



NAPLES

Public Health Evaluation

Risk Communication Case Study



Naples
Community
Health
Awareness



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NAVY AND MARINE CORPS PUBLIC HEALTH CENTER
NAPLES PUBLIC HEALTH EVALUATION
A RISK COMMUNICATION CASE STUDY
May 2013

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NAVY AND MARINE CORPS PUBLIC HEALTH CENTER

NAPLES PUBLIC HEALTH EVALUATION

A RISK COMMUNICATION CASE STUDY

Section I

Introduction

Communication was an integral and critical part of the Naples Public Health Evaluation (PHE) from its inception. The communication program served to proactively inform stakeholders about project activities and findings, communicate potential health risks and mitigation actions, and provide opportunities for stakeholder involvement. Moreover, the communication program built community trust in the study results and helped U.S. Navy personnel and their families be active partners in their own health protection.

The purpose of this case study is to provide an overview of risk communication and public outreach activities that occurred to support the Naples PHE, from the initiation of the project to the project's completion (2008 – 2011). In addition to documenting communication and outreach activities, this case study provides an overview of the lessons learned and a communication approach that can be used as a model for other projects where health and environmental risk communication are instrumental to a successful project outcome. While some of the project's features may be unique to activities conducted on foreign soil, the care and forethought that went into designing the risk communication program and selecting the techniques for addressing health concerns has applicability whenever and wherever U.S. personnel are potentially exposed to environmental contaminants.

Overview

Problem – What, Where, When and Why

For nearly 30 years, the Campania region of southern Italy has experienced numerous challenges associated with widespread illegal dumping of waste. In 1994, the Italian national government declared the first of many emergencies in Campania, in an attempt to deal with the lack of waste disposal facilities that resulted in widespread illegal waste disposal, uncontrolled accumulation of trash, and open burning of this trash. In 2007, in response to health concerns expressed by U.S. Navy personnel stationed at Naval Support Activity (NSA) Naples, the Commander, Navy Region Europe, Africa, Southwest Asia (CNREURAFSWA) contacted the Navy and Marine Corps Public Health Center (NMCPHC) in Portsmouth, VA, to conduct a comprehensive public health evaluation to assess the potential health risks for U.S. personnel living in the Naples area. The intent was to address the following questions:

- What chemicals have been released to the environment?
- How much of the chemicals are present and at what locations?
- How might U.S. personnel and their families come into contact with chemicals in the environment?

- How might exposure to these chemicals affect human health?
- What actions are needed to protect U.S. personnel and their family's health?

The Naples PHE began in January 2008 and was completed in June 2011. The study involved the collection of aqueduct (source) water, tap water, irrigation water, soil, soil gas and ambient air samples. NMCPHC also conducted epidemiological studies – focusing on birth defects, cancer and asthma – and a food study. The food study focused on vegetables and poultry grown near the Campania region and sold at the Navy commissary at the Support Site in Gricignano. The Navy also conducted an extensive review of Italian scientific literature and media reports. These are contained in the NMCPHC Naples Public Health Evaluation Public Health Summary Volume III report of May 2011.

The Naples Public Health Evaluation was an extensive, unprecedented study for the Navy and Department of Defense. A 395 square-mile regional area was divided into nine discrete study areas. Multiple sampling events took place over two phases, including a pilot study and a year-long ambient air sampling study. Samples were collected from 543 off-base private rental homes occupied by U.S. personnel and from 10 U.S. Government-related properties. Each sample was analyzed for approximately 240 chemicals and microorganisms in eight main categories.

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Public Health Evaluation

Ensuring U.S. military and civilian families are safe while serving our country overseas

Naples Community Health Awareness

NAPLES Public Health Evaluation

What is it?

A scientific study of the potential short and long-term health risks associated with potential exposure to chemicals in the environment resulting from the area's waste disposal practices.

It is scientifically organized to answer specific health effects questions:

- ▶ What chemicals have been released to the environment?
- ▶ How much of the chemicals are present and at what locations?
- ▶ How might people come into contact with the chemicals?
- ▶ How might exposure to these chemicals affect human health?
- ▶ What actions are needed to protect public health?

Why was the study conducted?

The study was conducted in response to health concerns expressed by Navy personnel and their families, and published reports, studies and news articles in the Italian science and news media regarding:

- ▶ Inadequate trash collection;
- ▶ Uncontrolled, open burning of uncollected trash; and
- ▶ Illegal dumping of potentially hazardous waste.

How was the study conducted?

The Navy collected tap water, irrigation water, soil, soil gas, outdoor air, and select indoor air samples from off-base rental homes and U.S. Government-related facilities in nine study areas covering 395 square miles of the Campania region. These samples were analyzed for chemicals to assess whether there are potential health risks.

The study was strategically conducted in two phases, with five sampling events, to fine-tune the investigation and gather critical data:

Sampling events:

1. Phase I (May 2008 – November 2008)
2. Ambient Air and Meteorological Monitoring (July 2008 – July 2009)
3. Pre-Lease Sampling (September 2008 – January 2009)
4. Step-Out Sampling (September 2008 – August 2009)
5. Phase II (November 2008 – October 2009)

Risk Communication Approach

To develop a sustainable and focused risk communication program, the Navy identified three key elements: (1) communication program objectives; (2) the people, agencies, and organizations considered to be “stakeholders;” and (3) the methods for reaching these identified stakeholders. These elements were identified at the beginning of the PHE to guide the overall risk communication strategy. In addition to the overarching PHE communication program, activity-specific communication plans were developed to guide the risk communication strategy for specific PHE actions that were anticipated to generate a heightened interest for stakeholders. Key messages to support the communication objectives were incorporated into virtually all risk communication materials and presentations. Key messages were also developed for the activity-specific communication plans.

As a result of a successful proactive communication program, the Naples PHE received the Department of the Navy’s 2008 and 2009 Thompson-Ravitz Award for Excellence in Navy Public Affairs, for the category of internal communications for small shore installations.

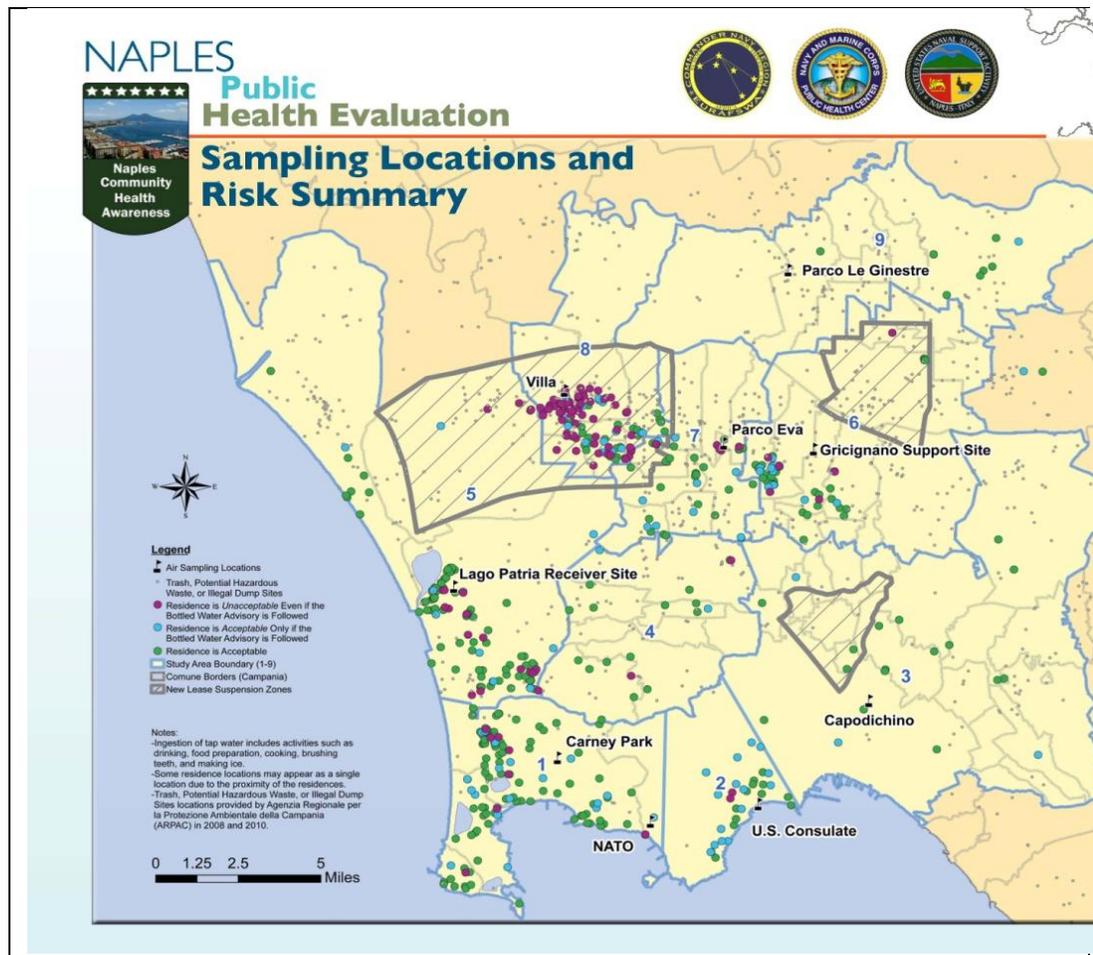
Planning and implementing the risk communication and outreach program was a collective effort of several PHE team members representing various commands and departments. The NMCPHC Environmental Programs Directorate was designated the science technical lead for the PHE, in part to ensure that risk communication principles were used to guide the strategy for environmental health communication efforts.

Support from Navy Leadership was absolutely crucial in being able to create and carry out a proactive and robust risk communication program for the PHE. To support the communication program, a full-time Public Affairs Officer (O-5/Commander) and a bilingual (Italian/English) community relations specialist were dedicated with primary duty for the PHE at the CNREURAFSWA Public Affairs Office at NSA Naples. The NMCPHC had a full-time contract risk communication specialist dedicated to the PHE at their office in Portsmouth, VA, to work directly with the science technical lead (GS-14 Health Risk Assessor/Risk Communicator) in the Environmental Programs Directorate. NMCPHC also teamed with their contract risk communication training specialist to provide risk communication training to key PHE personnel. The Navy Bureau of Medicine and Surgery (BUMED) also established an Environmental Health Information Center (EHIC) at U.S. Naval Hospital Naples to serve as a health information and consultation resource. The EHIC was established to operate beyond the life of the PHE. The EHIC is managed by the Director for Occupational Health and Preventive Medicine, an O-6 Occupational Medicine Officer (also the CNREURAFSWA Public Health Emergency Officer [PHEO]) and the Environmental Health Officer (O-4), with assistance from Preventive Medicine Technicians. Without this ongoing support and dedicated staff, the Navy command would have experienced great difficulty keeping abreast of PHE findings and addressing the multitude of stakeholder concerns that such a large study was destined to engender.

Based on Navy Leadership’s foremost desire to look after the health and welfare of its personnel and their families, along with the unique aspects of conducting a PHE on foreign soil, the following communication objectives were developed for the Naples PHE:

- Increase confidence in Navy Leadership’s commitment to the health and well-being of U.S. Naples personnel and their families.
- Raise awareness about the Naples PHE, including findings and mitigation actions.
- Establish trust and confidence in the Naples PHE, environmental sampling results, and recommended mitigation actions.

- Establish two-way communication and designate staff resources for U.S. personnel and their families, and other stakeholders.
- Fully inform stakeholders and work to provide context for identified risks.
- Communicate Navy actions as appropriate, timely and responsive.
- Keep stakeholders continually informed in a timely manner.
- Encourage “residents” (i.e., U.S. personnel living off-base) and landlords to follow recommended mitigation actions.
- Build and foster cooperative relationships with Italian authorities and landlords.
- Encourage and support appropriate action from Italian authorities and landlords.



As mentioned above, activity-specific communication plans were developed to guide the risk communication strategy for specific PHE actions that were anticipated to generate a heightened interest for stakeholders. The development of communication plans was crucial in ensuring that the team was prepared to communicate with stakeholders: The communication plans ensured communication objectives, key messages and pertinent stakeholders were outlined; potential

issues and stakeholder concerns were identified to prepare the Communication Team for stakeholder inquiries and appropriate responses; roles and responsibilities were assigned; and the Navy's timing for communication was thought-out, efficient and timely. In general, each communication plan included the following elements:

- Description of the purpose of the communication plan.
- Identification of stakeholders that may be affected or interested in the specific issue at hand.
- Description of the background and purpose of the PHE activity.
- Identification of potential communication issues that may result because of the activity.
- Development of communication objectives.
- Development of key messages.
- Identification of points of contact (POCs) for the identified stakeholders.
- Identification of communication methods to best interact with the identified stakeholders.
- Development of a timeline for the communication activities.
- Development of anticipated stakeholder questions.

Activity-specific communication plans were developed for the following environmental sampling activities and PHE documents:

Sampling Activities

- Additional sampling at Parcos Eva and Le Ginestre
- 1,500-foot step-out sampling in Casal di Principe
- Vapor intrusion investigation for U.S. Government sites
- Vapor intrusion investigation sampling results and installation of a vapor intrusion mitigation system for the Capodichino Child Development Center

PHE Documents

- Phase I report
- Phase II report
- Epidemiological studies (Cancer, Asthma, Birth Defects)

Once the communication program for the specific activity was completed, communication materials that were developed specifically for that purpose were included as an appendix to the communication plan. For example, the appendix may have included fact sheets, handouts, flyers, call scripts, *Panorama* articles, All Hands emails, news releases, and media coverage.

