UNIT 30 MONITORING AND EVALUATION IN MCH

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30.0 OBJECTIVES

After going through this unit, you should be able to:

define the management information system for MCH services and list the steps to design it;

assess the health gaps by analysing the existing information available (Secondary Data);

use the information to improve programme planning and its of MCH care; and

monitor and evaluate MCH Programme to improve the quality of services and management of the programme.

30.1 INTRODUCTION

In this unit, you will learn about identifying information needs, setting priorities, and determining information, the adequacy for planning and monitoring of MCH services.

There has been a gradual movement in recent years towards decentralizing primary health care management, to local stake holders at the community level. Health managers are being given specific goals and are being held accountable for achieving them. While Primary Health Care is Ist contact care at the grassroot; the primary Health Centre is the formal grassroot organization for health. The primary health centres are inundated with demand for data including the data generated at the grass-root level. The data thus generated at multiple sources must be processed into relevant information needed for decision making in planning and management. However, there is a major problem in arranging such an exchange, information overload and lack of use of generated data.

Therefore, the managers need to learn how to manage information and not get lost into a heap of irrelevant data. It envisages developing a system to collect, organise, process, store, act upon and disseminate the right type of information at the right time to the right person or place. In this unit you will learn about these aspects and issues.

30.2 MONITORING AND EVALUATION AS A MANAGERIAL TOOL

As you have learnt about monitoring is periodic collection and analysis of selected indicators to determine whether key activities are being carried out as planned and have expected effect on the target population. Its value lies in identifying deviations and problems, taking corrective actions, assessing trends in health status of the population covered and measuring target achievement.

30.2.1 Monitoring

A supervisor monitors by following methods:

Continually observing on core set of indicators through a checklist,

Tracking programme implementation,

Checking supplies against inventories and stocks list,

Examining records, and

Discussing with personnel and the community on a routine basis.

Short term monitoring is for a limited period to track new activities or processes and solve the relevant problems.

The purpose of monitoring is to maintain work standards and redirect activities. We should keep it straight forward and simple. It involves identifying key indicators, minimum data collection, timely feedback and usable report format.

30.2.2 Evaluation

Evaluation is use of empirical data to assess performance. It is a set of procedures to appraise a programme's merit and to provide information about progress towards its goals, activities, outcomes, impact and cost. In health sector, objectives of health care are complex and pose serious

measurement problems. However, to make evidence-based resource commitment decisions, one must evaluate programme to serve its objectives.

Evaluation is carried out for different reasons to:

judge the worth of ongoing programmes

estimate the usefulness of attempts to improve them

assess the utility of innovative programme and initiative

increase the effectiveness of programme management

meet various accountability requirements

Evaluation must point out the need for change and effectiveness of changes that have been implemented. It is closely tied to planning function. It determines the extent to which predetermined objectives are being met. Evaluation requires measurement of results in terms of specified measures of performance and their comparison with stated goals.

Since evaluation is primarily concerned with effectiveness of the achievement of results the following questions are asked:

Are the results as intended?

Are the results of value?

If the answer to one or both is negative, the decision will be to change the objectives or the activities or both, with regard to performance, evaluation puts following probes:

Are the results as good as they could be?

If not, why not?

If results are less than expected, the decision is to change the activities design, the deployment of staff or other resources. These decisions are taken on the basis of interim or midterm evaluation.

Finally, with regard to economic use of resources, evaluation could respond to the following questions:

Could the same results have been achieved with less resources?

If so, by which substitution of resources?

The general approach of evaluation in health management could be:

Measurement of progress towards planned objective(s)

Comparison with previously stated norms, standards or intended results

Judgement of the extent to which certain values are satisfied

Decision making.

Evaluation is finding out the value of what has been achieved. It is concerned with effectiveness. A good effectiveness indicator helps in making planning and implementation decisions. Evaluation of the causes of

success or failure deals with efficiency and that of causes of under achievement and focus on what matters most.

Evaluations are usually done on routine reports–to get erroneous/ misleading information e.g. Chudangapur village of South Orissa has 500 polio lame cases while the PHC report showed 106% OPV coverage. A single case of polio lame is an epidemic–what should be 500 cases called?

Thus a 30-cluster sampling method of survey is adopted for rapid evaluation of immunization programme. A 30-cluster sample is randomly selected with 95% confidence level ± 10% of the coverage in the target population.

Evaluation needs identification of input, process, output and impact indicators with cut-off points in absolute terms or percentage as it is a process to measure the output vis-à-vis impact, process vis-à-vis output, input vis-a-vis process and impact vis-à-vis inputs.

Example:

Number of doses of measles vaccine aministered

Proper cold chain maintained (as per check list)

Properly implemented immunization programme (as per check list)

Number of children aged 9 to 24 months immunized:

Is it 100% coverage?

If not, why?

What are weak links?

How to improve? Steps taken for improvement.

How to increase coverage in next session(s).

Reporting.

Evaluation process **must** identify **input, process, output** and **impact (effect)** indicators in following functions of management:

Planning

Personnel management

Training, Supervision, Strategy and Leadership

Financial Management

Logistic Management

Community organisation

Evaluation components must be developed for each item. One must itemise for services follow-up, “Routine”, “Short term” and “Long term” evaluation.

Evaluation without corrective steps is a futile exercise better not waste your time if:

There is no political will

No public demand

Not required by top-level managers

30.2.3 Surveillance

Surveillance is collection of information for immediate action while monitoring is continuous collection of relevant information. It is of four major types:

i) Active,

ii) Passive,

iii) Sentinel, and

iv) Epidemic.

