Babylon **U**niversity – **C**ollege **O**f **M**edicine
   Department of Community Medicine

<div align="center">

Lectures in Community Medicine
For 4th Stage Students
*By **Dr. Hassan Baiee***
2010 – 2011

Lecture 2
Person Place Time Model

</div>

Demonstration of the patterns of disease occurrence in human population regarding its distribution by these characteristics to find any relationship with the disease.
This help to:
1- Find high risk group, where and when the disease occur.
2- Planning of health care services.
3- Hypothesis formulation regarding etiology.

Person Characteristics:
This will answer the question, who is getting the disease?
These characteristics include:
1. Age:
The most important factor, some diseases occur exclusively in one age group, while others predominate in one age but can occur in any age.
Many chronic diseases showed progressive increase with age due to aging itself or cumulative exposure to harmful effect.

2. Sex:
Variation in sex distribution could be due to:
- o   Sex linked inheritance.
- o   Hormonal or reproductive factors.
- o   Habits, social factors or environmental exposure.

3. Race:
Racial variations could be due to:
- o   Genetically determined difference.
- o   Differences in socioeconomic status.
- o   Differences in access to medical care.

4. Marital Status:
Married people have lower mortality than single. Death rates for most specific diseases and for all causes co-morbidity vary from lowest to highest; according to marital status: married, single widowed and divorced.
 ❖ Pregnancy entails risk to the mother and exacerbates some diseases.

5. Socioeconomic Status:
It is usually measured by: <u>occupation</u>, <u>income</u>, <u>education</u>, <u>residence</u>, <u>value</u> and <u>amenities of the home or dwelling unit</u>.
    1- Professional
    2- Intermediate
    3- Skilled
    4- Partly skilled
    5- Unskilled
Infant mortality rate is used as an index of living standard.

Place characteristics:
These will help answering the questions were the disease is highest or lowest.
 • International comparison.
 • Comparison of regions within countries.
 • Comparison of areas within a city.
 • Geographic location of source.

Migrant studies and twin studies can distinguish between possible roles of genetics and environment.

Time characteristics:
These will help answering the questions.
 • When does the disease occur or rarely?
 • Is the frequency of disease at present differing from the corresponding frequency in past?

Time characteristics range from hours to decades. Short-term changes in disease incidence used to study epidemics of infectious or non-infectious diseases.

<u>Time:</u>
 • Secular (long-term) pattern.
 • Seasonal pattern.
 • Point (short term) Epidemic.
 • Cyclic trend.
 • Other time intervals.

Seasonal Trend: Cyclical pattern during particular weeks or months of the year, seen consistently over years.

Seasonal Variation: Seasonal variation can be seen for some diseases or conditions falling within a calendar year.

Secular Trend: The long-term trend of disease occurrence, usually by year.

Other time interval: Day of week, hour of day, etc.

Secular trends can be due to:
- Change in diagnostic technology (increased reporting)
- Change in accuracy of enumerating the population at risk.
- Changes in the age distribution of the population.
- Change in survival of disease due to improved treatment.
- Change in actual incidence of the disease due to alteration in environment or lifestyle factors.