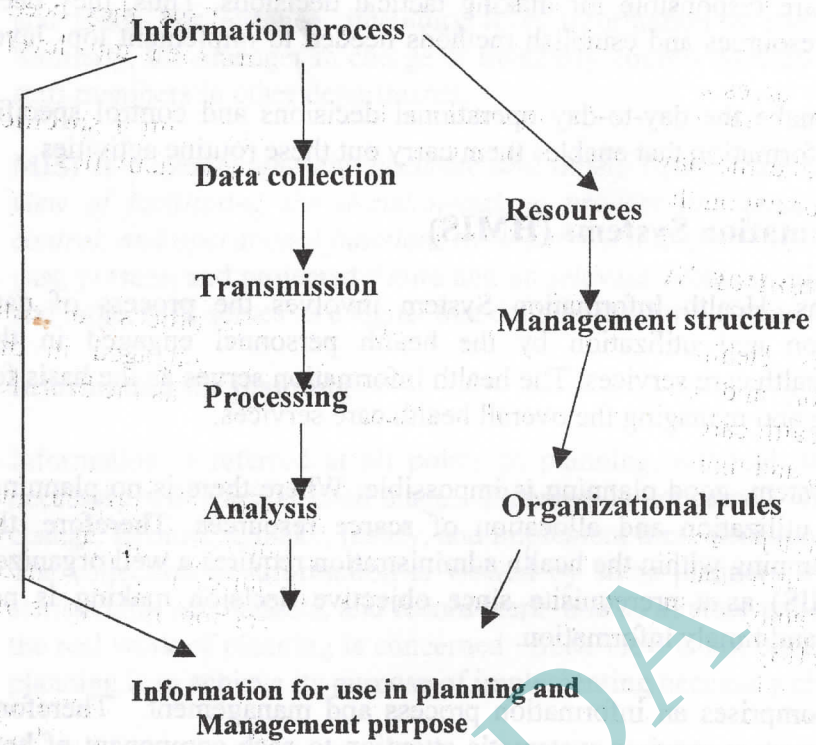


Fig. ***Components of health information system***

Source: WHO 1997.

By and large, for the overall management, control and provision of efficient health care services, the health management information system supposed to provide information on:

- Administrative and financial system,
- Clinical and medical system
- Public health information on the target population for which a given health care facility is established to serve.

Problems of Health Information Management

When we look at the design, development and the overall management, and utilization health information system in Ethiopia is yet at early stage. We can say that health information is meagerly available. HIS in Ethiopia has been developed centrally by Ministry of Health. The major source of information on health in Ethiopia is health facility-based record system which includes information on a variety of types of individual contact between various health institutions and on technical and management support activities such as, clinical, laboratory, radiological, and administrative services. It can be said that the existing health information system in the country is basically disease-oriented and hospital-based and are designed to

CCRDA

provide national level officials with aggregate data for statistical reports. This health facility-based record system which is the predominant source of health information in Ethiopia, has been criticized to have major short-comings such as the following:

- it is generally restricted to medical care services.
- it provides information only about those persons who actually used the health facilities, and tells nothing about the health status or health needs of people who are not using the facilities.

The other sources of health information are community-based and special studies. These sources of information have not been strengthened and very limited scope in Ethiopia.

Health Information Dissemination

As has been pointed out earlier, the routine periodically sent data from the regions to the center are usually verified, validated, and processed by the health information-processing unit and various reports are generated. The outputs are usually printed reports which are designed to show the over all health facilities performance in the country. These outputs are sent back to regions. This is in view of providing regions the opportunity to compare their performance against each other and to enable them share experiences.

Forms of information

Much of the information needed, particularly within the context of a PHC planning process, is not reducible to a statistical format.

For example, information relating to a political perspective is rarely quantifiable, and as such may often not even be viewed as 'information'. It is important, however, not to confine one's view of information to what is already measured or easily measurable – what is sometimes known as 'hard information'.

i) **Hard information**: information which are already measured or easily measurable
ii) **Soft information**: information, which may be impossible or difficult to quantify, is often ignored as being unscientific or difficult to deal with. Community views about health are a form of information that may be ignored by health professionals. Information about health workers' commitment or opposition to change may also be seen as being immeasurable.

Some of these 'immeasurability' may of course reflect a historic lack of interest in such information. The recognition, within a PHC approach, of the importance of such information has led to the development of new innovative approaches to information that is inherently unquantifiable, and would suffer from attempts at quantification. However, there always be important information that is *inherently* unquantifiable, and would suffer from attempts at quantification. The elusive concept of 'political will' is one such example of an essential ingredient that cannot be quantified. Attempts to measure it, for example by counting the number of political statements made, may detract attention from the dept of commitment of a policy.

CCRDA

Accuracy of information

Information is rarely, if ever, completely accurate. Information provides a means of presenting a view about the real world. Such views can differ not only in terms of distortions or 'inaccuracies' but also, more fundamentally, as a result of genuinely different perceptions.

In many situations as the accuracy of information increases the cost of obtaining it increases. The important properties of a measurement are validity, accuracy, precision, and reproducibility. Errors can arise because of faults in any of these.

Validity is an expression of the degree to which a measurement measures what it purports to measure. For example, forced expiratory volume in one second is a valid measure of respiratory function. Sub scapular skin fold thickness is not, by itself, a valid measure of obesity, although in combination with other measurements it can be used to assess how fat or lean someone is.

Accuracy is the extent to which a measurement conforms to or agree with the true value. A measurement can be precise but inaccurate; for example, if a faulty thermometer records the body temperature to be 36.56°C when it is actually 37.10°C.

Precision is the quality of being sharply defined. It can be expressed numerically, e.g., when a measurement is stated to two decimal places or a person's height is stated to the nearest millimeter.

The quality of the measuring instrument is the principal ingredient of precision, but the circumstances under which the measurement is made, the presence of faulty reagents or impurities, and sources of error attributable to the individual making the measurement are also important. These sources, called observational errors, include simple varieties such as parallax, digit preference, and the important class known as observer variation.

Reproducibility or reliability is the degree of stability exhibited when a measurement is repeated under closely similar conditions. Lack of reproducibility may arise from faults in the instrument, the observer, or in standardization of circumstances under which the measurements are made. Reproducibility should not be confused with ability to replicate, which means obtaining the same results when conducting an experiment or test in strict accordance with a defined protocol.

Instrumental error includes all the sources of variation inherent in the test itself. We can evaluate instrumental error by doing the same test twice or more independently, on each of a series of subjects. Independence implies that the second test is performed and the result recorded without knowledge of the first result. For example, in doing a chemical determination on blood serum, each specimen can be divided into two aliquots, which are separately analyzed. This permits determination of a laboratory's instrumental error.

CCRDA

Type of information

Different stages in the planning process require different types of information. Collecting, analyzing, and presenting information all have attendant costs, yet much information is processed without any end-use. Not only is the processing of unnecessary information costly, but it may also lead to inaccuracies, as the staffs involved see little purpose in the fieldwork. An efficient information system should routinely collect only that information for which it can see a use and the cost of which is outweighed by benefits seen in improved decision-making. It is not always necessary, of course, for the health service *itself* to collect the data. Similar information may already be collected by other means, and this may provide an adequate low-cost substitute.

Sayings:

The information you have is not what you want.
The information you want is not what you need.
The information you need is not what you can get.

It is all too common to find extremely active information systems providing information that does not match the requirements of the planners and managers; and it is an important part of planning process to define its information requirements carefully.

Information can usefully be classified into three types:

- information on the needs of specified population;
- information on resources and services; and
- information on the policy and political context

Indicators needed for health and health needs of a specified population:
Information is required which relates to demographic and socio economic characteristic of the population under consideration.

Possible health measures

- Disease incidence (new cases), prevalence (old and new cases) and percentages or proportions

$$\text{Incidence Rate} = \frac{\text{Number of new cases of a disease during a given time period}}{\text{Total person - time of observation}}$$

$$\text{Prevalence rate} = \frac{\text{Number of existing (old and new) cases of a disease}}{\text{Total population at a given point in time}}$$

- Mortality rate – the crude death rate, infant mortality rate, child mortality rate, maternal mortality rate, etc.

Christian Relief & Development Association
P.O. Box 5674

$$\text{Crude Birth Rate} = \frac{\text{Total number of live births in a year}}{\text{Mid - year population in the same year}} \times 1000$$

$$\text{Crude Death Rate} = \frac{\text{Total number of deaths from all causes in a year}}{\text{Mid - year population in the same year}} \times 1000$$

$$\text{Infant Mortality Rate} = \frac{\text{Total number of death of infant in a year}}{\text{Total number of live births in the same year}} \times 1000$$

$$\text{Maternal Mortality Rate} = \frac{\text{Total number of deaths of mothers due to maternal conditions in a year}}{\text{Total number of live births in the same year}} \times$$

- Disabilities – Number of days of restricted activities, bed disability days, work-loss days within a specified period, limitation of mobility, etc.

To be complete, profiles of a community's health need to incorporate not only traditional disease-based indicators, but social and economic indicators as well.

Relationship between input, output, and outcome

Input indicators measure the resources that are used in the provision of services. These include personnel, finance, drugs, and building. Bringing these resources together leads to the provision of services. These are measured by output indicators, such as outpatient attendance's, number of vaccinations given, bed-days, or pit latrine constructed.

Output indicators give no idea of the effect on health itself, and many argue that a further set of true health indicators which measure the change in health status are the crucial ones for the setting of priorities. These latter are known as ***outcome*** indicators and include the number of lives saved, children protected (by for example immunization), or life-years saved.

Methods of collecting information

Methods of collecting information are frequently biased. For example, data collected on LBW at hospital deliveries will be biased towards hospital users. As such, it is unlikely to be representative of the majority who deliver outside the health unit.

Main methods of collecting information

Surveys: obtaining information from a selected, sufficiently representative and large number of units for sub group of a population. Its quality depends mostly on methods of data collection and selection of individuals.