Active surveillance is done through home visiting and passive is done on those who visit clinic. The sentinel surveillance is carried out by a designated centre(s) by compiling data from the area. The epidemic surveillance is done through tracking disease source and surveys.

30.2.4 Management Information System

You might be knowing that the information is of two types–**qualitative** and **quantitative.** Both types of informations are essential for Quality Management. You will also appreciate that the information provides overall preview of the programme, process, competency of the system, efficiency, evaluation process and community needs. It will also provide solutions to be undertaken for the future.

The Management Information System requires tools, channels, indicators, compilation, collation, analysis (meaningful), interpretation and reporting in right time. However, the data can only be collected properly if indicators have been chosen, formatting has been proper with Rapid Evaluation Method and data entry. Otherwise MIS will end up in "Garbage-in and Garbage out".

This process requires training of personnel in epidemiology and handling of data as well as use of computer and software packages. It is done manually at present at PHC level and district level but use of computers can facilitate the process.

30.3 MANAGEMENT INFORMATION SYSTEM IN MCH

Information is prized for its power to improve knowledge. In health organisations we have health statistics, programme statistics and performance data, which is converted into information to make informed decisions to improve the coverage and quality of health care services. It helps to optimize the utilization of resources particularly scarce ones. Often certain data is currently useful, some potentially useful and some useless. The identification, collection, classification, processing, communication,

interpretation, storage and retrieval of relevant data are important aspects of an information system. Information are of **two** types i.e, Qualitative and Quantitative. Most often statisticians handle data without proper insight to health. Thus a health manager needs to understand both : issues related to both statistics and health so as to get effective health services output. It is to be understood that statistics is a tool for health sector, thus it must not rule the health managers.

The purpose of any management information system (MIS) is to convert raw data into useful information that is conveniently handled by managers. The term system implies that entire information network and is inter-linked, based on the goals and needs of the implementors/managers/supervisors. Thus the information received has to be complete, accurate and timely so that decision is taken in the right direction.

30.3.1 Sources of Information

At present in India, major sources of information in health are:

Routine reports of programme

Researchers publications

Special survey reports

Registrar General of India reports like National family Health Surveys (NFHS) and census data

Private/NGO records and reports

Reviews

1) **Routine Reports:** Government of India supported national programmes generate monthly reports from the basic units, which in turn are collated at district, state and national levels. In some programmes (e.g. RCH), districts, directly send a copy of the monthly report to nodal person in the Ministry of Health and Family Welfare. Copies of RCH/ICDS/ All India Post Partum Programme (AIPPP) are appended for you to get acquainted.

2) **Researcher Publications:** These are initiatives undertaken and published by researchers all over the world about health, family welfare and MCH activities in scientific journals.

3) **Special Survey Reports:** These are periodical surveys. The most common for MCH is coverage evaluation surveys in universal immunization programme and now expanded under RCH programme. National Family Health Surveys, World Bank reports, India Population Project, Population Council and UNFPA studies, AFP cases surveillance and different WHO reports are some important and useful reports.

4) **Registrar General of India (RGI):** RGI is a very important source of information in the country. While census is unique in India and is done every 10 years, the annual reports of Sample Registration Scheme and Survey of Causes of Deaths (Rural) are very good sources of information.

5) **Private and NGO's Efforts:** There are large number of NGOs and private organisations who do surveys or secondary analysis done. These capture small population information relevant for local use.

6) **Reviews:** Reviews of national programmes like annual Common Review Missions of NHM, UIP, family welfare, leprosy, malaria, guinea worm is an established system in the country. Depending upon the involvement of experts these may be national or international. These reviews involve review of reports, records, field observations and interviews with staff at various level and sometimes include an independent coverage assessment.

30.3.2 Steps in Designing the MIS for a Health Programme

The system approach in MIS includes all aspects of information covered, analysed, interpreted and action planned. It involves the following steps:

Step 1: ***Preparation of a Check-list***

There is a need to develop a list of:

indicators to be monitored

resources available

access to health services

utilization of health services

coverage

service quality

outcomes

Step 2 : ***Identification of Source and Procedure for Collection of Information***

There is a need to know about:

Source of information for each indicator identified

Frequency of collection and compilation of information identified and monitored.

Local procedure to analyse and interpret for each indicator.

Mechanisms of communicating results established (feedback).

Step 3 : ***Identification of Information Needs***

For each service listed, identify most useful indicators for planning and monitoring. You will also determine whether your current information system provides adequate data for these indicators. This can be understood by the following example of newborn care and supervision.

Example : i) Health Service: Newborn Care

ii) Management Service: Supervision

Target	Inputs	Process	Outputs	Effects	Impacts
1. Newborn Care Services (NBC) - All newborns	- NBC Service - B.W. recording - Breastfeeding - Specialist service	- Birth weight recording - Initiating breast-feeding - Training of doctors/ nurses/ community level workers in NBC	- Every newborn weighed - Breast feeding initiated in 1-2 hrs. - High risk babies (HRB) identified - Trained manpower available	- Mothers/health workers understand essential NBC - Mothers identify high risk babies and seek care - HW's able to attend to HRB	NMR reduced - Breastfeeding initiated within 2 hours - HRB identified and special care given
2. Supervision TBAs Health workers Health facilities	- Supervisors Conveyance for field visit - NBC equipment	- Training of Supervisors - Procuring and supplying NBC equipment	- Supervisors trained - Equipment supplied	- TBAs/HWs supervised and empowered - Health facilities equipped	- All those attending newborns are acquainted with NBC

