

# Community Concerns about Cancer in Northeast Minneapolis – Update

## Is there an unusual occurrence of cancer in Northeast Minneapolis where people were exposed to asbestos-containing materials?

During the investigation of asbestos exposures from a vermiculite processing facility in Northeast Minneapolis, residents asked the Minnesota Department of Health (MDH) if there are an unusual number of cancers in the area. In response to this community concern, MDH epidemiologists looked at the numbers and types of cancer reported to the **Minnesota Cancer Surveillance System (MCSS)** from Northeast Minneapolis. This is an update to the Fact Sheet published in November 2004.

Epidemiologists are scientists who study patterns in the way diseases, including cancer, occur in populations. Cancer is not just one disease, but a group of diseases that are classified by the type of cells involved and the place in the body where it occurs. Since 1988,

the MCSS has collected information on all newly diagnosed cases of over 80 different types of cancer.

A common way to look at cancers in smaller populations or communities is to compare the number of cancers that actually were seen or “observed” in the community to the number of cancers that would be projected or “expected” to occur based on the size and age of the population.

The Western Mineral Products/W.R.Grace (WMP/WRG) plant at 1720 Madison Street straddles two Northeast Minneapolis zip codes, 55413 and 55418. The table below shows the observed and expected number of selected cancers for residents of these zip codes from 1988 to 2008 (21 years).

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**Observed and Expected\* Cancers 1988-2008 by Selected Sites, in Northeast Minneapolis Zip Codes 55413 & 55418**

Cancer Type	Males		Females	
	Observed	Expected	Observed	Expected
Esophagus	30	33	13	12
Stomach	47	39	28	27
Colo-Rectal	238	255	226	290
Larynx	30	30	14	8
<b>Lung &amp; Bronchus</b>	<b>398</b>	<b>325</b>	<b>309</b>	<b>300</b>
Breast	6	6	652	774
Prostate	712	800	--	--
Urinary Bladder	146	169	66	67
<b>Mesothelioma</b>	<b>10</b>	<b>11</b>	<b>8</b>	<b>3</b>
<b>All Cancers Combined</b>	<b>2,424</b>	<b>2,464</b>	<b>2,271</b>	<b>2,349</b>



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\* “Expected” number is calculated based on the seven county metro area cancer rates and the size and age of the population from the 1990 and 2000 census. Findings are preliminary because 2010 census data was not available at time of printing.

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The table shows that for these 21 years the overall number of cancers (all cancers combined) observed in the two Northeast Minneapolis zip codes is very similar to what we would expect, using the seven county metro area for comparison. In fact, the table shows that for many specific types of cancer there have been fewer cancers than would have been expected.

Inhalation of asbestos fibers can increase the risk of developing two types of cancer: lung cancer and mesothelioma. From 1988-2008, the number of lung cancer cases in men in Northeast Minneapolis was 398. This is considerably higher than the number we would have expected based on the metro area, which was 325. In women, the two numbers were very close; 309 cases were observed while 300 cases were expected.

Lung cancer has many causes; not just contact with asbestos. By far the biggest risk factor is smoking, which accounts for 80-90% of lung cancers. This makes it difficult to say if the higher rate of lung cancer in men is due to smoking, radon, asbestos from the WMP/WRG plant, or other occupational exposures that might have put men at risk in Northeast Minneapolis.

Unlike lung cancer, mesothelioma is a rare cancer with only one known cause: contact with asbestos. Over these 21 years, there were ten mesotheliomas diagnosed among males in the two Northeast Minneapolis zip codes, which is about what would be expected. There were eight mesotheliomas diagnosed among females while only three were expected over the 21 years.

The findings for lung cancer and mesothelioma cases in Northeast Minneapolis were unexpected. There is an excess of lung cancer in males but not females and there is an excess of mesotheliomas in females but not males. Traditionally, men are more likely to work in jobs with asbestos exposure and more likely to

develop asbestos-related disease. Women may have come into contact with asbestos dust brought home on their husbands' work clothing, or come into contact with asbestos in the home or on the job.

### **Limitations of this review**

It is important to note that cancer cases in the MCSS are recorded by the address where the person was living when the cancer was diagnosed. So, a cancer caused when a person lived elsewhere but was diagnosed after the person moved to Northeast Minneapolis would be counted in Northeast Minneapolis. Likewise, someone who lived in Northeast Minneapolis for their entire life, but had cancer diagnosed during retirement in another community or state would not be linked to the Northeast Minneapolis zip code area. The time between exposure to asbestos and cancer is usually many decades. Many exposed individuals will have moved to a different residence by the time a cancer is diagnosed.

### **Conclusions**

At this point the information from the MCSS gives us more questions to answer regarding possible health outcomes of asbestos exposure in Northeast Minneapolis. It is our hope that further study will provide some answers.

If you have questions about cancers in Minnesota, please call John Soler at the Minnesota Cancer Surveillance System, 651-201-5481.