Examples of the use of surveys within the health sector include:

- Health surveys, both medical and community-based
- Knowledge, attitude, and practice (KAP) studies;
- 'Opinion pools' about services or needs;

CCRDA

- Health service utilization surveys;
- Personnel surveys for human resource planning; and
- Financial and expenditure surveys

✒ **Census**: A census of a population is defined as the total process of collecting, compiling, processing and publishing demographic, social and economic data pertaining (relating) to all individuals of a country or delimited territory and which covers a certain period(s).

Schemes of Enumeration during Census

a. ***De jure*** type is the count done according to the legal (usual) place of residence
   Disadvantages: It excludes temporary residents and visitors.
   Advantages: It includes permanent residents and residents who are temporarily away.

b. ***De facto*** Census is count done according to the actual place of residence on the date of the census.
   Disadvantages: it excludes permanent residents who are happen to be away on the day of the census
   Advantages: It includes temporary residents and visitors

In Ethiopia there were only two counts ever done that are in 1984 and 1994 GC and the methods used were a combination of both de jure and de facto. Since census is expensive it is done on every 10 years.

✒ **Birth and Death Registration:** Is a system by which all births and deaths occurring nationwide are registered, reported to a central body, where it would be compiled and reported. At present in Ethiopia there is no nationwide system of vital statistics registration.

✒ **Review of Health Service Records and Reports**: In Ethiopia all health institutions under the Ministry Of Health are required to report monthly, quarterly, biannually, or yearly to regional health bureau and then to head quarter, i.e. Ministry Of Health (MOH). Morbidity and mortality data are compiled, analysed and partly interpreted and presented in the Health Service Directory published by MOH. Health service records have some disadvantages and limitations.

Advantages.
a. Data are easily obtained
b. Data are available at low cost.
c. There is a regular, continuos system of reporting

The limitations include
a. Lack of completeness
b. Lack of representativeness: this is because the access to health service doesn't depend on the service availability but also on the socio-economic and cultural factors.
c. Lack of denominators: It is very difficult to determine the catchment area of a health institution
d. Lack of compliance with reporting.

CCRDA

- **Notification of Diseases**

There are some particular diseases that are required to be reported to the national (MOH) and to the international agencies like WHO.

Notifiable diseases of National importance include

Meningitis, Diarrheal Diseases, Tuberculosis, Malaria, Measles, Purtusis, etc.

Notifiable diseases of international (WHO) importance include

Plague, Yellow Fever, Cholera, Guinea Worm, etc.

- **Morbidity and Mortality Surveys**

Survey is a procedure in which information is systematically collected. In morbidity survey, a representative samples of the population are selected for the purpose of collecting information about illness patterns in the population. There are two types

- **Survey of specific diseases**

Examples include:

- EPI targeted diseases, Diarhhoeal disease, HIV/AIDS and other Sexually Transmitted Diseases, STDs, Tuberculosis. etc.

- **Survey of the General Health Status**

In Ethiopia it was done only once. The instrument for the collection of data on morbidity survey is interviewing using a well-formatted and pre-tested questionnaire

Methods of Conducting Survey

1. Face to face inquiry/ interview
2. Self-completed/administered questionnaire
3. Observation that includes not only simple visual observation but also includes those that need the use of sophisticated instruments and machines – physical and laboratory examinations, etc.
4. Telephone interviews
5. Postal questionnaire, etc.

- Managerial reports and returns: on financial, personnel and supplies return
- Informed opinion: in a community meeting, focus group discussion
- Information from other ministries, agencies, and institutions
- Other sources: journals for comparative information, international and; and media reports
- Situational analysis

The first step in planning process involves an assessment of the present situation. This is referred to as a situational analysis. This analyses the present situation from various perspectives.

CCRDA

1) it examines the current and projected situation, the demographic pattern, and present and future health needs
2) it looks at the general socio-economic and provision of non-health services and infrastructure
3) it analyses the infrastructure of the health sector and the pattern of services provided. This would include not only a description of the health facilities, and the utilization of those services, but also the organizational structure of the sector and its interrelationships. It examines the current and future resources, such as personnel, equipment, and buildings. It would also analyse the effieciency and effectiveness of the health sector in meeting current and future health needs.
4) It analyses the wider environemnt within which the health sector operates. This would include the political and policy environment

It should be stressed that a situational analysis conducted by public sector plan needs to cover the whole of the health sector, and not just those services provided directly by the public secotrs.

- Focus group discussions: a carefully planned discussion held in a permissive, non-threatening environment that is designed to provide in depth information about how a certain group of people perceive a ceratin area of interest. These group are people who are homogeneous target population.

Indicators

Information, which is collected is rarely comprehensive, but is, represented by indicators, of which there are two broad types, proxy and shorthand.

Indicators are variables that indicate or show a given situation, and thus can be used to measure change.

Shorthand – indicator of something which one could *in theory* measure, but measuring which would be very costly. The use of community health workers per head of population could be seen as a shorthand measure of overall health service availability.

Proxy – indicators of something which is, by its complex nature, *inherently* immeasurable. For example, GNP per capita has been used as a proxy indicator of development

There are simple, single-measure indicators and composite indicators. Simple measures include infant mortality as a proxy measure of health status. Composite measures of health status include disability-free life expectancy. The usefulness of indicators to 'indicate' the real nature of a situation is often assessed against the following criteria:

Validity: does the indicator actually measure what it is intended to?

Reliability and objectivity: will the indicator provide the same information if measured by different people in similar circumstances

Sensitivity: does the indicator actually show changes in situation?

Specificity: does the indicator show changes in situation as specified?

CCRDA

Examples:

- death under the age of 1 year in hospital are not valid measure of infant mortality
- professional's qualitative judgment of disability within a community may not be reliable
- infant mortality may be a sensitive indicator of child death; and
- infant mortality will not be a specific indicator of measles, as a number of other factors may reduce infant mortality

Much information collected depends heavily on both skills of the 'collector' and how s/he 'views' or interprets reality. Example of factors affecting accuracy of information: In carrying out a survey of a village population, one might imagine that to obtain the number and age-distribution of inhabitants was fairly straightforward. However various factors could affect the number recorded, such as:

- The definition of 'resident' (if a normal resident was not present at the time of the survey, should s/he be counted?)
- The level of motivation of the enumerator (would s/he bother to visit a home some distance from the main village?); and
- Enumerator training (do they ask the right question to elicit accurate ages?)

Much medical information is even harder to obtain 'accurately'. Diagnosis is an art not a science, particularly where diagnostic aids are scares. For example, the cause of death in one case may be attributed to TB by one diagnostician and to chronic bronchitis by another. Furthermore, the way information is collected may itself force inaccuracy. Most health information systems use the International Classification of Disease as a basis for their diagnostic records. Such systems look for a single cause of death. For example, while there may be, in certain circumstances, no single cause of death (for example, measles in combination with malnutrition is often fatal), recording forms may require such single diagnoses.

At a more fundamental level, the very concept of the *cause* of mortality or morbidity (and hence the information dependent on it) is not simple. In the above example, malnutrition and/or measles may at first be seen as the cause of death. However, at a second level, the real cause of death may be viewed as poverty. Hence, the increasing attention being paid to social epidemiology, which by arguing for analysis of such broader social causation of disease challenges more narrow clinical epidemiological perspectives.

CCRDA

Indicators of need

The first type of information consists of indicators of the *health* and *health needs* of a specified population. Information is required which relates to demographic and socio-economic characteristics of this population. This is essential as a baseline against which health-needs can be set. Within the context of PHC philosophy, it is important that this information is not confined to traditional (albeit essential) demographic information, but also looks at wider indicators of poverty and of social justice, such as the status of different social groups, gender.

Despite various attempts to get agreed indicators of health there are still a number of different approaches to the measurement of (ill) health. This, in part, results from the differences between concepts, and hence indicators, of health status, health needs, and health-care needs. Health

status reflects a positive or absolute state. Health needs are the inverse, and reflect service requirements. These are often wrongly used interchangeably, and may become confused. There are various ways in which a shift away from a narrow organic definition, using single disease measures, towards a wider more holistic view, has been attempted.

The simplest measures of (ill) health are those that measure the level (incidence and prevalence) of disease in an individual or community. Such measures correspond to a narrow definition of health. While such information is important for planning, there is increasing recognition that over-reliance on such indicators is inconsistent with a PHC philosophy.

Information about disease incidence *by itself* is not particularly valuable. Information as to its *effects* is also needed. An example of a spectrum of alternative ways of viewing the disease polio is given below. These range from simple measures of incidence rates to composite measures that bring together the number of deaths and the level of disability.

Example: ***Possible health measures of polio***

Disease incidence - New cases of polio per 1000
Disease prevalence - Total cases of polio per 1000
Mortality rates - Deaths from polio per 1000
Life years lost - Aggregations of years of life lost as a result of polio
Disability - Number of disabled polio survivors
Physical quality - Measure of the functional quality of life for polio survivors of Life Index
Quality-Adjusted Life Years - Measure of the number of life years affected by polio and it's disabling effects

Such measures, however, still focus on the physiological aspects of ill health. PHC suggests that a broader understanding of health is needed, to include not only measures of mental well-being but also social and economic indicators. Contrast for example the health of two children, both 'disease-free', of whom one lives in a slum and the other if the child of a senior civil servant. The first is less healthy not only because of the undisputed effects of poverty on the child's physiological state, but also because the quality of life itself has been lower. This should be incorporated into any measurement of health. To be complete, profiles of a community's health need to incorporate not only ***traditional disease-based indicators***, but ***social and economic indicators*** as well.

Health indicators

A question that is often raised is: How healthy is a given community? Indicators are required not only to measure the health status of a community but also to compare the health status of one country with that of the other; for assessment of health care needs; for allocation of scarce resources; and for monitoring and evaluation of health services activities and programs. Indicators help to measure the extent to which the objectives and targets of a program are being attained. Indicators are measures that can be used to help describe a situation that exist and to measure changes or trends over a period of time. Most health indicators are quantitative in nature but some are more qualitative.

CORDA

A list of basic health status indicators might be the following:

- Mortality and fertility rate
- Nutritional status
- Infant mortality rate
- 1-4year-old mortality rate
- Maternal mortality rate
- Life expectancy at birth

Information for calculating these indicators comes from:

- Registration of births, deaths and diseases
- Population censuses
- Routine health information systems
- Surveillance
- Investigation of epidemics
- Sample surveys

Measurement of Morbidity

Mortality statistics provide a comprehensive picture of the health of the public in the sense that sooner or later everyone becomes part of the statistics; but the picture reveals facets of health as it has been. To glimpse health as it has been. To glimpse health as it is, we must use morbidity statistics, which are always far from a complete record.

