

Lecture Hall

Session Abstracts

National Environmental Health Association (NEHA)
72nd Annual Educational Conference & Exhibition

Uniformed Services

Tuesday, June 24

8:00 – 8:50am

Mission Modeling and Planning for Environmental Health Aspects of Humanitarian Missions

LT Lawrence A. Sproul, MPH, REHS/RS, Head of Environmental Health, Navy Health Clinic, IL

Although advance teams visited the mission sites early on, their environmental health (EH) investigations were conducted by medical doctors and focused on force health protection. Because advance team members were unfamiliar with environmental health capabilities, they were unable to identify and plan for EH projects. Through use of immediate advance teams and “just-in-time” coordination, we were able to increase EH effectiveness in each country that we visited. The most effective strategies focused around identifying the right individuals with the right knowledge of EH needs and local capabilities so that we could target resources in the right place.

Although most of the countries spoke Spanish or English, contact identification was inhibited by a very significant difference in the naming conventions for the EH entities in each country. A precise strategy enabled rapid and accurate identification of key EH contacts in each country. Staffing and Equipment must be tailored to identified needs; where needs are not known, both staffing and equipment will be inadequate or overloaded.

9:30 – 10:20am

The China Syndrome and Formaldehyde Outgassing in the Temporary Housing Units Used in Disasters

CDR Merritt M. Lake, MSOSH, MSHS, Director of Workforce Health, Protection, and Wellness, USDHS Office of Health Affairs, VA

The lack of a residential air quality standard for the temporary housing units that were employed by FEMA as the result of this disaster, the uniqueness of the housing materials purchased from China that were used in the construction of these units and the type of resident and time of stay created the perfect storm for an environmental catastrophe.

From May 2007 until December 2007, I was assigned as the Subject Matter Expert by the Chief Medical Officer for the Office of Health Affairs in the Department of Homeland Security Headquarters. In July Congress held a hearing concerning the alleged medical symptoms that the residents of these temporary housing units were claiming. The suspect culprit in these units was thought to be formaldehyde in a gaseous state that was outgassing from a variety of construction materials used throughout these units. FEMA, through the oversight of the Office of Health Affairs was tasked to solve this problem. Lacking quantitative data that characterized the amount of formaldehyde present was not the only problem facing this task. Lacking a standard that was designed to protect residential exposures was the real issue.

This presentation will explain the real facts behind the Media hype and introduce the audience to the responsibilities and capabilities of the Office of Health Affairs within the Department of Homeland Security Headquarters.

11:00 – 11:50am

Bottlewater to the Scuttlebutt: Navy Preventive Medicine Surveillance

Robert Odette, RS, DAAS, MSPH, Senior Sanitarian, U.S. Navy (Ret.), Navy & Marine Corps Public Health Center, VA

Whether in garrison or in an operational settings such as a ship or in a combat zone routine medical surveillance of drinking water is a day to day responsibility of Navy Preventive Medicine personnel. This presentation will provide an overview of the compliance and monitoring requirements for Navy and Marine Corps units in the U.S. , on the high seas, or ashore in a combat zone. Overview of technologies used including routine test/laboratory equipment will be included. An overview of the Navy's training program for Preventive Medicine Technicians will also be included.

1:30 – 2:20pm

Advancing Health Diplomacy Through Environmental Health: Deployment to the Peleliu Pacific Partnership, June–September 2007

LCDR Stephen R. Piontkowski, MSEH, REHS, Service Unit Environmental Health Officer, USPHS, IHS, AZ

CDR Dale M. Bates, MPH, REHS, CHTP, Senior Public Health Analyst, USPHS, HRSA/Office of Performance Review, WA

The Peleliu Pacific Partnership was a humanitarian and health diplomacy mission carried out by the United States Navy from June – September 2007. The three primary goals of the mission were to 1) deliver valuable medical, dental, and engineering services to underserved populations, 2) successfully embed non-governmental organizations in operations from a U.S. Navy gray hull, and 3) provide a mutually beneficial experience for partner nation participants. Services were provided to approximately eight host nations in the South Pacific and Oceania regions.

The U.S. Navy joined forces with its sister Uniformed Services and professionals from other nations to accomplish mission goals. The U.S. Public Health Service (PHS) deployed four of their Environmental Health Officers (EHO) to this unique humanitarian mission that used a U.S. Navy warship, the USS Peleliu (LHA-5), as the platform for operations.

