

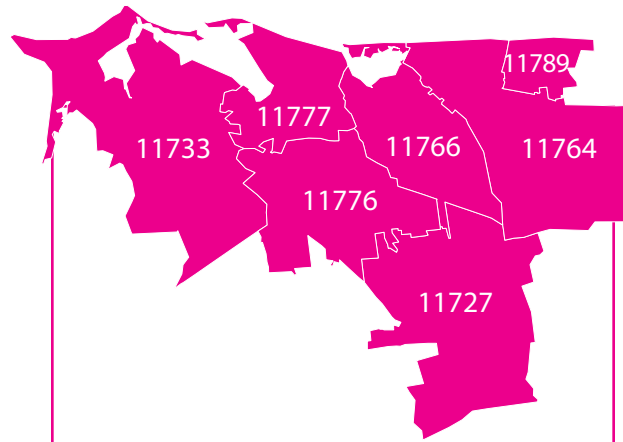
In most cases, these concerns were address- or incident-specific. The Final Integration Report contains an index that shows all of the concerns that could be addressed and where information about these can be found in the report.

11. What does the NYS Department of Health recommend that all women do to reduce their risk of breast cancer?

Because most breast cancer cannot be prevented, mammograms, breast self-exams and examination of your breasts by your health care provider increase the chances that breast cancer will be diagnosed early, when it is most treatable. While many risk factors for cancer are unknown and out of a person's control, there are some things you can do to help lower your risk of developing cancer. These include:

- Stop smoking or using tobacco of any kind.
- Get regular health check-ups.
- Eat high-fiber, vitamin-rich foods each day (fruits, vegetables, whole grain bread and cereal).
- Eat foods low in fat (lean meat and low-fat dairy products).
- Exercise regularly.
- Drink alcoholic beverages only in moderation, if at all.
- Avoid unnecessary x-rays.
- Avoid too much sunlight; wear protective clothing and use sunscreen.
- Discuss the risk of hormone replacement therapy with your doctor.
- Be aware of health and safety rules at work and follow them.

**For more information contact
New York State Department of Health
(800) 458-1158 ext. 27530
or visit us online at
<http://www.nyhealth.gov/environmental/investigations/cmp/>**



Questions & Answers About the Coram, Mt. Sinai Port Jefferson Station (CMP) Follow-up Investigation



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1. Why were seven ZIP Codes in Suffolk County investigated?

As part of the New York State Cancer Surveillance Improvement Initiative, a seven ZIP Code area was identified as having a significantly higher than expected incidence of breast cancer between 1993 and 1997. This area was chosen as the first to investigate using the Unusual Disease Pattern Protocol to try and identify unusual environmental or other factors that may help to explain locally elevated breast cancer incidence.

2. What are the major findings?

- The levels of contaminants and other possible environmental exposures in the CMP area were similar to or lower than levels in the rest of New York State for the majority of exposures examined.
- Health risk evaluations of elevated contaminants showed that none were likely to be related to the elevation of breast cancer incidence within the CMP area.
- The evaluations also showed that except for ozone, none of the contaminants are likely to be related to non-cancer health effects within the CMP area. Ozone levels in the CMP area as well as the rest of Long Island sometimes exceed the 8-hour ozone air standard, and Long Island has been a “non-attainment” area since an ozone standard was first introduced in the early 1970s. When concentrations are expected to exceed the 8-hour standard, the New York State Health Department (NYS DOH) recommends limiting strenuous outdoor physical activity to reduce the risk of adverse effects (such as nose and throat irritation, shortness of breath, chest pain, coughing and decreases in lung function). People who may be especially sensitive include the very young and those with pre-existing respiratory problems such as asthma.
- The higher than expected breast cancer rate in the area does not stand out as significantly different from the rest of New York State when researchers accounted for income and education, which are commonly accepted surrogates for certain known risk factors, such as having fewer children or having children later in life, diet and other lifestyle choices that have been linked with breast cancer risk.

3. Why was this investigation so time-consuming?

The CMP Follow-up Investigation was a broad-based examination of many factors. It included four lengthy evaluations that involved many NYS DOH staff and included community input into what was evaluated. It also represented the largest number and most thorough examination of environmental risk factors that we've done for cancer in a geographic area. In addition, it was the first trial of a research protocol that we had never used before for cancer investigations. Because this effort had implications for future cancer investigations, it required a more lengthy review and documentation of research methods. As a result, the investigation took a longer time to complete.

4. Will the NYS DOH be conducting any more follow-up activities in the CMP area?

Because no unusual factors related to breast cancer incidence or other health effects were found in the CMP area, NYS DOH recommends surveillance for this area, consistent with other statewide activities (see below for more details).

- NYS DOH will provide ZIP-Code level cancer data for breast, colorectal, lung and prostate cancer periodically for New York State.
- NYS DOH will identify and assess potential exposures throughout the state through routine environmental health activities and take action to reduce those exposures when necessary.
- NYS DOH will continue to provide public health education about health outcomes and environmental exposures in New York communities. The agency will respond to individual and public health inquiries recognizing the scientific limitations in answering these questions.
- As resources allow, NYS DOH will design and carry out studies of highly exposed populations that have been identified by biological or environmental monitoring.
- NYS DOH will explore the feasibility and usefulness of environmental health surveillance and tracking for different health outcomes and exposures throughout the state.

- NYS DOH will re-evaluate the Unusual Disease Pattern Protocol based on its first trial in the CMP area to determine its usefulness in conducting follow-up investigations for cancer and other health outcomes in New York State. This evaluation will consider the use of other methods including basic research into the biology of cancer and the mechanisms of carcinogens, and studies of highly exposed populations. It will also consider the likelihood that these methods will further knowledge about the role of the environment in disease occurrence.