At any time, the population contains individuals who are in perfect health, as far as we can judge by the use of all known criteria, and individuals whose death is imminent; most of the people are scattered at all points along the continuum between these extremes. We have limited ability to identify and count those of epidemiologic and public health importance. Our sources of information are health workers, the records maintained by the institutions that serve them, and the testimony of samples of the population.

Sources of health-related information used to calculate or estimate morbidity rates include notifications and registries of communicable diseases. Surveys have been used to gather information on many kinds of physiologic measurements- e.g., blood pressure, respiratory function, hemoglobin concentration – and to ask questions about symptoms, disabilities, use of medical care, and many aspects of health-related behavior.

Notifiable Diseases Statistics

For many years, we have required by statute the reporting to public health authorities of a number of communicable diseases. Partial information on some of these, mainly the major lethal epidemic diseases subject to international quarantine regulations, is also gathered in most developing countries.

Reporting is incomplete. The reasons include diagnostic inexactitude; the desire of patients and health workers to conceal the occurrence of conditions carrying a social stigma, e.g., sexually-transmitted diseases; the reluctance of some countries to admit the occurrence of certain diseases

GCRDA

which may hamper tourism (this can happen with cholera); and the indifference of health workers to the usefulness of information about such diseases as influenza and hepatitis. Yet notifications are very important. They furnish the starting for tracing sources of infection and routes of spread, for finding common vehicles of infection, for describing foci of infection and geographic clustering, for determining trends, and for evaluation of control measures.

Measurement of Morbidity

- Noticeable (reportable diseases): Infectious diseases of public health importance, exotic infections, other conditions of interest and certain occupational diseases
- Health surveys: Total (census) or sample based surveys that are used as health status indicators

Surveillance of Disease

Surveillance may be defined as *the systematic regular ascertainment of incidence using methods distinguished by their practicability, uniformity, and frequently their rapidity, rather than by complete accuracy. Its main purpose is to detect changes in trend or distribution of the disease in order to initiate investigative or control measures. Its elements are data-gathering mechanisms, central collection and analysis of the data, their publication and dissemination, and initiation of indicated action.*

"Surveillance" suggests merely observation but feedback is necessary-it encourages the cooperation of reporting individuals and informs them about the health status of the population. If practicing health workers report infectious disease, and local health departments consolidate the information and forward it promptly to a center, the assembled, analyzed, and interpreted information must be provided in return. It is the health workers in the community and the health officers who mainly have use for this information.

After the introduction of new control measures, such as vaccination, surveillance is important because it warns where and when the measures need intensification. This has been true of poliomyelitis, measles, diphtheria, malaria, and animal rabies

The raw data for surveillance programs are reports by health workers to health departments of cases of communicable diseases. These, however, are incomplete and variable. Supplementary and better sources of data for some diseases are reports from laboratories. Periodic reports from laboratories of total isolations of salmonella organisms have been useful gauges of salmonellosis, even though the reports include isolations from carriers as well as from clinical cases.

After analysis of the data, periodic summary report are sent to the agencies and people in the filed who have made the reports possible as well as to all others with a need for the information. The surveillance reports published by the CDC on a number of diseases are excellent examples.

Surveillance is action oriented, having as its main goal the prompt initiation of steps to control a problem, particularly if such action is needed over a large area. It also helps us to understand the epidemiologic behavior of diseases.

CCRDA

Christian Relief & Development Association
LIBRARY
P.O.Box 5674

Health Care Utilization Statistics

Every encounter between a patient and a provider of health care generates a record which should often contain information of epidemiologic value. The source of data however, has several limitations. First, an essential prerequisite, the denominator for rates, is missing because the provider of care – the hospital, clinic, rarely serves a defined population. Second, numerators are uncertain because the records relate to encounters, episodes of care, or spells in hospital, not to the incidence of disease. Hospital statistics would therefore give a misleading impression of community wide incidence or prevalence of conditions. Finally, the records relate to a sample of patients that may be biased in various ways; some patients may not receive the service because they are not considered in need of it, are too remote from it, are ignorant of its existence, cannot afford it, are afraid of it, or are excluded for some administrative reason.

Properly maintained medical records have many other uses in health care. For instance, it is possible to build into a record system a method for identifying persons in need of continuing care at intervals, such as chronic or convalescent patients who should return for assessment, mothers and their infants who require periodic health examinations, persons approaching retirement age, and a variety of other persons at risk of certain disorders that may arise as a result of occupational exposures, past illnesses. The use of microcomputers in office practice has facilitated record keeping with this aim. The same approach can be used in public health clinics; computerized record systems have long been used, for instance to provide a reminder service to parents that children's immunizations are due.

Health Status Indices

Sometimes when we wish to compare the health of two or more populations, the numbers of deaths or cases of specific diseases are too small and the conventional indicators of health too insensitive to detect perceptible differences. Increasing concern with the evaluation of alternative methods to provide primary health to treat chronic conditions such as arthritis and simply to define health more precisely has led to development of sensitive measures or indices to detect short-term fluctuations in the health of members of a small population.

The distinguishing characteristic of these indices is that they rely on "subjective" judgments provided by individuals in response to questions in an interview or in a self-completed questionnaire. The survey instrument usually consists of many questions, 20 or more being common on such matters as physical function, emotional well-being social interaction and adjustment, and satisfaction with life (or "quality of life"). Survey instruments designed to measure these aspects of health status often contain batteries of questions on several of the above aspects. When the responses are analyzed, the score or scores obtained may be used as numerical indices of health status.

Most indices require the use of carefully composed rating scales, e.g. related to activities of daily living-feeding, washing, dressing, shopping, etc. Such sets have been useful in evaluating rehabilitation of patients suffering from chronic locomotor's diseases and in assessing needs for care of the elderly.

CCRDA

While questions covering physical functioning normally refer to matters of fact indices that deal with emotional well-being commonly record more subjective feelings and opinions. Most health status indices include numerical scoring procedures that enable the investigator to summarize levels of well-being in quantitative terms. Thus we can measure health, as well as the extent of departures from health.

Some National Level Health Indicators①

Indicator	1991 E.C.	1994 E.C. Targets
Total population	61,672,000	
Urban	14.7	
< 1 population (%)	4.08	
< 5 population (%)	17.57	
Women 15-49 (%)	24.11	
Population growth rate	2.92②	2.3
Crude Birth Rate (CBR) per 1000 population	44.17②	
Crude Death Rate (CDR) per 1000 population	14.96②	
Infant Mortality Rate (IMR) per 1000 live births	110②	
Maternal Mortality Rate (MMR) per 1000 live births		450-500
Life Expectancy at birth in years: Male	50.9②	50-55
Female	53.0②	
(Potential) Health Service coverage (%)	52.4	60
EPI coverage DPT_3 (%)	59.7	80
Fully Immunized (%)	38.41	
MCH coverage (%)	25.5	
CPR (%) for government institutions only	7.9	
TT_2 coverage (%): Pregnant women	28.8	
Non-pregnant women	9.35	
Antenatal care	25.5	
Assisted Deliver	7.83	
Post natal care	4.32	
Access to safe water (%)	32.0	
Urban	80.0	
Rural	24.0	
Access to Sanitation (%)	26.0	
Urban	71.0	
Rural	7.0	

①MOH, 1991 E.C. Health and Health Related Indicators. FDRE
②1987-1992 E.C.

CCRDA

Bibliography

1. Park K. Preventive and Social Medicne. 14th ed. 1994. M/s Banadsidas Bhanot Publishers, 1167. Prem Nagar, Jabalpur, 482 001, India.
2. Last M. John. Public Health and Human Ecology. 1987. Prentice-Hall International Editors.
3. Abramson, J.H. Survey Methods in Community Medicine, Epidemiological Studies Programme Evaluation Clinical Trials. 4th ed. 1990. Churchill Livingstone.
4. Corlien M. Varkevisser, Indra Pathmanathan and Ann Brownlee. Designing and Conducting Health Systems Research Projects. Health Systems Research Training Series, volume 2 Part I and II
5. Hennekens H. Charles and Buring E. Julie. Epidemiology in Medicine, 1st ed. Ninth Printing, 1987.

CCRDA

Supplementary Notes on Health Planning and Health Services Management

By :- Demeke Asefa

CCDA

1. Introduction to management

1.1. Why do we need to have knowledge and skills on some basic management principles?

Health has been a concern for human being since its appearance on this planet. Different attempts have been practised through generation to maintain it. During the last two centuries because of some change in the economic distribution (availability, distribution and production of resource of a given society), the inequality in terms of access, availability, affordability etc. to basic health services had become so unacceptable by all standards. Immediately after the 2nd world war, health has been declared as one of the basic human right and every one of us is entitled by this very right to have benefited from health care of an acceptable "standard' quality.

With this understanding, the world community committed itself to the achievement of a health status consistent with socially and economically productive life. It was recognised that health is not a commodity to be delivered but a quality of life to be cared. Primary health care (PHC)/CBHCS has been taken as the most practical approaches achieving the overall objective that make avail basic and essential health care for. To achieve this mission, there were and are still a number of problems that act as an obstacles. The major ones being, scarcity of resources in terms of monetary, human resource etc., poor infrastructure, slow economic development, rapid population growth, increase in the prevalence of preventable and controllable diseases etc. Therefore to address these issues, we need knowledge and skill of basic management principles. A sound management will enable us to utilize what we have efficiently and provide the maximum possible from the small resource we can afford. Therefore it is necessary to prioritize problems and make informed decisions

Management is becoming essential to the health sector since 1960's and 19 70's. Widespread concern with the implementation of PHC has highlighted the importance of management to support community based health activities. In the past PHC has suffered from a lack of adequate support services, highly centralized administrative structure, inadequate supervision, poor systems to manage and supply of resources such as funding, drugs etc; lack of appreciation of the implications of community participation, unrealistic expectations of community health workers and inadequate information systems for evaluation and control.