General Information needs	Availability at present	Specific Indicators	Priority
1) - No. of newborn	A	Total births in homes/institutions	M
- Proportion delivering at home/institution	A	Proportion of birth weight recorded	H
- No. of institutions with NBC facilities	NA	Proportion of High Risk Babies (HRB) referred	H
- Proportion in which BW recorded	A		
2) No. of TBAs/HWs/health facilities providing intranatal services	NA	Proportion of HRB identified as against expected	H
- No. of them equipped with relevant NBC equipment	A	No. of HWs/TBAs trained	M
- No. of them trained to identify HRBs	NA	No. of health facilities providing NBC	H
- No. recording birth weight	A		
- No. identifying HRBs and referring	NA		

Note: A = Available M = Medium

NA = Not available H = High

Step 4: ***Summarize the Information Needs***

If you assess more than one service, you will realize that a number of information needs are identified. Since it will not be feasible to meet all your needs at once, you will have to set priorities among them once again. The MCH programme management experience has shown that the most important data need usually occurs in four areas:

1) Effects : What functionaries know and do?

2) Outputs : How well MCH services are provided?

3) Inputs : The costs of services.

4) Impacts : Reduction of diseases/deaths/LBW etc.

Areas of secondary importance are:

1) Output : The quantity of services provided

2) Effects : Staff performance

3) Inputs : The quantity and quality of available resources like staff, supplies and equipment.

Check Your Progress 1

1. Enlist sources of information.

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2. Enlist four steps in designing of MIS.

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30.3.3 Role of MIS in Planning and Monitoring MCH Programme

An MCH or RCH programme manager whether in the government or private sector should assess the important information that he needs in planning and monitoring the programme.

You need information for two reasons:

i. to assess needs or existing problems i.e., **output :** e.g. vaccine coverage rate, birth rate, death rate, pregnancy rate are there and what are the priorities to be addressed.

ii. to determine the **impact** of your programme that is implemented– Is MMR/IMR improving? Impact is the ultimate goal of a programme otherwise only numbers or statistics are not enough.

Coverage is defined as the proportion of the target group that has received a service or is protected from a disease or health problem.

Following are the examples of MCH coverage indicators:

Service/Condition	Coverage Indicators
Antenatal care	Percentage of pregnant women registered before 16th week (ANC Registration Rate).
	Percentage of pregnant women who received two doses of tetanus toxoid (Maternal TT Coverage Rate).
	Percentage of pregnant women who received at least 100 tablets of Iron and Folic Acid (IFA) supplementation (Maternal IFA Rate).
Safe delivery	Percentage of institutional delivery (Maternal IFA Rate).
Clean delivery	Percentage of home deliveries used Disposable Delivery Kits (DDKs) (Domiciliary Safe Delivery Rate).
Exclusive breast feeding	Percentage of children-initiated breastfeeding within one hour of delivery (Exclusive Breast-Feeding Rate).
Immunization	Percentage of children in 12-23 months fully immunized or with measles as a proxy (Fully Immunized Acceptors Rate).

A good MIS should include indicators to monitor service inputs, process, output and effects on a routine basis. You will also take up periodic surveys to assess programme processes, effects and impacts. This can be better understood by an example of ARI.

Input Indicators

Number of health workers/health institutions which experienced shortage of cotrimoxazole tablets/second line of antibiotics/oxygen.

Process Indicators

Number or % of health staff trained, following schedule as per programme, making regular visits, using 5 cleans and identifying referred cases etc.

Output Indicators

i. Number or percentage of health workers/health institutions who counsel mothers on identification of signs of pneumonia.

ii. Number or percentage of health workers who correctly demonstrated how to manage cases of pneumonia at home and when to refer.

Effect Indicators

i. Number or % of mothers who know how to recognize pneumonia, attended institutional delivery, registered before 16 weeks, consumed 100 IFA tablets or protected against tetanus etc.

ii. Number or % of mothers who actually took the child with pneumonia to a health worker/health institution.

iii. Number or % of health workers who are practicing correct case management.

iv. Reduction in maternal mortality or infant mortality or mortality due to VPD etc.

Example of some Monitoring Indicators under the National Urban Health Mission (NUHM)

Indicators for monitoring of the National Urban Health Mission

Process indicators:

Number cities/population where Mission has been initiated

Number of City specific urban health plans developed and operationalised

Number of U-PHCs with outreach made operational

Number of Cities/population with all slums and facilities mapped

Number of Slum/ Cluster level Health and Sanitation Day

Number of MAS formed

Number of U-PHCs with Programme Managers

Number of ASHAs trained and functioning

Output level indicators:

Increase in OPD attendance

Increase in BPL referrals from U-PHCs/ referral availed

Increase in institutional deliveries as percentage of total deliveries

Increase in complete immunization among children < 12 months

Increase in case detection for malaria through blood examination

Increase in case detection of TB through identification of chest symptomatic

Increase in referral for sputum microscopy examination for TB

Increase in number of cases screened and treated for dental ailments

Increase in ANC check-up of pregnant women

Increased Tetanus toxoid (2nd dose) coverage among pregnant women

Strengthened civil registration system to achieve 100% registration of births and deaths

Impact level focus on urban poor:

Reduce IMR by 40% (in urban areas) – National Urban IMR down to 20 per 1000 live births by 2017

40% reduction in U5MR and IMR

Achieve universal immunization in all urban areas.

