



Fleet Public Health

Navy Environmental Health Center, Norfolk, VA

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NEPMU-2 Norfolk, VA Edition



From the OIC:

NEPMU-2 Celebrates 50th Anniversary of Navy Environmental and Preventive Medicine Units

March 10, 1999 was an historical milestone in the history of Environmental and Preventive Medicine Units in the Navy. This date officially marked the 50th year that personnel from Navy Environmental and Preventive Medicine Units around the world have provided dedicated service to the men and women of the Navy and Marine Corps.

The staff of Navy Environmental and Preventive Medicine Unit No. 2 (NEPMU-2) recognized this milestone on 12 March by conducting a formal ceremony and

an open house that was attended by Admiral Rowley (Force Surgeon for CINCLANTFLT); by the staff and family members of the Navy Environmental Preventive Medicine Unit No. 2 and of the Navy Environmental Health Center; and, most importantly, by many distinguished alumni of the Navy Environmental and Preventive Medicine Unit No. 2. The keynote speakers for the ceremony were CAPT Richard Buck, Commanding Officer for the Navy Environmental Health Center and Master Chief Hospital Corpsman (retired) Jackie Brown, the former Command Master Chief of the Navy Environmental Health Center. The highlight of the ceremony was the dedication of a bell that was placed on the quarterdeck of NEPMU-2 and that commemorated the 50 years of dedicated service provided by personnel from Navy Environmental and Preventive Medicine Units around the world. In addition, a very special alumnus of NEPMU-2 was recognized during the formal

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From NEPMU-2's reception



CAPT Buck, CO of Navy Environmental Health Center presented a callage containing photos from 1959 and 1999, as well as a statement of philosophy, "Unless an organization is restless and experimental, it is quietly going to seed."

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NEPMU-5 Celebrates 50 Years of Service

Against the background of the MILCON, initiated in 1987, subsequently modified and due for completion in July 1999, the staff of NEPMU-5 celebrated 50 years of service with invited guests from past and present. A canopy and storyboards, depicting and narrating information about the Unit, helped create a festive atmosphere.

CDR Nathan Lacy MSC, USN, head of the Chem/Bio/Environmental/Radiation Department, and Master of Ceremonies, recounted the proud history of the Preventive Medicine Units; OIC CAPT James R. Beddard MSC, USN noted our present status. CAPT George J. Hansel MSC, USN (Retired), OIC of NEPMU-5

from 1986 to 1991, offered a more personal perspective on our recent history.



The Master of Ceremonies addresses Unit staff and guests at celebration proceedings

Unit members had gathered significant or time-relevant articles to include in a "time capsule," for burial in the current construction; this

Continued on next page

NEPMU6 Celebrates 50th Anniversary

NEPMU-6 celebrated its 50th Anniversary 10 March with a formal ceremony and cake cutting followed by an open house with historic displays and exhibits. Captain H. James Beecham III, MC USN, Officer in Charge, talked about the history of NEPMU-6. CDR Kenneth R. Ockermann, MSC USN, Head of the Environmental Health Department, gave an overview of Navy Preventive Medicine and the Preventive Medicine Technician. NEPMU-6 has kept Pacific operational and shore-based military

personnel disease-free throughout its history. NEPMU-6 involvement in the Pacific Rim has run the gamut: assisting Honolulu Public Health officials combat a polio epidemic in 1962; support in decontamination of the Apollo 11 crew following its historic lunar landing mission in 1969; participation in Operations Desert Shield/Storm, Sea Angel, Restore Hope, and Southern Watch, and Exercises Tandem Thrust, Cobra Gold, Team Spirit and Bright Star; and most recently, helping the FBI analyze a suspicious powder thought to be Anthrax in downtown Honolulu. NEPMU-6 has served the Pacific Fleet with distinction, valor and success.



CAPT H. James Beecham III, (right) participate in the cake cutting during NEPMU-6's 50th anniversary ceremony.

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From the OIC: NEPMU-2 Celebrates 50th**Continued from p. 1**

ceremony, for it is from a graduate thesis that this alumnus completed in 1959 that most of the early history of Environmental and Preventive Medicine Units in the Navy was obtained. All other histories either contain excerpts or full passages from this thesis entitled "The Predicament of the U.S. Navy Preventive Medicine Units" that was written by CAPT (ret) Louis Kaufman, MSC, USN in 1959.

