

An extensive Public Health Evaluation was performed 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 and completed in 2011, the Public Health Evaluation involved the collection of air, water, soil and soil gas samples from throughout the Naples area to identify whether there were potential health risks.

Your Health: Facts for Navy Families in Naples

About: Asthma 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. From 2008-2011, the Navy conducted a Public Health Evaluation 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.

What were the Asthma Epidemiological Studies?

The Asthma Epidemiological Studies were one of several studies conducted by the Navy and Marine Corps Public Health Center (NMCPHC) as part of the Naples Public Health Evaluation.

Two asthma epidemiological studies were conducted, the first was completed in October 2008, and a second study was completed in June 2010. These studies were designed to measure changes in asthma diagnoses for residents of U.S. Navy facilities in Naples, which included Capodichino, Support Site and Gaeta. One of the primary reasons for conducting the study was to determine if exposure to smoke from illicit burning of trash increased the severity of asthma in the study population.

The first (2008) study was designed to answer two fundamental questions:

- Do the frequency and severity of asthma symptoms worsen for Navy active duty personnel and family members while living Naples?
- Are personnel more susceptible to asthma four to six months after arriving in Naples?

A follow up asthma epidemiological study was performed in 2010.

For more information on epidemiology, see the fact sheet, "Epidemiology" located on the Naples Community Health Awareness website listed at the bottom of this page.

What did the studies find out?

The first asthma study was completed in October 2008 (see Appendix I) and included USN personnel that were treated for asthma at least once at U.S. Naval Hospital Naples and its branch medical clinics between October 1, 2006, and June 30, 2008. The 2008 study did not find any significant trends with regards to asthma severity or asthma medical visits during the study period. The October 2008 study lacked both the population sample size and the air pollution exposure data necessary to draw meaningful conclusions about the relationship between asthma and air pollution. For this reason, a second study was conducted to investigate any changes in asthma burden that might be associated with exposure to ambient air pollution.

Overall, the asthma studies found a weak, positive association between increasing levels of fine particulates (PM10) in ambient (outdoor) air and a person being categorized as a persistent asthmatic in the population serviced by U.S. Naval Hospital Naples. It also found an increased risk of being categorized as a persistent asthmatic in adults 20 years and older when compared to children under 20 years old among the U.S. Naval Hospital Naples population. This study also observed a statistically significant linear trend in the proportion of persistent asthmatics since 2006, while similar trends were not observed in Rota, Spain, or Sigonella, Italy.

Who was part of the study population?

These studies linked medical visit records with housing records to identify personnel that were treated for asthma at least once at U.S. Naval Hospital Naples and its branch medical clinics. The 2008 study was conducted between



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October 1, 2006, and June 30, 2008. This time period was selected because of the availability of data sources; internal coding of asthma severity was required in the medical record starting in October 2006, and available housing records ended on July 1, 2008. The study population included all residents living in U.S. government housing

While civilians and other non-military healthcare beneficiaries were eligible for the study, the lack of documentation of their asthma information prior to arrival in Naples limited their full participation.

Medical visits that were outside of the Military Healthcare System (MHS) were not captured by this study. This may include any civilians or other non-military healthcare beneficiaries that were diagnosed prior to reporting to Naples. While some of these individuals may be included in the study, some were excluded due to incomplete records within the MHS.

What information was examined in the study?

Historic diagnoses of asthma in Naples were analyzed to measure any changes in severity of disease over time within the study population and for individual cases.

The Asthma Epidemiological Studies examined:

- Records of medical visits related to asthma and upper respiratory illness before and after arriving in Naples;
- Medications prescribed;
- More detailed health information on individuals diagnosed with asthma in Naples; and
- Location of residence through Naval Support Activity Naples Family Housing records.

What happens now since the studies are completed?

The second, or updated, asthma study linked the medical visit records of U.S. personnel living in Naples who were seen for asthma, with air quality data collected from July 2008 to July 2009 from the regional ambient air monitoring

study conducted for the Naples PHE. The updated asthma study included all DOD beneficiaries who received care at U.S. Naval Hospital Naples or its branch medical clinics (Capodichino and Gaeta) from July 1, 2008, to July 31, 2009. The study also included civilians and other non-military health care beneficiaries treated at Naval Hospital Naples or its clinics.

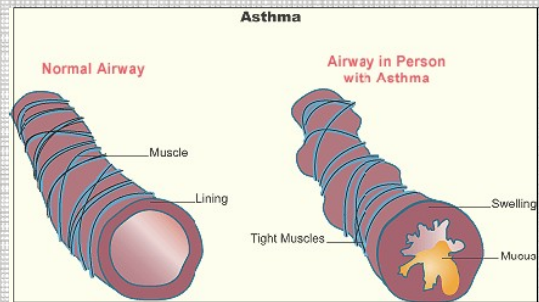
U.S. Naval Hospital Naples will continue to provide current residents with health information on preventing and reducing the severity of upper respiratory system illness. For health-related questions, contact the Environmental Health Information Center (see sidebar for contact information).

Where can I review the studies?

The studies, along with other information related to the Public Health Evaluation, are posted on the Naples Community Health Awareness website.

What is asthma?

Asthma is a disease that affects the lungs and is associated with allergies, exposure to very fine particulates and some industrial chemicals. It causes repeated episodes of wheezing, breathlessness, chest tightness and nighttime or early morning coughing. An asthma attack occurs when the airways in the lungs swell and air flow is constricted, as depicted in the figure below.



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What causes asthma?

In most cases, the causes of asthma are unknown. However, we do know that an asthma attack can be triggered by exposure to things in the environment like air pollution, dust mites, tobacco smoke, pets, allergens and mold.