

## **Definition**

A cancer cluster is when more than the expected number of people within a specific group, geographic area, or defined period of time develops the disease. Cancer clusters are most often reported when several family members, friends, neighbors, or coworkers have been diagnosed with the same or related cancer(s).

## **Identification**

Epidemiologists are scientists who investigate and describe the causes and distribution of disease, disability, or health outcomes. For cancers, they have identified certain conditions that may lead them to believe cancer among a group of people could be part of a cancer cluster. A true cluster may exist if it involves one or more of the following things:

- A large number of people with one kind of cancer, rather than several different kinds.
- A rare kind of cancer, rather than common cancers.
- An increased number of people having cancer in an age group that is not usually affected by cancer.

If a group of people, especially older people, with cancer who have many different kinds of cancer developing over a period of many years, is not likely to be a true cancer cluster. Also, it is very unlikely to be caused by just one single environmental factor or exposure. Facts to think about when looking at possible cancer clusters are that:

- Cancer is a common disease.
- Most well-documented cancer clusters have been seen in the workplace.
- Lung, skin, and bladder cancers are the types of cancer most often linked with high-level exposure to workplace carcinogens. Other cancers such as leukemia, lymphoma, testicular, and brain cancer sometimes occur in clusters, too.

## **Challenges**

Cancer cluster investigations are complex and difficult for several reasons. These include:

- Not having enough people with cancer reported for investigators to reach meaningful conclusions.
- The exposure to cancer-causing agents may have occurred many years before cancer appeared.
- Combinations of agents and risk factors interact in a way that science does not yet fully understand.

## **For more information**

- For links to resources about cancer clusters in general, as well as information about cancer registries and publications on cancer clusters, visit <http://www.cdc.gov/nceh/clusters/links.htm>.
- For an extensive overview of cancer clusters, visit the NCI's Cancer Cluster Web site at <http://www.cancer.gov/cancertopics/factsheet/Risk/clusters>.
- NCI has also collaborated with the National Institute for Environmental Health Sciences to publish [Cancer and the Environment: What You Need to Know, What You Can Do](#). This booklet addresses concerns about the connection between cancer and exposure to toxic substances in the environment.