Reduce MMR by 50%

50% reduction in MMR (among urban population of the state/country)

100% ANC coverage (in urban areas)

Achieve universal access to reproductive health including 100% institutional delivery Achieve replacement level fertility (TFR 2.1)

Achieve all targets of Disease Control Programmes

Indicative norms for operationalisation of urban PHC

Accessibility

Preferably located near the slum to be served

Accessed by slum dwellers

Services

Medical care: OPD services: From 12 noon to 8 pm

Services as prescribed under RCH II

National Health Programmes

Collection and reporting of vital events and IDSP

Referral Services

Basic Laboratory Services

Counselling services

Services for Non Communicable Diseases

Social Mobilization and Community level activities

Basic Infrastructure

Consultation room, Dressing and treatment room, Medicine room

Medical equipments and instruments

Basic Staff

Indicative norms for operationalisation of urban CHC

As the partnership for the referral unit would be need based, empanelment criteria can be developed based upon the norms prescribed by the IPHS for hospitals. Some of the suggested criteria can be

Accessibility

The Hospital/ Nursing home to be easily accessible for the served population.

Willingness to provide services at the rates negotiated

Facilities :

As per IPHS norm for Hospitals locally adapted as per need

Round the clock availability of services

Availability of Specialties services for which the partnership is being entered. Some of them may be:

Obstetrics and Gynaecology

Paediatrics

General Surgery

Ophthalmology

ENT

Orthopedics

Dermatology

CVD

Endocrinology (Diabetes, Thyroid)

Mental Health

General Medicine

Dental

Any other based on epidemiological profile of the City

Diagnostic facilities: As per the requirement. Some of it can be:

Fully equipped laboratory for biochemistry, microbiology and hematology

X- Ray machine with minimum capacity of 60 MA

Ultra-Sonography

Any other based on epidemiological profile of the City

Check Your Progress 2

1. List two reasons for need of information.

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2. Define the term coverage.

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3. List three purposes of monitoring.

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4. Name three types of indicators.

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30.3.4 Evaluating Quality of Services and Management For MCH Care

Quality of Your MCH Services

You need to know the quality of MCH services provided in your institution/area. The information you need to gather is on how people are processed through your programme? How well are they treated by your staff? Are they given essential information for the clients to follow? Are medical education and counselling standards being adequately followed to concentrate on the service delivery process?

To know the quality of a given service, you need to enlist the various activities carried out under provision of that service and then see how many activities are accomplished under that service. This can be understood by following example of immunization:

A. Activity Assurance (Score)

a. Taking history

Asked about presence/level of fever	Y /N
Asked about cough/duration	Y /N
Asked about fits/epilepsy	Y /N

b. Physical check up

Took the temperature if reported having fever	Y /N

c. Immunization

Used one separate sterilized syringe	Y /N

Used one separate sterilized needle Y /N

Used vaccine vial on a ice-pack/vaccine carrier/bowl with ice Y /N

d. Vaccine transport/storage

Was vaccine carried in a vaccine carrier? Y /N

Was vaccine kept on an ice pack during the session? Y /N

e. Sterilization

Were syringes and needles autoclaved? Y /N

Were syringes and needles boiled for at least 20 minutes? Y /N

f. Cleaning the site of injection

Was spirit used to clean the site? Y /N

Was a wet swab used to clean the site? Y /N

g. Counselling

Was the parent told about post injection fever Y /N

Was informed when to come for next dose Y /N

Was told when to get back the child in the event of complication Y /N

B) Non-participatory Observation

This includes observing the worker / programme while they work. Check list can be prepared for each of the MCH services. The check list should include major steps in the service process, the essential supplies and equipment, and observing the worker while he is in work. Some times the observed person might be conscious of the observer and modify his work. The observer should try to avoid such occurrence.

The check list has to be used by supervisors to identify and resolve problems in the management system. The information can be corrected through interviews, document reviews, observations in field visit or by a review of more than two health facilities.

30.3.5 Existing MIS in MCH

The government run RCH programme generates primary data through health workers in the field and health institutions monthly. The information in the prescribed proforma is collated at PHC level. A monthly meeting on a fixed day of the month is the forum where the progress is reviewed, reasons for short comings assessed and feedback given. In the same meeting, plans for special activities if any, for the next month and replenishment of supplies taken care. Occasionally, update on programmatic knowledge is also provided. The PHCs and urban units reports are collated at the district level and reviewed monthly. A feedback, programme guideline and updates are also discussed. While a set of district data is sent to state level programme of officer, a copy of the same is also sent to national level nodal officer (Deputy Commissioner–MCH). The Urban Family Welfare (FP & MCH) and all India post partum report programme reports are also sent to state and GOI nodal officers. State and national level review meeting of the programme officers are conducted 3-4 times a year.

Private sector: The information on MCH services rendered in private and NGO sector is not either generated or collated at district or higher level. Individual organisations may have some information. A great lot of effort is needed to pool in this data. This effort may initially involve collection of information on acute polio cases, pneumonia, diarrhoeal cases and deaths due to these illnesses and immunization performance, ORS dispensing practices.

The limitations in the existing system as you by now captured can be summed up as:

1. Timeliness needs improvement
2. Completeness is in the range of 60-70% of expected at national/state (range being 30-100%).
3. Local analysis and feedback is lacking generally and where exists is informal.
4. Specific indicators are not being used for monitoring universally.
5. Corrective actions on the gaps identified in reported/surveyed information is taken in some cases, many times late and often end up with calling for an explanation. It is more a 'punitive action' and not 'supportive correction'.
6. There is also a need for the training of staff involved in collection, collation, analysis, interpretation of data and mechanism of feedback. Inculcation of use of data for local action calls for intensive training to interpret and find solutions for the problems.
7. Proper MIS for microplanning at the village level, under RCH programme, is not undertaken to the expectations.

