CHAPTER- FOUR

BASICS OF LOGISTICS INFORMATION SYSTEM

LEARNING OUTCOMES

At the end of this chapter participants will be able to:

- Describe overview of logistic management
- Identify the challenges in logistic management information system
- Define logistics management information system
- Demonstrate report generation in logistics management information system

Overview of Logistic Management

- **Logistics management:** Is part of the supply chain that **plans**, **implements** and **controls** the efficient, effective forward and reverse **flow** and **storage** of supply related information between the **point of origin** and the **point of consumption**.

- The supply chain not only includes the **manufacturer** and its **suppliers** but also **transporters**, **warehouses**, **retailers**, **service organizations** and **consumers**.

- **Supply chain management** encompasses the planning and management of all activities involved in **sourcing** and **procurement** and all logistics management activities.

Overview of logistics management

- Supply chain management integrates **supply** and **demand** management **within** and **across** companies.
- Supply chain management includes the **logistics activities** plus the **coordination** and **collaboration** of staff, levels and functions.
- A well-functioning supply chains benefit public health programs by
  - ✓ Increasing program impact
  - ✓ Enhancing quality of care
  - ✓ Improving cost effectiveness and efficiency

Logistics management information system (LMIS)

- **LMIS** is collecting, organizing and reporting logistic related data to enable managers to make **logistics decisions**.
- **LMIS** data elements includes:
  - ✓ Stock on hand,
  - ✓ Losses and adjustments,
  - ✓ Consumption,
  - ✓ Demand,
  - ✓ Issues,
  - ✓ Shipment status and
  - ✓ Information about the cost of commodities managed in the system

Purpose of LMIS

- The primary purpose of the LMIS is to ensure smooth supply chain management

- **The Six rights for LMIS data**:
  - The right data
  - At the right time
  - At the right place
  - In the right quantity
  - The right quality
  - At the right cost

Types of logistic records

- Three Types of Logistics Records

1. ***Stock keeping records:*** Holds information about products in storage.
2. ***Transaction records****:* Holds information about products being moved.
3. ***Consumption records*****:** Holds information about products being consumed or used.

Computerized logistics management information system

- Automation of **LMIS** can greatly facilitates supply chain managers by enabling faster collection, transmission and aggregation of data.
- eLMIS is a revolutionary and cost-effective system of data management that ensures greater commodity security and better health outcomes.
- Computers take the place of humans in aggregating logistics data performing calculations and producing reports and graphs for analysis.

Computerized logistics management information system

Benefits of computerized **over manual** LMIS:

- No mathematical errors
- Rapid aggregations and calculations
- Rapid production of reports and graphs
- A computerized LMIS also provides functionalities such as alert mechanisms to assisting decision making.

Basic Modules in eLMIS Registering and Tracking

The common module of LMIS includes:

- Record keeping
- Back-up
- Logistic data analysis
- Data importing, exporting,
- Reporting
- Information visualizing and others

eLMIS Operations

Operation of a computerized LMIS includes the following key tasks:

- Collecting, entering, and validating routine LMIS data.
- Distributing routine LMIS reports
- Identifying and reporting software defects
- Identifying improvements for the next version of the software

Challenges of LMIS

The main LMIS challenges in developing countries also include:

- Inadequate resources for structural, resource and organizational support
- Inadequate knowledge and skill on designing and implementation of LMIS
- Difficulty of measuring logistic related performance indicators
- The shortage of professionals
- Poor infrastructure
- eLMIS needs affordable, comprehensive, user friendly, flexible and reliable system to allow quick and easy data exchange between all its nodes

Reporting in LMIS

- Reports move information up and down through a logistics system
- A reporting system must be in place to ensure that this information flows correctly and consistently.
- A reporting system in a supply chain may include levels outside storage and distribution points.

➔ *For example, a District Health Office might not hold stock or be involved in the distribution of products but this office still needs to receive LMIS reports to ensure that facilities are stocked appropriately to determine if the District Health Office needs to invest additional funding and or resources into training, staffing, commodity quantities*

Reporting in LMIS

- Logistics managers use them for evidence-based decision-making and high-level managers may rely on them to implement policies affecting the national supply chain.
- Logistics management information system reports are first and foremost used for logistics transactions, particularly determining how much of each medicine, vaccine, reagent or consumable to supply to each facility to meet service delivery needs
- These data may flow at regular or irregular intervals often have to be evaluated longitudinally to make a resupply decision for a single period or event and are typically incorporated into transactional workflows.

Activity-4

1. Discuss common challenges and alternative solutions for Logistic Management Information System in Ethiopia.

2. Search and evaluate open-source Logistic Management Information System software for health care.

Thank You!