

# Epidemiology

## What is epidemiology?

Epidemiology is the scientific “backbone” of public health. In most basic terms, it is the study of disease in a population – how many cases have occurred? Who has been affected? What is the risk of additional cases? Among the “diseases” studied are infections, poisonings, injuries, cancer, asthma and birth defects.

## Why is epidemiology important?

Epidemiologists can determine which groups are at highest risk for disease. This information can be used to effectively apply limited resources to prevent future disease. Preventing disease is much less expensive than treating it.

## What are some examples of epidemiologic work?

- When many customers at a restaurant became ill with vomiting and diarrhea, epidemiologists found that it was caused by a food handler who had poor hygiene and was infected with norovirus. The restaurant was closed and reopened only after being thoroughly cleaned.
- Epidemiologists have surveyed people over the past twenty years to identify the dramatic increase in the percentage of the population that is obese. This is an important issue because obesity can lead to numerous diseases (e.g., diabetes, heart disease, cancer, stroke).
- Epidemiologists develop information systems that can quickly alert officials about important outbreaks such as pandemic influenza. It is important that such outbreaks are detected as soon as possible so that the appropriate response can be made in order to minimize the number of citizens affected.
- Injury epidemiologists learned that a very high number of pedestrians were being struck by cars at night on a two-mile section of roadway. Upon further investigation, they learned that this area had inadequate lighting. After lights were installed, severe pedestrian injuries were almost completely eliminated.

## Where do epidemiologists work?

Epidemiologists work in all levels of government (federal, state, and local), as well as in universities, nonprofit organizations, and private industry.

## How can I learn more about epidemiology?

The 12<sup>th</sup> Annual Michigan Epidemiology Conference is being held in the Spring of 2013 at the University of Michigan. To learn more about the conference, go to the Michigan Public Health Association (MPHA) Epidemiology Section website (<http://www.mipha.org/epidemiology.php>). If you'd like to speak to an epidemiologist to learn more about the profession, contact the MPHA Epidemiology Section Chair, Roger Racine, at [RacineR@michigan.gov](mailto:RacineR@michigan.gov) and he can put you in touch with a member of the MPHA Epidemiology Section working in the field.

