

Community Environmental Health Studies

Is there something in the air, water, or soil around you that has you worried? Are people in your neighborhood getting sick and you want to know why? Unfortunately, there are not easy answers to these kinds of questions.



When Minnesotans have reason to be concerned about environmental contamination in their neighborhood, they may turn to the Minnesota Department of Health (MDH), a local public health agency, or other researchers to request a health study. For example, a study was conducted to investigate links between asbestos exposure among taconite miners and a type of cancer called mesothelioma. See “Incidence of Malignant Mesothelioma - MN Dept. of Health” <https://www.health.state.mn.us/communities/occhealth/data/mesothelioma.html>

MDH takes these inquiries seriously. We consider each inquiry and evaluate whether there is enough information available to consider a health study. Unfortunately, however, there are significant challenges to conducting community studies about environmental contamination and health impacts. These challenges are difficult to overcome and this can be very frustrating—both for members of the public and for MDH staff.

We start by considering the data and information available. Often the information we need to lead us to clear answers does not exist or is just not available; funds are not available for a study; and frequently it will not be possible to clearly show that a disease, such as cancer, was caused by a specific hazardous substance or contamination source instead of some other source or cause, such as commercial tobacco use.

While health studies are not commonly carried out, there are times when they can be conducted, such as when there is a strong possibility that the study could find a link between exposure and illness. For example, some workplace settings have provided greater access to needed information, such as reasonable predictions of consistent exposure conditions, employment records showing history of personnel assignments and duties over time, measurements of hazardous substances for regulatory compliance, and documentation of medical testing and examinations and injury complaints. A first step is to conduct a feasibility study to assess whether a properly done full study would provide a meaningful, credible outcome and determine what resources are needed.

What is a health study?

A health study is a study that can potentially inform you and your community about health risks and outcomes that are related to environmental exposures. Health studies look for evidence of a shared experience (exposure to a chemical or other potentially harmful substance) that is capable of causing a disease or health condition of concern. Communities may want or request health studies from their local or state health departments in response to news of environmental contamination and/or perceived high rates of disease.

Before pursuing a health study, the goal of the study must be clear and precisely expressed as a question that can be tested. What do you want to know and what will it take to test it, ruling out all other possible explanations? With a clear question, it may be possible to design and carry out a health study. But for some questions, it is not possible to design or carry out a study to try to answer the proposed question. For more information, see “Chapter 2: Framing Your Concern as a Research Question” in this online resource: “Is a health study the answer for you community? A guide for making informed decisions,” at www.bu.edu/sph/files/2015/03/HSG_Ch1to4_withcover_1-26-16.pdf

Challenges to conducting health studies

There are many challenges that can make it difficult for a health study to reach meaningful conclusions and can be barriers to researchers in their desire to learn more. These challenges may be technical and complex or simple and practical. A study may not be practical or possible if the necessary information doesn't exist. These challenges include, but are not limited to:

If a health study is not feasible, organizing community members to make sure their voices are heard on pollution prevention may create a larger benefit.

Information needed is unavailable

- With current science, the amounts of contaminants people are exposed to are hard to know; exposures can be short-term and irregular; many are unrecognized, unmeasured, and undocumented.
- Because health tracking data doesn't exist for most chronic diseases, it is difficult to determine the expected rate of health conditions for comparison to determine whether the rate in a particular area is increased.

- All Minnesotans have a right to health privacy, and people may be unwilling or unable to share such information with the health department. Personal information, such as where a person has lived or worked, or specifics about their lifestyle, is also considered private.

Health studies may be unable to produce results

- Environmental exposures are often too low to cause observable health effects in the short-term, but cumulatively may add to an individual's total exposure and risk of delayed effects including cancer. Subtle changes or health effects are hard to identify unless very high exposures occurred—like what we may see in an occupational setting.
- “Environmental exposures” describes the totality of all the substances that enter into our bodies, from the air we breathe, to contaminants in the food and beverages we ingest, and things that enter through our skin via absorption, punctures, or penetrating doses of high energy radiation. It includes everything except those things we willingly take in like medicines, drugs, personal care products, and food.
- Diseases typically have multiple causes. Health studies are not able to identify or establish the cause of any individual's illness. At best, they would only be able to find a correlation (association) between an exposure and an outcome—unfortunately, this is not the same as proof of cause and effect.
- A study that is unable to demonstrate a link between exposures and disease can be frustrating and disappointing and may be viewed as evidence of no relationship.
- Diseases can take a long time to develop. Many types of cancer, for example, often develop about 30 years—or longer—after exposures to a cancer-causing agent (carcinogen).

Cost and limited resources

- Most high-quality health studies take a great deal of time and are very costly, requiring years or decades, and costing millions of dollars. A large effort is required to develop the study design (identifying clear and focused objectives), and to collect and analyze data. Government agencies—funded by taxpayers through the actions of the Legislature—do not have resources readily available for such studies. Still, some community groups have attempted to fund health studies at their own expense.

Other options for communities concerned about environmental hazards and cancer

If a health study is not feasible, there may be other ways that community members' efforts can make a difference in their community. Organizing community members to make sure their voices are heard on a variety of decision-making, educational, and pollution prevention opportunities may create a larger benefit.

For a more in-depth understanding of this complex topic, we encourage you to explore the following resources:

- “Is a Health Study the Answer for Your Community? A guide for making informed decisions.” This health study guide from the Boston University School of Public Health is an excellent resource for community groups who think that some form of environmental health investigation or study may be useful in their community. www.bu.edu/sph/files/2015/03/HSG_Ch1to4_withcover_1-26-16.pdf
- “From Exposure to Illness: Community Health Studies and Environmental Contamination.” This website from the California Department of Public Health, Environmental Health Investigations Branch, was created to share the experience and perspective of public health staff dedicated to studying links between environmental exposure to chemicals and health effects in California communities. www.communityhealthstudies.cdph.ca.gov/content/welcome.html





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?

Cancer can develop in individuals of all ages, but it is most commonly found in people who are older than 50 years old. Over 90% of cancers are diagnosed in people over the age of 50. Because people are living longer, the chance of developing cancer is increasing.



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.

The National Center for Environmental Health’s Health Studies program conducts rapid epidemiologic investigations in response to outbreaks that are believed to have environmental causes, and responds to natural and technologic disasters. www.cdc.gov/nceh/hsb/default.htm



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.