Check Your Progress 3

1. Fill in the blanks:
   i) An information system is group of ..... .
   ii) Health service indicators monitor the ..... of a programme.
   iii) The cost analysis involves examination of ..... and.....
2. Name the factors which threat sustainability of a programme.

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3. Enlist the limitations of existing information system.

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30.3.6 Computers in MIS

The use of computers in MIS is increasingly becoming important, because of large volume of data needing quick processing and feedback. You must know what is a computer, what can it do for you, why should you bother to get one and their present use in National MCH Programme.

Understand Your Personal Computer

A computer is a data processing machine. The data is entered into the computer from the key board. This is stored either in the hard disk or floppys which is then processed following requisite instructions. Once data is processed, the output goes to the monitor screen and also may be sent to the printer. However, if it is not used properly (since it is a machine) it can be completely disastrous, as they say "Garbage in—Garbage out".

There are five key parts to a computer:

	Parts	Common Explanations	Functions
1.	Processor	The computer's brain	Executes instruction
2.	Memory	The workplace	Place where processing is done
3.	Input/output mechanism	The way computer talks/gives out data	Accepting/producing data
4.	Disk Storage	Filling cabinet	Where data is stored when it is being not used by memory
5.	Programmes	Instructional package	Instruct computer what to do

Understand what Computer can do for you

A computer can do the following for you:

1) Work with words (word processors)

2) Work with numbers (spread sheets)

3) Organise data (data bases)

4) Working with financial data (accounting programmes)

5) Communicate with other computers (communication programmes, networking, teleconferencing and web action)

6) Work with graphs and charts (graphic programmes)

7) Make you also relaxed with music, videoclipping, pictures and games (at the same time even when you work.)

Understand the Benefits of a Computer

Computers are powerful tools, and can do following for you:

1) Simplify and speed up complex tasks

2) Improve accuracy (e.g. calculation, spell checker etc.)

3) Easily and quickly update information

4) Eliminate/reduce repetitive tasks

In the MCH programme, the computers are being used in the public sector and government offices at national and state level. The District Collectors' offices in the country are also now having computer and through the National Informatic Centre (NIC), the district data is being linked to state/national headquarters. Under RCH and IPP programme, CMOs, State MCH Officers and MCH division in the Ministry of Health & Family Welfare are also using computers. However, the plan of linking these computers through LAN (Local Area Network) is in progress. The National Industrial Development Corporation is developing software for the use of RCH programme. This has become handy to produce districtwise/ statewise reports for programme management periodically.

Check Your Progress 4

1. Name the five parts of a computer.

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2. List the four advantages of use of computer in MCH programme.

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30.4 EVALUATION

30.4.1 Definition and Concept of Evaluation

Evaluation is defined as a "Process that attempts to determine as systematically and objectively as possible the relevance, effectiveness and impact of activities in the light of their objectives". It's 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. It is a continuous process aimed at rendering health activities more relevant, more efficiently and more effectively. It should be used constructively and not merely to identify inadequacies or to justify past actions. It has to be viewed and understood as a tool for decision making.

Need for Evaluation of Health Programmes

Evaluation has to be built into the programme management and has to be applied on a continuing basis throughout the planning and implementation of

programmes and the operation of services. In effect it is part of the 'planning cycle'. The ultimate test of evaluation should be perceptible change in the health status of the people measured by the impact of the plans, programmes and services. The evaluation of health care can be undertaken with different purposes or needs. The spiral below shows the different need or purpose of the evaluation in the process of management of health care delivery programme or projects.

30.4.2 Process of Evaluation

The process of evaluation consists of the following components as enlisted below:

a) Specifying the particular subject for evaluation

b) Ensure informative support

c) Verify relevance

d) Assess adequacy

e) Review progress

f) Assess efficiency

g) Assess effectiveness

h) Assess impact

i) Draw conclusions and formulate proposals for future action

The components of health programme evaluation described above are summarized in Fig.30.1.

