Community Concerns about Cancer in Fridley & Anoka County, Minnesota

In the spring of 2012, residents of Fridley contacted the Minnesota Department of Health for information because they observed what they perceived to be an unusual number of cancers among their neighbors. In response to their request, MDH epidemiologists looked at the numbers and types of cancer reported to the Minnesota Cancer Surveillance System (MCSS) in Fridley residents. Since 1988, the MCSS has collected information on all newly diagnosed cases of almost all types of cancer.

Is there an unusual occurrence of cancer in Fridley?

Cancer is not just one disease, but many diseases. We looked at all cancers that occurred from 2000-2009. A common way to tell whether or not there was an unusual number of cancers that were seen or “observed” is to compare that number to the number that would be projected or “expected” to occur based on the size and age of the population compared to Minnesota as a whole. If the observed number is greater than the expected number, then the rate is higher than the state rate. If the observed number is less than the expected number, then the rate is lower than the state rate. The chart below shows the observed and expected number of common cancers for residents of Fridley from 2000 to 2009.

The number of total cancers (1,529) is 7.6% higher in Fridley than would be expected if cancer rates in Fridley were like that of Minnesota. Lung cancer stands out at about 30% higher than expected and accounts for a considerable portion of the overall excess. This lung cancer elevation is true for males and females but is especially high in females (+49%). Lung cancer is typically associated with smoking history and past occupational exposures particularly for men. Exposure to radon is also a cause of lung cancer.

August 20, 2012
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Different cancers generally have different sets of risk factors or causes.

It is important to look at the types of cancer that one sees in an area – not just the overall number. Race, gender and age are important risk factors for cancer rates.

The risk factors for lung cancer are very different from the risk factors for other cancers. The major cause of lung cancer is smoking, estimated to cause 80-90% of lung cancers (and a smaller portion of bladder, kidney, laryngeal, oral, pancreatic cancers plus leukemia). Radon and occupational exposures account for most of the remaining 15% of lung cancers. Air pollution is estimated to cause some lung cancer, but probably less than 1-2% of lung cancers.

Obesity is a risk factor for kidney, pancreatic and breast cancer but not for lung or stomach cancer. For more information on cancers and their risk factors, go to Minnesota Public Health Data Access’s page on Cancer at https://apps.health.state.mn.us/mndata/cancer

How does cancer occurrence in Fridley compare to other cities in Anoka County?

Given the interest in cancer rates in Fridley, other zip codes of Anoka County were chosen for analysis and comparison. We looked at the 4 most common cancers sites - prostate, breast, colorectal and lung - as well as total cancers (a sum of over 20 different cancer types).

Most notably lung cancer rates vary considerably from place to place. Differences in access to medical care and willingness to use that care for screening often plays a role in the community differences that are observed in rates of certain cancer types such as breast, prostate and colorectal. Often, when there are more people in a community screened there are more cases of cancers diagnosed.

Random variation always plays a role in seeing rates go up or down in any given place. It must be recognized that for many cancers in a given community in a given year, cancer rates may be higher or lower due to random variation or “chance”.

August 20, 2012

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All cancer types (combined) in Anoka County

There were 13,149 observed cases of cancer in Anoka County in 2000-2009 as compared to the expected number of 12,668 (about 4% higher than expected compared to Minnesota).

Breast cancer in Anoka County

There were 1,885 observed cases of breast cancer in Anoka County in 2000-2009 as compared to the expected number of 1,951 (about 3% lower than expected compared to Minnesota).
Colorectal cancer in Anoka County

There were 1,202 observed cases of colorectal cancer in Anoka County in 2000-2009 as compared to the expected number of 1,168 (about 3% higher than expected compared to Minnesota).

Prostate cancer in Anoka County

There were 2,232 observed cases of prostate cancer in Anoka County in 2000-2009 as compared to the expected number of 2,150 (about 4% higher than expected compared to Minnesota).
Lung & bronchus cancer in Anoka County

There were 1,714 observed cases of lung cancer in Anoka County in 2000-2009 as compared to the expected number of 1,412 (about 21% higher than expected compared to Minnesota).

Could higher smoking rates explain the excess of lung cancer in some Anoka County communities?

Anoka County appears to have a much higher smoking rate than six other metro counties based on the 2010 Metro Adult Health Survey (see [www.health.state.mn.us/healthreform/ship/rfp/databook021511.pdf](http://www.health.state.mn.us/healthreform/ship/rfp/databook021511.pdf)).

The differences seen in lung cancer from city to city within the county are most likely a result of the community’s past smoking histories. Although radon is a concern throughout Minnesota, radon exposure is probably not different enough from one community to another to account for these community differences.

Percent of adults who are current smokers by county of residence, 2010

About 1 in 4 adults in Anoka County are current smokers, a strong risk factor for developing many types of cancer, especially lung cancer. That is 8 percentage points higher than the six metro-area counties shown here.
Could the observed Fridley cancer excess be caused by something in the environment?

There are a number of reasons why an excess of cancer in a community generally does not suggest environmental problems, just as a deficit in cancers (below what is expected) does not suggest a healthy environment. Many other risk factors - family history, smoking history, occupation and diet among them - affect whether cancer rates are high or low in a given community at a given point in time. For information about cancer and the environment, view the MDH report:

http://www.health.state.mn.us/divs/eh/hazardous/topics/cancerenvt.pdf

We do know that one half of all Minnesotans will be diagnosed with some form of cancer in their lifetimes. Monitoring trends in cancer occurrence across the state and in our communities provides important information for informing cancer prevention and research.

What is being done to minimize cancer risks?

To find out more about cancer prevention, the Cancer Plan Minnesota 2011-2016 is the state's updated comprehensive cancer control plan, implemented by the Minnesota Cancer Alliance. To view the plan, go to: www.mncanceralliance.org/plan.html

To find more information and get data about cancer occurrence for common cancers in Minnesota, see:

- Minnesota Public Health Data Access at https://apps.health.state.mn.us/mndata/
- MCSS’s Cancer in Minnesota, 1988-2008:
- Minnesota Cancer Facts & Figures 2011:
- American Cancer Society’s Cancer Facts & Figures 2012:

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