PHS EHOs were attached to the mission's Forward Deployed Preventative Medicine Unit while embarked on the USS Peleliu (LHA-5). The charge to EHOs was to assess the environmental conditions contributing to potential illness and injury as identified by host nations. The quality of work and product delivered to host nations exceeded their expectations.

Environmental Health activities required skills in all aspects of EH practice including water and solid waste management, vector mitigation, emergency preparedness, Institutional EH, and others. These skills were applied to communities ranging from urban, to rural villages and inter-displaced person camps. Other skills valuable to deployed EHOs were flexibility, a high degree of respect and professionalism, and specific tools and references that enabled us to carry out our charge and be successful within the preventative medicine unit.

The Environmental Health Officers of the U.S. Public Health Service contributed to the success of the Peleliu Pacific Partnership. The field of Environmental Health was a necessary component to

enhance this unique humanitarian and health diplomacy mission and should be included in future missions.

3:00 – 3:50pm

Identification of Compounds Formed During the Low Temperature Heat Dispersal of CS Riot Control Agent in an Army Mask Confidence Chamber

CPT Joseph J. Hout, MSPH, Chief of the Occupational and Environmental Health Division, U.S. Army, 1st Area Medical Laboratory, MD

US Army mask confidence training is conducted using low temperature heat-assisted dispersal of encapsulated o-chlorobenzylidene malononitrile (CS riot control agent). This study quantified the CS concentration and identified the CS thermal degradation products detected inside of an Army mask confidence chamber. Degradation products identified in the chamber were compared to those observed in a laboratory setting at temperatures ranging from 150 – 300°C. The average surface temperature of the Army dispersal system was 257°C and the daily average CS concentration ranged from 2.33 – 3.29 mg/m³. There were 17 CS thermal degradation products identified in the chamber, fifteen of which were identified in the laboratory (one at 150°C and 15 at 300°C). The two additional products detected in the chamber were likely due to molten CS dripping through air holes directly into the heat source. A better CS delivery system that contains the CS and maintains a temperature near 150°C should create the desired CS concentration and hinder the formation of undesirable degradation products.

4:30 – 5:20pm

U.S. Public Health Service Augments the 2007 USNS COMFORT Humanitarian Assistance Deployment

CAPT Craig A. Shepherd, RS, MPH, DAAS, Chief Environmental Health Officer, USPHS, CDC, GA

On October 15, 2007, USNS COMFORT completed its 120-day, 12-country mission in Latin America and the Caribbean. USNS COMFORT was part of the President's Latin America initiative and the U.S. Southern Command's Partnership for the Americas. The USNS COMFORT's mission was to train U.S. personnel in Humanitarian Assistance/Disaster Relief as well as provide mobile, flexible, and rapid response in the region. Visits to individual countries demonstrated commitment to the region and importance of cooperation.

This mission was truly a joint-civil military effort in that more than 200 organizations were represented by the COMFORT. The joint crew included people from the U.S. Navy, Army, Air Force, Coast Guard, U.S. Public Health Service, Canadian Forces and civilian personnel representing Military Sealift Command and NGOs Project Hope and Operation SMILE. Country visits were organized in direct cooperation with each country's government, including the Ministry of Defense, the Ministry of Health, and other health organizations.

Four successive multidisciplinary teams of 17, 18, 17 and 18 U.S. Public Health Service (USPHS) officers of the Commissioned Corps (Corps) served aboard the USNS COMFORT for approximately one month and each team visited three different countries in the region. CAPT Craig Shepherd, Officer in Charge (OIC), and an Environmental Health Officer (EHO), remained on board the USNS COMFORT for the full 4 months of the mission, leading each of the four teams and represented the Corps in all interactions with ship-board Navy leadership.

The Corps healthcare professionals were primarily involved in the provision of oral health and primary care services ashore in the communities adjacent to the ports visited by the ship, as well as some tertiary care services aboard ship. Corps officers lead the oral health mission to screen and treat children, but at the U.S. Navy's request, the remaining Corps officers served in both

clinical and non-clinical roles, as subject matter experts, and perform multiple duties as assigned in support of the entire USNS COMFORT mission.