Good management will help to address the listed problems and benefits. In PHC/CBHCS management, it will result to do with improved health of the communities and frequently the most important resources of is that of the community itself.

Where there is effective community based health care (CBHC), communities themselves play a major part in identifying their own health needs, and organizing their own resources to meet their objectives. This co-ordination of efforts within the community through the activities of village health committees, community health workers, etc. forms the basis of a management system and infrastructure which is essential if effective PHC/CBHC is to be maintained.

CCRDA

1. Introduction to management

1.1. Why do we need to have knowledge and skills on some basic management principles?

Health has been a concern for human being since its appearance on this planet. Different attempts have been practised through generation to maintain it. During the last two centuries because of some change in the economic distribution (availability, distribution and production of resource of a given society), the inequality in terms of access, availability, affordability etc. to basic health services had become so unacceptable by all standards. Immediately after the 2nd world war, health has been declared as one of the basic human right and every one of us is entitled by this very right to have benefited from health care of an acceptable "standard' quality.

With this understanding, the world community committed itself to the achievement of a health status consistent with socially and economically productive life. It was recognised that health is not a commodity to be delivered but a quality of life to be cared. Primary health care (PHC)/CBHCS has been taken as the most practical approaches achieving the overall objective that make avail basic and essential health care for. To achieve this mission, there were and are still a number of problems that act as an obstacles. The major ones being, scarcity of resources in terms of monetary, human resource etc., poor infrastructure, slow economic development, rapid population growth, increase in the prevalence of preventable and controllable diseases etc. Therefore to address these issues, we need knowledge and skill of basic management principles. A sound management will enable us to utilize what we have efficiently and provide the maximum possible from the small resource we can afford. Therefore it is necessary to prioritize problems and make informed decisions

Management is becoming essential to the health sector since 1960's and 19 70's. Widespread concern with the implementation of PHC has highlighted the importance of management to support community based health activities. In the past PHC has suffered from a lack of adequate support services, highly centralized administrative structure, inadequate supervision, poor systems to manage and supply of resources such as funding, drugs etc; lack of appreciation of the implications of community participation, unrealistic expectations of community health workers and inadequate information systems for evaluation and control.

Good management will help to address the listed problems and benefits. In PHC/CBHCS management, it will result to do with improved health of the communities and frequently the most important resources of is that of the community itself.

Where there is effective community based health care (CBHC), communities themselves play a major part in identifying their own health needs, and organizing their own resources to meet their objectives. This co-ordination of efforts within the community through the activities of village health committees, community health workers, etc. forms the basis of a management system and infrastructure which is essential if effective PHC/CBHC is to be maintained.

CCRDA

2. Health and its relation with development

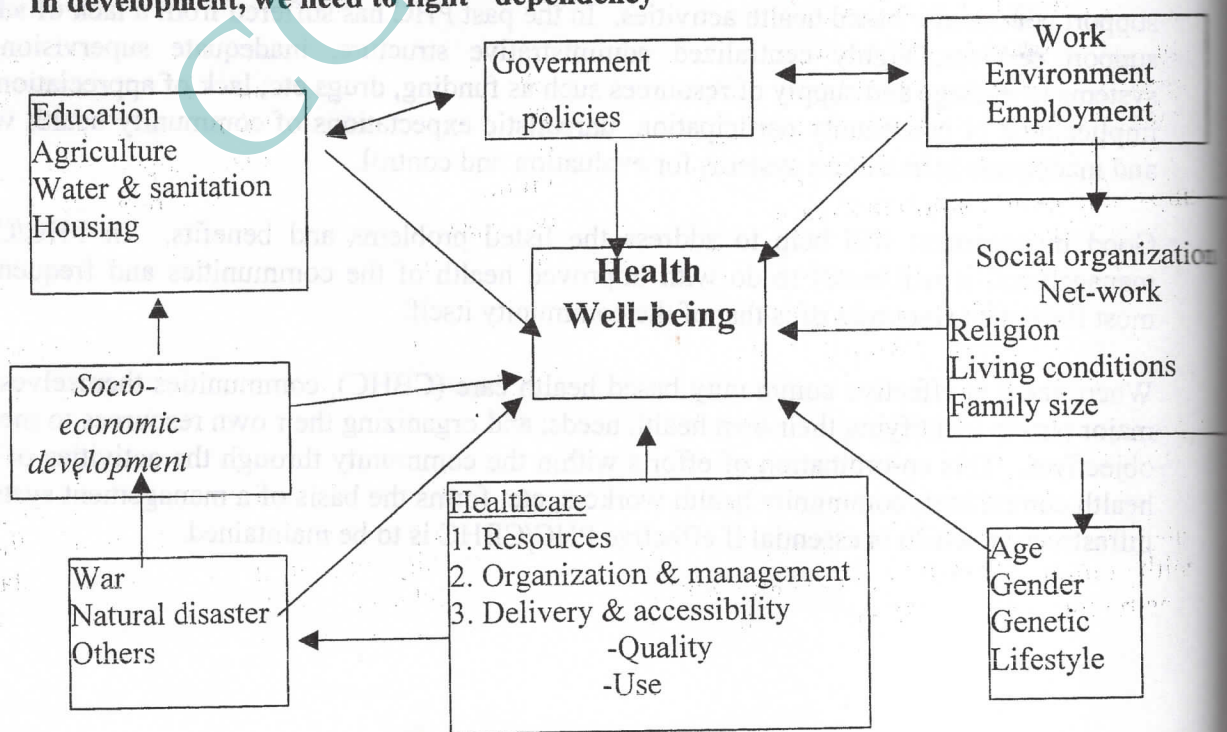
There are different parameters where by we estimate development of a given community or country. Some of these parameters include per-capita income, gross domestic product, gross national product, etc. In recent years, it is natural to understand that for people to produce and make an impact on the economic development of the society, they must be healthy. Health has been defined as ideally as a complete physical, social, spiritual and economical well-being and not the mere absence of disease and physical infirmity. This inevitably makes health as a means and a goal to development. This also entails the logical argument that health by no means be achieved by a single sector. Health of a particular community or an individual within the community could be affected by a multitude of factors, which as a whole called *determinants of health* (See fig.1). Since these factors exist with in the environment around us our ability to handle the physical (both natural and manmade) and the biological environment is crucial to health and hence to economic development.

Health and development are intertwined.

- Good health is essential for development and development is essential for good health
- Both health and development require change in knowledge, attitude and practice
- As a community develops, it takes over responsibility of its health
- When one is developed, one uses knowledge and practice to be healthy
- Most of the factors that affect the health of mother and child are the same factors that influence development. The measure of child and maternal health is therefore a measure of development.

Note: development involves a process of people's empowerment, enabling the voiceless majority to speak out and to change structures and systems that oppress them.

In development, we need to fight "dependency"



CCRDA

Fig. 1 Determinants of health

How do we mange these determinants of health?
Tackling of all those determinant factors of health does need an approach, which is tailored towards effective and efficient resources use through the application and employment of scientifically sound managerial skills.

3. Definition and principles of management

3.1. Definitions

Different individuals have defined management in many different ways. This may include:

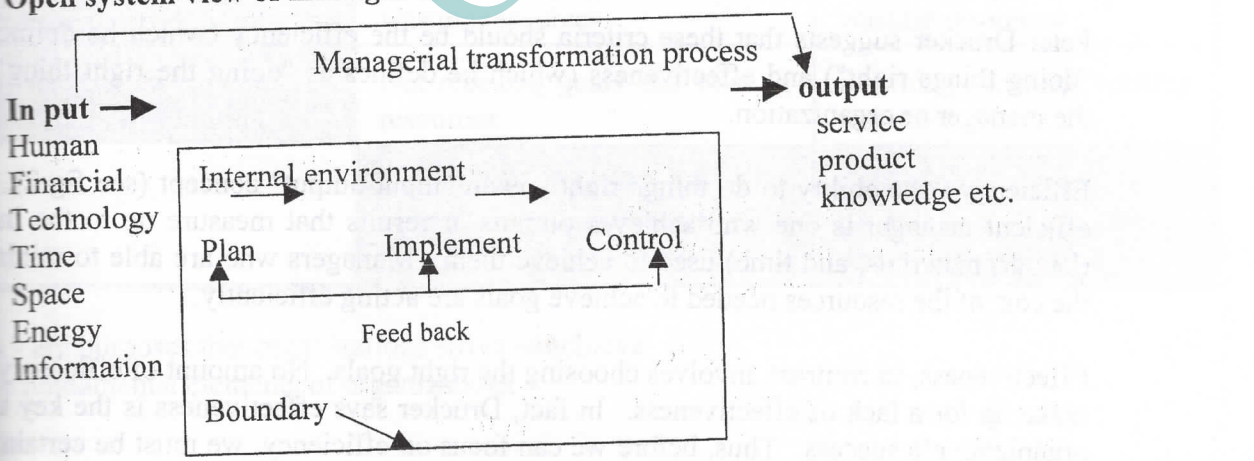
- It is getting things done through other people.
- It is efficient use of resources and to get people to work harmoniously together in order to achieve objectives.
- For the purpose of this training as most definition agree on some key aspects the following definition of management will be used:

Management is the process of planning, organizing, leading, and controlling the work of organization members and of using all available organizational resources to reach stated organizational goal/objecitves.

3.2 Management Vs Administration

Often used interchangeably. Administration is concerned with broad policy while management is concerned with execution of the policy

Open system view of management



CCRDA

3.3. Organizations and the Need for Managers

For most of our lives, we are members of one or several organizations. The goal or purpose of the organization may vary (a sports team tries to win a championship, a health facility to improve the health of the community), but without a goal no organization has a reason to exist. Without a plan, no organization is likely to be very effective.

> *An organization is two or more people who work together in a structured way to achieve a specific goal or set of goals.*

Organizations must acquire and allocate the resources necessary to achieve their goals. All organizations have managers responsible for helping them to achieve their goals. Though these leaders may be more obvious in some organizations than others, without effective management, the organization is likely to founder. Organizations are important because they are social institutions that reflect certain culturally accepted values and needs, and allow us to accomplish goals as a society.

