

PH surveillance and screening

1. Surveillance → all forms of observation not just visual ones
2. Surveillance was restricted to PH practice to **watching contacts of serious communicable diseases**
3. Public health surveillance= epidemiologic surveillance → ongoing systematic collection, analysis and interpretation of outcome-specific data that is essential to planning and PH evaluation **and closely integrated with timely dissemination of these data to those who need to know**
4. Outcome-specific data :
 - Outcomes may include :
Injury , disability , risk factors , vector exposures and environmental hazards
 - Final link of surveillance chain is → **application of these data to prevent and control diseases and injury**
 - Surveillance is → information for action
 - Principle → **if you don't use it , then don't ask for it**
 - **It doesn't ensure the making of right decisions**
 - **It ↓ the chances of wrong decisions**
 - **Survey** → **one data collection episode**
 - **Registers** → **not for immediate action**
 - **HMIS (health management information systems)** → **annual reports**
 - **Surveillance** → **ongoing** collection of data
 - **Surveillance provides information for descriptive epidemiology** → (**who , where ,when**)
 - **Person**
 - **Place**
 - **Time**
 - **IMP differences :**
 - **Registers** → archival (not for immediate action)
 - **Surveillance** → dynamic
 - **Survey** → interplay between epidemiologic studies and control activities
 - **Surveillance not mere** → reporting / monitoring/data collection
 - **Continuous data collection Vs Periodic Data collection**
 - **Data collection :**
 - **C** → small team.
 - **P** → large team / multiple
 - **Data accessibility :**
 - **C** → slow
 - **P** → faster
 - **Data usefulness for trend analysis:**
 - **C** → ongoing results
 - **P** → only after 3 rounds of data collection
 - **Evaluation of Health intervention :**

- C → Continues
 - P → timing of collection not linked to intervention
 - Budget :
 - C → line item in health budget
 - P → one-off investment at each cycle.
- Health care isn't limited to medical care
- Health care surveillance part of PH surveillance
- Population of both Health care surveillance and public health surveillance differs :
 - PH → defined geographically
 - Health care → recipients of services / catchment population
- Goals and uses :
 - Detect outbreaks or epidemics
 - Estimates magnitude of morbidity and mortality
 - Facilitate planning
 - Stimulate epidemiologic research
- Objectives :
 - Early detection of outbreaks
 - Understanding risk factors
 - Estimates future disease impact
- Sources of data :
 - Vital records
 - Surveys
 - Environmental monitoring systems
 - Animal health data
- Types :
 - Active → Health department solicits reports
 - Passive → reports are initiated by source for data (known as **routine surveillance**)
 - Sentinel → for a specified health event in only sample of the population at risk
- **Surveillance of disease** → continuous scrutiny (التدقيق) in all aspects of occurrence and spread of the disease
- **Surveillance of person** → Continues scrutiny of disease contacts , high risk groups
- Levels of surveillance :
 - National
 - Periphery
 - Intermediate
 - Central
 - International
- **Reportable diseases** :
 - Vary from county to another
 - Changes over time
- Adding one single disease to the list cost :

- Money
- Time
- Avoidable confusions
- Report only confirmed cases
- Frequency of reporting:
 - Weekly
 - Monthly → less sensitive
 - Quarterly → at national level
 - Daily → required during emergencies and disasters .
- National notifiable disease surveillance :
 - Reporting mandated by : state law / regulation
- Diseases require monthly reporting :
 - DM
 - Malnutrition among children <5y
 - Injuries
 - Malaria
 - Epilepsy
 - Hypertension
- Objectives of secondary prevention : ↓ consequence of disease by screening asymptomatic patients //can't ↓ disease incidence
- Screening : testing of apparently healthy populations to identify previously undiagnosed diseases
- Screening :
 - Prescriptive → early detection of disease
 - Screening of Cervical ca, breast ca, hypertension
 - Prospective → protect community from a disease
 - Screening the blood units for HIV
- Screening program → comprehensive disease control activity (unrecognized disease/ unrecognized risk factor)
- Screening test → specific technology used for identifying ppl with unrecognized disease or unrecognized risk factor for disease
- Approaches :
 - Population level screening
 - Mammography screening(women +40)
 - Individual level screening (case finding)
 - BP screening
 - Focus is on identifying existing disease in a patients who don't know they have it
- Not all diseases are suitable for screening
- Iceberg phenomenon of disease(symptomatic → seen / asymptomatic → hidden)
- Screening vs Case finding
 - Screening :