I would like to share some of the remarks that were made by CAPT Buck during his keynote speech that refer to CAPT Kaufman's thesis, since these remarks truly tie the past to the present and illustrate the progress that Navy Environmental and Preventive Medicine Units have made over the past 50 years.

CAPT Buck: "As we look back over the past fifty years to learn where the puck has been, we can see that we've accomplished great things. One of our honored guests this morning, retired CAPT Louis Kaufman, wrote a graduate thesis entitled "The Predicament of the U.S. Navy Preventive Medicine Units" in 1959. CAPT Kaufman outlined some of the problems of the units forty years ago, and I was struck by how far we have come. He stressed the need to market preventive medicine services, a need that continues to today, and one that we are meeting with a variety of tactics, from articles in publications to our Website to events such as today's celebration.

CAPT Kaufman advocated the role of public health educators, a role which we are meeting with our health promotion initiatives in nutrition, tobacco cessation, physical fitness, and STD education. He regretted the lack of top-level interest and direction from the Bureau of Medicine and Surgery. Today, BUMED has appointed us program manager for initiatives that are on the cutting edge of Navy Medicine. He advocated better communication between the units. Last month the MED IG team inspected NEHC and commended our active and supportive communication network among our worldwide activities. CAPT Kaufman suggested that an annual meeting be arranged for discussing mutual problems and programs. This is a perfect description of our annual Workshop, which, I am pleased to announce, will come back to the East Coast in the year, 2000.

As we pause to reflect on the challenges and accomplishments of the past, it's apparent that we have come a long way. We have come a long way because we have looked to the future with a constant vision- that of ensuring Navy and Marine Corps Readiness through leadership in the Prevention of Disease and the Promotion of Health. Our motto, "Think Populations, See Individuals" captures the essence of our approach." CAPT Buck's comments clearly reflect the growth and the progress of Preventive Medicine in the Navy over the past 50 years.

We should all reflect on and be proud of our contributions to the growth and progress of the last 50 years. CAPT Kaufman attributes his contributions to his belief that "Unless an organization is restless and experimental, it is quietly going to seed." Truly, this belief is alive and well in the Navy Environmental and Preventive Medicine Units today, so one can only imagine the progress that will be seen over the next 50 years.

Dwight C. Fulton
CAPTMCUSN
OIC, NEPMU-2



The above are present at the dedication of a bell at the quarterdeck at NEPMU-2,

NEPMU-5 Celebrates...**Continued from p. 2**

capsule was presented by CDR Bob Wood MSC, USN, head of the Environmental Health Department at NEPMU-5, to CAPT Beppard, along with a plaque, commemorating the 50th anniversary.

A song was performed for us by students from the Burbank Elementary School, where Unit members participate regularly in a partnership with students who are in need of tutoring and big brother/sister relationships. The partnership brings great satisfaction to all participants, and continues to be a community-involved labor of



CAPT James R. Beppard OIC of NEPMU-5 (center) shared experiences while relating to the Unit.

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Making our Mark: The Legacy of the Preventive Medicine Units

Diagnosing Dengue in Palau

The Republic of Palau is an autonomous republic located in the western Pacific Ocean, approximately 400 miles due east of the Philippine Island of Mindanao. The United States took control over the Caroline, Mariana, and Marshall Islands after Japan's defeat in WWII. The three island groups were divided into six districts, one of which includes the islands of Palau. Eventually the post-WWII U. N. Trusteeship expired and in 1978 Palau opted for a separate negotiation with the U. S. regarding their political status. Palau ratified a Compact of Free Association with the United States, which took effect October 1, 1994. The Republic of Palau is presently a self-governing nation. Recently a joint team* of Navy, Air Force and civilian medical specialists deployed to Palau to take part in a humanitarian training mission. The Commander in Chief Pacific (CINCPAC) funded the mission. Its purpose was to educate Palau Ministry of Health personnel to avoid future dengue outbreaks. Palau last experienced such an outbreak in 1995. The main focus of the training revolved around mosquito control and surveillance.