By coordinating the efforts of different individuals, organizations enable us to reach goals that would otherwise be much harder or even impossible to achieve. Organizations make knowledge a continuous bridge with the past, present and future generations, and allow us to add to our knowledge by developing new and more efficient ways of doing things. Organizations can also provide their employees a source of livelihood and, depending on the style and effectiveness of their managers, perhaps even personal satisfaction and self-fulfillment.

If managers do their job well, the organization will probably achieve its goals. If a nation's major organizations achieve their goals, the nation as a whole is likely to prosper. Yet the criteria for measuring how well managers do their jobs - managerial performance - and how well organizations do their jobs - organizational performance are controversial.

Peter Drucker suggests that these criteria should be the efficiency (which he defines as "doing things right") and effectiveness (which he defines as "doing the right thing") of the manager or organization.

Efficiency - the ability to do things right - is an "input-output" concept (see fig 2). An efficient manager is one who achieves outputs or results that measure up to the inputs (labour, materials, and time) used to achieve them. Managers who are able to minimize the cost of the resources needed to achieve goals are acting efficiently.

Effectiveness, in contrast, involves choosing the right goals. No amount of efficiency can make up for a lack of effectiveness. In fact, Drucker says effectiveness is the key to an organization's success. Thus, before we can focus on efficiency, we must be certain that we have found the right things to do.

CCRDA

Organization:

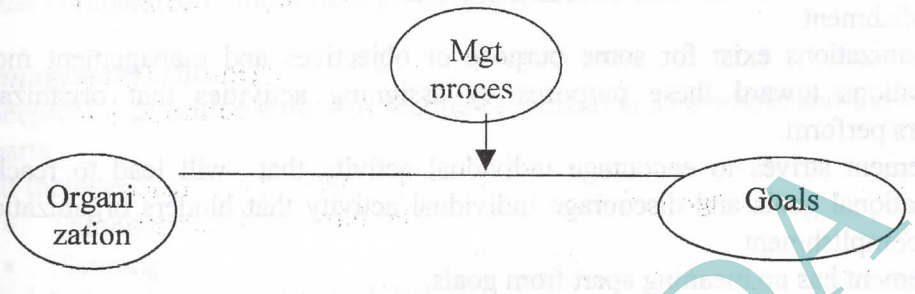
- must serve society
- accomplish objective
- provide career

Managerial effectiveness -is the end (goal) concerned how effective is the program goal achievement.

- measured by how closely organizations come to achieve their goals
- If the organizations are using their resources to attain their goals, then managers are said to be effective.

Managerial efficiency

Is the means b which the goal is attained (human, financial, material and other resources)



Means (resources)

Efficiency (end) effectiveness

Fig. Managerial feed back mechanism.

Compare efficiency and effectiveness with goal attainment in the table below.

Efficient (most resources contribute to production)	Not reaching goals and not wasting resources	Reaching goals and not wasting resources
Inefficient (few resources contribute to production	Not reaching goals and wasting resources	Reaching goals and wasting resources
	Ineffective (little progress towards organizational goals	**Effective (substantial progress toward organizational goals**

Goals: - are purposes that organizations strive to achieve

Are fundamental elements of organizations.

CCRDA

3.4. Organizational objectives

Organizational objectives are the targets towards which an open management system is directed.

Objectives should be SMART
S= Specific (to avoid different interpretation)
M= measurable (to allow monitoring and evaluation)
A= achievable
R= realistic (challenging and meaningful)
T= time bound.

3.5. Role of management

- Management entails reaching goals
- Essentially, the role of managers is to guide organizations/community towards goal accomplishment
- All organizations exist for some purpose or objectives and management moves organizations toward these purposes by assigning activities that organization members perform.
- Management strives to encourage individual activity that will lead to reaching organizational goals and discourage individual activity that hinders organizational goal accomplishment
- Management has no meaning apart from goals,
- Management must keep organizational goals clearly in mind at all times

3.6. Managers:

- are people for directing the efforts aimed at helping organizations achieving their goals
- are responsible for achieving organizational objectives through efficient and effective utilization of resources
- the goal or purpose of the organization may vary but without a goal no organization has a reason to exist.
- Without plan, no organization is likely to be very effective

3.7. Types of managers

A. By level

- a manger may be any one who is responsible for carrying out the main activities of a management.

Management level	**Primary management skill**	**Primary management function performed**
Top	Conceptual and human skills	Planning and organizing
Middle	*Balance of all three(human ,conceptual, technical)*	*Balance of all the four(planning, organizing, leading, controlling)*
First line/front line	Technical and human skill	Leading and controlling

CCRDA

3. By Range

A functional manager is one responsible for a single organizational activity, such as finance or human resource management. The people supervised by a functional manager are engaged in a common set of activities.

The general manager, on the other hand, oversees a complex unit, such as a company, a subsidiary, or an independent operating division. The general manager is responsible for a diverse collection of activities.

Managers at every level plan, organize, lead, and control. But they differ in the amount of time they devote to each of these activities. Some of these differences depend of the kind of organization for which the manger works. Managers of health centers or clinics, for example, may spend comparatively more time practicing medicine than do directors of large hospitals.

3.8. *Management skills*

1. Conceptual – cognitive ability to see the organization as a whole and the relationship among its parts.
   - It includes
     - Thinking
     - Planning
     - Information processing abilities
   - Coordination and integration of all parts
2. Human and communication skills
   - is the ability to work with and through other people and to work effectively as a group member.
   - Is the ability to :
     - Motivate
     - Facilitate
     - Coordinate
     - Lead
     - Communicate and
     - Resolve conflicts
   - a manager with human skill likes other people and liked by them
3. Technical skill and human skill
   - is the ability to understand of and proficiency in the performance of the tasks
   - it includes:
     - Mastering the methods and techniques etc.
     - specialized knowledge
     - analytical ability
     - and competent use of tools and
     - Techniques to solve problems in that specific discipline.

In summary

CCRDA

Level of position in the org. hierarchy	Type of Manager			Degree of authority and scope of responsibility and activity
High	Senior			Large
Middle	Middle			Medium
Low	First line			Small
	Technical - skills	**Conceptual and decision-making skills**	**human relations and communication skills**	

The degree or intensity for each varies depending on:

- Nature of the particular job
- Scope of responsibility
- Work activity
- Number and types and skills of subordinates reporting to the manager

Senior managers use conceptual skills to a large degree in performing their jobs than do the others. First-line managers tend to use technical skills more than the other two.

3.9. Roles of managers

- Managerial role is the behavioral pattern expected of someone within a functional unit
- All mangers have formal authority over their organizational units and derive status out of that
- status
- Henery Minzberg defined these roles as:
  - interpersonal
  - informational
  - decisions-making all as "organized sets of behavior"

Three routine interpersonal roles

a. **Figurehead** – performs ceremonial and symbolic duties such as greeting visitors, making speeches at organizational events, signing legal documents etc

b. **Leader role**- directs and motivates subordinates. Train, counsel and communicate with subordinate
   - managers are expected to be responsible and accountable for their subordinate's action as well as their own,

c. **Liaison role:**- maintain information links both inside and outside the organizations
   - Require mangers to work with every one inside or outside the organization who can help them to achieve organizational goals.

CCRDA

- All effective managers "play politics" in the sense that they develop net work.
- They can draw upon them relationships to win support for their proposals or decisions and gain cooperation in carrying our organizational activities

Three informational role":

a. **Monitor**- seek and receive information
   - Constantly looks for useful information both within and outside the organization
b. **Disseminator** - distributes information to subordinates to assure that they can carry out their duties.
   - For ward information to other organization members, send memos
c. **Spokesperson** - transmit information to people outside the work unit, keeping supervisors informed, or representing the organization in dealing with the external environment.
   -Managers receives and communicates information

The four decision-making roles

a. **Entrepreneur**- work to improve the work unit by integrating a new program or project.
   - Initiate improvement projects, identify new ideas, delegate idea responsibility to others.
b. **Disturbance handler**- detects problems and decides on and implements solutions.
   - Take corrective action during deputes or crises; resolve conflicts among subordinates.
c. **Resources allocater**- prioritize tasks and make decisions regarding the use of limited resources to meet conflicting needs and to achieve goals.
   - Decide who gets resources, budgets , set priorities.
d. **Negotiator**- represent department during negotiations and represent departmental interest.
   - resolves dispute within the organization and negotiate agreement with outside organization
   - it is good to be a good negotiator even in day to day life and with in the family.

To a great extent, effective managers are made, and not born. Management skills can be learned by people of all backgrounds. However, J. Sterling Livingstone suggests that successful managers tend to share the following three qualities:

1. ***The need to manage.*** Only people who want to affect the performance of others and derive satisfaction from doing this are likely to become effective managers.
2. ***The need for power***. Good managers have a healthy need to influence others. To do this, they rely on their superior knowledge and skills, rather than the authority of their positions.
3. ***The capacity for empathy***. Effective managers are also able to understand and cope with the *often unexpressed emotional reactions of others* in the organization in order to win their co-operation.

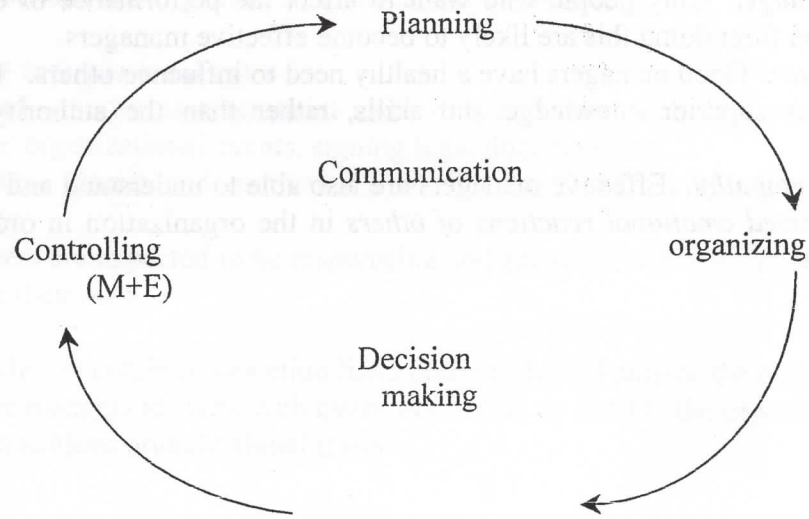
CCRDA

3.10. Management style

1. *Autocratic style*
   - managers tell employee what to do, how to do it
   - close supervision
   - leader make all decision
   - employee are with low ability and low motivation
   - employees are unwilling to perform without coercion (force)
2. *Consultative style*
   - employees are with low ability and high motivation
   - leaders make decision after consultation
   - leaders are supportive
3. *Participative/ democratic style*
   - decision made by the group, voting….
   - Employees are with high ability and high motivation
   - All members may contribute to discussion, etc.
4. Empowerment style
   - When interacting with these employees, merely let them know what needs to be done. Answering their questions but provide little, if any, direction. It is not necessary to oversee performance. These employees are highly motivated and need little support. Allow the employee to make his or her own decision.