5. Did the NYS DOH consider going back to the breast cancer cases and doing individual case histories or residential histories?

Length of residence was evaluated for women diagnosed with breast cancer in the CMP area using existing databases, telephone directories, residential address directories and property records. This showed us that many of the women had lived in the area for a long time prior to diagnosis and these women appear to live at their residences slightly longer than the general population (which is to be expected for older women), although a considerable proportion were recent arrivals.

We did not follow-up with individual interviews or questionnaires to gather additional information from women diagnosed with breast cancer because this type of effort only would make sense if we had a specific research question (or hypothesis) to evaluate. Our evaluation of possible environmental exposures did not suggest that any were likely to be associated with the elevation in breast cancer in the CMP area. Interviews or questionnaires are usually part of a study that looks at the group of women with cancer and compares them to a group of women without cancer to evaluate a specific hypothesis (e.g. does a particular chemical cause cancer). In this type of “case control study” researchers interview people with the disease (cases) and people without the disease (controls) after the disease has been diagnosed, and questions are asked that attempt to gather risk factor information going back many years before diagnosis.

Many such case-control studies have been done for breast cancer, and to date, they have not been very help-

ful for identifying specific environmental risk factors. The National Cancer Institute’s Long Island Breast Cancer Study Project includes case-control studies that explore various hypotheses about environmental and other types of exposures. These types of studies have been valuable for identifying risk factors for breast cancer such as childbearing and family history. But because of the difficulties of tracing past environmental exposure histories for individuals, studies of this type face difficult challenges when attempting to evaluate environmental exposures.

6. What other studies might provide insights into the causes of breast cancer?

Breast cancer is a complex disease and requires that researchers from many different disciplines work together. We know that many different types of genes, not all fully understood, are involved. The most promising areas of research focus on genetic differences among individuals that might influence how they react to various factors including environmental chemicals.

One important area of study is the biology of breast development, and how exposure to environmental chemicals and other factors in early childhood and adolescence may be related to the later development of breast cancer as an adult. An example of promising research underway is the Breast Cancer and Environment Research Centers (BCERC) project, which is investigating mammary gland development in animals and young girls to determine vulnerability to various factors that may influence breast cancer development in adulthood. The Centers’ varied research projects share a focus on how chemical, physical, and social factors in the environment interact with genetic factors to affect mammary gland development. This seven-year project is jointly funded by the National Institute of Environmental Health Sciences and the National Cancer Institute, with an annual funding level of \$5 million per year, for a total commitment of \$35 million.

For more information on breast cancer research see:

- researchportfolio.cancer.gov
- BCERC.org
- envirocancer.cornell.edu

7. Does it make sense to test for actual concentrations of carcinogens within the affected neighborhoods?

A major focus of this investigation was to examine existing environmental information to identify whether there is anything unusual in the CMP environment that may be related to breast cancer incidence. Based on our investigation protocol, environmental sampling would occur only if potentially elevated exposures were identified that could be related to breast cancer incidence and better exposure information could be obtained by environmental sampling (or testing for cancer-causing contaminants in the soil, water or air within the affected neighborhood).

After reviewing dozens of environmental data sets and the scientific literature about the potential for contaminants to cause breast cancer, our researchers found nothing unusual in the CMP environment that could be related to breast cancer incidence here. Without a research question (or hypothesis), it is unlikely that environmental sampling would provide useful data to better understand breast cancer incidence in the CMP area.

8. Why did you investigate possible environmental exposures, if breast cancer incidence in the CMP area does not stand out as significantly different from the rest of NYS after adjusting for income and education, which are surrogates for breast cancer risk factors?

A key objective of the CMP investigation was to try and identify unusual environmental factors that may help to explain locally elevated breast cancer incidence. Although our epidemiological evaluation showed that certain known risk factors might account for much of the excess in breast cancer incidence, we still could not rule out the possibility that other factors common to local women with breast cancer, such as environmental factors, also might be playing a role. As a result, we evaluated local environmental data and environmental risk factors to see if we could find any evidence that the environment also might be contributing to breast cancer in the area. The results of these additional evaluations found nothing unusual in the CMP environment that would likely be related to breast cancer incidence in these communities.

9. Would the Long Island Breast Cancer Study Project’s Geographic Information System (LI GIS) have helped to evaluate environmental exposures in the CMP investigation area?

The NYS Department of Health used its own GIS system to evaluate cancer (and other health outcomes), environmental and demographic data sets. Our GIS was the system used to generate our ZIP Code level breast cancer maps. It includes custom applications that were designed to detect unusual patterns of disease. This system was developed in the early 1990s and is continually updated with geographically-referenced environmental, health outcome and demographic data sets from local, state and federal agencies. Our GIS was better suited for the CMP Investigation because it covered all of New York State, was already in use and integrated with our data sets. It also can be customized to meet our researchers’ future needs.

We compared the data of the LI GIS with our GIS systems to see if we needed to obtain any new or better information. We found that the LI GIS provided no additional information for examining exposures in the CMP area. Useful LI GIS data for this investigation overlapped ours and provided similar tools and features. While the NYS Department of Health GIS was better suited to our research purposes, the LI GIS is an important information resource that is available to the public and other researchers. People can find out more about the LI GIS by visiting their web site at www.healthgis-li.com.

10. How were public comments and concerns addressed in the CMP Follow-up Investigation?

Researchers evaluated all public concerns about possible environmental exposures and compiled data from state and local agencies related to each concern. Where sufficient data could be obtained, these were evaluated as part of the environmental exposure evaluation in the Final Integration Report. However, several environmental concerns could not be addressed because no data could be found to evaluate environmental exposures associated with the concern.