Faculty of medical laboratory science public health MLS-PUBH-322 sem.6

EPIDEMIOLOGY

EPIDEMIOLOGY

Greek words

- Epi – “on or “upon
- demos – the population
- logos – the study of

- **Epi + demos + logos → → →**
  → a study “that which befalls Man”

Definition of Epidemiology

Epidemiology: "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 1988)

Definition of Epidemiology

- **Distribution** is concerned with:

→ **Pattern & frequency** of health events in a population

- **Pattern** refers to: the occurrence of health-related events by time, place and person characteristics.
- **Frequency** refers to measurement of frequency of health-related events(disease disability or death) and summarizing this information in the form of rates and ratios.

Descriptive Epidemiology

What ? health-related states or events

Who ? → person

When ? → time

Where ? → place

Descriptive Epidemiology

- **Pattern** refers to: **time**, **place** and **person**
- **Time** characteristics:

→ annual occurrence

→ seasonal occurrence

→ daily occurrence (during an epidemic)

→ hourly occurrence (during an epidemic)

Descriptive Epidemiology

- **Pattern** refers to: **time**, **place** and **person**
- **Place** characteristics:

→ geographic variation

→ urban-rural differences

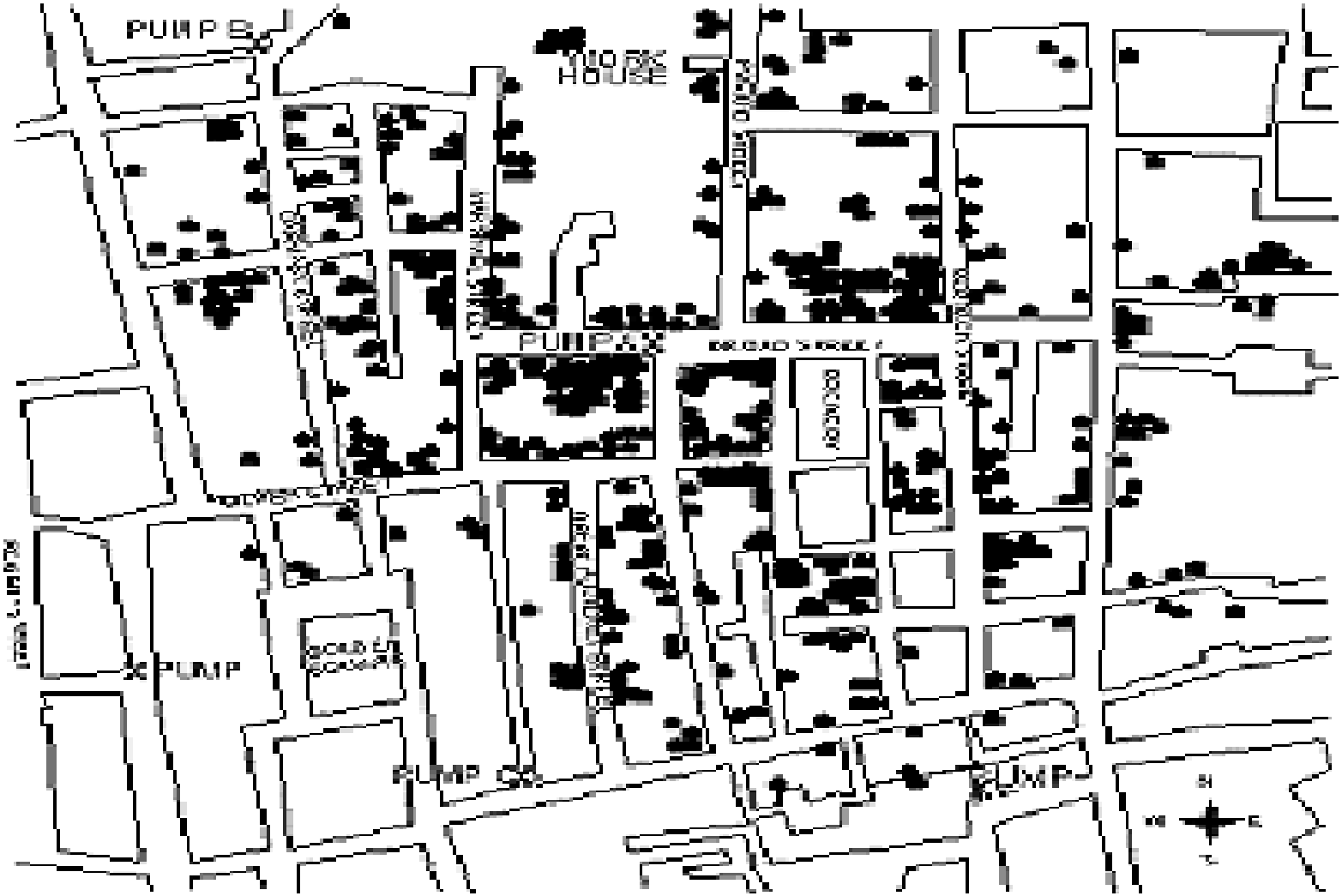
→ location of houses, worksites or schools

Descriptive Epidemiology

- **Pattern** refers to: **time**, **place** and **person**
- **Personal** characteristics:

→ age
→ race
→ gender
→ marital status
→ Socioeconomic status
→lifestyle behaviors
→occupation
→ environmental exposures

Example:-Distribution of cholera cases in the Golden Square area of London, August-September 1854



Analytic Epidemiology

Determinants

Epidemiologic methods are used as tools to search for causes & other factors that influence the occurrence of health related events → **Analytic Epidemiology**

Why ?

How ?

Relationship between exposure and outcome

Analytic Epidemiology

Example:

- **Is smoking a cause of lung cancer ?**

Why ?

How ?

Epidemiologic approaches

DESCRIPTIVE *Health and disease in the community*

What?	Who?	When?	Where?
What are the health problems of the community? What are the attributes of these illnesses?	How many people are affected? What are the attributes of affected persons?	Over what period of time?	Where do the affected people live, work or spend leisure time?

ANALYTIC *Etiology, prognosis and program evaluation*

Why?	How?
What are the causal agents? What factors affect outcome?	By what mechanism do they operate?


Thank you