

HEALTH INFORMATION SYSTEM

CHAPTER 1



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**Subject – Foundation of Health Information System
and
Information Technology**

HEALTH INFORMATION SYSTEM

System

A system is conveniently defined as “ any collection of components that work together to achieve a common objectives”

Information

Information is defined as “meaningful collection of facts or data

Health Information System (HIS)

It is a set of Components and procedures organized with the objective of Generating information which will improve health management decisions at all levels of health system

WHO – SEARO,2001

HIS integrates data collection, processing, reporting and use of information necessary for improving health services effectiveness and efficiency through better management at all level of health services

HEALTH INFORMATION SYSTEM CONT.

What is wrong with current health information system?

1. Irrelevance of the information gathered
2. Poor quality of data
3. Duplication and waste among parallel health information systems
4. Lack of timely reporting and feedback
5. Poor use of information

HEALTH INFORMATION SYSTEM STRUCTURE

Health Information System

organized set of interrelating components which can be grouped under two entities

- **The Information Process**
- **The Health Information System Management structure**

HEALTH INFORMATION SYSTEM STRUCTURE CONT.

The Information Process

Raw data (inputs) are transformed into information in a useable form for management decision making (outputs).

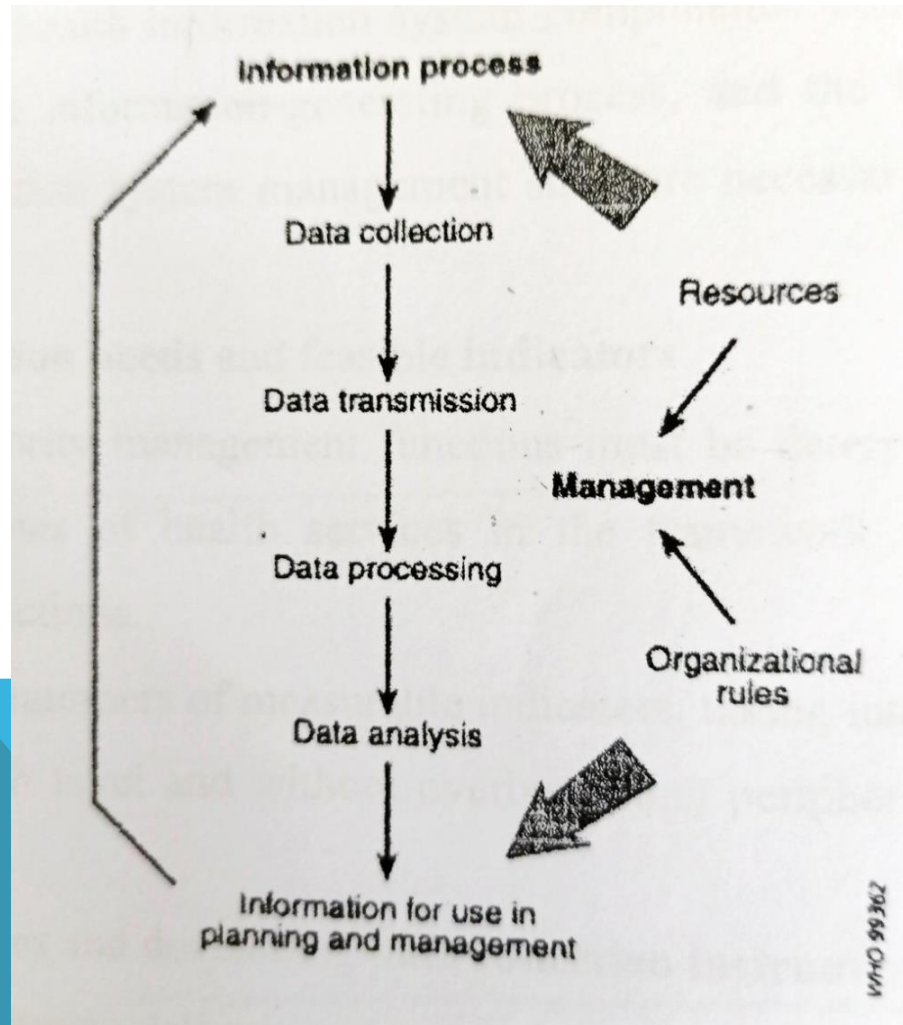
- Data Collection
- Data Transmission
- Data Processing
- Data Analysis
- Presentation of Information

For use in

“planning and managing the health services”

HEALTH INFORMATION SYSTEM STRUCTURE CONT.