3.11. Management Functions:

1. Planning- the process of setting objectives and determining in advance exactly how the objectives will be met
2. Organizing the process to delegating and coordinating tasks and resources to achieve objectives
3. Leading the process of influencing employees to work towards achieving objectives
4. Controlling the process of establishing and implementing mechanisms to ensure that objectives are achieved



CCRDA

Leading/directing

Fig 3. Functions of management

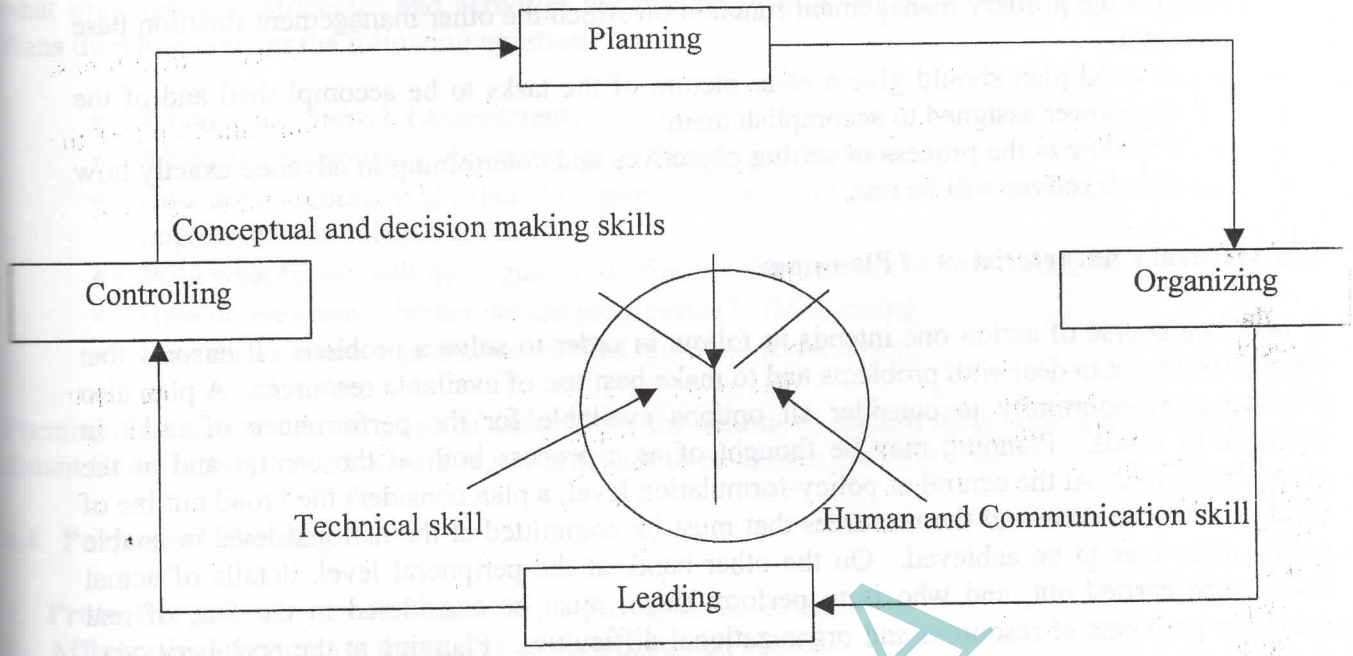


Fig 4.functions of management and skills of a manager

4. PLANNING:

4.1. What Is Planning And Why Plans?

Planning is: planning is the systematic development of action program aimed at reaching agreed objectives by the process of analyzing, evaluating and selecting among opportunities, which are seen. It is the process of determining how the organization can get where it wants to go.

- Choosing tasks (what?) that must be performed to attain organizational goals.
- Outlining how? When? Where? Why? Who? etc tasks must be performed
- Focuses on attaining goals
- Important for economic use of resources (scarce resources) at our disposal and is important as a basis for decision-making.
- Identify the constraints and make the choices among the various ways.

Planning is thinking ahead: **the future is uncertain and therefore assumptions exist in planning, depending on the information at hand. The longer the future time consideration is taken, the less likely is the precision.**

- It is technical managerial function that enables health services organizations to deal with the present and anticipate the future. It involves deciding
  - With what to do ---- resources
  - When to do
  - How to do it efficient implementation

ECRDA

Christian ... P.O.Box 5674

- Where are we going --------objectives
- What is expected at the end

- It is the starting point in the management process
- It is the primary management function on which the other management function base on it
- A good plan should give a clear picture of the tasks to be accomplished and of the manpower assigned to accomplish them.
- Planning is the process of setting objectives and determining in advance exactly how the objectives will be met.

4.2. General Characteristics of Planning:

A plan is a course of action one intends to follow in order to solve a problem. It ensures that objectives are set to deal with problems and to make best use of available resources. A plan also provides the opportunity to consider all options available for the performance of tasks in response to needs. Planning may be thought of as a process both at the central and at the peripheral levels. At the central or policy-formulation level, a plan considers the broad outline of what needs to be done and the resources that must be committed at the national level to enable policy objectives to be achieved. On the other hand, at the peripheral level, details of actual tasks to be carried out, and who is to perform them, must be considered in the face of real everyday problems of resources and organizational difficulties. Planning at the periphery, viz., at the district or community level, needs to be more pragmatic and less conceptual than at the national or regional level. Planning at the central and peripheral levels must not be considered as separate exercises because information obtained from the periphery is required for central planning. Similarly, national guidance and policy are also needed in peripheral planning. Planning based on needs identified at the periphery is sometimes referred to as "Bottom-up" approach planning.

In summary, planning has the following characteristics among the long list:

Characteristic of planning

- planing is looking into the future
- planning involves predetermined line of action
- planning discovers the best alternatives out of available many alternatives
- planning is a continuous process
- planning integrate various activities of organization
- planning is done for a specific period
- planning not only selects the objectives but also develops policies, programmes, and procedures to achieve the objective
- planning directs the member of the organization
- growth and prosperity of any organization depends on the planing
- planing is required by all levels of management

CCRDA

4.3. The planning process

Planning for the future allows you to take a close look at your organization (program), goals, what organizational strategies and activities are needed in order to achieve the desired goals. Plans therefore, answer the following questions:

- Where are we now? (Assessment)
- Where are we going? (Objectives, priorities, targets, decisions)
- How are we going to get there? (organization and management) (Strategies, efficient implementation method and activity)
- With what? (how will the organization finance the program) (Resources)
- How do we know whether we are progressing? (Monitoring)
- How do we know whether we reached there? (Evaluation)

Planning thus covers a wide range of tasks, from the setting of organization-wide goals for the distant future to the detailed scheduling of activities to be carried out next year.

4.4. Purpose of planning

1. **Protective purpose** - to minimize risk, reducing the uncertainty
2. **Affirmative** - to increase the degree of organizational success.
3. **Coordination** - to establish a coordinated effort with in the organization

4.5. Dimensions and Types of Planning

Types of plans can be based on the dimensions of plans

1. Repetitiveness dimension: describes the extent to which a plan is used time after time.
2. Time dimension: the length of time period the plan covers (long-term; intermediate term and short-term etc.)
   A. Short term (1-2) years ----- tactical planning
   B. Intermediate term (3-5)
   C. Long term plans (5-10 years)---------strategic planing
3. Scope dimension: describes the portion of the total management system at which the plan is aimed. A plan for the whole management system as a whole is often referred to as a master plan
4. Level dimension: indicates the level of the organization at which the plan is aimed (top, middle and lower level plans).

4.6. Conducting the SWOT Analysis.

Here you will conduct a **SWOT** analysis to identify and analyze the strengths and weaknesses of your organization or program, as well as the opportunities and threats revealed by the information you have gathered an the external environment.

CCRDA

Components of a SWOT analysis

	Positive	Negative
Internal	Strength	Weaknesses
External	Opportunities	Threats

Translating the environmental analysis into opportunities and threats.
As a second step in the SWOT analysis, you should look at the main points in the environmental analysis and identity those points that pose opportunities for the program and those that pose threats or obstacles to performance.

