

The Local Board of Health Environmental Health Primer Epidemiology Factsheet



ENVIRONMENTAL HEALTH

Background

- Epidemiology is the study of the distribution and determinants of health events in a human population.
- Some common uses of epidemiology include collecting and analyzing vital records (births and deaths) and disease records (morbidity); monitoring diseases or other community health problems; investigating outbreaks leading to control or prevention of epidemics and other community health problems; identifying public health problems and measuring the extent of their distribution, frequency, or effect on the public's health; evaluating health programs; and providing data necessary for health planning or decision making.
- The epidemiology triangle describes if, when, where, and how disease occurs. It includes the disease agent and its characteristics; the human, plant, or animal "host" and its vulnerability to the disease; and the environment containing the agent and the host.
- A systems theory approach of study focuses on understanding the complete system and the underlying interactions of all the forces that make up the system.
- Descriptive studies include case reports of illness or death and cross-sectional surveys, whereas analytical studies include ecologic, case-control, and cohort studies and are designed to test hypotheses regarding the factors that cause a disease.

Board of Health Actions

- Encourage environmental health personnel to become familiar with the systems concept and to identify opportunities to study environmental health problems using a systems approach.
- Ensure that the health department has determined baseline disease rates in the community, is watchful for changes in disease patterns, and has the resources to investigate disease outbreaks when needed.
- Inform the public of changes in disease patterns or disease outbreaks, along with communicating the steps being taken to protect the public.

Resources for Continuing Education

- Environmental Defense Scorecards. Available at www.scorecard.org
- Friis, R. (2007). Environmental Epidemiology. In *Essentials of Environmental Health*.
- National Association of Local Boards of Health. (2011). Epidemiology. In *The Local Board of Health Environmental Health Primer* (2nd ed.).
- National Environmental Public Health Tracking Network. Available at <http://www.cdc.gov/nceh/tracking/>
- WONDER database. Available at <http://wonder.cdc.gov/>

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