



Terminology in public health



Dr. Salwa A. Tayel & Dr. Ibrahim Gossady
Department of Family & Community medicine

OBJECTIVES OF THE LECTURE



By the end of this lecture students will be able to:

- Explain common definitions and terminology used in public health
- Apply these definitions in different situations.

HEALTH



Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. (WHO 1948)

Final scope of health is the ability to lead a "socially and economically productive life".

Many sectors (health, education, agriculture, police) need to work together to help achieve well being which cannot be achieved with health services only.

Disease, Illness, sickness



- **Disease** - refers to abnormal medically defined changes in the structure or functioning of the human body.
- **Illness** – refers to the individual's experience or subjective perception of lack of physical and/or mental well-being
- **Sickness** – refers about consequences to function normally in social roles

MORBIDITY



Any departure, subjective or objective, from a state of physiological or psychological well-being.

In contrast to the words 'disease', 'illness' and 'health problem', the word morbidity is used in a 'collective' way to describe the overall situation in a community/country about prevalent health issues affecting various population groups.

Epidemiology



Epidemiology is often described as the *basic science* of public health.

Epi: on or upon *Demos: people or population*

Logos: study of

*Epidemiology is the study of the **distribution** and **determinants** of health-related states or events in specified **populations**, and the application of this study to the control of health problems*

(Last JM, editor. Dictionary of epidemiology. 4th ed. New York: Oxford University Press; 2001. p. 61.)

POPULATION/COMMUNITY



- **POPULATION/COMMUNITY:** A specific group of people, often living in a defined geographical area, who share a common culture, values and norms, are arranged in a social structure according to relationships which the community has developed over a period of time.

DISTRIBUTION



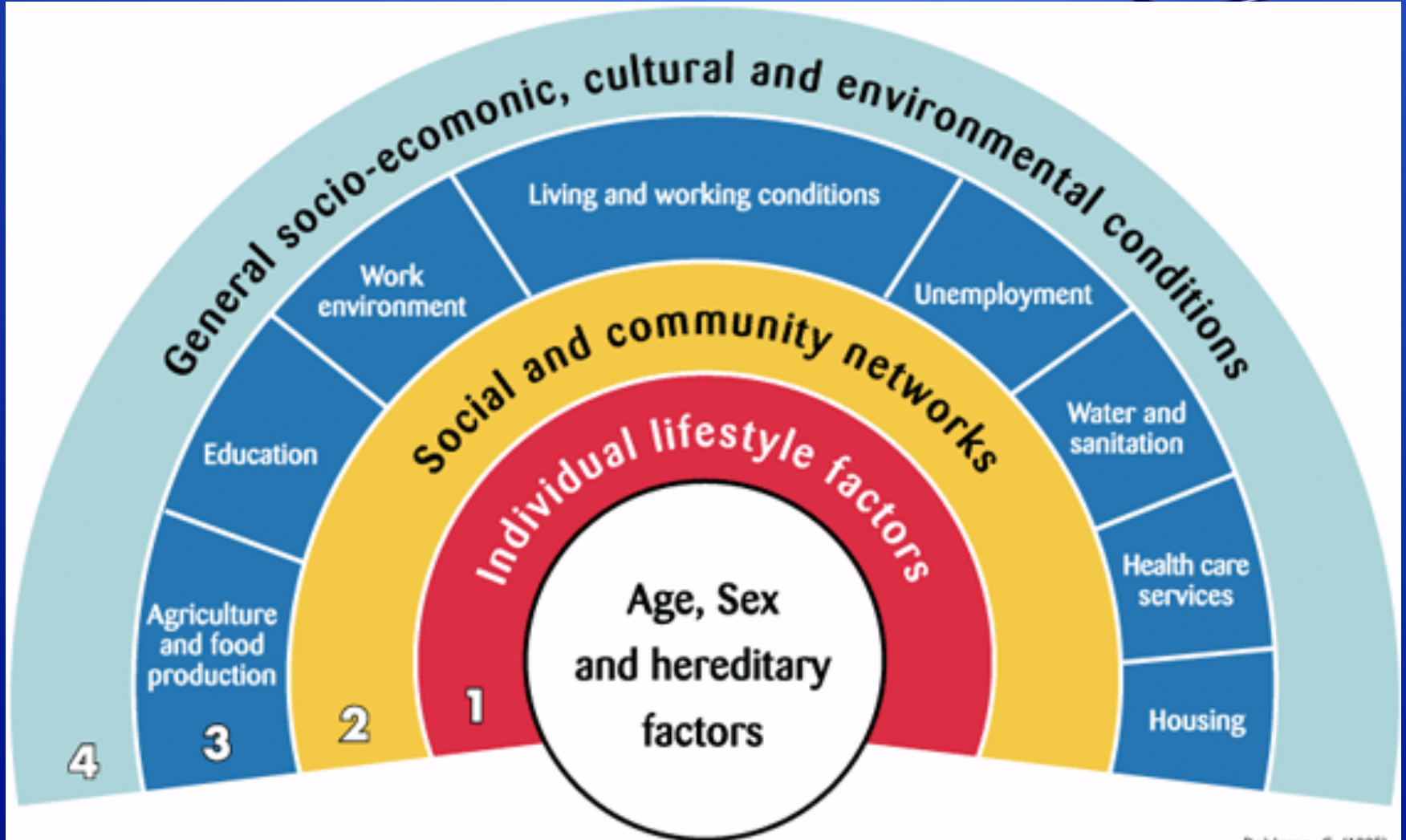
- Epidemiology is concerned with the frequency and pattern of health events in a population
- Frequency refers not only to the number of health events but also to the relationship of that number to the size of the population (rates)
- Pattern refers to the occurrence of health-related events by time, place, and person.