Lessons Learned

Over the course of the three-and-a-half year study, the most crucial element to establishing a successful risk communication program was Leadership's commitment to the health and safety of U.S. personnel and their families. From this basic commitment came the provision of funds for dedicated staff resources (i.e., manpower), the establishment of the EHIC, and support for changes to Navy policy and timely and transparent communications. Other lessons learned that have contributed to the effectiveness of the PHE communication program include:

- Incorporating risk communication into the area of responsibility for the science lead provided seamless and timely transition from technical findings to plain English explanations to stakeholders.
- Distributing information in a timely and consistent manner to all stakeholders, including U.S. personnel, Italian representatives, landlords, and media was key in maintaining Navy credibility as a go-to resource for information. Timely communications minimized rumors and misinterpretations and allowed the Navy to be at the forefront of communications. Updating the Naples Community Health Awareness website in a timely manner further solidified the Navy as a go-to information resource.
- Establishing and maintaining the EHIC and providing health consultations and information resources were critical to addressing stakeholder concerns. Staff trained in how to properly communicate with individuals in health risk situations was critical.
- Planning for milestone communications through the development of communication plans, including identifying the communication objectives, key messages, targeted stakeholders, communication methods, and timing was key in preparing the team for interacting with stakeholders and media, providing timely information, and being prepared for a rapid response to inquiries or incorrect information.
- Selecting the proper methods for releasing and presenting information was important to ensure communications were effective, understood and met the needs of stakeholders.
- Taking advantage of already established communication mediums to reach stakeholders allowed the Navy to communicate in ways personnel were already used to. For example, providing a weekly column in the widely read base newspaper *Panorama*, news segments on American Forces Network (AFN) Naples television and radio, and using All Hands emails were effective communication mediums.
- Meeting with reporters, either by participating in interviews or conducting briefings, increased the likelihood for technically accurate and balanced news stories.
- Periodically assessing feedback from U.S. personnel through evaluation forms and comment forms regarding the effectiveness of communication activities. This enabled the Navy to determine how this stakeholder group preferred to receive communications, which allowed the Navy to make modifications as needed. Implementing suggestions received by U.S. military and civilian personnel further demonstrated the Navy's commitment.
- Allocating full-time personnel was critical to having a proactive communication program and to addressing concerns in a timely manner. Furthermore, in-house capability through the public affairs office for translation of Italian media stories allowed the PHE team to stay abreast of potential issues.
- Conducting briefings for residents and landlords allowed the PHE team to communicate directly with impacted stakeholders. This was instrumental in establishing trust and maintaining credibility.
- Conducting briefings for Naval Hospital Naples healthcare providers about PHE findings and providing risk communication training to them allowed the healthcare providers to be informed about the project, stay abreast of issues, and anticipate patient questions and concerns.
- Providing risk communication training and public meeting dry runs for key NSA Naples and CNREURAFSWA staff ensured staff had an understanding of risk communication and the complexities and importance of communicating the PHE to stakeholders.

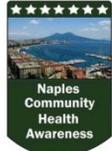
- Developing a website where residents could download the health risk assessment report for their home minimized the administrative burden of producing and mailing hundreds of reports, allowed residents who had already relocated from NSA Naples to instantaneously download their report, and provided administrative tracking functions for the PHE team.
- Translating material, such as fact sheets, notices and executive summaries, into Italian encouraged understanding of the information and minimized misinterpretations.
- Meeting with Host Nation regulatory agencies to brief the PHE results and intent for the next phase of the PHE was an important process in Host Nation relations, particularly since Italian landlords were impacted and the PHE was of interest to Italian media.

Timeline and Milestones

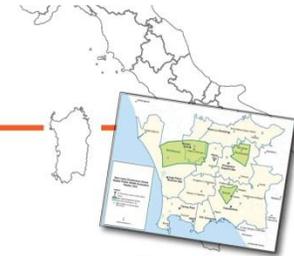
As demonstrated by the following timeline, the Naples PHE was a fast-paced and dynamic project in which each set of findings led to the need to take action on behalf of U.S. personnel, and often, the need to conduct additional sampling to follow up on previous unexpected results.

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Project Milestones and Health Protective Actions



CNREURAFSWA issues Drinking Water Management Instruction for establishing installation and regional water quality boards.

Navy and Italian authorities agree to work together; Navy granted permission to collect samples.



NSA Naples publishes first Consumer Confidence Report for drinking water quality on base.

Navy meets with Italy's regional environmental agency (ARPA) to discuss Public Health Evaluation approach.



Navy finds Campania Region foods at Commissary are safe following analysis of Food Study samples.

Navy provides potable tap water to Carney Park by connecting to public water supply.



Navy finds tap water contamination at off-base homes.



Sampling results lead to first relocations of U.S. personnel living off-base.



Navy completes asthma study. Inconclusive findings lead to follow-up study.

Navy establishes New Lease Suspension Zones based on Navy and Italian data.

Navy implements new health protective lease clauses for off-base rentals.



Trash crisis raises concerns; CNREURAFSWA requests NMCPHC to conduct Public Health Evaluation.

NMCPHC visits Naples for initial consultation with CNREURAFSWA and U.S. State Department officials.

NMCPHC arrives in Naples for scoping visit.

Navy establishes Health Awareness website and online question form.

Navy begins publishing weekly updates in *Panorama* and distributing All Hands e-mails.

Navy begins holding project-related All Hands meetings.

Installation Drinking Water Management Board is established and meets for first time.



Navy holds informational meetings for personnel who had their home sampled during the Pilot Study.

Navy issues Bottled Water Advisory for U.S. personnel living off-base.



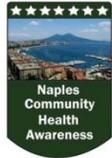
Navy begins distributing free bottled water to U.S. personnel living off-base.



Navy establishes Environmental Health Information Center at U.S. Naval Hospital Naples.



NAPLES Public Health Evaluation



Project Milestones and Health Protective Actions



Navy holds informational meetings for personnel who had their home sampled in Phase I.

Navy completes Phase I Report. Public is notified and informational sessions are held.



Navy finds acceptable indoor air quality at Capodichino and Support Site following completion of vapor intrusion study.



Navy finds cancer risk is not increased following completion of cancer study.

Housing Office begins posting maps of sampling results to aid personnel searching for a home.

Navy installs Water Distribution Point at Capodichino to provide free drinking water to U.S. personnel living off-base.



Navy installs irrigation water "non-potable" signs at various sites.



Navy finds increased air pollution can worsen asthma severity in people with asthma following completion of second asthma study.



Chief of Naval Operations approves working group's recommended enduring processes.



Navy finds birth defects risk is not increased following completion of birth defects study.



Navy holds informational meetings for Parco residents.



Navy meets with Italian officials to discuss Phase I findings and sharing of data.



Navy meets with Italian landlords to discuss study findings, New Lease Suspension Zones, and relocation of Navy families.

Navy collects samples from aqueduct sources through joint sampling campaign with Italian officials.



Navy completes installation of water treatment system at NCTS Lago Patria.



Navy completes installation of precautionary vapor intrusion mitigation system at Capodichino Child Development Center.



Navy forms working group to recommend enduring processes for long-term health protection.

Navy completes Phase II Report. Public is notified and informational sessions are held.

Navy holds informational meetings for personnel who had their home sampled in Phase II.

Enduring processes will provide long-term, continued health protection.

Audiences and Stakeholders

There were three primary stakeholder groups to which the risk communication program was focused: (1) U.S. military and civilian personnel; (2) Italian elected officials and regulatory agencies; (3) and landlords of off-base homes occupied by U.S. personnel. Other stakeholder groups, such as Navy Leadership, U.S. State Department, Italian environmental agencies and elected officials, Italian nationals who worked on base, and media, were also important and included in communications.

Primary stakeholder groups:

- (1) U.S. military and civilian personnel*
- (2) Italian elected officials and regulatory agencies*
- (3) Landlords of off-base homes and Parcos*

U.S. Military and Civilian Personnel

The PHE was conducted for the health and safety of U.S. personnel and their families serving in Naples. As such, the risk communication strategy for the PHE was centered on this stakeholder group. Communication activities for U.S. personnel and dependents were ongoing throughout the PHE to promote frequent and consistent communication about the PHE, to include raising awareness of the program, findings, and health protective measures.

Italian Elected Officials and Regulatory Agencies

Building relationships with Italian elected officials and regulatory agencies and fostering those relationships throughout the PHE and beyond was important to the success of the PHE. The Italian Government designated three POCs to whom Navy correspondence, updates, and requests for information could be addressed. The three POCs were from the following agencies: (1) National Department of Civil Protection (*Dipartimento Nazionale della Protezione Civile*), General Director, International Relations Office, Rome; (2) Health Department, Campania Region (*Assessorato alla Sanita'*), Councilman, Naples; (3) Environmental Department, Campania Region (*Assessorato all'Ambiente*), Councilman, Naples.

To provide consistency in communication, the PHE team designated the Navy's Regional Health Awareness Working Group (RHAWG) team leader and the EHIC as the points of contact for the Italian POCs. The U.S. Consulate, Naples, provided counsel to the Navy regarding timing of communication activities, methods of communication and other political issues.

Landlords of Off-Base Homes and Parcos

At the time of the PHE, there were approximately 3,800 off-base private rental properties listed in the NSA Naples Housing Office database. These properties were located throughout the PHE's 395-square-mile study area. Through NSA Naples Housing, the Navy had direct relationships with the landlords of these properties.

In addition to the private rental properties, there were two U.S. Government-leased Parco properties (Parco Le Ginestre and Parco Eva) that exclusively housed U.S. personnel. Coordination with the landlords of these Parco properties was administered through Naval Facilities Engineering Command (NAVFAC) EURAFSWA Real Estate.

Communication Team

Navy and Marine Corps Public Health Center

Planning and implementing the risk communication and outreach program was a collective effort of several PHE team members representing various commands and departments. The NMCPHC Environmental Programs Directorate was the science technical lead for the PHE and lead risk communicator to guide the strategy for environmental health communication efforts. The NMCPHC provided briefings to Navy Leadership, Italian regulatory agencies, and residents. The NMCPHC also supported the EHIC in consultations with U.S. personnel, as needed, to include providing technical information and call scripts for various types of notifications to residents. Having a full-time risk communication specialist dedicated to the PHE to work directly onsite with the technical team at the NMCPHC was crucial to implementing a proactive risk communication program. The availability of full-time, onsite support enabled production of more proactive communications, informational materials, and better preparation of the Communication Team to respond to inquiries and interface with stakeholders. The NMCPHC also provided risk communication training to Naval Hospital Naples staff and to the PHE project team and NSA Naples and CNREURAFSWA Leadership at key project milestones.

CNREURAFSWA Public Affairs

CNREURAFSWA Public Affairs, with risk communication support from NMCPHC, was the lead for executing internal and external communication activities, including coordination with the media and U.S. Consulate, Naples. Other general responsibilities of CNREURAFSWA Public Affairs included drafting and coordinating the publication of All Hands emails, weekly PHE articles for the on-base newspaper *Panorama*, website updates, and Public Affairs Guidance. To support the robust communication program, a Public Affairs Officer (O-5/Commander) and a bilingual community relations specialist were dedicated with primary duty for the PHE. The bilingual community relations specialist, an Italian citizen, was also in charge of translating and distributing to the Communication Team any PHE-related and relevant articles of public health interest appearing in Italian media. Given the conduct of the PHE on foreign soil, the ability to have a local citizen fluent in the language serving as a conduit to being alerted to and understanding host country concerns was invaluable to the project.

Environmental Health Information Center

The EHIC, located at U.S. Naval Hospital Naples, was established at the initiation of the PHE as a health information and consultation resource. The office, which is still in operation, is managed by the Director for Occupational Health and Preventive Medicine (also the CNREURAFSWA Public Health Emergency Officer [PHEO]) and the Environmental Health Officer, with assistance from Preventive Medicine Technicians. As an important health consultation resource and a primary method to establish two-way communication, the EHIC has served as the primary POC for U.S. personnel. Personnel were encouraged to contact the EHIC for questions regarding environmental sampling results, mitigation actions, and personal health concerns as they related to the PHE. Another important function of the EHIC was its participation in the notification process to residents regarding their home's sampling results and required mitigation actions, particularly relocation to another home when deemed necessary. The notification process, as well as the establishment of the EHIC and posting staff members trained in risk communication, was instrumental in instilling trust and confidence in the Navy's commitment to health protection.



NSA Naples Housing Office

The NSA Naples Housing Office was the designated POC for landlords regarding the PHE. Housing staff, who are bilingual, work closely with landlords to ensure the listed property meets the Navy’s leasing standards and continues to be suitable for renting to U.S. personnel. This role has included implementing new lease requirements and other mitigation actions that may be required for the property. Staff were routinely updated on PHE activities and findings so they could provide current information to landlords. Using available PHE sampling results, Housing staff also worked closely with U.S. personnel to help guide them in making informed decisions when selecting a rental home.

Environmental Sampling Technicians

Tetra Tech NUS was the prime contractor providing environmental sampling support for the PHE. As such, they conducted environmental sampling at the homes of U.S. personnel and interacted with residents and landlords when collecting the samples or when scheduling appointments for sampling. When interacting with residents and landlords, Tetra Tech provided technical information regarding the environmental sampling process but did not discuss environmental health risks. Residents were referred to the EHIC, and landlords were referred to NSA Naples Housing, to discuss health concerns. Tetra Tech subcontracted with the Italian environmental firm Sistemi Industriali. In addition to environmental services, Sistemi provided translation and interpretation services. When collecting samples at the residences of U.S. personnel, technicians from Sistemi Industriali were present to support the Tetra Tech technicians. This allowed for Sistemi technicians, who are fluent in Italian, to assist in interacting with landlords, if needed. Careful attention to having fluent and knowledgeable Italian speakers

available whenever there was the possibility of discussing PHE-related activities with Italian citizens was key to avoiding misunderstanding during the conduct of the PHE.