- Test for disease in patients of average or low risk / asymptomatic population
 - Form of primary prevention
 - No diagnostic intent
 - Case finding :
 - Test for disease in patients relatively at high risk
 - Form of secondary prevention
 - Diagnostic intent
- Requirements of tests uses for screening:
 - **Valid** → accurate (measure correctly).
 - **Reliable** → precise , give consistent results
 - **Yield** → give enough number of cases
 - **Practical** → easily administered , acceptable, give fairly quick results
 - **Efficient** → amount of inputs should result in reasonable amount of outputs
- Principles of screening :
 - Choice of disease
 - Nature of screening test
 - Availability of a treatment
 - Relative costs of screening
- Types of screening :
 - Mass screening
 - Screening of the whole population or sub group
 - High risk / selective screening
 - Most effective → applied selectively to high risk group
 - Multiphasic screening
 - Application of two or more screening tests in combination to large # of people at one time
 - Procedure :
 - Health questionnaire
 - Clinical examination
- Ethics of medical care :
 - Basic ethical principles:
 - Autonomy
 - Non maleficence
 - Beneficence
 - Justice
- Screening test gives us info about whether the diary is likely to be present
- Examples :
 - Pap smear
 - BP and Cholesterol assessment
 - Pregnancy test used by women in home
- **When to screen ? When having opportunity to reduce cost and risk**

- Screening of health indicators that affect population principally **not for rare diseases**
- There should be sufficient time between biological onset of disease and appearance of symptoms .
- There should be available treatment for the disease
- Screening tests should be cheaper and less invasive than best available diagnostic tool
- Diagnostic and screening tests :
 - **Validity = accuracy** → likelihood that a test result will be correct
 - Components :
 - Sensitivity
 - Specificity
 - **Precision = repeatability = reliability** → repeated measures must give same results
- Ideal test :
 - High validity
 - High precision
- Organization→ act of directing people towards accomplishing a goal (**management and coordination**)
- Administration ✓
- Policy →.set of ideas or plans used as basis for making decisions
- Health policy: **public policies or authoritative decisions**
- Health policies affect : groups , classes of individuals ,.Organization
- Public policy Vs private policy
 - Public policies :
 - Established by federal , state and local levels of government
 - Authoritative decisions made by judicial branches of government
 - Private policies :
 - Established by private organizations
- Health policies :
 - **Principles that characterize distribution of resources, services , political influences that impact on the health of population**
- Components of policy cycle :
 - Issue rising.
 - Policy design
 - Public support buoy
 - Legislative decision making+ *policy support*
 - Legislative decision making+ *policy implementation*
- **Forms of health policies :**
 - Laws
 - Rules
 - Operational decisions

- Judicial decisions
- Macro policies
- **Public health concerns with health problems with national boundaries**
- **Individual health << family health <<community health**
- **Quality → carrying out interventions according to pre established standards and procedures .**
- **Dimensions of quality :**
 - **Safety , continuity , efficiency, effectiveness, amenities , access to survive , technical competence, interpersonal relations**
- **Components of high quality health care :**
 - **Safe , effective , patient centered , timely , efficient, equitable .**
- **Health care system → designed to meet health care needs of target populations**
- **Goals of health care system :**
 - **Good health**
 - **Responsiveness**
 - **Fair financial contribution**
 - **Efficient**
- **Elements of health care system (teaching and research activities , PH services , personal health care activities)**
- **Health care delivery system**
 - **3 major components:**
 - **Facilities**
 - **Practitioners**
 - **Entities → provides financial and regulatory functions for the facilities and practitioners**
- **Health care levels :**
 - **Primary → community level**
 - **Secondary → at PHC**
 - **Tertiary → at hospitals**
- **Health system in Jordan :**
 - **Stable political system→ identify and allocate responsibilities between private and public sectors**
 - **Government is responsible for →**
 - **Supervising**
 - **Monitoring**
 - **Enacting laws**
 - **Consists of :**
 - **Service providers**
 - **Councils and institutions working on development of health policy**
 - **Public sector**
 - **Private sector**

- International sector and charitable sectors → UNRWA clinics , king Hussein cancer center and charity association clinics
- Drawing the general policy for health sector in Jordan → **the higher health council**
- **Management** → operational part of administration
 - Interactive processes through which utilization of resources results in → accomplishment of organization objectives
 - Gathering and positioning of resources
 - Science and art
 - Management processes :
 - Planning
 - Implementation(organizing → staffing → leading → controlling)
 - Evaluation
- **Effectiveness** → the degree to which an objective is being achieved
- **Efficiency** → balanced use of resources
- **Administration** → achieving a **defined goal** at a **defined time and control of efforts of group of individuals** and **efficient utilization of non human resources** bearing in mind **adequacy, speed ,economy to utmost possible level**
- **Health administration is essential for the success of any public health program**
- **Levels of administration** :(from the base to the head)
 - Local level
 - Intermediate level
 - Central level
- **Elements of administration** :
 - Planning
 - Evaluation
 - Organization
 - Staffing
 - Directing
 - Reporting
 - Supervising
 - Coordinating