Components of a health information system



HEALTH INFORMATION SYSTEM MANAGEMENT STRUCTURE

- Required to make the efficient information process
- Two Components

☐ Health Information Systems Resources

☐ A set of organization rules

HEALTH INFORMATION SYSTEM MANAGEMENT STRUCTURE CONT.

Health Information Systems Resources

- ☐ Persons (Managers, Statisticians, epidemiologists, data collectors)
- ☐ Hardware (Registers, telephones, computers)
- ☐ Software (data processing program)
- ☐ Financial resources

HEALTH INFORMATION SYSTEM MANAGEMENT STRUCTURE CONT.

Organization Rules

- ☐ Use of diagnostic and treatment standards
- ☐ Definition of staff responsibilities
- ☐ Supply management procedures
- ☐ Computer maintenance procedures

Ensure efficient use of health information system resources

Designing or Redesigning health information system will need to address
In both the information process and Management structure

Ultimate objectives – health information systems provide specific information support to the decision-making process within the health system at large

RESTRUCTURING HEALTH INFORMATION SYSTEM

- ❑ The **restructuring of health information systems** has become an **important trend** in the entire developing world since the adoption of primary health care as a global strategy for achieving the 'health for all' goals (Campbell 1997).
- ❑ Ever since, the **restructuring** or strengthening of **information systems** has been a learning process

RESTRUCTURING HEALTH INFORMATION SYSTEM

- ❑ The health information system restructuring process – can be broken down into **six steps**
- ❑ Four – **initial steps** (deal with the development of the information generating process)
- ❑ **The last two steps** involves (setting up the health information system management structure necessary to ensure generation and use of the information)

RESTRUCTURING HEALTH INFORMATION SYSTEM

Restructuring process (six steps)

- ☐ Identifying information needs and feasible indicators
- ☐ Defining data sources and developing data collection instruments
- ☐ Developing a data transmission and processing system
- ☐ Ensuring use of the information generated
- ☐ Planning for HIS resources like human, physical and financial ones.
- ☐ Developing a set of organizational rules for HIS management

RESTRUCTURING HEALTH INFORMATION SYSTEM CONT.

Step – 1 : Identifying information needs and feasible indicators

- **Clear set of priority management functions** must be determined by performing a functional analysis of health services in the framework of levels of care and management functions.
- **Select a limited numbers of measurable indicators**, taking into account the available resources at each level and without overburdening peripheral health workers with data collection.

RESTRUCTURING HEALTH INFORMATION SYSTEM CONT.

Step – 2 : Defining data sources and developing data collection instruments for each indicators

- **Most data for service delivery and resource management** – from routine HIS/Data for system management- from routine + NON routine HIS + other such as education.
- **Data collection instruments and procedures** – standardized, adapted to the technical skills of health workers and the diagnostic equipment available, appropriate for immediate use at peripheral level with minimal duplication.

RESTRUCTURING HEALTH INFORMATION SYSTEM CONT.

Step 3 : Developing a data transmission and processing system

- In line with the **established management channels of health services**
- **To promote** intensive **information exchange between communities and health service**, between different level of care, between different management functions.
- Generate information of acceptable quality for each management function and at all levels of care.
- Manual Vs Computer

RESTRUCTURING HEALTH INFORMATION SYSTEM CONT.

Step 4 : Ensuring use of the information generated

- To meet the ultimate objectives of HIS
- Relevance of health system needs
- Quality of data
- Appropriate feedback mechanisms
- Innovative approaches in data presentation
- **Create “information culture” among decision makers at different levels** (Quality information can help them to make informed can help them to make informed **decisions for patients, health units and health system management**)

RESTRUCTURING HEALTH INFORMATION SYSTEM CONT.

Step 5 : Planning for HIS resources like human, physical and financial ones.

Step 6 : Developing a set of organizational rules for HIS managements

- Provide intensive in-service training and supervision during the (early) implementation phase.
- Ensuring monitoring and evaluation as early as possible.

CONCLUSION

- HIS **restructuring does not necessarily** address all concentration levels or all management functions.
- The initial health information system assessment will **reveal the particular focus of restructuring**.
- Proposed health information system restructuring approach will assist system **developers in addressing the weakness of existing routine health information** in developing countries in at least three ways.

CONCLUSION

- First – adaptive to the information needs of health services at different strategic planning and operational levels, with particular consideration of care providers.
- Second – permits the development of health information system in support of the health services system in its entirety, rather than fragmented systems in support of separate disease-oriented vertical programs.
- Finally most important as a result of the improved information process and health information system management structure, more relevant and better quality information will be produced that is also more likely to be used in the decision-making process at all levels and for all management functions of the health system.

THANK YOU