E.g.: A major new funder entering the program-**opportunity**
A major funder/donor/ with drawing-> **Threats**

SWOT-Analysis

Description	S	W	O	T	L
1. Program objectives					
2. Major activities					
3. Major achievements					
4. Problems and constraints					
5. Lessons learnt					

4.7. Steps in the planning process

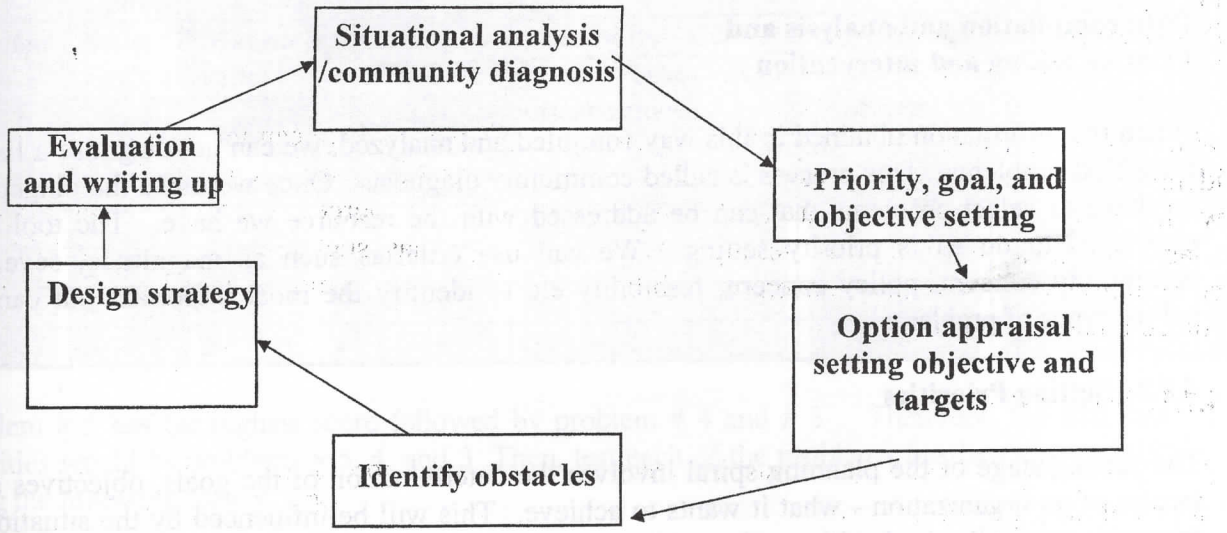
1. Situation analysis/community diagnosis
2. Analyzing and select critical (priority) problems
3. Setting objectives and targets
4. Identifying potential obstacles such as human and financial resources
5. Designing the strategy
6. Writing up the plan

OR

1. Setting organizational objectives
2. Listing alternative ways of reaching objectives
3. Developing premises upon which each alternative is based
4. Choosing the best alternative for vouching objectives
5. Developing plans to pursue the chosen alternatives
6. Putting the plan into action.

CCRDA

For the purpose of this course and comprehensiveness of the approach, we shall use the first one.



4.7.1 Situational Analysis /community diagnosis for PHC./CBHCS

An assessment of the present situation from various perspectives.
Firstly, it examines the current and projected health situation, the demographic pattern and present and future health needs.

Secondly, it looks at the general socio-economy and provision of non-health services and infrastructure of the health sector and the pattern, of services provided.

- Description of the health facilities and their utilization
- Organizational structure of the sector and its relationships

Lastly, it analyses the wider environment within which the health sector operates. This would include the political and policy environment.

The purpose is to provide a broad basis of understanding:

1. it provides a common reference point for the rest of the planning process
2. it allows the selection of priority areas of concern for planning.

Situational Analysis Outlines and assesses three broad areas:

COMMUNITY DIAGNOSIS

Community diagnosis: - is defined as the process of identification and detailed description of the most important health problems of a defined community. Community diagnosis must not be a diagnosis about a given community but diagnosis in the community with the community

METHODS OF COMMUNITY DIAGNOSIS

Methods of commodity diagnosis include:-

CCRDA

Discussion with the community and health workers
Review of health service records
Field survey
Data compilation and analysis and
Priority setting and intervention

When the information obtained in this way compiled and analyzed, we can get/diagnose a list of identified problems. This process is called community diagnosis. Once we make the diagnosis, we have to select problems that can be addressed with the resource we have. The tool that enable us to do so is priority setting. We can use criterias such as magnitude, severity, community concern, policy concern, feasibility etc to identify the most important but can be solved types of problems.

4.7.2. Setting Priorities

The second stage of the planning spiral involves the determination of the goals, objectives and targets of an organization - what it wants to achieve. This will be influenced by the situational analysis, especially the health needs and by the broad policy objectives of the organization or state.

Any realistic planning system must ensure that the priorities set are feasible within the social and political climate, and within the context of available resources. Clear criteria for the selection of these priority problems are needed. Such criteria are likely to include political feasibility.

One major function of the planning process is to determine major needs, to devise suitable programs for meeting them, and to allocate resources accordingly. There are not (and never will be) sufficient resources to meet all health needs. We need to decide which ones to meet- and which, therefore, to be addressed later on.
Economic development will not remove the need for priority setting, although the pattern may well alter. How such decisions are made has a major effect on the allocation itself.

Different approaches and priority setting mechanisms will lead to very different results. Techniques are never objective, nor neutral, not interchangeable.

- Need as perceived by the community and by the health professionals.
- Who is determining the need is clearly important.

While there are likely to be large areas of agreement between professionals and the community in their judgements of need, there will be some differences.

CCRDA

Problems rated on a scale of 0-5 score using criteria

	Criteria						
Problem No.	Seve-rity	Magni-tude	Community concern	Feasibility (cost, ease and, effectiveness)	Urgency of solving the problem	Government concern	To sco
1	1	1	1	1	0	1	5
2	1	1	1	0	0	0	3
3	2	1	3	5	1	2	14
4	4	5	5	4	3	1	22
5	5	5	4	5	5	4	28

Problem # 5 has the highest score followed by problem # 4 and # 3 . Therefore, the first three priorities would be problems # 5, 4, and 3 .Then, test each of the problems for their changeability using the following matrix.

Matrix to test changeability of the prioritized problems

	Changeable	**less/not changeable**
Important	high priority	low priority except for demonstration
Less/not important	priority for an innovation	not considered as priority

4.7.3. Setting Objectives/Targets

- setting objectives should be SMART
- Objectives are desired endstake/outcome of a program

4.7.4. Identifying potential obstacles

During planning development, planners need to consider potential obstacles that may arise during planning process as well as during its implementation. Planners should think why objectives could not be achieved and should be able to list possible limitations and obstacles.

Identification of obstacles

Major obstacles could arise from

a. Resources
   - Human – lack of interest, shortage of skilled human resources etc.
   - Financial- no budget, etc.
   - Time- shortage
b. Environmental obstacles
   - Geographical obstacles
   - climate
   - Technological- electricity etc

After identification of potential obstacles we may group them as:

a. those obstacles that can be removed
b. those obstacles that can be modified
c. those obstacles that cannot be removed

CCRDA

4.7.5. Designing strategies and Option Appraisal and Evaluation of Options

This stage involves the generation and assessment of the various options for achieving each of the set objectives and targets. For any target there may be a number of ways of achieving it. Although it is worth while and productive at this stage to allow a wide variety of creative ideas to emerge, it is important that this set of options is quickly reduced to a reasonable short list. Options may be discarded at this stage by a recognition of their high resource implications, their political or social unacceptability, or their technical non-feasibility.

Each of the remaining short list of options is looked in turn, and is assessed in three ways:

1. the impact of each option is examined to see its effect on the health target set.
2. the resource implications will be examined, both to look at the efficiency with which each alternative could meet the targets (cost-effectiveness) and to determine whether overall the option can be afforded, given resource constraints.
3. the feasibility of each approach will be examined to see whether there are other barriers to its success (such as technical or political constraints).

Option appraisal is the process of deciding between alternative approaches to reach an objective. It is carried out prior to the implementation of an activity.

Evaluation refers to the process of assessing an activity while it is being carried out or on its completion. Many of the questions asked and the approaches followed are similar in each.
Having set broad objectives, the next stage in the planning process involves deciding how these objectives are to be met. This is done through assessing the range of available alternatives, known as option appraisal.

Economic appraisal techniques are regarded by many planners as one of the particular contributions that economics can make at the option-appraisal stage.
The parameters behind an economic appraisal framework are those of scarcity of resources (the cost side) and competing needs (the benefit side). These are entirely consistent with the basis of planning. However, economic appraisal deals with only some of the aspects of decision-making. Many appraisals continue to remain narrowly economic, and fail to allow for other perspectives.

1.8. Indication of poor planning

a) Objective not met or work not done on time
b) Crisis:- pushing through rush jobs
c) Idle resources
   -Physical, financial or human resources kept waiting to the manpower to assign tasks
d) Lack of resources
   -Necessary resources not available when
e) Duplication:
   -the same task being done more then once.

CCRDA

5. Organizing

- Assigning the tasks developed during planning to various individuals or groups with in the organization
- it creates a mechanism to put plans into action
- it is the process of delegating and coordinating tasks and resources to achieve objectives
- the management function that establishes relationships between activities and authority

5.1. Benefit of Organizing

1. Clarify the work environment
   (every one understands what to do)

2. Creates a coordinated environment
   (confusion is minimized and obstacles to performance are removed)

3. Achieves the principles of unity of direction
   (the establishment of one authority figure for each designated task of the organization)
   - the person will have the authority to coordinate all plans concerning that task.

4. Establishes the chain of command
   (unbroken line of reporting relationships from the bottom to the top of the organization)

5.2. Five-steps organizing process

1. Reviewing plans and goals
2. Determining work-activities
3. Classifying and grouping activities
4. Assigning work and delegating authority/stating
5. Designing a hierarchy of relationships

N.B

2) **Determining work activity**
   - Specialization of labor or division of labor- it breaks a potential complex job down into simpler tasks or activities
   - Has advantage and disadvantage

3) **Classifying and Group Activities**
   - Departmentalization (the basic organizational format or departmental structure for the organ)
   - Functional departmentalization of finance, pharmacy .....
   - Geographical departmentalization
- territory

CCRDA

5. Designing and the hierarchy of relationship

- it is technical in nature and concerns:

a. establishing authority and responsibility
b. establishment of formal structure and reporting relationship
c. job design and methods
d. coordination
e. feed back system with in the organization
   - creates a mechanism to put plans into action

Organizational chart

Organizational design

- is the arrangement of positions into work unit/departments and the interrelationship among them with in the organization.
- It is illustrated through the organization chart and type of departmentalization.

Organization chart

- it is a graphic illustration of the organization's management hierarchy and departments and their working relationships.
- Each box represent a position with in the organization, and each line indicates the reporting relationships and the line of communication.

What can we read from the chart?