DETERMINANTS OF HEALTH



- **DETERMINANTS OF HEALTH:** The range of personal, social, economic and environmental factors which determine the *health status of individuals or populations*
- Personal or proximal determinants of health are age, sex and genetic factors. Life style factors such as smoking habits, diet and physical activity play an important role in a wide range of health problems

DETERMINANTS OF HEALTH



Communicable disease



An illness due to a specific infectious agent or its toxic products that arises through transmission of that agent from reservoir to susceptible host.

Easily transmissible diseases are called contagious diseases

- **Communicable Disease** (typhoid, influenza,..)
- **Non- Communicable Disease** (DM, cancer,..)

Contamination



- The presence of living infectious agents on the exterior surface of the body or on the clothes or articles of the person or on any inanimate object in the environment including water and food.

Infection



- **Infection** is the entry and development or multiplication of an infectious agent in the body of man or animals.
- An infection does not always cause illness.

There are several levels of infection (Gradients of infection):

- **Colonization** (*S. aureus* in skin and normal nasopharynx)
- **In-apparent** cases
- **Clinical** cases (mild/moderate/severe-typical/atypical)

Endemic



The **constant** presence of a disease or infectious agent within a given geographic area or population group; may also refer to the **usual** prevalence of a given disease within such area or group.

e.g. Typhoid, Hepatitis A

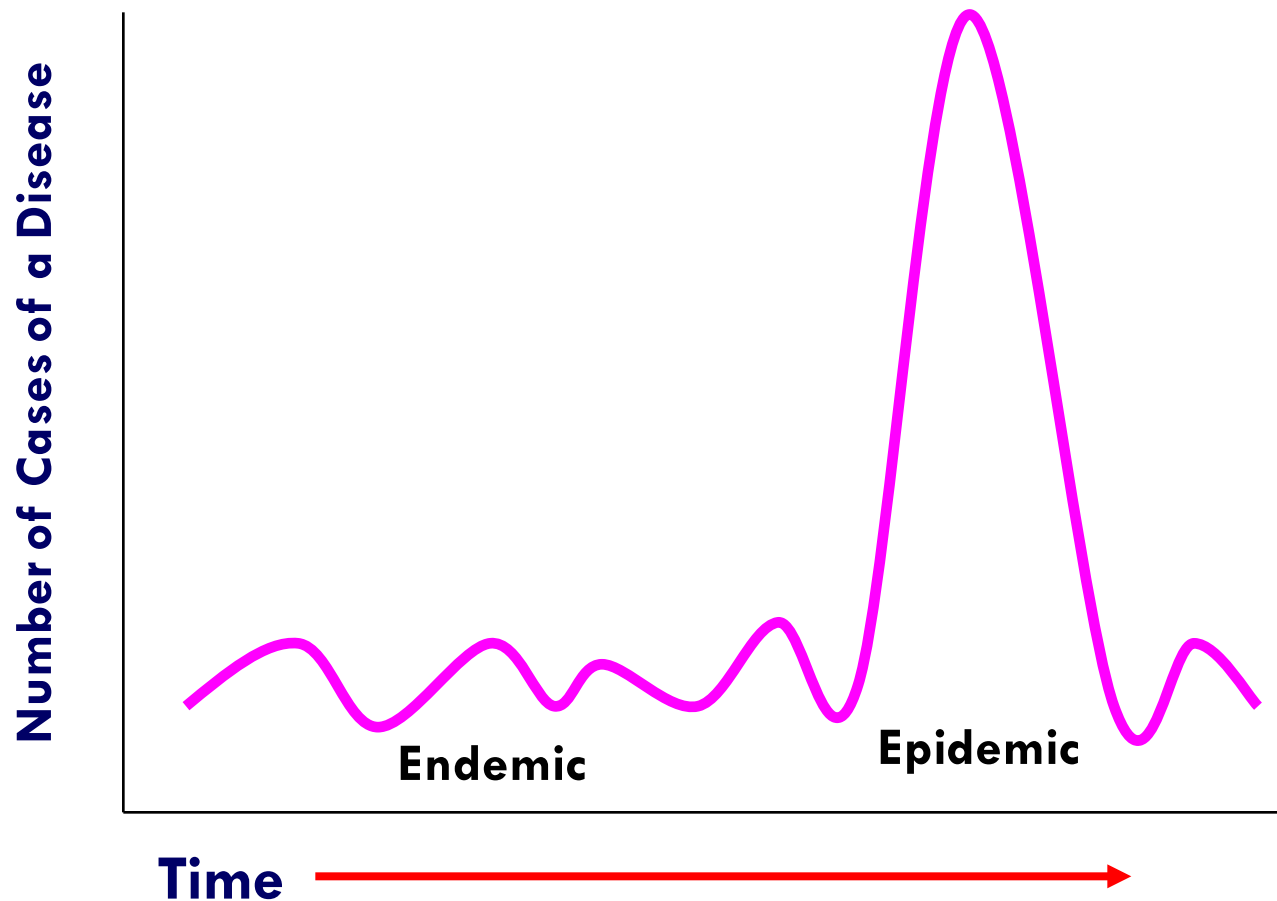
Epidemic



The occurrence of **more** cases of a disease than **expected** in a given area or among a specific group of people over a particular period of time.

Endemic vs Epidemic

16



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Pandemic



An epidemic occurring over a very wide area (several countries or **continents**) at the same time and usually affecting a large proportion of the population.

e.g. **Influenza A H1N1 in 2009**

Outbreak



- **Outbreak** is a more or less localized epidemic affecting large number of a group, in the community
e.g. outbreak of food poisoning

