

Fact Sheet

May 2010

Disease Clusters in the Community

What is a disease cluster?

A disease cluster is a higher number of cases of a particular disease than what would normally be expected. People often suspect a cluster when several family members, friends, neighbours, or co-workers have been diagnosed with the same disease, like cancer for example.

How does Toronto Public Health respond to a report of a possible disease cluster?

When someone reports a suspected cluster to Toronto Public Health they may be asked to provide information including:

- the type of disease (for cancer reporting the specific type of cancer is important)
- the number of people with the disease
- the age, sex, address and time of diagnosis of each person with the disease
- any possible cause for the cluster

Toronto Public Health staff will then compare this information to what is known about the reported disease. This will help to determine if the number of people with this disease is out of the ordinary. If a possible cause is reported then staff will investigate to ensure that the health of other people is not at risk. Staff will then contact the person who reported the suspected cluster with any results of the investigation.

Are disease clusters common?

No, disease clusters are very rare. A suspected cluster is more likely to be a “real” cluster if it involves:

- a rare disease,
- a very large number of cases,
- or the disease occurs in a group of people for whom that disease is uncommon.

What are some of the difficulties in investigating a cluster?

Cluster investigations are complex and the available investigation tools are not very good at detecting small clusters or clusters of common conditions.

In order to do proper statistical analysis a large number of people with the disease is needed (much larger than what is usually found in a neighbourhood or a circle of relatives) and a proper disease free comparison group must be chosen.

Another difficulty is that people move in and out of an area (or neighbourhood). Investigators must determine whether the cause of their disease occurred before they moved in, while they were there, or after they moved out. It is often hard to track down information from people who have moved.

Some diseases (e.g. cancer) take many years to develop after an exposure has happened. This makes linking a cluster to a cause very difficult.

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Why might something appear to be a cluster when it is not?

There are many ways that normal disease patterns can appear out of the ordinary. For example, when a disease is newly diagnosed in a person they and the people close to them start to notice other cases of that disease, more so than they would have done before the diagnosis. Many diseases are more common than people realize. This makes it quite likely that if someone looks they will find cases of a disease in the community.

Furthermore, certain conditions are commonly grouped together but are actually different diseases with different causes. This misunderstanding may lead to the idea that these diseases are related when they are not. These two situations commonly happen with reported cancer clusters. Cancer is quite a common disease. One out of every three people will develop cancer during their lifetime. However, there are many different kinds of cancer. Each may have its own unique cause and must be looked at separately.

Lastly, a disease may occur more in one place than another because of chance alone.

Where can I get more information?

The link between the environment and health is important. Toronto Public Health is committed to protecting people from the adverse health effects of exposure to toxic substances in both public places and the workplace. For more information or to report a suspected cluster please contact Toronto Public Health: 416-338-7600 or www.toronto.ca/health.