Palau is a host to the serious re-emerging infectious disease of dengue fever. Dengue fever is a major concern in most tropical regions around the world. Dengue viruses (DEN-1, DEN-2, DEN-3 and DEN-4) are flaviviruses transmitted by day-biting *Aedes* mosquitoes. The most significant dengue vector is *Aedes aegypti*. The incubation period before the onset of illness can range from three to fourteen days but normally averages between four to six days. Symptomatic individuals may present with fever, severe headache, myalgias (muscle pain), arthralgias (joint pain), leukopenia and thrombocytopenia. Hemorrhagic manifestations can occur in severe cases.

Globally, there are 50 to 100 million cases of dengue fever and several hundred thousand cases of dengue hemorrhagic fever per year. Approximately 5% of hemorrhagic cases result in death. Currently there is no vaccine available for dengue and cross-immunity from serotypes does not occur. For this reason, an individual could possibly be infected up to four times. Evidence has shown that infection with a different dengue serotype, after a primary dengue infection, may result in a greater risk of dengue shock syndrome.

LT Marshall Monteville, Navy Environmental and Preventive Medicine Unit 6 Microbiologist, accompanied the joint team* and trained individuals on basic immunology, dengue serology, emerging and infectious disease, leptospirosis and dengue diagnostics. In addition to

training personnel from the Ministry of Health, the Palau National Hospital laboratory requested additional hands on training for laboratory staff to learn state-of-the-art enzyme-linked immunosorbant assay diagnostic techniques.

At the time of the training, the laboratory was shipping specimens to Hawaii to rule out both dengue and leptospirosis. The average turn-around-time for shipping and results was thirty days. With this training, the tests could be performed in-house in less than four hours. MRL Diagnostic's (Cypress, California) Global Product



*An entomologist gets some assistance, while collecting *Aedes Aegypti**

Manager, provided the team with dengue IgG (convalescent antibody) and dengue IgM (acute antibody) diagnostic kits. When screening patients for dengue infections, it is recommended that both IgG and IgM antibodies be determined in order to distinguish recent infections from prior infections with dengue. The MRL kits are approved for international export and the IgM kit is considered a "Gold Standard" test by the Center for Disease Control, Atlanta, Georgia. The team trained laboratory personnel and monitored individual competency testing on both kits. Competency testing incorporated kit controls and volunteer serum samples. MRL provided additional positive/negative sera.

The team observed several interesting results during the competency testing. Of the fourteen Ministry of Health volunteers screened, all whom were present in the Republic of Palau during the outbreak of 1995, thirteen were IgG positive indicating past infection, and one was negative. All fourteen individuals were IgM negative. News of the dengue serology training traveled quickly. In addition to screening Ministry of Health volunteers, local health care providers requested testing on seven inpatients at the Palau National Hospital. All patients were IgG positive for dengue. One of the more severe patients presented with fever, chills, thrombocytopenia, severe headache and myalgias. This patient also had a visually strong IgM positive result. The remaining six patients were IgM negative. Since a plate reader was not available and laboratory reference values were not yet in place, results were reported as "Presumptive

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Diagnosing Dengue in Palau **Continued from p. 4**

Dengue Fever". The patient improved and was discharged from the Intensive Care Unit and returned three days later complaining of the same symptoms. This was indicative of the biphasic presentation of dengue fever. Neither a rash nor hemorrhagic symptoms were observed on this patient.

Because of the IgM positive patient and the number of IgG positive volunteers who had subclinical infections, all thirteen members of the United States Navy Construction Battalion (CB), Palau Detachment volunteered for screening. Presumptive IgG results showed two positives, six borderlines and five negatives. Presumptive IgM results (IgM can persist up to six months after infection) showed one positive, three borderlines and nine negatives. MRL research has determined a >98% kit specificity and sensitivity to dengue. It is possible that Japanese Encephalitis vaccination will cause a cross-reactive false positive with the MRL dengue tests in less than 2% of military personnel who received it. However, if the vaccination series ended months ago and you are seeing a patient in an endemic area with a strong dengue IgM response, odds are it is not cross-reactivity in a symptomatic patient. Based on these presumptive results, it was recommended that future Palau CB detachments provide a pre/post-deployment serum sample to determine exposure and infection with dengue.

The Palau National Hospital now has a contract in place with MRL Diagnostics for Dengue IgG, Dengue IgM and Leptospirosis IHA kits. Ruling out dengue and leptospirosis has now been reduced from thirty days to less than four hours for each test. These efforts will allow the Republic of Palau to identify dengue fever within the population and react before the disease reaches epidemic levels. In addition, unwarranted antibiotic prescriptions will be reduced for patients previously awaiting results with a thirty day turn-around-time. This is one example of the efforts being conducted at the Navy Environmental Preventive Medicine Unit 6 to combat global emerging infectious disease.