1. Hierarchy/authority
2. Area of responsibility (specialization)
3. Number of department – share of authority/delegation
4. Chain of command /line of communication (direction of flow of information)
5. Division of labor
6. Span of control/supervision- the number of employees reporting to a manager
7. Decentralization and centralization

What we cannot read from the chart

1. Human factor
2. Relationships among organization members (motivation, dissatisfaction, etc.)

N.B. Span of control-the number of subordinates under the direction of a manager

- could be wide or narrow
- As a general rule, the more complex a subordinate's job, the fewer subordinates with those jobs should report to a manager top managers, auditors

Note:

Organizing involves

1. Assigning tasks
2. Grouping tasks
3. Allocating resources (indirectly)

CCRDA

Leading/directing/influencing

Directing is a managerial function performed by top level offices of management. Whenever any decision is taken, it should be properly implemented. Managerial leadership may be defined as the process of directing and influencing the task-related activities of group members. It is the interpersonal aspect of managing by which subordinates are lead to understand and contribute effectively to the attainment of objectives.

Leadership means responding to the current needs of a group or organization in order to meet their needs. Leadership develops as a person becomes more sensitive to the needs of a group, and as he/she becomes more confident abut the response required to help the group in different situation.

Definition:- It is generally defined as influence, the art of process of influencing people so that they willingly performs towards the achievement of group goals.

Quality of leadership

1. Physical appearance and strength
2. Mental vigour
3. Sense of judgement
4. Emotional stability
5. Good will
6. Motivation
7. Communication skill
8. Guiding ability
9. Sociability
10. Technical knowledge

Types of leaders

1. Autocratic
2. Democratic
3. Consultative leadership
4. No particular leadership style is ideal. Different situations warrant different style.

Techniques of leadership

1. Securing co-operation
2. The use of power
3. Co-ordination
4. Discipline
5. Morale-the leaders should create confidence in the mind of his followers

Activities in directing

1. Leading/leadership
2. Motivation ---promotion, salary increment, transfer, reward etc.
3. working with groups/team work
4. Communication ---- upward, downward, horizontal…

If there in no communication, the organization loses its unity.

CCRDA

7. Monitoring and controlling

Monitoring may be defined as the ongoing collection and analysis of selected information
Its purpose may be it enables managers to determine whether key activities are carried out as planned and have expected effects on the target population.. It helps us to identify problems; take corrective action; measure achievements of targets; assess trends.

Evaluation is a periodic process which attempts to determine as systematically and objectively as possible the relevance, effectiveness, efficiency, and impacts of activities in the light of specific objectives. It is based on the identification of lessons to be learned in order to orient future planning and programming.

7.1. Control Processes

Control is:

- gathering information
- comparing actual results to expected results
- intervening to take constructive actions

The important components of control are:

1. standards
2. measurement
3. comparison
4. appraisal
5. intervention or change

7.3. Monitoring

Monitoring is concerned with work progress, staff performance and service achievement.
Monitoring may focus on different aspects of a service, program or project:

a) **Inputs** - are resources provided for an activity, and include cash supplies, personnel , equipment and training , etc.
b) **Processes** - transform inputs into outputs
c) **Outputs** - are the specific products, goods or services, that an activity is expected to deliver as a result of receiving the inputs.
d) **Effectiveness** - a service is effective if it works, i.e., it delivers outputs in accordance with its objectives
e) **Efficiency** - a service is efficient or cost-effective if effectiveness is achieved at the lowest practicable cost.
f) **Outcomes** - which generally refer to for example peoples' responses to a program and how they are doing things differently as a result of it
g) **Impacts** - which are the effect of the program /project on the people and their surroundings. These may be economic, social, organizational, health, environmental, technical or other intended or unintended results of the program/project. Impacts are long-term effects while outcomes are shorter-term effects relating to the objectives.

CCRDA

Output measures refer to outputs as far as possible and cover availability and accessibility of services; **Outcome measures** refer to utilization; and **impact measures** to the condition of the target in the area. Use examples to help them to distinguish the differences among the terms Examples are given below:

Output - number of homes which have received ORT
Outcome - number of mothers correct by using ORT
Impact - reduction in deaths due to diarrhoeal dehydration

7.4. The purposes of monitoring:

1. Monitoring of **inputs** insures that:
- Work progresses according to schedule
- Staffs are available (in accordance with assignments)
- Resource consumption and costs are within planned limits
- The required information is available
- Community groups or individuals are mobilized as expected

2. Monitoring of **process** insures that:
- The expected functions, activities and tasks are performed in accordance with set norms/standards
- Work standards are met
- Meetings are held as planned
- Training is conducted as scheduled
- Communications take place as necessary

3. Monitoring of **outputs** insures that:
- Products/services meet specifications
- Services are delivered as planned
- Training results in new skills or higher level of skill
- Decisions are timely and appropriate
- Records are reliable and reports are issued
- Conflicts are resolved
- The community is satisfied

7.5. Health Programme Evaluation Principles

Purpose:
Is to improve health programmes and the health infrastructure for delivering them and to guide the allocation of resources in current and future programmes.

- Evaluation is a systematic way of learning from experience and using the reasons learned to improve current activities and promote better planning
- Evaluation is a continuous process. It is part of a broader managerial process.

CCRDA

- Responsibility for evaluation devolves on the individuals and groups who are responsible for the development and application of the managerial process at national, regional, district or lower (local) levels

For evaluation process we need indicators, i.e., variables which help to measure changes.
Criteria are also use, → standards by which actions are measured

- Evaluation has to be supported by valid, relevant and sensitive information.

7.6. Components of Evaluation

1. Relevance → the rationale for adopting health policies in terms of their response to social and economic policy
2. Adequacy → sufficient attention to programmes/activities
3. Progress → comparison of actual with scheduled activities identification of reasons for achievements or short comings with remedies.
4. Efficiency → the relationships between the results obtained from a health programme (activity) and the efforts expended in terms of human, financial and other resources
5. Effectiveness → the desired effect of a programme, service, institution or support activity in reducing a health problem. Measures the degree of attainment of the pre-determined objectives and targets of the health programme.
6. Impact → expression of the overall effect of a programme/service/

7.7. Frequency of Evaluation:

→ Results have to be summarized and reported on/at given times or specified intervals; e.g. quarterly, biannually, annual

When selecting indicators full account has to be taken of the extent to which they are:
Valid, reliable, sensitive and specific.
Validity: → the indicator actually measures what it is supposed to measure.
Reliability → even if the indicator is used by different people at different times and under different circumstance, the results will be the same.
Sensitivity → the indicator should be sensitive to changes in situation concerned.
Specificity → the indicator reflects changes only in the situate concerned.

7.8. Examples of indicators

1. Health policy indicators
   a. Political commitment
   b. Allocation of adequate resources
   c. Equity of distribution of resources
   d. Community involvement etc.
2. Social and Economic indicators
   a. Rate of population increase
   b. Gross national product (GNP)
   c. Income distribution
   d. Work availability
   e. Adult literacy rate etc.

CCRDA

3. Indicators of provision of health care availability
   a. Availability
   b. Physical accessibility
   c. Economic and cultural accessibility
   d. Utilization of services

4. Indicators of PHC coverage
   a. Availability of safe water supply
   b. Adequate sanitary facilities
   c. Access of mothers and children to health care
   d. Availability of essential drugs etc.

5. Health status indicators
   a. Percentage of new-born with birth wt. ≥ 2500 gm
   b. Percentage of children with wt for age that corresponds to norms
   c. Infant mortality rate
   d. Child mortality rate
   e. Morbidity rate etc.

7.9. What is the relationship between monitoring and evaluation?

Monitoring is an ongoing and continuos activity of routine information gathering which can readily available for periodic assessment which in evaluation.

Monitoring may focus on different aspects of a program or project:

A. Input are resources provided for an activity, and include cash, supplies, personnel, equipment and training
B. Coverage what dimension of target are we reaching (e.g. No of people actually reached by a service)
C. Process are organizational operations of a continuous and supporting nature (e.g. capacity building at the level of government services, or in community participation).
D. Outputs or outcomes are the specific products, goods or services, that an activity is expected to deliver as a result of receiving the inputs.

8. Health Coverage Assessment

Coverage is a measure of the extent to which a population entitled to a particular service, such as antenatal care, immunization, water and sanitation services etc, actually gets it. The goal of coverage analysis is to identify population groups (communities), or geographical areas that are undeserved, with a view to introducing appropriate remedial measures. Coverage analysis information, in conjunction with health indicators, finance, deployment of resources, can help pinpoint what change have to be introduced in these areas in order to meet the health needs of the community or the area.

Christian Relief ... sociation
P.O.Box 5674

Examples of health coverage assessment:-

- Percentage of mothers attending at least one consultation with trained health personnel during the antenatal period.
- Percentage of eligible children immunized against diphtheria, tetanus, measles etc.
- Percentage of population having safe water with in 15 minutes' walking distance.
- Percentage of population with sanitary facilities in the house or its immediate neighborhood.
- Percentage of population having a certain minimum number of contacts with health service /community health workers per year etc.

There is no simple and standard way to measure and compare health care. We can use access to and coverage of the service to estimate it

Access to health service/ health program may be estimated by calculating the proportion of the population /community with a reasonable reach. This includes

1. Distance (for example with 10 km radius from a health institution)
2. Time (for example with in one hour waking distance)
3. Costs (affordability of the service)
4. Type of service
5. Geographical location
6. Culture, etc.

Access to a health program / service with in a reasonable reach (distance) must be high priority for all planning for PHC. It must be accessible before we talk of use.

Coverage is a measure of the percentage of people or household in need of a health service /facility who actually receive it, for example the percentage of community members who use or owns safe water and sanitary facilities. To estimate coverage, it is most important that members of the managing team to use and interpret health indicators that may be available somewhere. The most important step is to have reliable information on the expected number of people, events or attendance in the area /community and then to calculate the actual coverage of the area is achieving. This rates/indicators can be used to express coverage & compare with other known data for example national value. The achievement of a high coverage for the services and programs is the single most important managerial objectives for people responsible. By estimating coverage, we can analyze the present situation and obtain a measure of how well it is meeting the operational targets that were established at the beginning of the programs.

CCRDA

Bibliography

1. On being in charge, WHO, 1992
2. Principles of management T. Ramasamy 1999
3. Diseases of children in the subtropics and Tropics by stanfield 1992
4. Management Plunkett 1997
5. Supplementary notes on management by Fekadu 1998
6. Health quality assessment and assurance WHO 1982
7. PHC indicators 1982 WHO

CCRDA