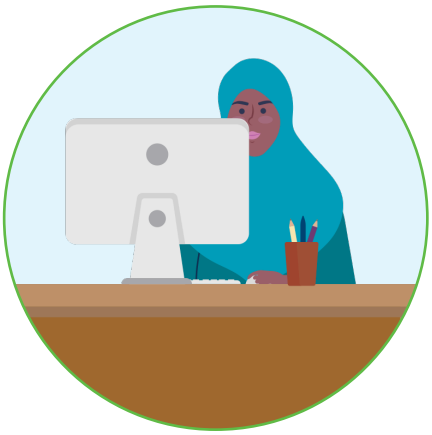
Reporting and Investigating Apparent Cancer Clusters



When people notice a high number of people in their family, neighborhood, or community being diagnosed with cancer, they may have questions and concerns. It is normal to ask questions about whether the cancers might share a common cause. People may wonder if the cancers are the result of a community exposure to a cancer-causing substance in the environment, or they may ask, "Is this a cancer cluster?"

Minnesota Department of Health (MDH) staff receives about 15 to 20 calls each year from citizens concerned about cancer in their community or workplace. MDH staff takes each of these concerns seriously.

What is a cancer cluster?

A cancer cluster is a greater than expected number of the same cancer or cancers with similar contributing factors that occur within a group of people in a geographic area over a period of time.

Cancer is a common disease. About four in ten Minnesotans will be diagnosed with some form of cancer in their lifetimes. It is not unusual to find numerous cases of cancer in one neighborhood, or even more than one cancer in the same household. Often it is just coincidence that cancer—an umbrella term for more than 100 different diseases—occurs in a number of people in one small area, or within one group.

How MDH considers concerns

When MDH staff receive a concern about a suspected cancer cluster in a community, they use a systematic approach to understand the situation.

- Staff start by asking questions about:
  - The location of the area of concern;
  - The types of cancers involved;
  - Ages at the time of diagnosis;
  - The time period during which the diagnoses occurred;
  - The length of time those who were diagnosed lived in the area; and
  - Whether there is a known or suspected environmental contaminant.
- Staff consider whether the concern involves different types of cancer, common cancers, a rare cancer, or a cancer that is usually diagnosed in a certain age group.
- They also determine whether the involved cancers share environmental risk factors. Oftentimes, different types of cancers have different risk factors. Other than radiation, not all cancers are known to have environmental risk factors.
- Using the information available, when appropriate, they will look at specific geographic regions to see if there is more of the type of cancer of concern than would be expected.
- If certain chemicals are known risk factors for the cancers of concern, staff will also consider if there is potential for unusual exposure to those contaminants in the area. MDH can investigate whether there is a greater-than-expected number of the type or types of cancers associated with the contaminant.

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Investigating cancer clusters is challenging

Small groupings of cancers or other chronic diseases cause much anxiety and concern among neighborhood or community residents. However, with relatively rare diseases (such as specific types of cancer), such groupings in time and location are expected to occur quite frequently from chance alone. For more information about small sample size, see The Small Sample Fallacy—YouTube and The Law of Small Numbers.

Cancer occurrence in small communities and counties also fluctuate widely up and down. We tend to notice when the numbers are high but don't notice when cancer occurrence is low. Because of these fluctuations, we need to look at the cancer picture in communities over extended periods of time—for example 15-20 years, depending on the size of the community.

