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## Disease clusters

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### Summary

- Sometimes, a greater than expected number of cases of a disease occurs in a group of people living or working in the same area. This is called a disease cluster.
  - Non-communicable disease clusters are very rare.
  - If you suspect there may be a non-communicable disease cluster at your workplace or in your neighbourhood, talk to your doctor for information, advice and referral.
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Sometimes a greater than expected number of cases of a disease occur in a group of people living or working in the same area. This is called a disease cluster. Communicable diseases, which are diseases that can be spread from one person to another, often occur in clusters. Examples include colds, flu, whooping cough, chlamydia and HIV. A non-communicable disease is a disease that isn't infectious, which means it can't be passed from one person to another. Examples include cancer, cardiovascular disease, asthma and diabetes. Non-communicable disease clusters are actually very rare.

Reports of possible non-communicable disease clusters cause concern in the community. The fear is that something unknown in the environment, such as water pollution or radiation from a power plant, may be causing disease. In fact, in most cases, a suspected non-communicable disease cluster turns out not to be a cluster at all.

### Examples of actual non-communicable disease clusters

Non-communicable disease clusters are rare but can happen. In most cases, the common cause is prolonged exposure to a particular substance, such as a chemical or drug. Examples include:

- **Asbestos-related mesothelioma** – clusters of mesothelioma cases occurred in Australia in the 1960s. Mesothelioma is a rare cancer of the lung and abdomen. The cause was exposure to asbestos, a mineral that was mined in Australia throughout the 1940s and 1950s.
- **DES-related cancer** – clusters of a very rare vaginal cancer occurred in the early 1970s. The cause was exposure in the womb to the hormone diethylstilboestrol (DES), which was marketed as an anti-miscarriage drug and offered to pregnant Australian women between 1946 and 1971.
- **Workplace exposures** – for example, about five per cent of cancers are due to exposure to carcinogenic substances at work, such as asbestos, formaldehyde, arsenic or wood dust. Some communities that rely on one particular industry may have higher than average cases of a particular disease because of exposure to a hazardous substance in the workplace.

### Common characteristics of non-communicable disease clusters

Non-communicable disease clusters often have factors in common, such as:

- A large number of people are affected by one specific disease
- The large number cannot be explained by statistics
- The disease is rare
- The disease doesn't usually affect people in that particular group (for example, a particular cancer may be very rare in young people)
- The people share exposure to a particular substance.

### Who to contact if you suspect a cluster

If you suspect there may be a non-communicable disease cluster at your workplace or in your neighbourhood, talk to your doctor for information, advice and referral. You may wish to contact relevant specialists:

- **For a cancer cluster**, contact Cancer Council Victoria or the Cancer Epidemiology Centre
- **For a birth defect cluster**, contact the Department of Health Clinical Councils' Unit
- **For a workplace-related cluster**, talk to the health and safety officer at your workplace, your employer or Worksafe Victoria
- **For a community cluster**, talk to your doctor or the Department of Health Environmental Health Unit.

Contact details for these specialist areas are listed in the **Where to get help** section of this fact sheet.

### How a suspected cluster is investigated

When a suspected cluster is reported, an investigation will need to take place. The investigation first looks at whether or not the reported cases of the disease are greater than expected. Investigators look at factors such as disease patterns and probability statistics. At this early stage, most reports are resolved and no further investigation is needed.

If the report isn't resolved, experts in the field will investigate the cases. A health study will be undertaken. A study of this kind relies on the input of many specialists, is expensive and can take months or even years. In many cases, an underlying cause is never found.

### Non-communicable disease clusters are hard to study

Some of the challenges involved in investigating a non-communicable disease cluster include:

- Diseases such as cancer are very complex and medical science may not fully understand how various risk factors combine to cause a particular disease.
- Working out a person's individual risk factors for a particular disease can be difficult.
- The time between exposure to an environmental agent and the onset of disease may be many years.
- People often move house to different cities or states, making it difficult to track when exposure to risk factors may have occurred.

### Misconceptions about non-communicable disease clusters

In most cases, a suspected non-communicable disease cluster isn't a cluster at all. Factors that give the false impression of a cluster include:

- **Many non-communicable diseases are very common** – in Australia, one man in three and one woman in four will be diagnosed with cancer over a lifetime. Cardiovascular disease, the biggest killer of Australians, causes about one death every 10 minutes. It is not unusual to know two or more people with the same common non-communicable disease.
- **Cancer is more than one disease** – cancer is a general term for about 200 diseases. Different cancers have different risk factors. It is not a disease cluster when people in the same geographical area have various types of cancer.
- **The risk of disease increases with age** – Australia's population is getting older. Many non-communicable diseases are more common with age. A high rate of heart disease among people living in a retirement village, for example, is not a disease cluster but an expected outcome.
- **Grouping of environmental factors** – a common environment can lead to common risk factors. For example, lower socioeconomic groups tend to have a higher smoking rate, which explains higher rates of smoking-related cancers.
- **Clusters can happen by chance** – diseases don't occur evenly across a community. Sometimes, people with the same non-communicable disease just happen to be in the same geographical area.

### Dealing with anxiety

Whether or not a non-communicable disease cluster is found, the possibility of such a cause can lead to anxiety. Suggestions for dealing with anxiety and distress include:

- Discuss any fears with your doctor. Making sure you get reliable and trusted information about the particular disease, including its risk factors, can help keep your fears in perspective.
- Be sceptical of rumours. For example, a few years ago an email hoax suggested that underarm deodorants cause breast cancer, which is not true. Consult with your doctor or browse respected medical sites like the

Better Health Channel for accurate health information.

- Understand how personal experience can skew your perception. For example, when someone we love is diagnosed with cancer, it is easy to start to notice other cancer cases and worry about an unknown link.
- Make lifestyle changes to reduce your risk. For example, you can dramatically reduce your risk of heart disease and some cancers by eating a high-fibre, low-fat diet, taking regular exercise and quitting smoking cigarettes.

### Where to get help

- Your doctor
- Health and safety officer at your workplace
- Your employer
- Cancer Council of Victoria – Cancer Epidemiology Centre Tel. (03) 9635 5154
- Department of Health Victoria – Clinical Councils' Unit Tel. 1300 858 505
- Department of Health Victoria – Environmental Health Unit Tel. 1300 761 874
- WorkSafe Victoria Tel. (03) 9641 1444 or 1800 136 089 (toll free) - for general enquiries
- WorkSafe Victoria Emergency Response Line Tel. 13 23 60 - to report **serious workplace emergencies**, seven days, 24 hours

### Things to remember

- Sometimes, a greater than expected number of cases of a disease occurs in a group of people living or working in the same area. This is called a disease cluster.
- Non-communicable disease clusters are very rare.
- If you suspect there may be a non-communicable disease cluster at your workplace or in your neighbourhood, talk to your doctor for information, advice and referral.

### This page has been produced in consultation with and approved by:

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