



Naples
Community
Health
Awareness

An important Public Health Evaluation is underway under the guidance of the Navy and Marine Corps Public Health Center. The Public Health Evaluation is 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 involves the collection of air, water, soil and soil gas samples from throughout the region to identify whether there are 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: Epidemiology

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. Currently underway is a comprehensive 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.

Introduction

The Navy and Marine Corps Public Health Center (NMCPHC) is conducting three epidemiological studies as part of the Naples Public Health Evaluation to better understand the health risks associated with living in the Naples area:

- Asthma Epidemiological Study, completed in October 2008;
- Birth Defects Epidemiological Study, completed in January 2009; and
- Cancer Epidemiological Study, currently being developed.

Visit the Naples Community Health Awareness website listed at the bottom of this page to review the studies and fact sheets. A summary of findings is provided on the back page of this fact sheet.

What is epidemiology?

Epidemiology is the study of 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. Epidemiology is the basic science of public health.

One of the most important distinguishing characteristics of epidemiology is that it deals with groups of people rather than with individual patients. Epidemiologists attempt to search for causes or factors that are associated with increased risk or probability of disease by asking questions such as "who," "what," "where," and "when" and start trying to answer "how" and "why."

Who studies epidemiology?

Many professions use findings from epidemiological studies. Public health agencies, doctors, researchers and businesses use the information to practice preventive medicine. For

example, the causes for diseases such as cancer, heart disease and strokes are not all known. By using epidemiology, researchers are looking for risk factors to reduce or prevent disease.

Why is epidemiology important?

Epidemiology attempts to describe where diseases come from and how they spread in populations. By studying patterns, researchers may figure out how to prevent or treat diseases and injuries within populations.

The concept and practice of disease prevention is important for the health of the public and for the health of individuals. In the past, epidemiology focused on infectious diseases. Today, epidemiology is also applied to the whole spectrum of health-related events including chronic (long-term) disease, environmental problems, behavioral problems and injuries.

Frequently used epidemiological terms

- **Incidence.** The number of new cases of disease in a defined population over a specific time period (day, month, year, etc.).
- **Prevalence.** The number of existing disease cases in a defined population over a specific time period.
- **Rate.** The number of individuals that experience the event or disease in a defined population over a specific time period.
- **Risk.** The likelihood that an individual will develop a given disease in a specific time period.
- **Morbidity.** State of being ill or diseased.

Where can I learn more?

To learn more about epidemiology, visit:

- Centers for Disease Control and Prevention, <http://www.cdc.gov>
- U.S. Food and Drug Administration, <http://www.fda.gov>
- National Institutes of Health, <http://www.nih.gov>



For more information contact:

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What is the Asthma Epidemiological Study?

Completed in October 2008, the Asthma Epidemiological Study was 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 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 in Naples?
- Are personnel more susceptible to asthma four to six months after arriving in Naples?

What did the study find out?

Based on numerous statistical models that were used to investigate possible relationships between changes in asthma severity and arriving in Naples before and after widespread trash burning began in May 2007, the study concluded the following:

- There are no significant associations or trends between exposure to the environment in Naples and asthma severity over the study period.
- Asthma severity does not appear to increase significantly within the first six months of arriving in Naples. This finding was based on a small number of study members. An update of the study will be reported in summer 2009 using additional data collected since June 2008.

For more information on this study, see the fact sheet, "Asthma Epidemiological Study" and the report on the Naples Community Health Awareness website.

What is the Birth Defects Epidemiological Study?

Based on concerns raised in Italian health studies, NMCPHC asked the Naval Health Research Center to conduct a study of birth defects among Department of Defense (DoD) beneficiary infants who were conceived in the Naples region. The DoD Birth and Infant Health Registry captures comprehensive healthcare data to define all live births and infant health outcomes among infants born to DoD beneficiaries.

The Birth Defects Epidemiological Study

examined birth records of women in the DoD Birth Registry who lived in Naples during their pregnancy periods and compared the birth outcome rates of these women with DoD Birth Registry data. A "birth outcome" is the condition of a child when it is born.

The Birth Defects Epidemiological Study was designed to answer one fundamental question:

- Was the risk of birth defects in children who were conceived while the mothers were enrolled in a Military Treatment Facility or associated clinic in Naples significantly different from children born to mothers who were enrolled in other overseas facilities?

What did the study find out?

Among the 8,678 infants born from 2000 to 2005 that were part of this study, the mothers of 894 infants were living in Naples the month prior to conception and the following three months of pregnancy. The mothers of 7,784 infants were living in other overseas Navy locations during this period.

For every 100 Navy births overseas and in the United States, there is an average of 3.6 birth defects in children born to women whose healthcare is provided by the DoD, including those born in civilian hospitals, for the study time period. The Birth Defects Epidemiological Study found that the Naples group (894 infants) had an average birth defect rate of about 3.13 per 100 births, lower than the overall Navy rate. Because people have to be screened before they go overseas, the Naples group was compared to the birth defect rate in children that were conceived at all other Navy overseas locations (7,784 infants), calculated to be an average of 2.35 birth defects per 100 births. While the average birth defect rate in the Naples group is numerically higher than those born at other overseas Navy locations and lower than the overall Navy rate, the average rates are statistically too close to be considered different.

The study concluded the following:

- The risks of birth defects in children conceived overseas and in Naples were both lower than the overall Navy rate during the study period.
- When compared to birth defects in children conceived at other overseas facilities, the risks were higher for Naples but the difference was not statistically significant.

For more information on this study, see the fact sheet, "Birth Defects Epidemiological Study" and the report on the Naples Community Health Awareness website.