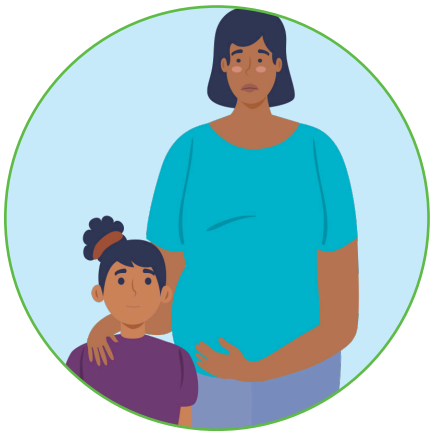
Cancer is most often related to lifestyle risk factors, such as commercial tobacco use, alcohol use, diet, obesity, and lack of physical activity. It is less commonly associated with exposure to cancer-causing substances, called "carcinogens," in the environment, like exposures to benzene, asbestos, vinyl chloride, trichloroethylene, lead, radon, or arsenic. Not everyone exposed to carcinogens will develop cancer and for those who do develop cancer it usually takes decades before a cancer is diagnosed.

The Minnesota Cancer Reporting System (MCRS) is the primary source of cancer data in Minnesota. MCRS data help us understand how cancer impacts Minnesotans and which populations are at greatest risk, and assign resources accordingly.

Challenges to investigating apparent cancer clusters include:

- Every day, nearly all of us are exposed to low levels of many carcinogens in the air we breathe, the food we eat, the products we use, and the places where we live, learn, work, worship, and play. We are not even aware this is occurring and do not know when or to what degree or level we are being exposed.
- It is almost impossible to look back and reconstruct complete histories of actual environmental exposures for people with cancer. Environmental data from decades ago may or may not be available.
- All Minnesotans have a right to health privacy, and people may be unwilling or unable to share personal information with the health department that might point to possible exposures important to a scientific investigation.
- High quality cancer cluster investigations are expensive and funding for investigations is limited.

These difficulties are very frustrating, both for people concerned about cancer and for scientists at MDH. Yet every call regarding a cancer concern is important to MDH staff members. Discussions about cancer provide an opportunity to increase people's understanding of cancer and how to reduce their risk of cancer and improve our ability to promote cancer prevention and control.



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How can I report concerns about cancer in my community?

To share concerns about cancer in your community, please contact the **Minnesota Cancer Reporting System at 651-201-5900 or email health.mcrs@state.mn.us.**

To report concerns about cancer in your community due to exposure to an environmental contaminant, please contact the **Minnesota Department of Health Environmental Health Division at 651-201-4897 or email health.hazard@state.mn.us.**

Did You Know?

Screening can identify certain cancers early—when they are more easily treated—and reduce the risk of death from those cancers. Talk to a health care provider about screenings recommended for you.

What can I do if I have concerns about cancer?

Talk to a health care provider. If you have health concerns about cancer it is important to discuss your questions with a health care professional, such as a physician, nurse practitioner, traditional healer, community health worker, or community health representative.

Screening can identify certain cancers early when they are more easily treatable and reduce the risk of death from those cancers. Effective screening programs exist for breast, cervical, colorectal, and lung cancers.

Learn more. Visit our website at www.health.state.mn.us for information about cancer, or www.health.state.mn.us/cancerandenvironment for information about cancer and the environment.

Review lifestyle factors. Preventing cancer through healthy daily living is important. For more information, see the "Lowering Your Risk for Cancer" information sheet www.health.state.mn.us/cancerandenvironment.

Resources

A list of substances known to elevate the risk of cancer can be found on our website, www.health.state.mn.us/cancerandenvironment.

The American Cancer Society (ACS) (www.cancer.org/about-us/local/minnesota.html) also provides information and resources for Minnesotans with cancer.

To learn more about cancer, cancer resources, and prevention, visit us at our website, www.health.state.mn.us/cancerandenvironment.

"Investigating Environmental Contamination: A Guide for Communities" www. great-lakes-uic.edu/wp-content/uploads/sites/480/2019/07/print_comm-resource-guide_071719.pdf

"Investigating Environmental Contamination: A Guide for Communities–Minnesota Supplement" www.health.state.mn.us/communities/environment/hazardous/docs/investcontam.pdf

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The Minnesota Department of Health is here for you.

Our vision is for health equity in Minnesota, where all communities are thriving and all people have what they need to be healthy.