Sporadic



Cases occur irregularly, haphazardly from time to time and generally infrequently.

Cases are few and separated widely in space and time showing no connection to each other.

Nosocomial infections

(hospital-acquired infection)



- An infection originating in a medical facility; e.g., occurring in a patient in a hospital or other health care facility in whom the infection was not present or incubating at the time of admission.
- It includes infections acquired in the hospital but appearing after discharge; it also includes such infections among staff.

Virulence



the ability of an infectious agent to cause severe disease, measured as the proportion of persons with the disease who become severely ill or die.

Reservoir of infection



The reservoir of an agent is the habitat in which an infectious agent normally lives, grows, and multiplies.

Reservoirs include:

Humans, animals, or the environment.



Zoonosis:

An infection or infectious disease transmissible under natural conditions from *vertebrate* animals to humans.

Zoonotic diseases include:

brucellosis (cows and pigs),

anthrax (sheep),

plague (rodents),

rabies (dogs, bats and other mammals).

Carrier



- A person or animal that harbors the infectious agent for a disease and can transmit it to others, but does not demonstrate signs of the disease.

Communicable period



The time during which an infectious agent may be transmitted directly or indirectly from an infected person to another person or animal.

Incubation period



- The time interval from exposure to an infectious agent to the onset of symptoms of an infectious disease.

Chemoprophylaxis:



The administration of a chemical, including antibiotics, to prevent the development of an infection or to slow progression of the disease to a clinically manifest form.

Chemotherapy:

The use of a chemical to treat a clinically recognizable disease or to limit its further progress

Reference



1. Last JM, editor. Dictionary of epidemiology. 4th ed. New York: Oxford University Press; 2001
2. Principles of EPIDEMIOLOGY in Public Health Practice *Third Edition* An Introduction to Applied Epidemiology and Biostatistics. Centers for Disease Control and Prevention (CDC) Glossary pages;1-23