U.S. Consulate, Naples

The U.S. Consulate, Naples, engages in a full range of U.S. Government activities and services to look after its commercial interests and the welfare of U.S. citizens in Naples. The U.S. Consulate, Naples, provided guidance to PHE team members in regards to the best methods for contacting and coordinating with Italian regulatory authorities and elected officials. Coordination with the U.S. Consulate was instrumental in helping the Navy address and avoid potential State Department concerns and maintaining appropriate government-to-government relations.

Internal Coordination

A variety of subject matter experts worked on the Naples PHE, representing a cross section of U.S. and Navy organizations and commands and private sector contractors. Weekly PHE technical teleconferences between CNREURAFSWA and NSA Naples Action Officers, NMCPHC, NAVFAC and contractors were held to discuss technical issues, project schedule and project status. In addition, biweekly teleconferences of the Regional Health Awareness Working Group were held. The RHAWG included representation from CNREURAFSWA, NSA Naples, NMCPHC, Public Affairs, Housing, Legal, Naval Hospital Naples, and Environmental/Public Works to discuss any and all issues germane to conducting the PHE. Representation of multiple Navy departments on the RHAWG was essential to internal communication and implementation of necessary actions.

Participating Organizations

- Commander, Navy Region Europe, Africa, Southwest Asia
- Commander, U.S. Naval Forces Europe - U.S. Naval Forces Africa/U.S. 6th Fleet
- Commander, Navy Installations Command
- U.S. Navy Bureau of Medicine and Surgery
- Naval Support Activity, Naples
- Navy and Marine Corps Public Health Center
- Naval Facilities Engineering Command Atlantic
- Naval Sea Systems Command Radiological Affairs Support Office
- U.S. Naval Hospital Naples
- U.S. Consulate, Naples
- U.S. Embassy, Rome
- Tetra Tech NUS, Inc.
- PIONEER Technologies Corporation
- Katz & Associates, Inc.
- Fulton Communications
- Sistemi Industriali
- SGS Laboratories
- GEL Laboratories
- Studio Melchior

Outreach Methods

Public affairs activities were conducted on an ongoing basis since the PHE began in 2008, through its completion in June 2011. Communication activities were consistent and frequent to meet several overarching communication objectives, including increasing confidence in Navy Leadership's commitment to the health and well-being of U.S. Naples personnel and their families, raising awareness about the Naples PHE, and keeping stakeholders continually informed in a timely manner.

This section provides a summary of communication methods that occurred while the PHE risk communication program was active.

Communication Methods

The PHE team employed a broad range of methods to meet the communication objectives. Methods varied throughout the duration of the PHE to best suit the communication objective, the sampling results and the targeted stakeholder(s). Multiple communication methods were typically used simultaneously to increase the likelihood of reaching all intended stakeholders. While each method was often capable of achieving multiple objectives, for purposes of understanding why various techniques were used, the methods are grouped below according to the primary category of objective they were designed to meet. These categories comprise the following and are discussed on the following pages:

- Methods intended to build trust, instill confidence, or demonstrate Navy Leadership's commitment to transparency and the health and safety of U.S. personnel and their families.
- Methods intended to raise awareness about the Naples PHE, environmental sampling results, and recommended mitigation actions.
- Methods designed to provide effective channels or opportunities for two-way communication.
- Methods for communicating with individuals about their particular circumstances or choices.
- Methods for encouraging U.S. personnel and landlords to take appropriate precautions and comply with protective measures.
- Methods for providing a consistent flow of reliable information to Italian authorities and elected officials.

Methods intended to build trust, instill confidence, or demonstrate Navy Leadership's commitment to transparency and the health and safety of U.S. personnel and their families.

Dedicated staff resources at CNREURAFSWA, NSA Naples and NMCPHC, as well as the establishment of the EHIC, were vital to the success of the risk communication program. The Navy made great efforts to continually provide information about the PHE and to provide this information in various formats.

Updates, advisories and meeting notices were provided to personnel through All Hands emails, Plan of the Week and All Hands meetings. CNREURAFSWA Public Affairs published a weekly column in the *Panorama* that covered not only the PHE but other general health promotion

information. Updates were also provided to personnel via their chain-of-command or via flyers and notices.

A public website for the PHE, called the “Naples Community Health Awareness” website, was established at the onset of the PHE and included information and documents related to the project. The website address was included on all informational materials, including All Hands emails and articles published in the *Panorama*. The weekly *Panorama* articles were posted under the “What’s New” section of the website. Links to the website could be found from the CNREURAFSWA and NSA Naples home pages, as well as the home pages of AFN and of Commander U.S. Naval Forces Europe/U.S. Naval Forces Africa/U.S. Sixth Fleet. The website also included a Web-based form called “Health Risk Assessment Questions Form” that viewers could use to submit questions or comments to the PHE team. The form was accessible through the “Contact Us” link on the website, and viewers had the option of requesting a response to their submission. Other content on the website included fact sheets, frequently asked questions (FAQs), links to resources, correspondence/official letters, archives, maps, historical timeline of the project, medical studies, and PHE reports. The website address is <https://www.cnic.navy.mil/Naples/About/HealthAwareness/index.htm>.

- Dedicated staff resources
- Environmental Health Information Center
- All Hands emails
- Plan of the Week
- Flyers/Notices, including those distributed to individual residences
- PHE/Health Awareness dedicated website
- Informational materials, such as fact sheets, frequently asked questions and brochures, which were made available both as handouts and on the website
- Public availability of Phase I and Phase II reports, epidemiological studies and other technical reports

Fact sheets and handouts covering a wide range of topics related to the PHE were developed. These fact sheets and handouts were made available on the PHE website, at the EHIC, the Capodichino Clinic, and NSA Naples Housing Office. The fact sheets and handouts were also distributed at town hall meetings. The primary audience for fact sheets was U.S. personnel and their families. However, fact sheets that provided information on Navy policies and findings that affected landlords or were otherwise related to the environmental investigation at off-base homes were translated into Italian. The objective was to help landlords understand the need for and encourage action, as well as to provide factual information from a Navy resource about what the Navy was finding. Fact sheet and handout topics included the following.

Fact Sheets

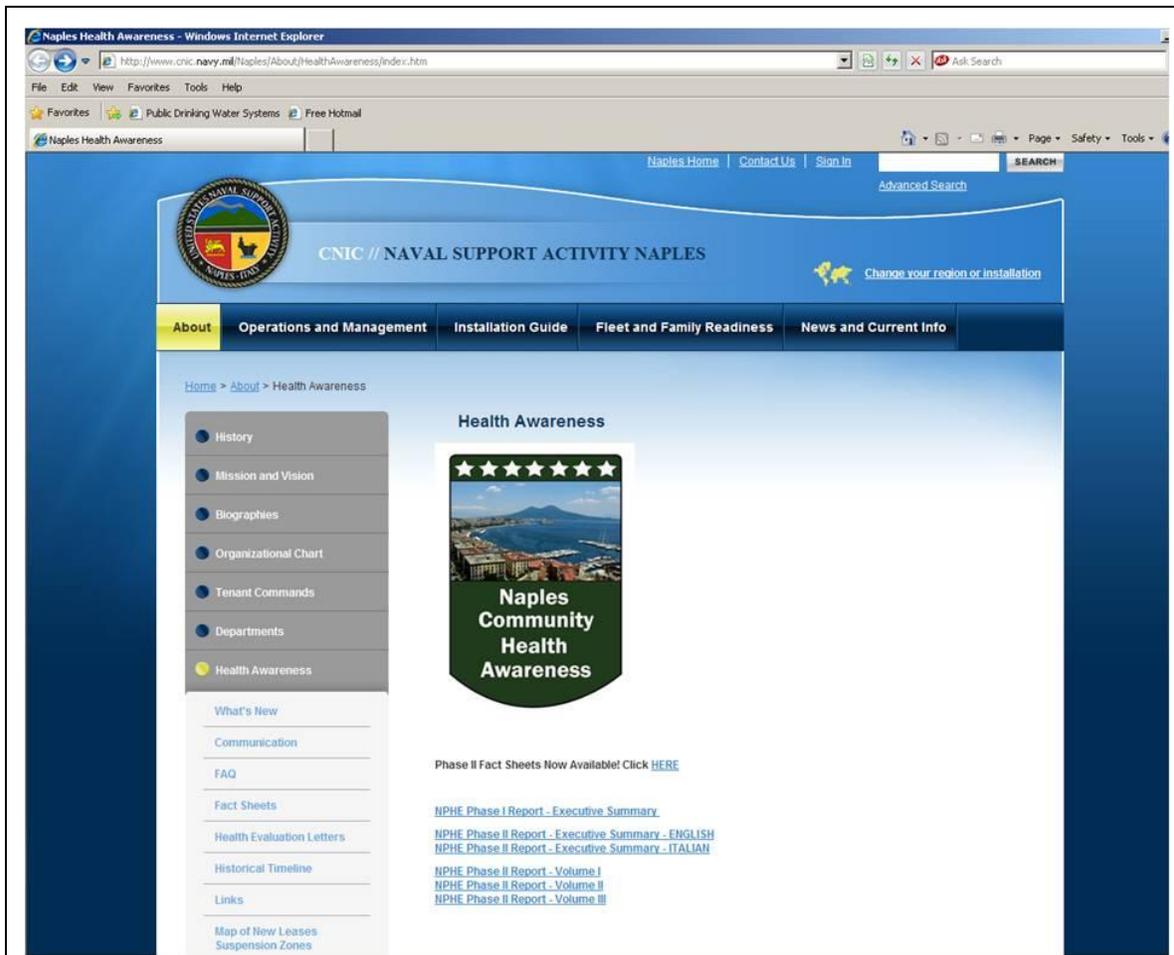
- What is a Public Health Evaluation?
- Active Soil Gas Sampling (English and Italian)
- Air Quality and Meteorological Monitoring Program
- Asthma Epidemiological Study
- Background Arsenic Levels in Soil and Water
- Birth Defects Epidemiological Study
- Bottled Water Safety
- Building Structures and Vapor Intrusion (English and Italian)
- Cancer Epidemiological Study

- Chemicals and Microorganisms Analyzed
- Drinking Water Disinfection
- Drinking Water Testing Parameters
- Drinking Water Notification for Total Coliform/Fecal Coliform (English and Italian)
- Epidemiology
- Food On and Off Base
- Hard Water
- Investigating Groundwater in Casal di Principe (English and Italian)
- Mozzarella di Bufala Cheese
- Navigating the *Agenzia Regionale per la Protezione Ambientale della Campania* (ARPAC) Website
- Nitrate in Tap Water
- Passive Soil Gas Sampling
- Public Health Evaluation Phase I Summary of Findings
- Public Health Evaluation Phase I and Phase II Summary of Findings
- Sampling of Vacant Homes (English and Italian)
- Tap Water Bacteria
- Tap Water and Soil Sampling
- Understanding the Vapor Intrusion Mitigation System being Installed at the Capodichino Child Development Center
- Vapor Intrusion
- Volatile Organic Compounds
- Water Contamination (English and Italian)
- Water Holding Tank Disinfection (English and Italian)
- Water Quality Monitoring
- What Happens after Samples are Collected from my Residence?

Handouts

- Phase I PHE Air Sampling Schedule
- Naples Community Health Awareness brochure
- Approved Water Vendors
- New Lease Requirements
- Water Service Request Form

Documents containing “Frequently Asked Questions” were typically prepared for PHE activities anticipated to generate a heightened interest from stakeholders. The FAQ documents contained anticipated stakeholder questions and plain-English responses. FAQs were generally posted to the PHE website. The main purpose of the FAQs was to ensure all team members provided consistent responses and statements. FAQs prepared in advance and preapproved by the chain of command also allowed the Navy to respond quickly to inquiries from stakeholders and the media.



Availability of the Phase I and Phase II reports, epidemiological studies and other technical reports, to the public was important in conveying transparency. The reports and studies were made available on the Naples Community Health Awareness website and at the EHIC, where staff were available to discuss the results. Because these reports were technical in nature, fact sheets were developed to aid U.S. personnel and their families in understanding the information and key issues and actions described in the reports and studies. The Navy also held two sets of open house information sessions specifically to discuss the PHE, Phase I and Phase II reports, findings, Navy actions and recommended health protective measures. The open house sessions are further discussed on page 25.

Methods intended to raise awareness about the Naples PHE, environmental sampling results, and recommended mitigation actions.

New personnel arriving to NSA Naples must attend an orientation/welcome brief once they arrive. An overview of the PHE was provided at the briefs, and attendees were made aware of the EHIC and its resources. The Housing Office also explained any leasing restrictions or requirements related to the PHE for those people seeking off-base housing.

When personnel leave their tour of duty in Naples, they must leave forwarding contact information (e.g., mailing address, email address) with NSA Naples Housing Office. This was

useful to the PHE team in providing a way to contact personnel who left Naples, for instances when the resident left Naples prior to the completion of the environmental sampling report for their home. With the forwarding contact information, the PHE team was able to send the resident a letter with their sampling report to their forwarding address. This follow-up helped assure that former residents of Naples were not left with lingering questions.

As an additional method to ensure U.S. personnel and their families were receiving information about the PHE and health protective actions, departmental heads and chain of command were made aware of PHE findings and required mitigation actions.

The Naples PHE also used Navy media to help distribute information to stakeholders. Several other media outlets, including *Stars and Stripes* and Italian media, also independently covered the PHE.

Panorama

The PHE published a weekly column in the *Panorama*. The column focused on PHE related news and health protective measures for U.S. personnel, as well as general health promotion. The *Panorama* articles became a regular and reliable source of information to personnel and their families throughout the PHE. They promoted transparency and avoided the situation found at other sites where the only time news is reported is when there are major findings or "bad news." Many Italian media outlets monitored the *Panorama* for PHE-related news stories.

