

An important Public Health Evaluation was completed under the guidance of the Navy and Marine Corps Public Health Center. The Public Health Evaluation was designed to evaluate the potential short and long-term health risks associated with living in the Naples area as a result of inadequate trash collection, uncontrolled open burning of uncollected trash, and widespread dumping of waste, including chemical and other hazardous waste.

Launched in 2008, the Public Health Evaluation involved the collection of air, water, soil and soil gas samples from throughout the region to identify whether there were potential health risks.

For details and background information, visit the website listed at the bottom of this page.

# Your Health: Facts for Navy Families in Naples

## About: Cancer Epidemiological Study

*The U.S. Navy is committed to ensuring our families are safe while serving our country at home or overseas. The following information is provided as part of a wide-ranging effort to understand the health risks of our personnel and families living in Naples, Italy. A comprehensive Public Health Evaluation was conducted to assess potential short and long-term health risks associated with living in the Naples area (see sidebar). In line with our commitment to continually share important health information, we encourage you to review the following information.*

### What is an epidemiological study?

An epidemiological study looks at the distribution of disease, or other health-related conditions and events in human populations, as related to age, sex, occupation, environment, ethnicity, and economic status to identify and alleviate health problems and promote better health. One of the most important distinguishing characteristics of epidemiology is that it deals with groups of people rather than with individual patients. For more information on epidemiology, see the fact sheet, "Epidemiology" located on the Naples Community Health Awareness website at <https://www.cnmc.navy.mil/Naples/Programs/HealthAwareness/FactSheets/index.html>.

### What is the Cancer Epidemiological Study?

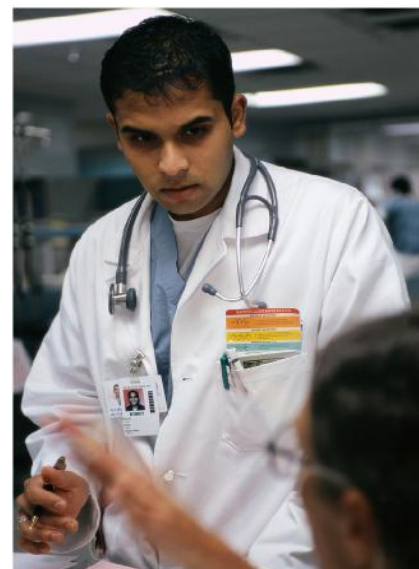
The Cancer Epidemiological Study was one of several studies conducted as part of the Naples Public Health Evaluation. The Study was completed in September 2009.

The Cancer Epidemiological Study was designed to answer one fundamental question:

- Were there any observable changes in cancer rates for Navy active duty personnel and family members who live in Naples compared to cancer rates for the Navy in general?

The Study examined the inpatient and outpatient electronic records for visits at military health care facilities and reimbursed care at non-military health care facilities from 1 January 1997 to 15 May 2009. Incident cases of acute myelogenous leukemia (AML), non-melanoma skin cancer (NMSC), and melanoma in these records were identified. These cancers were selected based on the chemicals of concern, the target organs, and the cancer latency period. These cancers have a relatively short latency period.

*The observed incidence rate of skin cancer was lower, but not significantly different from the range of incidence rates reported in the literature or U.S. cancer registry reports.*





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## What did the study find out?

The study identified 9 cases of NMSC, less than 5 cases of melanoma, and less than 5 cases of AML.

Several factors limit the conclusions of the study and the results should be carefully interpreted.

First, the study population was small and relatively young. Most cancer studies involve a wide distribution of ages and larger populations.

Second, the military is more efficient in tracking incidences of cancer relative to the civilian population; therefore, the military population may appear to have a higher rate of cancer than a comparable civilian population. No published studies of NMSC were available for comparison.



Finally, the active duty population has a lower prevalence of some risk factors for cancer. A better comparison would be to another military group; however, no published studies of NMSC were available for comparison.

## What is cancer?

Cancer is not a single disease, but a group of more than 200 different diseases. It can generally be described as an uncontrolled growth and spread of abnormal cells in the body. Normally, cells divide to produce more cells only when the body needs more cells. However, sometimes cells keep dividing and create more cells even when they are not needed. This forms a mass of extra tissue called a tumor. Malignant (injurious) tumors are cancerous, while benign (non-injurious) tumors are not.

Cancer cells can invade and damage tissues and organs and can break away from a malignant tumor and enter the lymphatic system or the bloodstream. This is how cancer spreads to other parts of the body. The characteristic feature of cancer is the cell's ability to grow rapidly, uncontrollably and independently from the tissue where it started. The spread of cancer to other sites or organs in the body through the blood stream or lymphatic system is called metastasis.

Because the cause of cancer is unknown much of the time, the start of the cancer process is also unknown. Some cancers are related to exposures that occurred many years before they were detected. An example of this is lung cancer from asbestos exposure, where it can take more than 30 years from first exposure to asbestos for the cancer to develop. The time from first exposure to detection is called latency. For a specific cancer to be related to a specific exposure or agent, the time from first exposure must be sufficient for the cancer to develop.

## What causes cancer?

The causes of cancer are very complex, involving cells in the body and factors in the environment. Much is still unknown about the true nature of what causes cancer and what factors will trigger cells to become cancerous.

Regardless, much progress has been made in linking cancers to possible causes, including: chemical and other substances; tobacco; radiation; and heredity.