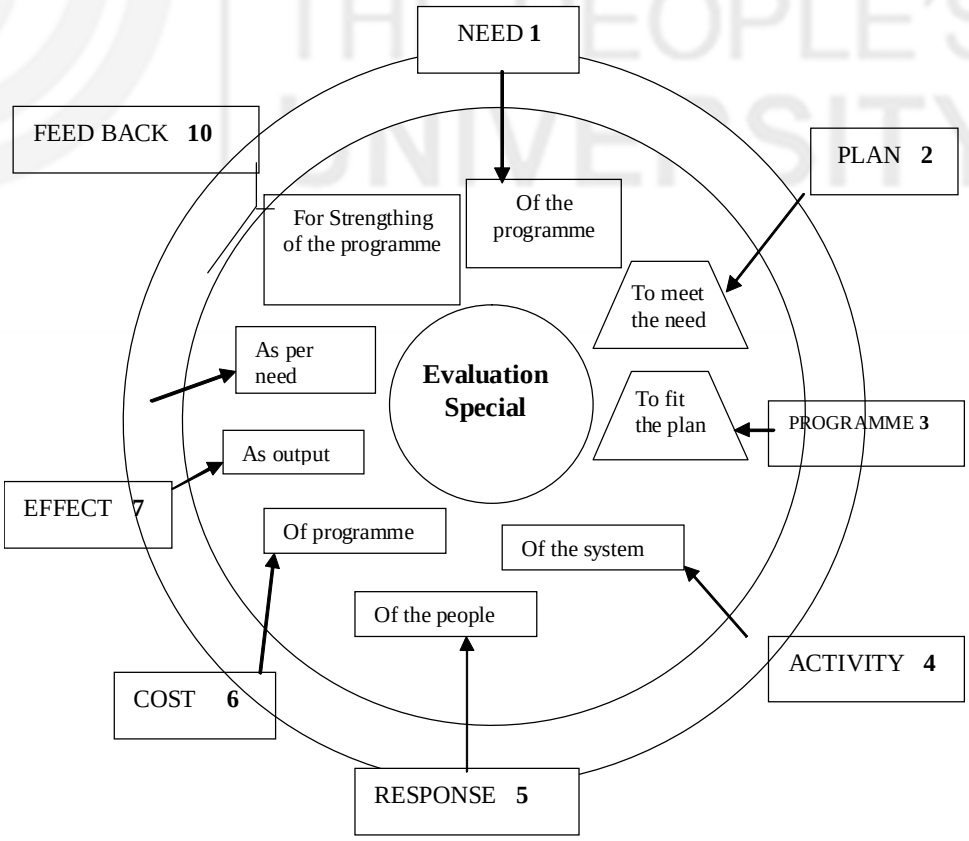

Fig.30.1 : Components of health care evaluation

Types of Evaluation

You have learnt about the process of evaluation. In this sub-section you will learn about various types of evaluation.

Different types of evaluation have been described and these reflect the different dimensions of the evaluation process.

Concurrent evaluation is evaluation undertaken from time to time during the implementation of the programme. The purpose of concurrent evaluation is to facilitate operational control and revision of ongoing activities to allow modification, if necessary, of the programme. The programme moves thus from '!Activities '! Evaluation '! Revision '!Activities '! Evaluation '! ..... Thus concurrent evaluation corresponds to a large extent to the process of monitoring.

Terminal evaluation is concerned with finding out the ultimate achievement of the programme in terms of its objectives fulfilled and the planned activities carried out. Concurrent evaluation and terminal evaluation can be compared as an analogy, to concurrent disinfection (disinfection procedures carried out during the course of illness) and terminal disinfection–(procedures undertaken at the time of termination of illness or shifting of patient). This is also caleld **end line evaluation.**

Sometimes the term **'pre evaluation'** is used to mean establishing a **baseline** at the beginning of a programme against which it measures the results.

Keeping in view the agency which undertakes evaluation, it may be internal or external.

Internal evaluation is undertaken by the programme manager himself; it is like the role of internal examiners in educational assessment. Though internal evaluation can span over all the components of the evaluation process, usually it is **limited to review of progress** i.e. a function of concurrent evaluation and to some extent assessment of efficiency and effectiveness.

External evaluation is conducted by an agency which is not concerned with the implementation. It does its work independent of the executing agency. **Effectiveness, efficiency and impact are better measured** by external evaluation as the conclusions drawn and judgement made are more valid and less prone to bias. External evaluation is comparable to the role of external examiners in educational assessment.

Evaluation may be approached from another dimension which could be:

Evaluation of structure and organisation: Such as resources, services, programmes and activities also.

Evaluation of the process: Like how does it work efficiently to address and solve the health problems e.g. output, satisfaction and impact evaluation.

Evaluation of the results.

These correspond to the appropriate components in the evaluation process referred to earlier.

Distinction between Evaluation and Monitoring

The term monitoring is used to mean continuous and periodic reviews of a programme or service. Monitoring is the day-to-day follow up of an activity during its implementation to ensure that operations are proceeding as planned and are on schedule. It keeps track of ongoing activities, milestones achieved, personnel matters, supplies and equipment and money spent in relation to budget allocated. Thus monitoring is facilitated by progress review at periodic intervals, as well as at the end of the programme. Such a progress review is evaluation. At the end of the evaluation a feed back is received. When action is taken on the feed back it is knows as surveillance.

Steps in the Process of Evaluation

The basic steps in undertaking an evaluation of any programme/organisation are:

Stating the objectives to be achieved.

Selecting the necessary indicators for the health activities.

Collecting the necessary epidemiological information.

Comparing the results achieved with the targets.

Judging the extent to which the targets have been met.

Reviewing the strategy and planning and make new plans.

Successful evaluation should meet the following requirements:

1. Establishment of definite objectives/targets which must be capable of definite measurement.
2. Unbiased assessment and proper randomization of samples, wherever necessary.
3. Independent appraisal, wherever possible.

The tools which are used for evaluation include observation, check lists and rating scales.

Check Your Progress 5

1. Evaluation can be defined as

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2) Enlist the components of evaluation process.

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30.4.3 Evaluation of MCH and FW Services

The indicators for MCH care management and MCH services could be classified under following aspects:

	Service Indicators	Management Indicators
Effects	Coverage	Services accessible and available.
	Knowledge and skill of the target population	Staff performance worker's knowledge, skill and behaviour Community satisfaction—quality of services
Outputs	Utilization of services Quality of care, Contacts, visits Access to service	Activities completed Frequency of management activities Quality of management activities
Input	Availability of personnel, supplies,	Trained personnel, supplies Information, guidelines etc. equipment and funds