- Area orientation and outgoing personnel briefs
- Briefings to departmental heads and chain of command
- Weekly column in the NSA Naples base newspaper *Panorama*
- Interviews and news stories on AFN Naples Television and Radio
- News releases, responses to inquiry, and interviews for *Stars and Stripes*, Navy NewsStand, and Italian media outlets

American Forces Network, Naples

Informational news spots aired, and a link to the PHE website was posted on the AFN Naples website. CNREURAFSWA Public Affairs informed AFN when there was a news story of potential interest to stakeholders. Additionally, AFN was used to raise awareness of PHE activities and mitigation actions. Many Italian media outlets monitored AFN for PHE-related news stories or used AFN footage in their news coverage.

The PHE technical lead participated in an on-air interview with AFN radio. The interview took place in 10 to 15 minute segments over an approximate three-hour period during the morning program. The interview, which took place in fall 2009, provided an overview of significant aspects of the PHE. AFN staff were also present at the Phase I and Phase II open house sessions to interview the PHE project team and aired coverage of the open houses on AFN news and the AFN Naples website.

Stars and Stripes, Europe

This daily newspaper periodically published news articles about the PHE, and frequent inquiries from its reporters were received by CNREURAFSWA Public Affairs. Because of the frequency of inquiries and the need to provide accurate information, the Navy established a protocol that all PHE-related inquiries from *Stars and Stripes* reporters were to be submitted in written format, and written responses would be provided. On occasion, CNREURAFSWA granted permission to PHE team members, particularly the NMCPHC technical leader, to participate in in-person or phone interviews. CNREURAFSWA Public Affairs routinely informed *Stars and Stripes* reporters of new PHE activities or findings as a means to distribute information to U.S. personnel. Many Italian media outlets monitored this newspaper for PHE-related news stories.

Navy NewsStand

Typically, PHE news releases were sent to the Navy NewsStand to broadcast information to a wider audience. The mission of the Navy NewsStand is to serve as the official source for U.S. Navy news.

Italian Media

The Italian media is known to be sensationalistic, oftentimes publishing incorrect information. Several Italian newspapers frequently published articles about the PHE and the widespread illegal waste disposal in the Naples area. The Italian media frequently attempted to use findings of the PHE as evidence and a call to action to the Italian government for environmental protection and clean up. CNREURAFSWA Public Affairs distributed news releases to major local Italian media outlets, worked closely with reporters, and occasionally received inquiries and requests for interviews. Reporters were invited to attend the Phase I and Phase II open house sessions to meet with subject matter experts. Meeting with reporters increased the likelihood for technically accurate and balanced news stories.



CDR Tim Halenkamp, Director of Public Health, U.S. Naval Hospital Naples is interviewed by AFN Naples during an Open House for the Naples PHE Phase II Report Roll-out

Methods designed to provide effective channels or opportunities for two-way communication.

An important component of the communication program was establishing methods for two-way communication. Two-way communication enabled the Navy not only to inform stakeholders, but also provided opportunities for stakeholders to interact directly with the Navy, to ask questions, express concerns, and offer feedback.

Risk communication two-day training sessions were held at the initiation of the PHE to help PHE team members build or refresh the skills necessary to communicate complex environmental health risks to stakeholders. Additional training was conducted in the second year of the PHE. Trainings were attended by Naples program managers, subject matter experts, Naples Navy Leadership, Navy public health professionals from U.S. Naval Hospital Naples and Ombudsmen.

- Risk communication training to project team members
- Public open house style meetings
- All Hands meetings hosted by NSA Naples or CNREURAFSWA
- PHE dedicated email address
- Community Action Group

The following is a summary of risk communication trainings provided by NMCPHC and risk communication consultants:

- Specialized risk communication training (focusing on aspects of the PHE) for CNRE, NSA Naples, and U.S. Naval Hospital Naples personnel: 29–31 January 2008
- Two, one-day risk communication sessions for U.S. Naval Hospital Naples and CNE/CNRE staff: 1 February 2008
- Three, two-day specialized risk communication workshops for PHE team personnel: 31 March through 1 April; 2–3 April; and 7–8 April 2008
- One, one-day media training for PHE team personnel: 9 April 2008
- One, one-day session for spouses of personnel in leadership positions: 10 April 2008
- Executive brief for CNREURAFSWA Admiral: 11 April 2008
- Specialized risk communication training for U.S. Naval Hospital Naples staff: 14–16 October 2008
- Specialized risk communication workshop for personnel in the CNREURAFSWA Area of Responsibility. Main topics included PHE and pandemic influenza: 28–30 October 2009

Risk communication training sessions were also held for PHE team members in preparation for the Phase I and Phase II open house sessions. The trainings were attended by PHE team members and subject matter experts who were assigned a role at the open house sessions. The trainings covered risk communication concepts and skills, key messages, FAQs, rules of engagement with stakeholders, and a walk through of the open house poster stations. The poster stations dry run included a mock question and answer session to prepare team members for interfacing with stakeholders and the media. The open house sessions are discussed in greater detail on page 25.

All Hands town hall meetings covering issues related to the PHE occurred on a regular basis since the PHE began in early 2008. These town hall meetings were hosted by CNREURAFSWA or NSA Naples and were either convened specifically to provide information on the PHE and mitigation actions or included the PHE as a topic on the agenda. Attendees were often interested

in the PHE and asked questions. Town hall meetings allowed for face-to-face interactions and two-way communication, which was important in demonstrating the Navy's commitment to the PHE and the health and safety of U.S. personnel and their families.

A PHE dedicated email address (monitored by CNREURAFSWA Public Affairs) was established to receive inquiries or concerns from U.S. personnel and their families. Email, which can be a preferred communication medium for many people, was used as yet another method to establish two-way communication between the Navy and stakeholders.

A Naples area Community Action Group (CAG) was established to serve as a liaison between CNREURAFSWA and NSA Leadership and military and civilian personnel. Although the CAG only convened at the onset of the PHE, it had been helpful in disseminating information to U.S. personnel and dependents and to identify early concerns. The CAG was made up of various representatives and ombudsmen from NSA Leadership, Public Works, Public Affairs, Protocol, CNREURAFSWA, Joint Forces Command Naples, Housing, Department of Defense Dependents Schools, and Naval Hospital Naples. The CAG initially convened in November 2007. NSA Naples hosted the CAG every other week for six weeks, after which meetings continued monthly. In 2009, CAG meetings were hosted as needed.

Methods for communicating with individuals about their particular circumstances or choices.

Empowering individuals to make their own choices is a fundamental principle in risk communication. U.S. personnel and family members whose homes were sampled (either on a volunteer basis or because of the home's location) were directly impacted by the PHE. Through small-group meetings, referred to as "resident meetings," the Navy met with these individuals to explain the study findings and recommended health protective actions. Resident meetings are further discussed on page 24.

- Small-group meetings for Phase I and Phase II residents (i.e., study participants)
- Informational resources and consultations at EHIC
- "Immediate Notification" process and telephone notification calls by the EHIC
- Large-scale and electronic maps of study areas, sampling locations and results available at the NSA Naples Housing Office

In addition to informational resources and consultations available at the EHIC, the PHE technical team established an "Immediate Notification" process that outlined the steps to determine when preliminary laboratory testing results are of potential concern so as to notify the resident of the results as soon as possible. Residents that met the criteria for an "Immediate Notification" received a phone call from the EHIC. Using a call script developed by the NMCPHC, the EHIC notified the residents of the preliminary laboratory testing results, explained the required or recommended actions the residents should take to reduce their health risk, and offered in-person health consultations. The EHIC was also able to answer health-related questions during the call.

The personal phone call was an essential tool to personalize the information, deliver it in a sensitive and empathetic manner, and offer the opportunity for questions and an in-person health consultation. Its immediacy was key to ensuring that trust was maintained and that the Navy demonstrated its foremost concern for the health and safety of U.S. personnel serving in Naples.

Housing staff also worked closely with U.S. personnel to help guide them in using available PHE sampling results to make informed decisions when selecting a rental home. For this purpose, the

PHE team supplied Housing with large-scale and electronic maps that depicted sampling locations and findings for each of the nine study areas. The Housing Office established a dedicated room with posted maps and computers so that residents could easily refer to the maps when browsing homes from the Housing database. The maps helped guide residents to select homes away from known areas of contamination. This empowerment of U.S. personnel and their families to make their own informed risk management decisions was one of the more powerful tools and classic risk communication principles used to address the health concerns they might have felt otherwise.



Rendering of Map Room at NSA Naples Housing Office

Methods for encouraging U.S. personnel and landlords to take appropriate precautions and comply with protective measures.

NSA Naples Housing Office assisted U.S. personnel in negotiating leases with the off-base private rental properties, and as a result of the PHE, worked with landlords to ensure that the landlords understood the required mitigation measures that must be implemented at the property. Overall, routine Navy interaction with landlords on PHE housing issues was frequent, with most communication taking place over the phone or in-person at the Housing Office. Communication to landlords usually was about issues specific to the property, such as sampling results, required mitigation actions, or ability to maintain the property on the housing referral list. To aid in the availability of information, pertinent fact sheets were translated into Italian and distributed on an as needed basis. PHE-related fact sheets were generally provided to a landlord by the sampling team while collecting samples at a property, or by Housing personnel at the Housing Office.

In August 2009, the PHE team hosted a meeting for landlords at the NSA Naples Housing Office. The purpose of the meeting was to inform landlords from the Casal di Principe area about the 1,500-foot step-out groundwater and soil gas investigation and subsequent relocation of Navy families. The PHE team also discussed the New Lease Suspension Zones (NLSZs) and provided an opportunity for landlords to voice questions and concerns. Landlords were encouraged to speak with their local environmental and public health representatives. Nearly 50 people attended the meeting, including elected official representation and family and friends of the landlords. Interpreters were present to translate the presentation and questions and answers. Because of the high level of concern from landlords regarding their ability to rent property to Navy personnel, this meeting would have benefited from a small-group meeting format to more efficiently present information and address individual concerns. In general, the risk

communication program demonstrated time and again that when information was being provided to people who might have significant concerns, large group face-to-face gatherings were generally less effective at providing constructive dialogue and information transfer.

Fundamental modification of the NSA Naples Housing lease was a significant outcome of the PHE. One of the only effective ways the Navy could reduce or eliminate water quality risks in off-base homes was to modify the lease and ensure landlords were adhering to the new lease terms. Landlords unwilling to adhere to the new lease requirements were removed from the Housing database and were no longer able to rent to U.S. personnel. U.S. personnel that were already in lease agreements were encouraged to visit the Housing Office to update their lease. The Housing Office provided close support to personnel during this transition.

To further aid U.S. personnel in adhering to recommended health protective actions, namely to abide by the bottled water advisory, the Navy provided free bottled water to U.S. personnel and their families living off-base (until such time the leases could be modified so that the landlord would provide bottled water), and also later established a water vending machine at the Support Site and a water distribution point at Capodichino. These resources were a way to increase accessibility and make adhering to recommended actions convenient for U.S. personnel.

- Translated fact sheets into Italian
- Informational meetings for landlords
- Modified leases to ensure landlords would take health protective actions; properties were removed from the Housing inventory if the landlord did not comply with the health protective lease clauses
- Free bottled water for U.S. personnel and their families living off-base
- Water vending machine at Support Site and water distribution point at Capodichino for U.S. personnel living off-base

Methods for providing a consistent flow of reliable information to Italian authorities and elected officials.

To promote working relations and encourage Italian governmental action, the three POCs and, as needed, other Italian regulatory agencies and elected officials, were kept apprised of PHE activities and findings. Depending on the topic of communication, these stakeholders were usually apprised of new information prior to notification to the media and/or general public. The primary methods of communication were by email and official letter correspondence. Less frequently, communication methods included telephone calls and briefings. Because of the local sensitivity and potentially awkward revelations of the PHE, this dual protocol of officially informing local authorities and providing advance notice was key to documenting the U.S.'s efforts to share its findings while enabling the host country to prepare for the information's

release. Moreover, the Navy translated the executive summaries of the Phase I and Phase II reports into Italian, which was helpful to not only Italian officials but to landlords as well.

Prior to the initiation of the PHE, a meeting was held in November 2007 in Rome, Italy, between CNREURAFSWA and Italian authorities to discuss the Navy's objectives in conducting the PHE and to seek approval to conduct the study.

CNREURAFSWA and the Italian authorities agreed to work together to identify potential health risks that may be associated with illegal dumping and inadequate garbage collection.

- POCs for Italian authorities and elected officials
- Provided sampling results and conducted follow-up phone calls, emails and briefings as requested
- Translated Executive Summaries of Phase I and Phase II reports into Italian

Phase I and Phase II Report Rollouts

Environmental sampling and analysis for the Naples PHE was conducted in two phases: Phase I and Phase II, in addition to a pilot phase. The Phase I and Phase II reports were significant milestones in the PHE, and for that reason, the specific communications surrounding the release of the reports is described separately from the section above.

The reports document the environmental sampling methods and activities, analyses, findings and health risk assessments. Public release of the reports took careful planning to ensure that all stakeholders were properly notified and had the opportunity to be involved. Residents and landlords whose homes were sampled were notified of the testing results for their home prior to general release of the report. This step was primarily important to ensure residents and landlords whose homes were sampled and analyzed in the reports had the opportunity for discussions with the PHE team, who guided them through understanding the technical information, health risks and mitigation measures, and prior to the information possibly being misinterpreted by the media and other stakeholders. The U.S. Consul General, Naples, and Italian regulatory agencies and elected officials were notified of the reports and their overall findings, also prior to general release. The Executive Summary of each report was translated into Italian to increase understanding and minimize misinterpretation. Local Italian media and American media (*Stars and Stripes*, AFN) were also notified and invited to the open house sessions. CNREURAFSWA Public Affairs, the EHIC, and NMCPHC were available and standing by to respond to stakeholder inquiries.

