UNIT – III ESSENTIAL HEALTH CARE TECHNOLOGY PACKAGE (EHTP) 9

Introduction – Health care technology management – Package development: Methodology, Logical framework, Implementation, Information promotion and dissemination – EHTP Justification – EHTP matrix – EHTP advantages – Impact Analysis

PACKAGE DEVELOPMENT

METHODOLOGY:

The **EHTP** is a method and tool designed to make health care technology planning and management stronger and more efficient.

It is based on the idea that good health care can only happen if all the needed health care technologies — such as medical devices, medicines, skilled staff, and proper facilities — are available and well managed.

This means that every health care service, whether it is for **promoting health**, **preventing illness**, or **rehabilitating patients**, must have the right mix of:

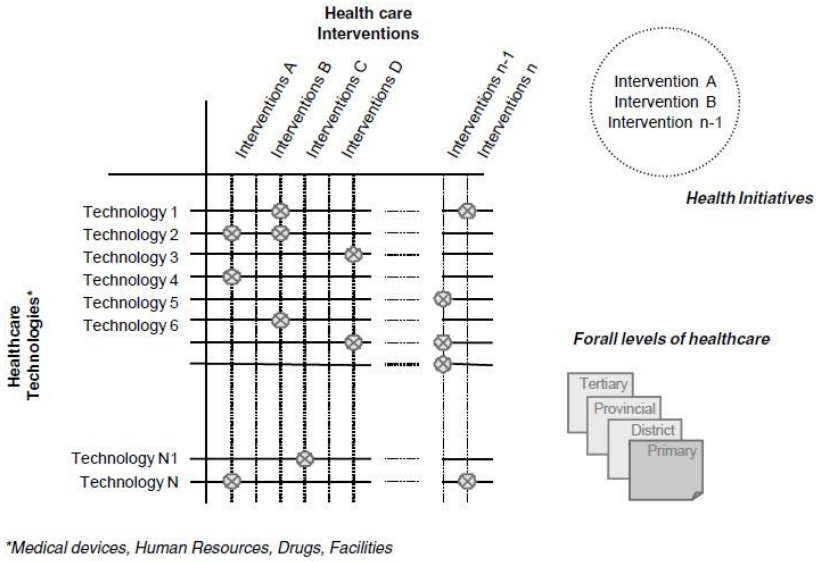
- **Medical devices** (e.g., equipment, instruments)
- **Medicines** (e.g., drugs, gases, anesthetics)
- **Human resources** (e.g., doctors, nurses, trained staff)
- **Physical infrastructure** (e.g., buildings, operating rooms, wards)

Example:
To perform a surgery you need:

- Surgical equipment and instruments (medical devices)
- Doctors and nurses (human resources)
- Medical gases and anesthetic drugs (medicines)
- An appropriate surgical room (physical infrastructure)

The exact combination and quantity of these technologies will depend on the skills and procedures used at each stage. Missing even one critical element can make the treatment less effective or impossible to carry out. Some simple health care activities, especially health promotion, may only need one or two of these elements.

The goal of the **EHTP** is to identify and measure the exact type and amount of health care technologies needed for all recognized health care services.



The **EHTP matrix** links:

- The type of health care intervention (promotive, preventive, rehabilitative) on Y- axis
- The matching technologies (devices, staff, facilities) on X- axis
- The level of health care delivery (primary, secondary, tertiary) on a third z-axis

This creates a **3D model** that helps planners and decision-makers compare and coordinate services, making it easier to design efficient, cost-effective health care packages.

The matrix is based on **current clinical practices**, so it must be adjusted for each country's needs. It does not set medical rules but provides a framework that can be adapted for better planning.

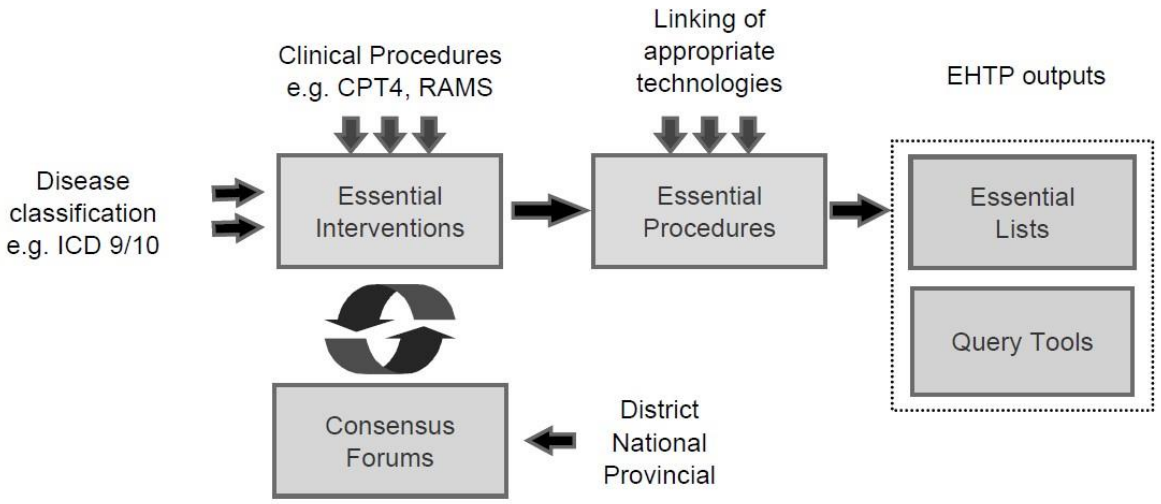
LOGICAL FRAMEWORK

The **EHTP logical framework** works by linking different medical information sources together. These sources include:

- **International Classification of Diseases (ICD)** database
- **Current Procedure Terminology (CPT)** database
- Medical equipment databases

- Human resources databases
- Facility databases
- Drug databases

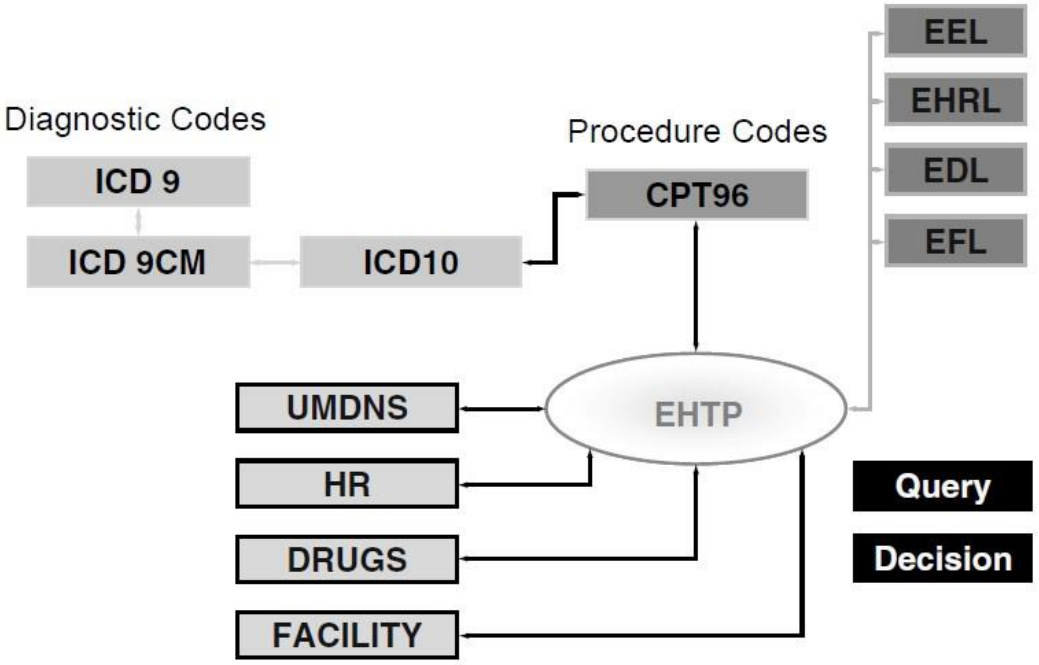
Because these databases are updated often, the **latest versions** of ICD and CPT are always included in the EHTP so that information stays current.



In the EHTP:

- The ICD and CPT databases are connected to each other.
- Three versions of ICD — **ICD-10, ICD-9, and ICD-CM** — are cross-referenced so that countries using any of these can still use the EHTP.
- There are **over 2,25,000 links** between ICD and CPT databases.

The health care technology databases (equipment, drugs, human resources, facilities) are then linked to the **procedures database**. This linking is guided by experts and medical societies, based on their knowledge and experience.



This creates the **EHTP template database**, which has:

- **Essential Equipment List (EEL)**
- **Essential Human Resource List (EHRL)**
- **Essential Drugs List (EDL)**
- **Essential Facility List (EFL)**

The EHTP package has **two main parts**:

1. **Generic Template** – the core database with all the links between diseases, procedures, and required technologies. Countries can modify this to fit their own needs.
2. **Simulation Tools** – software that uses the template to help health care planners test and plan health care technology interventions.

Simulation Tools

The simulation tools allow planners to:

- Do **economic analysis** of technology (cost of equipment, staff, drugs, and facilities).
- Check **clinical, epidemiological, and maintenance information**.

- Try out different **"what if" scenarios** (e.g., changing costs, staff availability, or equipment) without altering the main template database.

The template database can be **updated** whenever new versions of ICD, CPT, or other databases are released.

Special Modifications

The EHTP also includes classifications from special health initiatives:

- **Integrated Management of Child Illness (IMCI)**
- **Integrated Management of Pregnancy and Childbirth (IMPAC)**
- **Adult Lung Health Initiative (ALHI)**

These help because sometimes health interventions are carried out without identifying the exact disease, especially in smaller clinics and health centers.

How the Linking Process Works

1. **ICD Classification** is divided into:
    - **Category** (e.g., 000–099 for pregnancy and childbirth) o **Block** (subset, e.g., 080–084 for delivery) o **Sub-block** (more specific, e.g., 080 for single delivery by forceps)
    - **Intervention** (e.g., 080.1 for low forceps delivery)
2. An artificial step called **"Step"** is added to separate **diagnostic** procedures from **therapeutic** ones.
3. Each step is linked to **CPT codes** (e.g., 62278 for vaginal delivery only).
4. Each CPT code can have **multiple techniques** for performing the procedure.
5. Each technique is linked to the necessary **technologies**:
    - Medical devices o Drugs o Human resources
    - Facilities

For each technology, extra details are stored, such as:

- Life expectancy

- Training needed
- Complexity
- Importance for the procedure
- Maintenance requirements