30.4.4 Indicators Useful in the Evaluation of MCH and FW

Indicators are variables that help to measure changes. They are evaluation instruments which can measure change directly or indirectly. The indicators selected should be valid, reliable, sensitive and specific. A very large number of indicators exist. They can be categorized into groups relating to health policy, socioeconomic conditions, provision of health care and health status. The following are examples of indicators under each group in relation to MCH programme:

a) Health Policy Indicators

— Political commitment to health care of mothers and child health care

— Allocation of adequate resources

— Degree of distribution of resources

— Level of community participation

b) Social and Economic Indicators

— Population growth rate

— Gross national product and per capita income

— Unemployment rate

— Literacy rates

— Adequacy of housing and sanitation facilities

c) Indicators of the Provision of Health Care

— Availability

— Accessibility

— Acceptability

— Utilization

— Quality of care

d) Indicators of Coverage

— Births attended by trained personnel

— Percentage of infants/underfive immunized

— Accessibility to referral institutions

— Doctor: Population ratio

— Nurse: Population ratio

e) Health Status Indicators

— Percentage of newborns with low birth weight

— Infant mortality rate

— Underfive mortality rates

— Maternal mortality rates

— Disease specific morbidity/mortality rates

— Disability rates

You will observe that while indicators of health policy and provision of health care are useful mainly for assessing effectiveness, social and economic indicators and indicators of health status are useful in the final analysis to assess impact.

Interpretation of Indicators

An illustrative set of indicators for MCH and FW services along with the source and method of collection of the proposed information and its use are given here under in tabular form.

Category Immunization	Indicator	Source	Method	Use
Coverage	Percentage of children aged 12 to 23 months fully protected as per National Immunization schedule.	Household	Interview Record Observation	Review immunization strategy

Awareness	Proportion of Mothers knowing selected Information about immunization	Household	Interview	Design improved information education and communication strategies
Nutrition				
Birth Weight	Proportion of children with recorded Birth weights	Household Health	Record service	Improve weighing and recording practices, train birth attendants
Growth Monitoring	Proportion of children under 5 years having moderate to severe malnutrition	Household Community health Survey	Record Survey	Intensive Nutrition education activities
Maternal Services				
Tetanus immunization	Proportion of women of child bearing age who are protected by tetanus toxoid	Household	Interview Records	Design new immunization strategies
Referral	Proportion of high risk pregnant women referred to appropriate level	Household	Records Interview	Training in risk identification and referral
Family Planning				
Couple Protection	Percentage of eligible couples currently protected by any contraceptive method	Household and/or Health services	Interview Records	Improve education and motivation
Prevention of Locally Endemic Diseases				
Diarrhoeal disease ARI Prevention and Management	Proportion of families correctly managing the selected diseases, e.g. using ORS	Household Rehydration	Interview	Design improved preventive management

Having chosen the relevant indicators and measuring them in the process of evaluation, next step will be comparison and interpretation. The data collected have to be compared primarily with baseline data and also where appropriate with national and state health statistics and if possible with local statistics.

Evaluation of National Child Survival and Safe Motherhood Programme Using Coverage Evaluation Survey (CES) Technique

You know that the Government of India have launched the National Child Survival and Safe Motherhood Programme with the twin objectives of every mother to have a safe pregnancy and delivery and be assuring survival of every newborn.

UNICEF has helped Government of India in designing multi-indicator survey for CSSM services, which can:

give a true picture of the coverage with services.

cross-check results with routine reporting system.

identify areas with poor coverage.

determine whether preventive services are being given at the right age.

identify positive and negative factors affecting the programme and modify action plan accordingly.

identify the extent to which non-governmental agencies are participating in the programme to improve coordination.

The components of coverage surveys for CSSM Programme are:

i) Coverage of primary immunization of infants.

ii) Coverage with first and subsequent doses of vitamin A to be given in childhood.

iii) Correct case management at home level for children suffering from diarrhoea and acute respiratory infections.

iv) Coverage of all pregnant women with tetanus toxoid immunization and iron and folic acid supplementation.

v) Proportion of pregnant women delivered at institutions and/or attended by trained personnel.

vi) Coverage with services for timing, spacing and limiting births.

Done on periodic basis, the a Coverage Evaluation Survey (CES) will provide reliable information which can be used to make changes, if necessary.

Method of Conducting CES

In CES data need to be systematically collected on a random number of children and pregnant women. The assessment is done by people who did not provide the services. Cluster sampling technique is used which allows a small number of target population to be sampled and providing statistically valid data. Sampling design comprising of 30 clusters having at least 7 children (12-23 months) and 7 of infants mothers each will meet the following standards of reliability:

The survey data will have a level of accuracy of + or –10%

The level of confidence is 95%

The survey data reflect coverage of a period of one year prior to the date of survey.

The results reflect coverage in the area as a whole; comparisons between clusters are not valid.

The detailed steps for conducting a coverage survey to evaluate the CSSM Programme and the interpretation of the results of the survey have been described in the module “Evaluate Service Coverage” published by the Ministry of Health and Family Welfare, Govt. of India. You can learn more from the Counsellors in the contact sessions.

Check Your Progress 6

1. Categorise the indicators given below under one of the following health policy indicators: social and economic indicators, indicators of provision of health care, and health status indicators.

   i) Rate of use of oral rehydration therapy.

   ii) Percentage of deliveries by trained personnel.

   iii) Level of community participation.

   iv) 0-4 year child mortality rate.

2. Fill in the blanks :

   i) In CES, data will be valid only when the 30 clusters are .....selected.

   ii) The level of accuracy of CES data is.....

3. Enlist the steps of evaluation of a MCH/FW programme?

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4. Enlist three indicators used in CES for evaluating maternal care?

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30.5 LET US SUM UP

In this unit, you have learnt, how to assess the information needs for the management of various components of mother and child care service package. You have also learnt the needs of information for management services. In the spirit of assuming responsibility to achieve the MCH goals planned for the country, you need to successfully better, more timely and more useful management of information. As an MCH programme manager you need to list the health care services and management services components of the programme. Identifying information needs for each of the services, deciding on the indicators to be used and generating the same is a critical factor in the traditional management cycle of planning-doing-evaluating. Towards the end you have learnt about application of computers in MIS. The computer is a powerful and helpful equipment in processing the information generated to produce important output for the programme management.