Distribution of Resident Letters

Phase I included the collection of samples at 130 off-base private rental homes occupied by U.S. military and civilian personnel and their families; Phase II included the sampling of 209 residences (137 of which were new residences that had not been sampled before). The individual letter reports for each home, referred to as "resident letters," were prepared as official Navy correspondence (i.e., serialized and signed by the NSA Naples Commanding Officer). The resident letters included a summary of the health risk evaluation for the individual home, laboratory testing results, comparison of testing results to U.S. Environmental Protection Agency standards and the Navy's PHE Risk Management Criteria, attachments describing the PHE risk assessment process, and fact sheets describing the chemicals of concern for that home.

It is important to note that health risk findings were discussed in terms of potential risk for the home, not personal health risks for the individual. Residents concerned about how the findings may impact their personal health risk were advised to consult their physician. The sampling report for each home became part of the home's file at the Housing Office so it could be made available to future occupants. Some homes that could not be mitigated were removed from the Housing inventory and no longer available for lease to U.S. personnel.

To distribute the Phase I resident letters to the study participants, the EHIC contacted each resident via telephone. Residents had the option to either visit the EHIC to pick up their letter, attend one of the resident meetings to pick up their letter, or wait for it to arrive in the mail. Each "letter" was a packet that contained a cover letter summary of the health risk assessment and several attachments, including the testing results. The phone calls helped add a personal element and further demonstrated the Navy's commitment to providing staff resources to assist U.S. personnel in understanding the sampling results and health risks.

During Phase II, as a more efficient method to printing and mailing numerous resident letters, a Web-based distribution system was created. In this distribution system, Phase II residents could retrieve their sampling reports online. The process was as follows: an automatic email was generated and sent to all Phase II residents to notify them of the availability of their report online. The email contained a link to the distribution website, as well as an introduction to the sampling report. By accessing the link, residents could download and print the environmental sampling report for their home. An added benefit of the online distribution system was that personnel who have transferred from Naples could still access their report from any location where Internet access was available.

However, providing the resident letter online presented two risk communication challenges: (1) residents were able to access the letter and sampling results without first receiving an in-person briefing to explain the results and how to interpret them; (2) there would need to be a minimal timeframe between the release of the letters online and when the formal resident meeting sessions were held so that residents could immediately seek guidance for their concerns. To address these challenges, a "Quick Start Guide" was developed and posted to the website alongside the letter, and resident meetings, discussed below, were held shortly thereafter. The Quick Start Guide provided a walk-through of the technical information and findings. In addition, the website provided the EHIC's contact information in case residents wanted to discuss their report and contained a link to the PHE website.

Resident Meetings

Small-group informational sessions were held for residents whose homes were sampled. The purpose of the informational sessions was to present an overview of the testing results and resident letters, and to distribute the letters. The NMCPHC, the risk assessment specialist, and the EHIC led the meetings. NSA Naples Housing staff was also available to answer questions during one-on-one conferences with residents. A small-group format for the resident meetings was chosen for the following reasons:

- There were hundreds of homes sampled, and thus residents to brief; individual meetings would have been burdensome on staff and would have delayed the immediacy of delivering and discussing results.

- The concern was anticipated to be high; a small-group format allowed more flexibility in addressing individual concerns, increased access to project staff, and minimized the possibility of the meeting being intentionally disrupted by individuals who might seek to take advantage of the open and transparent meeting format.
- Multiple meetings could be held to better accommodate various schedules for residents.

Meetings were held over a one-week period, and a set number of meetings with specific times and locations were scheduled. Make-up sessions for those residents that were unable to attend the regularly scheduled meetings were held the following week. The NMCPHC led the first week of meetings and held two meetings per day. Approximately 10 to 15 individuals attended each meeting. The EHIC led the makeup sessions.

To organize attendance for the meetings, the EHIC contacted all residents by either phone or email and asked which meeting they would like to attend. If a resident did not arrive at the meeting prior to its start, the EHIC called the resident to remind them of the meeting.

Public Open House Sessions

Open house style information sessions were held to provide U.S. personnel and other interested parties the opportunity to speak with the Naples PHE team and subject matter experts concerning the PHE and environmental sampling results. An "open house," as used in this context, is a type of informal informational meeting designed so that interested parties can arrive and leave at any time during the event's duration. An open house format was particularly useful for communicating the vast amount of information related to the PHE. The open houses, conducted for Phase I and Phase II of the PHE, were an effective method to conduct one-on-one discussions with concerned individuals and for bringing together the various study authors and resources that were available to support U.S. personnel, such as Housing Office staff, epidemiologists and medical staff, food and water experts, and environmental scientists.

Informational poster displays with supporting materials, such as fact sheets and background documents, were set up in stations around the meeting room. This format allowed attendees to access information at their own pace and encouraged one-on-one interactions with the PHE team. The drawing below illustrates the setup of an open house style poster station meeting.

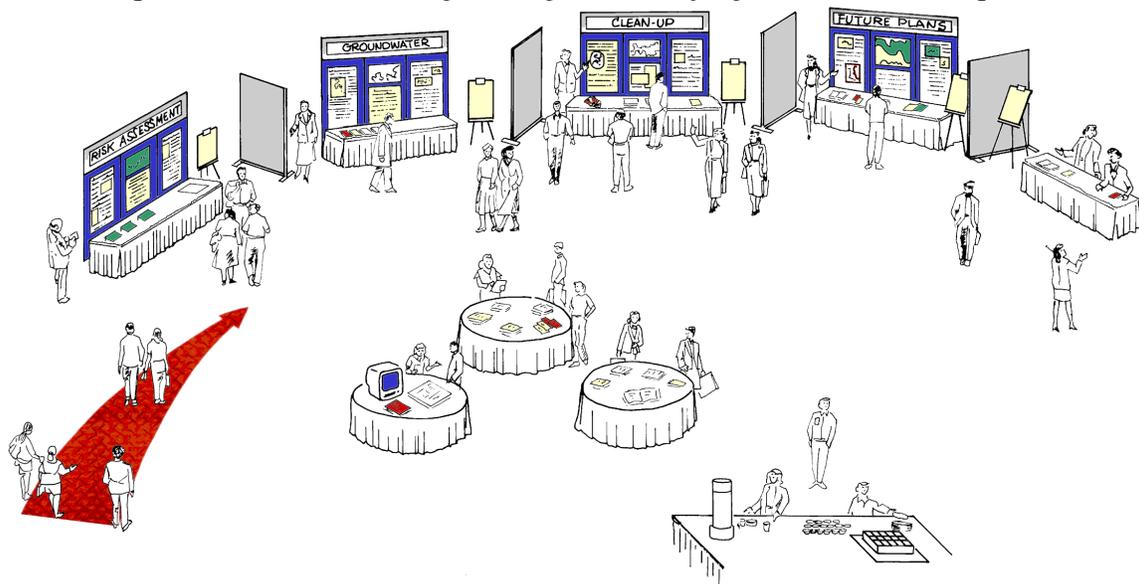


Illustration of an Open House Style Poster Station Meeting

Three to four open house sessions were held for each phase of the PHE. The sessions were held at Capodichino, the Support Site and at Naval Hospital Naples and at various times (i.e., day and evening) to maximize attendance. Evaluation forms were available to attendees throughout the open house sessions to collect information that would help improve future open house sessions and other PHE communication activities.

Open House Stations and Topics

Each “station” included one or two posters and supporting fact sheets; other informational materials such as background documents, reports and videos; and an open house/PHE evaluation form. One or two PHE team members or subject matter experts staffed each station to address concerns and questions from attendees. The following were the station topics:

- Welcome/Sign-In
- Purpose of the Naples PHE and Summary of Results (Risk Assessment)
- Navy Actions
- Food
- Water
- Air
- Soil
- Soil Gas (Vapor Intrusion)
- Health and Epidemiology
- Housing
- Review Table (to review the report and fill out the evaluation form)

Key Messages and Talking Points

Key messages and talking points were developed for each poster station. The purpose of key messages and talking points was to focus on the most important information and/or concepts that the Navy desired each attendee to understand as they left each station.

Evaluation of the Communication Program

In 2008 at the onset of the PHE, four focus groups were conducted with the Chief’s communities of major commands in Naples (NSA Naples, Region, CNE-C6F, Naval Computer and Telecommunications Station [NCTS]). The purpose of the focus groups was to seek ways to improve communication efforts specific to the PHE. Topics discussed included information resources, PHE awareness, and PHE-related health concerns.

Evaluation forms for U.S. personnel were also made available at various information sessions, such as the Phase I and Phase II open houses and at the resident meetings. Responses on these evaluation forms were positive and demonstrated that U.S. military and civilian personnel were pleased with the communication program, including communication methods, content of informational materials, and frequency of communication.



Dr. Paul Gillooly (right), NMCPHC Naples PHE Technical Lead discusses Phase II results with CAPT Craig Bonnema, U.S. Naval Hospital Naples Commanding Officer, while Mr. Tony Carotenuto, NMCPHC Public Health Specialist, discusses results of water testing with residents at an Open House.

In addition to the evaluation forms and focus groups, the following parameters were used to assess the effectiveness of the PHE communication program:

- Whether media coverage was generally positive and balanced.
- Whether Italian authorities acknowledged the PHE sampling results and concurred with Navy actions.
- Whether the Navy was able to build and foster credibility as well as a positive working relationship with the government of Italy and Italian officials.
- Whether off-base housing residents and incoming personnel were aware of the PHE and advisories issued by the command and were taking appropriate actions.
- Whether outgoing personnel left forwarding contact information and were informed as to who to contact for health-related questions.
- Whether the Navy was established as the “go-to” or primary source of information, and as a credible source.
- Whether U.S. personnel and their families felt the Navy was committed to and took appropriate actions to protect their health and safety.

- Whether U.S. personnel and their families felt the PHE, and related reports and studies, was a thorough environmental analysis and had confidence in the results.

As a result of a successful proactive communication program, the Naples PHE received the 2008 and 2009 Thompson-Ravitz Award for Excellence in Navy Public Affairs, for the category of internal communications for small shore installations. The Thompson-Ravitz Award Program is designed to: (a) Recognize and reward the accomplishments and achievements of command public affairs programs and personnel; and (b) Encourage Navy units to maintain a public affairs program designed to: keep the internal and external audiences informed on current U.S. Navy activities, promote community relations, and foster continued mutual support in total force public affairs to include special projects and events (OPNAVINST 5305.7B of 17 Nov 08).

The Naples Public Health Evaluation received the Navy's 2008 and 2009 Thompson-Ravitz Award for Excellence in Navy Public Affairs.

Section II

Investigation of Environmental Issues

Through the PHE, the Navy was able to identify and address public health risks for U.S. personnel living in the Campania region. Chemicals and bacteria in tap water and chemicals in soil gas were responsible for the majority of health risks. The Navy established new health protective policies and took immediate actions to protect the health of U.S. personnel and their families. Many of these health protective policies have remained in place to ensure continued health protection beyond the life of the study. Some significant policies put in place that did not exist before the PHE include:

- **Bottled Water Advisory:** Personnel living off base are encouraged to use bottled water for drinking, cooking, food preparation, making ice, brushing teeth, and for pets. At the onset of the PHE, the Navy provided free bottled water to personnel living off-base. This program was later phased out and replaced with a requirement that landlords provide containerized water to their tenants.
- **Health Protective Lease Clauses for Off-Base Rentals:** (1) Landlords are required to provide tenants containerized water service from an approved Navy vendor; (2) leased homes must be supplied by city water or certified wells only – landlords must disconnect all non-permitted wells and provide proof of connection to the city water system or a certified well; (3) and landlords must clean and disinfect domestic water holding tanks every six months.
- **New Lease Suspension Zones:** The Navy defined areas where leases were discontinued based on Navy and/or Italian data. As a protective measure, the Navy suspended all new leases in those areas, and some residents were relocated to other homes.
- **Establishment of the Naples Community Health Awareness website.**
- **Establishment of the Environmental Health Information Center at U.S. Naval Hospital Naples and education and counseling.**

Risk Assessment

The Naples PHE was an extensive study for the Navy. A 395 square-mile regional area was divided into nine discrete study areas. Multiple sampling events took place, which are described below. Environmental samples were collected from April 2008 through October 2009. Samples were collected from 543 off-base private rental homes occupied by U.S. personnel and from 10 U.S. Government-related properties. Each sample was analyzed for approximately 240 chemicals and microorganisms in eight main categories:

- Volatile organic compounds
- Semi-volatile organic compounds
- Pesticides
- Polychlorinated biphenyls
- Dioxins and furans
- Metals
- Microorganisms (bacteria)
- Radionuclides

known locations of unsegregated trash dump sites. The sampling results from off-base private rental homes led to two other sampling investigations:

Pre-Lease Sampling (September 2008-January 2009):

Phase I samples from off-base private rental homes showed a high incidence of tap water contamination from bacteria and volatile organic compounds (VOCs). As one of many actions, the Navy immediately instituted a policy that required each home's tap water be sampled before occupancy by U.S. personnel. During this period, 240 residences were sampled. Pre-lease sampling was discontinued after new housing lease clauses required that landlords connect to the city water system instead of non-permitted, private wells, and the incidence of contamination decreased as a result.

Step-Out Sampling (September 2008-August 2009):

Testing of some Phase I samples from off-base homes detected VOCs in soil gas. VOCs in soil gas pose potential health risks if the chemical vapors migrate to the indoor air of overlying buildings through a process called "vapor intrusion." The contaminated soil gas can also migrate underground through soil and groundwater. For this reason, the Navy further investigated areas surrounding homes that had soil gas contamination to determine if other families were also at risk. Thirty-six residences were sampled during this sampling event.

