



Epidemiology

What is Epidemiology?

Epidemiology is the study of the distribution of disease, or other health-related conditions and events in human populations, as related to age, sex, occupation, ethnicity, and economic status in order to identify and alleviate health problems and promote better health.

Epidemiology is the basic science of public health. One of the most important distinguishing characteristics of epidemiology is that it deals with groups of people rather than with individual patients. Epidemiologists attempt to search for causes or factors that are associated with increased risk or probability of disease by asking questions such as "who," "what," "where," and "when" and start trying to answer "how" and "why."

Who studies Epidemiology?

Many professions use findings from epidemiology studies. Public health agencies, doctors, researchers, and businesses use the information to practice preventive medicine. The causes for diseases such as cancer, heart disease, strokes, violence, and automobile accidents are not all known. By using epidemiology, researchers are looking to predict and prevent diseases.

Why is it important?

Epidemiology attempts to describe where diseases come from and how they spread in populations. By studying patterns, researchers may figure out how to prevent or treat diseases and injuries within populations. The concept and practice of disease prevention is important for health of the public and for the health of individuals.

In the past, epidemiology focused on infectious diseases. But today, epidemiology is applied to not only infectious diseases, but to the whole spectrum of health-related events including chronic (long-term) disease, environmental problems, behavioral problems, and injuries in addition to infectious disease.

Frequently used Epidemiology terms.

Incidence. The number of new cases of disease in a defined population over a specific time period.

Prevalence. The number of existing disease cases in a defined population during a specific time period.

Rate. The number of individuals that experience the event/disease during one time unit (day, month, year, etc.).

Risk. The likelihood that an individual will develop a given disease in a given time period.

Morbidity. State of being ill or diseased.

Where can I learn more?

- Centers for Disease Control and Prevention (CDC). <http://www.cdc.gov/>
- Food and Drug Administration (FDA). <http://www.fda.gov>
- National Institutes of Health (NIH). <http://www.nih.gov/>