In this unit you have also learnt that evaluation is an important link in the management of health programmes or services. It is conducted to know what has been achieved. The various components of the evaluation process attempt to determine in a systematic way the effectiveness and impact of activities in the light of their objectives. You have also learnt about concurrent evaluation, terminal evaluation, internal evaluation, external evaluation, evaluation of structure, evaluation of process and evaluation of results. Subsequently you have learnt about the basic steps in any evaluation process which are clear statement of objectives; selection of appropriate indicators; collection of necessary data; comparison of results with objectives/targets; conclusions and recommendations for modifications; and drawing lessons for future programmes. The clear definition of objectives and selection of relevant indicators are the key elements necessary for satisfactory evaluation. The indicators have to be interpreted with a professional approach and not treated as mere figures. Continuous evaluation of progress and evaluation of effectiveness and impact are essential for all MCH and FW programmes. The Coverage Evaluation Surveys have been adopted for such evaluation of the CSSM Programme. You have learnt the purpose of and the principles underlying the CES. It is essential that you as a programme manager realise the importance of evaluation in any endeavour. The 'culture' of evaluation should take roots for the success of our efforts towards Health for All.

30.7 KEY WORDS

Activity : A group of tasks with a common purpose

Cost : Resources expended in carrying out activities

Coverage : Proportion of an eligible population receiving a service

Effectiveness : A measure of the degree of attainment of predetermined objectives

Efficiency : A measure of how economicalIy resources are utilized to achieve predetermined objectives

Implementation : Putting a programme into action

Indicator : A measurable variable for indicating directly or indirectly changes in status, effectiveness, efficiency or work progress

Input : What goes into implementing an activity, i.e, people, information, resources, time

Objective : The planned or intended result of a programme or activity.

Output : The product of an activity a programme. In health field the output is a health care service (e.g. immunization)

Plan : A statement of goals, objectives and outputs and a

description of the courses of action and the resources necessary to achieve them

Programme : A set of interrelated activities; intime sequence, and a statement of resources required directed towards achieving a stated objective

Progress : Actual implementation compared with scheduled implementation

Reliability : The degree to which the results obtained by a measurement procedure can be replicated

Sensitivity : The indicator being sensitive to change in the (of an indicator) situation concerned

Specificity : The indicator reflecting changes only in the (of an indicator) situation concerned

Target : A statement of a measurable output related to a certain population and a certain time

30.8 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1. Routine reports and programmes

   Health management information system

   Special survey reports

   Registrar General of India Reports

   Private/NGO records and reports

   Reviews

2. Preparation of a checklist

   Identification of source and procedure for collection of information

   Identification of information needs

   Summarize the information needs

Check Your Progress 2

1. to assess the needs

   to determine the impact of a programme

2. Coverage is defined as the proportion of the target group that has received a service or is protected from a disese or health problem.

3. The purposes of monitoring are to:

   make sure that the services are provided as planned.

   know when something goes wrong so that one can fix it.

   get updated that targets are achieved and goal is reached.

4. Three types of indicators are:

   Input indicators

   Output indicators

   Effect indicators

Check Your Progress 3

1. i) indicators.

   ii) performance

   iii) costs, revenues.

2. Following factors are common threats to sustainability:

   Target group size, target group KAP, MCH service quality, supervisory and management support, organisational capacity, political commitment, personnel problems, supplies and logistics, environmental factors and expenditures.

3. Limitations of existing information system are:

   i) Untimeliness

   ii) Incompleteness

   iii) Local analysis and feedback is lacking generally and where exists is informal

   iv) Specific indicators are not being used for monitoring universally

   v) Corrective actions on the gaps identified in reported/surveyed information is taken in some cases, many times late and often end up with calling for an explanation. It is more a 'punitive action' and not 'supportive correction'.

Check Your Progress 4

1. Parts of a computer are:

   Processor

   Memory

   Input/Output mechanism

   Disk storage

   Programs

2. Advantages of use of computer are:

   Simplify and speed up complex tasks

   Improve accuracy

   Easily and quickly update information

   Eliminate/reduce repetitive tasks

Check Your Progress 5

1. process that attempts to determine as systematically and objectively as possible the relevance, effectiveness and impact of activities in the eight of their objectives.

2. Components of evaluation process are:

   Specifying the particular subject for evaluation

   Ensure informative support

   Verify relevance

   Assess adequacy

   Review progress

   Assess efficiency

   Assess effectiveness

   Assess impact

   Draw conclusions and formulate proposals for future action.

Check Your Progress 6

1. i) Indicator of provision of health care

   ii) Indicator of provision of health care

   iii) Health policy indicator

   iv) Health status indicator

2. i) Randomly

   ii) ± 10%.

3. Steps for evaluation of a programme are:

   lStatement of objectives

   Establishment of Baseline Data

   Measuring Coverage and Utilization of Services

   Evaluation of Utilization of Resources

   Evaluation of Activities and Attitudes of Staff and Public

   Measuring Effectiveness of a Programme

   Measuring Efficiency of a Programme

   Collection of Data

   Analysis of Data

   Preparation of Report

4. Proportion of pregnant women protected with 2 doses of TT

   Proportion of pregnant women receiving ante-natal care

   Proportion of pregnant women delivered at institutions and attended to by trained personnel.

30.8 FURTHER READINGS

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