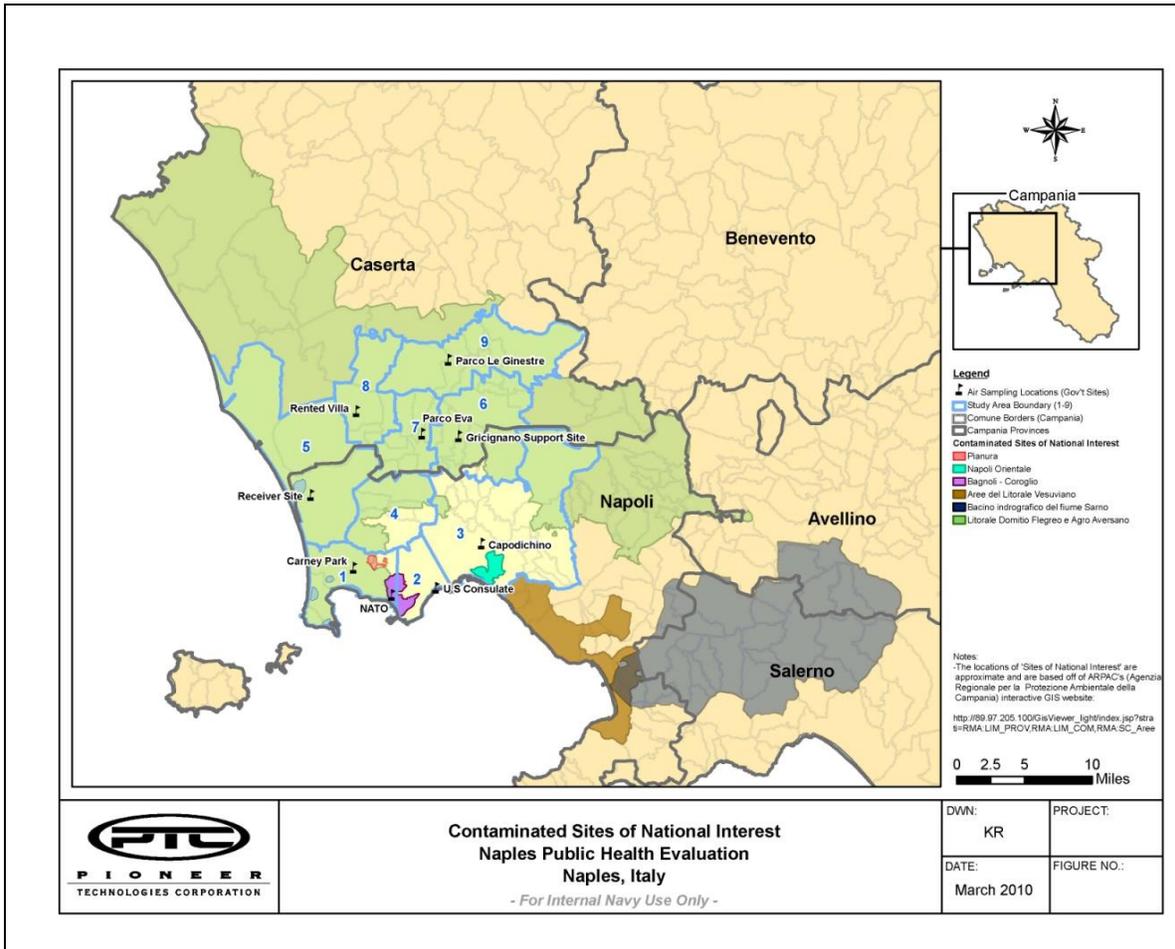
Phase II (November 2008-October 2009)

This phase included the sampling of 209 residences (137 of which were new residences that had not been sampled before) and continued sampling at U.S. Government-related properties. In addition, an investigation of soil gas and indoor air was conducted for Capodichino and the Gricignano Support Site. While Phase I sampling locations were based on proximity to known unsegregated trash dump sites, Phase II sampling locations were spaced more evenly across the nine study areas.

Ambient Air Sampling (July 2008-July 2009)

A year-long ambient air sampling and monitoring evaluation was performed, spanning both Phase I and Phase II of the PHE. The purpose of the ambient air sampling event was to characterize air quality for the nine study areas. Sampling involved the construction and operation of nine fixed air sampling stations, a continuous air monitoring station and a meteorological monitoring tower. Over 92,000 individual analyses for 211 chemicals were performed during this one-year period. Tens of thousands of continuous monitoring measurements for criteria pollutants and meteorological parameters were also obtained and evaluated.

In total, 543 off-base residences and 10 U.S. Government-related sites were sampled, covering a period of two and a half years. Environmental samples were analyzed for approximately 240 different chemicals. Water samples were also tested for microorganisms.



Evaluation of Data

The Navy’s priority has been protection of the health of Navy personnel and families. As such, a conservative health protective approach was used to evaluate data. For example, the risk evaluation was based on an assumption that a person would live in the Campania region for 30 years. In reality, tour lengths varied:

- Average military tour length was 2.2 years.
- Average civilian tour length was 3.2 years.
- Overall population average tour length was 2.8 years.
- More than 94% of U.S. personnel reside in Naples less than six years.

The Navy placed the risk evaluation results into one of two categories, "acceptable" risks or "unacceptable" risks. To determine the appropriate category, the Navy compared the results of each chemical analyzed to U.S. Environmental Protection Agency (USEPA) standards and guidance and to the risk management criteria established by the Navy for the PHE.

The USEPA has various standards and guidance for comparison. In the PHE, tap water, irrigation water, soil, soil gas and air samples were compared to USEPA risk-based standards called Regional Screening Levels (RSLs). RSLs are for use in situations when there is known or suspected contamination and potential public health risks. Tap water and irrigation water samples were also compared to USEPA standards called Maximum Contaminant Levels (MCLs). Air samples were compared to USEPA National Ambient Air Quality Standards (NAAQS). MCLs and NAAQS are the basic regulatory standards and apply only to drinking water and ambient air, respectively, while RSLs can be applied to water, air, soil and soil gas and allow for calculation of risk.

Based on the categorization of acceptable or unacceptable, the Navy determined the appropriate course of action to ensure the safety of Navy personnel and their families.

Epidemiological Studies and Food Study

Navy researchers conducted four epidemiological studies to better understand the health risks associated with living in the Naples area. An asthma epidemiological study was conducted in October 2008 and June 2010; a birth defects epidemiological study in January 2009; and a cancer epidemiological study in September 2009.

In February 2008, the Navy and U.S. Army Veterinary Command (VETCOM) conducted a limited food study. The study went beyond routine inspections of food products by performing various laboratory analyses, which are normally not mandated by VETCOM. Foods grown locally, particularly fresh fruits and vegetables, received a closer look.

Activity-specific communication plans were developed for the public release of the studies. The communication plans outlined background information and potential issues, audiences, communication objectives and key messages, points of contact, timeline of activities, notification and outreach methods, and potential stakeholder questions and answers. Preparation of communication plans and potential stakeholder questions and appropriate responses assisted the Navy in being prepared for communicating with media and stakeholders and allowed the Navy to communicate in an efficient and timely manner.

Risk Management Decisions

The Navy established health protective policies and took immediate actions to protect the health of U.S. personnel and their families. The following is a summary of these actions.

Bottled Water

- Established a bottled water advisory for those living off-base. The Navy distributed free bottled water from September 2008 to about June 2009 to families residing in off-base homes.
- Installed a Water Distribution Point at Capodichino to provide free drinking water to U.S. personnel living off-base.
- Established a water vending machine at the Support Site.

Housing

- Improved all new leases by including health protective clauses requiring landlords to:
 - Connect the rental property to the public drinking water system;

- Clean and disinfect the home's water holding tank twice a year; and
- Provide containerized water from a Navy-approved vendor.
- Established New Lease Suspension Zones.
- Relocated families to other homes due to unacceptable health risks and relocated those who were concerned about their health.

Community

- Provided potable water at Carney Park.
- Completed the water treatment system at NCTS Lago Patria.
- Installed a vapor intrusion mitigation system at the Capodichino Child Development Center.
- Posted bilingual signs at U.S. Government sites, where applicable, indicating irrigation water from sprinklers was non-potable.
- Established the Drinking Water Management Board to ensure compliance with safe drinking water standards on base and published Drinking Water Consumer Confidence Reports.

Information Sharing

As described in the Communication Methods section of this case study, throughout the course of the PHE, the Navy implemented a number of initiatives while sharing and explaining the study process and results to U.S. military and civilian personnel, Navy and U.S. Consulate Leadership, designated Italian officials and Italian landlords.

- Established the EHIC at U.S. Naval Hospital Naples to provide staff to answer health-related questions from the Navy community.
- Developed informational materials to inform and educate U.S. military and civilian personnel and their families.
- Communicated study findings to Navy medical professionals.
- Encouraged and provided opportunities to U.S. personnel for one-on-one consultations with appropriate project team members.
- Hosted various information sessions to discuss the PHE and study findings and to address questions from the Navy community.
- Provided detailed and individualized reports of findings to residents and landlords whose homes were sampled during the study.
- Shared results of findings with designated Italian officials.
- Provided information through various sources, such as the NSA Naples Community Health Awareness website, weekly articles in the *Panorama*, All Hands emails, town hall meetings and AFN news.

Legal

Several health protective actions taken by the Navy required CNREURAFSWA legal support. A summary of these actions is provided below.

- Developed and managed the CNREURAFSWA Administrative Record Portal to record and maintain proper documentation of PHE-related records.

- Obtained legal opinion from Italian legal authorities on obligations and liabilities of the U.S. Government in connection with the conduct of the PHE in the provinces of Naples and Caserta.
- CNREURAFSWA requested the Secretary of the Navy to authorize the use of Emergency and Extraordinary Expense (EEE) funds for the provision of bottled water to Navy personnel living off-base.
- Requested advice from the U.S Department of State, Office of Allowances, regarding the use of allowances for containerized water and that an “out-of-cycle” utilities survey be conducted for the greater Naples area at the earliest possible date.
- Requested that the Department of Defense Per Diem Travel & Transportation Allowance Committee grant a temporary augmentation of the military utilities allowance for containerized water and conduct an accelerated “out-of-cycle” utilities survey for the greater Naples area at the earliest possible date.
- Directed NSA Naples to modify housing leases to require all landlords to provide tenants with a containerized water service that is from a Navy-approved source for drinking, food preparation, cooking, brushing teeth, making ice, and for pets.
- Directed NAVFAC EURAFSWA to modify leases for U.S. Government quarters to require all landlords to provide tenants with a containerized water service from a Navy-approved source at all U.S. Government Parcos and Flag Officer Quarters for drinking, food preparation, cooking, brushing teeth, making ice, and for pets.
- In Phase I, directed NSA Naples to limit the Housing List to only those homes with proven safe-water sources through “pre-screening” sampling prior to move-in.
- Directed NSA Naples to modify off-base private leases to require all landlords to clean and disinfect all supplementary drinking water systems (e.g., storage tanks) every six months.
- Directed NSA Naples to modify housing leases to require that if a home’s tap water supply is connected to a well, the landlord must provide verification that the well is legal according to Italian law. Otherwise, the home must be disconnected from the well and connected to the public drinking water system.
- With the assistance of the U.S. Consulate, Naples, NMCPHC and NAVFAC EURAFSWA, CNREURAFSWA defined high-risk areas and directed that NSA Naples suspend all new leases in those areas until further notice. Similarly, when environmental sampling results indicated a house was unacceptable, CNREURAFSWA directed that NSA Naples suspend further leasing of homes pending completion sampling and analysis.
- Directed NSA Naples to remove unacceptable off-base homes from the Housing List until the appropriate Italian governmental agencies have concluded that (and the U.S. Navy has concurred) the nature and extent of contamination has been fully characterized, remedial actions are in place, and soil, soil gas, and tap water concentrations are protective of human health.

Enduring Processes

Although the PHE ended, the continued implementation of select mitigation actions (many of the actions described above) is necessary for the continued health protection of U.S. personnel and their families living in Naples. These ongoing mitigation actions are referred to as “Enduring Processes.” The following are those Enduring Processes that were established at the conclusion of the PHE:

- More robust health risk education programs for U.S. personnel.
- Modifications to Housing's database system to distribute reminders to residents and landlords about cleaning and disinfecting the home's water holding tank. Housing would also randomly observe the cleaning procedure.
- A new billet at Naval Hospital Naples for a bilingual person to continue the monitoring of Italian environmental and health-related information and make public health information available to U.S. personnel.

Project Challenges and Limitations

The lack of a Department of Defense (DoD) policy for addressing public health risks overseas results in the lack of a standardized approach to conducting evaluations overseas. While every attempt was made to conduct the PHE in accordance with USEPA and Navy Risk Assessment Guidance, this approach may not always agree with the host nation guidance. In the case of the Naples PHE, it was assumed there was not a host nation regulatory framework and effective enforcement mechanism in place equivalent to the United States (U.S.). Over time, it became evident that lack of enforcement by responsible institutional bodies contributed to the current situation in Naples. This resulted in many obstacles, data gaps, and uncertainties requiring maximum flexibility, professional judgment, and constant adaptation to remain focused on conducting the best science possible. In summary, there were no DoD legally enforceable standards that applied to this situation overseas; therefore, the Navy developed their own conservative risk management criteria based on those unique circumstances.

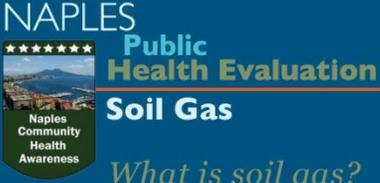
As a guest in a host nation, the Navy's ability to perform a complete human health risk assessment on Italian-private or Navy-leased property, as it would do in the United States, was extremely limited. In addition, the ability of the Navy to conduct the PHE was affected by the thousands of waste sites, both identified and unidentified, in the Campania region for which the Navy had no data concerning chemicals or their concentrations. Further investigation is still needed by the Italian environmental regulatory agencies to document the nature and extent of environmental contamination. As a guest in a host nation, the Navy does not have formal input into this Italian regulatory process. Navy input is appropriately limited to suggestions. Such an investigation in the United States would typically involve the following: reviewing available historical information (such as past industrial practices in the area); collecting and reviewing hydrogeology information; reviewing relevant agency databases or peer-reviewed literature that may contain valuable information concerning the nature and extent of contamination; and implementing corrective action(s) to eliminate, control, or mitigate potential risks to human health. Understanding the full extent of environmental contamination is critical to fully assessing the potential health risks to people living in the area and for determining how to deal with the contamination.

Other Significant Challenges and Uncertainties

Examples of other significant challenges and uncertainties in the PHE included:

- Requirement for landlord's permission to access property for environmental sampling.
- Influence of organized crime on the waste disposal industry.
- Limited access to host nation public health reports, studies, and public health officials.

- Representativeness of soil, soil gas, tap water, and ambient (outdoor) air analytical data collected during the PHE.
- Limited availability, accessibility, and suitability of residences for sampling dictated where samples were eventually collected.
- Navy investigation objectives and project limitations resulted in an approach to collect a limited number of environmental samples covering a broad geographical area (e.g., regional screening assessment) with, typically, only a singular sampling event occurring at investigated properties.
- Differences in host nation risk assessment approach, policies, and procedures compared to the United States.
- Difficulties determining exact locations of the 3,000 off-base rental properties on the NSA Naples Housing List (e.g., lack of Global Positioning System [GPS] database), for the residential properties where Navy personnel lived, to accommodate environmental sampling and meet PHE objectives, requiring extensive resources to fill this data gap.
- Resource issues for conducting a PHE of this scope overseas, including a myriad of logistical issues with supplies, equipment, and personnel.



NAPLES
Public Health Evaluation
Soil Gas

What is soil gas?

When released to or spilled on the ground, some chemicals will transition from liquid to gas.

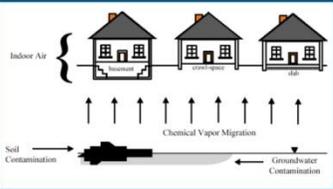
The term "soil gas" refers to gaseous chemicals that occur in the small spaces between particles of soil.

Chemicals in soil gas include substances that are used to make many common solvents and some petroleum products.

People can be exposed to chemicals in soil gas when they come into contact with soil (e.g., digging trenches).

People can also be exposed to chemicals in soil gas through a process called **"vapor intrusion"**:

- Vapor intrusion occurs when gaseous chemicals enter the building from sources below the foundation.
- Soil gas can enter buildings through cracks in concrete slab floors, basement floors, sump pumps or where electrical wires or pipes penetrate the foundation.






What's in the soil gas?

For locations that were sampled, the following categories of chemicals were detected. The chemicals in each category varied by location.

- ▶ Volatile organic compounds
- ▶ Semi-volatile organic compounds
- ▶ Aldehydes

Not all chemicals detected posed a health risk. In soil gas, the majority of health risks were from tetrachloroethene and chloroform.

What has the Navy learned?

- ▶ Clusters of residences with unacceptable risks were observed primarily in Study Area 8.
- ▶ From a region-wide perspective, the Navy found both clustered and random distributions of unacceptable homes; therefore, it is not possible to predict locations of acceptable residences using soil gas as the sole indicator.
- ▶ While some soil gas results at Capodichino and Support Site were unacceptable, follow-up sampling for potential vapor intrusion demonstrated that it is safe to live and work on base.

What has the Navy done in response?

- ▶ Where soil gas results off-base indicated a potential health risk, additional investigation was conducted.
- ▶ For off-base residences with unacceptable soil gas concentrations, the residents were relocated.
- ▶ Residences with soil gas values that exceeded the Naples Public Health Evaluation criteria were further examined to determine whether these homes would be eligible to lease in the future.
- ▶ Established New Lease Suspension Zones.

What can residents do to minimize risk?

Personnel can consider the following when looking for homes off-base:

- ▶ **The higher you live, the less potential risk from vapor intrusion.** Look for homes where the living space is higher than the ground floor. For example, a building with a ground floor parking garage that is well ventilated.
- ▶ **Avoid living in basements.**
- ▶ **Ventilate the home by opening windows to encourage more air exchanges when practical.**

Section III

Public Affairs Staff

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Naples Public Health Evaluation Phase I and Phase II Reports

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- Tetra Tech NUS, Inc., for Naval Facilities Engineering Command Atlantic, Naples Public Health Evaluation, Volume I: Phase II Environmental Testing Support Assessment, Naval Support Activity Naples, Naples, Italy, June 2010.
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- Navy and Marine Corps Public Health Center, Naples Public Health Evaluation, Volume III: Public Health Summary, Naval Support Activity Naples, Naples, Italy, May 2011.

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- Navy and Marine Corps Public Health Center, Naples Public Health Evaluation, Public Health Summary, Volume III, Appendix A: Naples Public Health Evaluation Risk Communication and Public Outreach Program, May 2011.
- Navy and Marine Corps Public Health Center, Naples Public Health Evaluation, Public Health Summary, Volume III, Appendix B: Risk Management Actions and Enduring Processes Already Implemented, May 2011.
- Navy and Marine Corps Public Health Center, Fact Sheet on Naples Public Health Evaluation Summary of Study Findings Phases I and II, June 2011.
- Navy and Marine Corps Public Health Center, Naples Public Health Evaluation Food Study, June 2010.
- Navy and Marine Corps Public Health Center, Naples Public Health Evaluation Asthma Epidemiological Study, October 2008.

- Navy and Marine Corps Public Health Center, Naples Public Health Evaluation Birth Defects Epidemiological Study, January 2009.
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- Navy and Marine Corps Public Health Center, Naples Public Health Evaluation Updated Asthma Epidemiological Study, June 2010.

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Section IV

Appendix

- Appendix A: Fact Sheets
- Appendix B: Handouts
- Appendix C: Posters
- Appendix D: Frequently Asked Questions
- Appendix E: All Hands Emails
- Appendix F: Panorama Articles
- Appendix G: Communication Plans

NAPLES
Public Health Evaluation
Soil

How does soil get contaminated?

- ▶ Contaminants in soil can be caused by leaking storage tanks, accidental spills and improper waste disposal.
- ▶ Open burning of trash can deposit contaminants from the air onto the soil.

What's in the soil?

For locations that were sampled, the following categories of chemicals were detected. The chemicals in each category varied by location.

- ▶ Polycyclic aromatic hydrocarbons
- ▶ Dioxins/furans
- ▶ Inorganic elements - arsenic (naturally occurring and common in volcanic areas such as Naples)

What has the Navy learned?

- ▶ The risks associated with soil were typically acceptable with a few exceptions.
- ▶ Polycyclic aromatic hydrocarbons and dioxins/furans were detected at concentrations greater than U.S. Environmental Protection Agency (USEPA) Regional Screening Levels.
 - Concentrations were consistent with man-made background levels typically found in urban environments and would not require cleanup or mitigation under USEPA regulations.
- ▶ Arsenic was detected at concentrations greater than its USEPA Regional Screening Level in all samples.
 - Concentrations of arsenic are most likely naturally occurring and released to the environment through natural activities, such as rock erosion and volcanic activities.

What has the Navy done in response?

- ▶ Because chemical concentrations were similar to urban and volcanic environments, soil sampling was discontinued midway through Phase II.
- ▶ At the few locations where unacceptable soil contamination was detected, the Navy required landlords to take action to prevent exposure to the soil.

What can residents do to minimize risk?

- ▶ Due to the presence of naturally occurring arsenic in soil, limit direct contact with soil when possible.
- ▶ Be sure to wash after playing and working in the soil and limit the amount of soil tracked in from outdoors.

Soil sampling

A. Fact Sheets

- Active Soil Gas Sampling (English and Italian)
- Air Quality and Meteorological Monitoring Program
- Asthma Epidemiological Study
- Background Arsenic Levels in Soil and Water
- Birth Defects Epidemiological Study
- Bottled Water Safety
- Building Structures and Vapor Intrusion (English and Italian)
- Cancer Epidemiological Study
- Chemicals and Microorganisms Analyzed
- Drinking Water Disinfection
- Drinking Water Testing Parameters
- Drinking Water Notification for Total Coliform/Fecal Coliform (English and Italian)
- Epidemiology
- Food On and Off Base
- Hard Water
- Investigating Groundwater in Casal di Principe (English and Italian)

NAPLES Public Health Evaluation Air Quality/Meteorology

The Navy collected air quality samples for one full year from nine sampling stations, one in each study area. In addition, meteorological data were collected from the Support Site in Gricignano and from Italian regional stations.

Air Quality Sampling and Monitoring Equipment

Each of the sampling locations was equipped to collect 24-hour air samples. The type of sampler needed depended on the pollutant that was being measured:

PM₁₀ High Volume Sampler
Used to collect samples of size-specific particulate matter equal to or less than 10 microns in aerodynamic diameter.

PUF High Volume Sampler
Used to collect samples of dioxins, furans, semi-volatile organic compounds, pesticides and polychlorinated biphenyls.

SUMMA Canister
Used to collect samples of volatile organic compounds.

Mercury and Aldehyde Sampler
Used to collect samples of mercury vapor and aldehyde.

Support Site Meteorological Tower Station

The station measured:

- ▶ Wind speed at 10 meters
- ▶ Wind direction at 10 meters
- ▶ Standard deviation of wind direction at 10 meters
- ▶ Temperature at 2 and 10 meters
- ▶ Change in temperature between 2 meters and 10 meters
- ▶ Solar radiation at 2 meters
- ▶ Barometric pressure at 2 meters
- ▶ Rainfall at ground level

Meteorological station at the Support Site. It was constructed for the Naples Public Health Evaluation.

Continuous Air Monitoring

A continuous air monitoring (CAM) system, shown below, was operated at the Support Site in Gricignano. The system continuously monitors concentrations of the following gaseous pollutants:

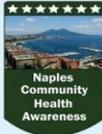
- ▶ Sulfur dioxide
- ▶ Nitrogen monoxide
- ▶ Carbon monoxide
- ▶ Nitrogen dioxide
- ▶ Nitrogen oxides
- ▶ Ozone

The CAM system was housed in an environmental controlled shelter to protect the temperature and at the correct levels. It includes gas analyzers, data loggers, and computer systems.

- Mozzarella di Bufala Cheese
- Navigating the *Agenzia Regionale per la Protezione Ambientale della Campania* (ARPAC) Website
- Nitrate in Tap Water
- Passive Soil Gas Sampling
- Public Health Evaluation Phase I Summary of Findings
- Public Health Evaluation Phase I and Phase II Summary of Findings
- Sampling of Vacant Homes (English and Italian)
- Tap Water Bacteria
- Tap Water and Soil Sampling
- Understanding the Vapor Intrusion Mitigation System being Installed at the Capodichino Child Development Center
- Vapor Intrusion
- Volatile Organic Compounds
- Water Contamination (English and Italian)
- Water Holding Tank Disinfection (English and Italian)
- Water Quality Monitoring
- What Happens after Samples are Collected from my Residence?
- What is a Public Health Evaluation?

B. Handouts

- Phase I PHE Air Sampling Schedule
- Naples Community Health Awareness brochure
- Approved Water Vendors
- New Lease Requirements
- Water Service Request Form
- Resident Meeting Evaluation Form
- Open House Evaluation Form



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Approved Bottled Water Vendors

The following is a list of approved bottled water brands and sizes manufactured at approved water bottling plants in Italy. These vendors have been approved by the U.S. Army Veterinary Command to provide bottled water to Naval Support Activity Naples, Support Site in Gricignano, and other U.S. Government sites in the Naples area. The U.S. Army Veterinary Command is the Department of Defense executive agent for food safety and quality assurance. You may find these brands at the commissary, Navy Exchange marts, or wherever bottled water is used or sold on U.S. Navy sites.

<p>San Benedetto Manufacturing Plant: Acqua Minerale San Benedetto S.p.A. IT-0001</p> <p>Approved for:</p> <ul style="list-style-type: none"> • Ice tea containing no preservatives. • Water sold in plastic containers made of polyethylene terephthalate (PET). This type of plastic bottle usually has the following icon on the bottom of the bottle:  <p>Approved brands include:</p> <ul style="list-style-type: none"> • Sorgente del Bucaevne • Guizza • San Benedetto <hr style="border: 0.5px solid #ccc;"/> <p>Culligan Manufacturing Plant: Culligan B.W. s.r.l. IT-0145</p> <p>Approved for:</p> <ul style="list-style-type: none"> • Bottled water sold in 5 gallon and 18.9 liter sizes <p>Approved brands include:</p> <ul style="list-style-type: none"> • Culligan <hr style="border: 0.5px solid #ccc;"/> <p>Culligan Manufacturing Plant: Culligan Vicenza AAFES Water Plant IT-0127</p> <p>Approved for:</p> <ul style="list-style-type: none"> • Bottled water sold in 3.35 gallon and 5 gallon sizes. Both fluorinated and non-fluorinated waters are approved. <p>Approved brands include:</p> <ul style="list-style-type: none"> • Culligan <hr style="border: 0.5px solid #ccc;"/>	<p>Gran Guizza Manufacturing Plant: Gran Guizza S.p.A. IT-0031</p> <p>Approved for:</p> <ul style="list-style-type: none"> • Bottled water in mineral, sparkling and still varieties. <p>Approved brands include:</p> <ul style="list-style-type: none"> • Guizza <hr style="border: 0.5px solid #ccc;"/> <p>Norda Manufacturing Plant: Norda S.p.A. IT-0050</p> <p>Approved for:</p> <ul style="list-style-type: none"> • Bottled mineral water <p>Approved brands include:</p> <ul style="list-style-type: none"> • Nuova Acquachiara <hr style="border: 0.5px solid #ccc;"/> <p>San Pellegrino Manufacturing Plants:</p> <ul style="list-style-type: none"> • San Pellegrino SpA Acqua Vera IT-0080 • San Pellegrino SpA Levissima Plant IT-0075 • San Pellegrino SpA Stabilimento Recoaro IT-0071 <p>Approved for:</p> <ul style="list-style-type: none"> • Bottled mineral water <p>Approved brands include:</p> <ul style="list-style-type: none"> • San Pellegrino <hr style="border: 0.5px solid #ccc;"/>
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Check the label on bottled water before you purchase it to make sure that the bottle of water is from one of the approved water bottling plants listed above.

*Check VETCOM's Worldwide Directory for the most up to date information on approved food establishments for Armed Forces procurement:
<http://vetcom.amedd.army.mil/food.html>*

Visit the Naples Community Health Awareness website at
www.cnrc.navy.mil/Naples/About/HealthAwareness

June 2011

C. Posters

- Purpose of Public Health Evaluation
- Study Area Map
- Study Results
- Navy Actions
- Enduring Processes
- Food
- Tap Water
- Water Contamination Graphic
- Aqueduct Map
- Air
- Air Monitoring
- Soil
- Soil Gas
- Epidemiology
- Off-Base Housing
- New Lease Suspension Zone Map
- Project Timeline

NAPLES
Public Health Evaluation
Air

What's in the air?
For locations that were sampled, the following categories of chemicals were detected. The chemicals in each category varied by location.

- ▶ Volatile organic compounds
- ▶ Semi-volatile organic compounds
- ▶ Dioxins/furans
- ▶ Pesticides and polychlorinated biphenyls
- ▶ Aldehydes
- ▶ Metals
- ▶ Particulate matter of 10 microns in diameter or smaller (PM₁₀)

Not all chemicals detected posed a health risk. In outdoor air, the majority of potential health risks were from 1,2-dibromo-3-chloropropane (a pesticide) and acrolein (formed when trees, tobacco, other plants, gasoline, and oil are burned).

What has the Navy learned?

- ▶ The risks from air did not vary significantly among the nine study areas.
- ▶ The risks from air were not significantly higher on days when trash was burned than on days when trash was not burned. Aldehydes were the only chemicals where the average risks were slightly higher on trash burning days.
- ▶ PM₁₀ was the only pollutant to exceed U.S. Environmental Protection Agency National Ambient Air Quality Standards. However, these exceedances were infrequent (3% of samples exceeded the standard).
- ▶ Many contaminants were likely associated with vehicle exhaust, industrial emissions, or agricultural burning.
 - While most of the contaminants were similar to those found in the U.S., they were not identical. Therefore, direct comparison of the risk between typical urban air quality in the U.S. and the air quality in Naples is not appropriate.
 - For example, the pesticide 1,2-dibromo-3-chloropropane, the major risk driver, which was found in a small number of Naples air samples (6.8%), did not have corresponding values in U.S. air data since this pesticide is no longer used in the U.S.

What has the Navy done in response?

- ▶ The Navy has conducted two asthma studies to examine the effect of ambient air quality on health.
- ▶ As a result of the 2010 asthma study, the Navy and Marine Corps Public Health Center has recommended that U.S. Naval Hospital Naples consider the impact of the ambient air quality on those with documented respiratory problems, especially persistent asthma, before granting an overseas screening waiver.

The Navy collected ambient air quality samples and meteorological data for one full year, from July 2008 to July 2009.

What can residents do to minimize risk?

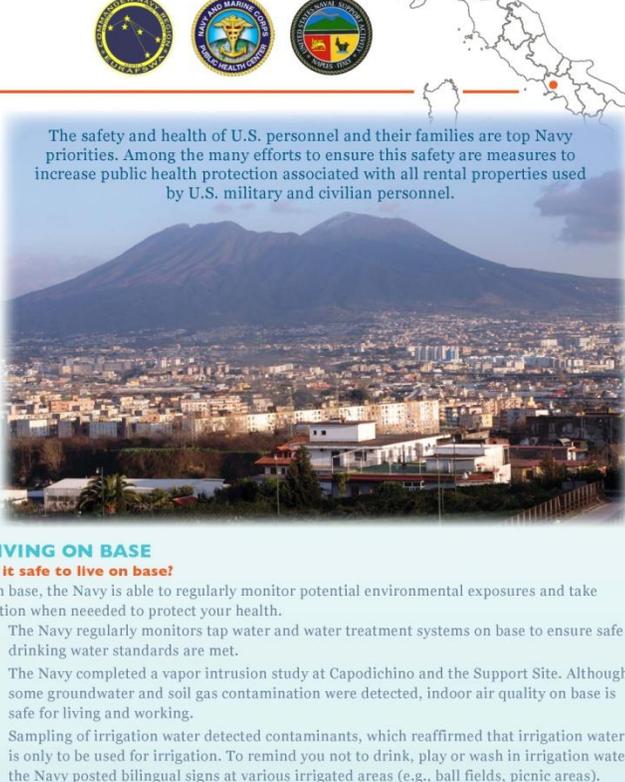
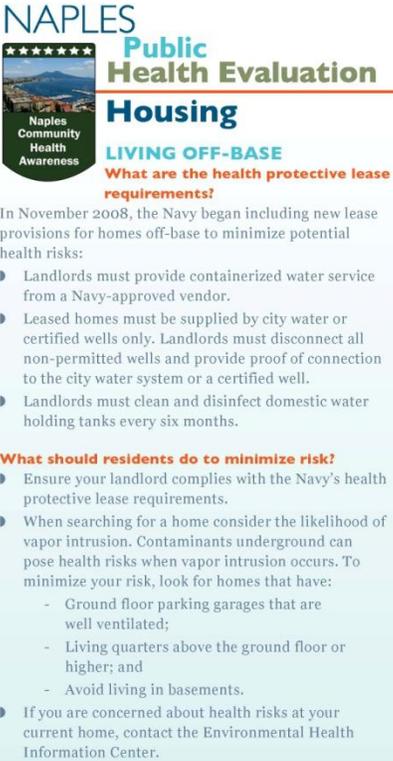
- ▶ Avoid lengthy periods outdoors when open burning is taking place.
- ▶ Keep windows closed when outdoor air conditions are poor.
- ▶ If you have respiratory problems, work closely with your local health care provider to manage your condition.

**LOS ANGELES SEATTLE
HOUSTON WASHINGTON, D.C.
MIDLOTHIAN, TX
SAN DIEGO**

The air sampling data were compared to six U.S. cities.

D. Frequently Asked Questions

- 500-Foot Step-Out Sampling
- 1500-Foot Step-Out Sampling
- Asthma Epidemiological Study
- Bottled Water
- Cancer Epidemiological Study
- Housing
- Phase I Rollout
- Phase II Rollout
- Precautionary Vapor Intrusion Mitigation: Child Development Center



The safety and health of U.S. personnel and their families are top Navy priorities. Among the many efforts to ensure this safety are measures to increase public health protection associated with all rental properties used by U.S. military and civilian personnel.



E. All Hands Emails

- Bottled Water Advisory – 2009, February 20
- Birth Defects Epidemiological Study – 2009, February 26
- Phase II Active Soil Gas Sampling – 2009, March 10
- Phase I Report Release – 2009, April 23
- Phase I Report Stars & Stripes Article Response – 2009, April 28
- Phase I Open House Reminder – 2009, May 05
- Lease Negotiation – 2009, May 26
- Precautionary Vapor Intrusion Mitigation at Child Development Center – 2009, July 15
- Relocations – 2009, August 13
- Parcos Residents – 2009, September 09
- Cancer Epidemiological Study – 2009, October 02
- Updated Asthma Study – 2010, June 23



F. Panorama Articles

- Various articles published weekly

Panorama

NSA's MISSION STATEMENT: "TO PROVIDE QUALITY SUPPORT TO U.S. AND NATO PERSONNEL, ACTIVITIES, AND Afloat UNITS IN OUR GEOGRAPHIC AREA OF RESPONSIBILITY. TO ENSURE RELIABLE COMMAND AND CONTROL OF ALL SUPPORT PROVIDED TO THOSE UNITS."
 Visit us on the Web <http://www.enic.navy.mil/Naples/index.htm> • Like us on Facebook *U.S. Naval Support Activity Naples*

56TH YEAR, NO. 24

Serving the NATO, Naples and Gaeta military communities in Italy
 SPEDIZIONE IN A.P. - 46% - ART. 2 COMMA 20/B LEGGE 369/98 - FILIALE DI NAPOLI

FRIDAY, JUNE 17, 2011

Open houses discuss final results of public health environmental study



Matt Solita, an environmental expert and a project manager for the Naples Public Health Evaluation (PHE), explains the results of a year-long air monitoring study conducted as a part of Phase II of the PHE to residents at an open house meeting in the Capo Cio Hall PHE on June 15. The last open house will be held today, June 17, at U.S. Naval Hospital Naples from 10 a.m. to noon. (Photos by Lt. Matt Gill)

This week, the Navy held open house information sessions for the conclusion of the Naples Public Health Evaluation (PHE), a three and a half year environmental study that evaluated potential health risks related to waste disposal for U.S. personnel living in the Naples area. Subject matter experts were on hand to discuss the findings of the study, answer questions, describe actions taken by Navy to protect health, and share health protective actions U.S. personnel should take while living in Naples.

Throughout the PHE, the Navy identified specific concerns and took action to protect the health of U.S. personnel and their families. Based on the final PHE report, health protective processes already in place as a result of 2008 findings will continue and new processes will be implemented for continued health protection.

Cmdr.(Dr.) Tim Halenkamp, director of public health at U.S. Naval Hospital, Naples explains results of the Naples PHE to a resident at an open house session.



see PHE Page 12

PLACES TO SEE



Page 13

Events around town this weekend

- **11** Does Dad like mess? Why not treat him to a night on the town? Giuliano Palma performs a free concert at Arendse Reelod in Bagnoli at 9 p.m.
- **11:30** Or perhaps it's time for Dad to follow his own advice—he can have his vegetables and eat them too at the Porcini Mushroom and Asparagus Festival in Montoro Superiore in Avellino province.
- **11:30** - The Dad back in time to the Middle Ages. In Piazza Duomo this weekend, Nola hosts "Corso

Storico degli Orsini Nola," which features a 14th century costume parade, re-enactments of medieval life scenes, live chess games and spectacular fireworks. Beginning Sunday and continuing through June 26, Melizzano puts on its 12th annual "Quintana Storia." Expect costumes, parades, jousting.

1 June 2 until 18/20/26/28/29/30/31/2011. For more information see the website.

Town hall wrap-up

From "Panorama" staff

Capt. Robert Rabuse, Naval Support Activity (NSA) Naples commanding officer, conducted a town hall meeting Tuesday, June 14 at the Support Site Real Times 3 Theater. He discussed the following issues:

The Public Health Evaluation is wrapping up after nearly three years of evaluating the water, soil and air quality of the Campania Region. For more information, attend an open house. The last session is today at U.S. Naval Hospital Naples from 10 a.m. to noon. Staff at the Environmental Health Information Center are also available to discuss your health-related questions and can provide information about the study. Call 081-811-6299 or visit <http://www.enic.navy.mil/Naples/About/HealthAwareness>.

The Support Site Back Gate will be closed for repair work June 20 through 24. Off-base vehicle access to the Housing Welcoming Center will be unaffected. The turnstile gate behind the Housing Welcoming Center will be open for two-way pedestrian traffic during business hours. Delivery and commercial traffic should utilize the Truck Gate (S-3) behind the Commissary to access the base during this time.

The Star Spangled Independence Day celebration is rapidly approaching. The main events will be Saturday and Sunday, July 2 and 3, not July 4. The fireworks display will be July 3. For more information and the guest access and transportation policies, call ITD at 081-568-4471 or 081-568-4830.

MWR fall sports registration for soccer and flag football is ongoing through Aug. 19. Sign your kids up now so MWR can be sure to have enough coaches in place.



NSA Naples Commanding Officer Capt. Robert Rabuse addresses the audience during the town hall meeting June 14. (Photo by MC1(NAO) John Parker, NSA Naples Deputy PAO)

introduced his relief, Capt. Scott Gray, an aviator who has most recently served as Plans Director at Navy Warfare Development Command in Norfolk, Va.

Capt. Rabuse gave the most exciting news of the evening—he has secured the funds required to create a dog run at the Support Site. But for those with small dogs, a gap under the fence will remain. There is not enough funding available to extend the fence to the ground. Contractors are currently working on a plan to adjust the force protection measures installed along the fence line.

Members of the audience then asked Capt. Rabuse the following questions:
 Q: Will the grass at the Support Site be mowed more frequently now that it is summertime?
 A: The mowing schedule is determined by length of grass. One of Mirabella's three mowers has been out of service recently. Given the fertile environment at the Support Site, there are areas that are well beyond both the Facilities and Housing specifications. Mirabella will make every effort to catch up as soon as the

change of command ceremony is June 24. Capt. Rabuse

Capt. Scott Gray
 will assume command of
NSA Naples
 at a change of
 command ceremony
Friday, June 24,
 at 10 a.m.
 in the Capo piazza.

see TOWN HALL Page 3

Naples' weekend forecast

	FRIDAY High 77 Low 64 PARTLY CLOUDY		SATURDAY High 75 Low 61 PARTLY CLOUDY		SUNDAY High 81 Low 68 SUNNY
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G. Communication Plans

- 1500-Foot Step-Out Investigation
- Asthma Epidemiological Study
- Cancer Epidemiological Study
- Phase I Rollout Plan and After Action Report
- Phase II Rollout Plan and After Action Report
- Precautionary Vapor Intrusion Mitigation: Child Development Center

NAPLES

Public Health Evaluation



Naples
Community
Health
Awareness