MARSHALL R. MONTEVILLE LT, MSC, USN

* LT David Bartholomew, LT Brian Prendergast, LT Marshall Monteville, LTJG Michael Kubler, HMC (SW/FMF) Stephen Farmer, HMC (FMF) Celso Yago and HM3 Olivar Bascon from the Navy Environmental Preventive Medicine Unit 6, Pearl Harbor, Hawaii

* LTJG Craig Stoops and Mr. Nelson Desormier from the Navy Disease Vector Ecology and Control Center, Bangor, Washington

* CPT Douglas Burkett from Detachment 3 Human Systems, Kadena Air Force Base, Japan

* Dr. Harry Savage from the Center for Disease Control, Fort Collins, Colorado

Sampling a pitcher plant for Aedes mosquitos, carriers of dengue.

***When in Italy...Prevent Cholera??***

Many Neapolitans remember with gratitude the civic service U.S. Navy Environmental and Preventive Medicine Unit Number Seven (NEPMU-7) rendered in the late summer and early autumn of 1973. From 28 August to 25 September of that year, NEPMU-7 members were the principal contributors to cholera relief operations in the Naples region. Through NEPMU-7's immediate response, literally thousands of Neapolitans were inoculated on an around-the-clock basis within the first seventy-two hour period. The Unit's sustained efforts continued throughout the crisis, culminating in the clinical contact and investigation within the local community and on-the-job training of local authorities in mass inoculation techniques.

The Changing Political Face of Europe calls for Service with Diplomacy

Between July 1994 and April 1997 alone, NEPMU-7 supported nine operations and eleven major exercises in its expansive area of operations, including Africa, Europe, and Southwest Asia. The Unit relocated from Naples to Sicily during this period, completing the move without detriment to the outstanding support it provides operational forces. NEPMU-7 established vital preventive medicine programs in Rwanda and Zaire while supporting Operation SUPPORT HOPE. Preventive medicine assistance was given to USS GUAM (LPH 9) and in Liberia during Operation ASSURED RESPONSE. NEPMU-7 deployed the first U.S. Navy Preventive Medicine Team into Operation JOINT ENDEAVOR, skillfully interacting with Implementation Forces while providing unparalleled service. The Unit also provided technical training to the former Soviet Block nations of Bulgaria, Romania, Albania and Lithuania through "Partnership for Peace" exercises, strengthening international relations between former adversaries.

NEPMU-5 Personnel Contribute to Preventive Medicine

For fifty years, the Navy Environmental and Preventive Medicine Units have been preserving the health of Navy and Marine Corps personnel. Oftentimes policies come into place after an unfortunate event. Such is the case with some of the events that are described here. NEPMU-5 personnel have made significant contributions that have changed the course of events for the Navy and Marine Corps and, at times, the entire military community. For a more complete discussion of these accomplishments, with references, see the NEPMU-5 web site at: <http://trout.nosc.mil/~nepmu5/>.

1. Sexually transmitted diseases (STDs) have always played a big role in military medicine, especially with deployed forces. As a result of organisms becoming resistant to standard antibiotic treatment, military infectious disease doctors did a lot of research in this field. For one particular disease, gonorrhea, a change for its treatment resulted, specifically for strains originating in particular areas of the world. This was recorded in our STD instructions of the 1980's.
2. Between December 1986 and July 1987, 10 cases of acute rheumatic fever (ARF) were identified among recruits at the Naval Training Center (NTC) in San Diego, California. This outbreak was the first at the San Diego NTC in over 2 decades. This outbreak resulted in the reinstatement of the Streptococcal Infection Control Program via BUMED Instruction 6220.6, dated 17 Aug 87.
3. An episode of mass psychogenic illness exacerbating respiratory symptoms in military recruits occurred in September 1988 and was associated with evidence of physical stress, mental stress, and awareness of rumors of odors, gases, and/or smoke. This epidemic was unique because of its size and its occurrence in an all-male population.
4. An outbreak of measles showed the close networking of the Navy personnel at NEPMU-5 and the California public health officials. Results suggested a continued potential for epidemics, especially of measles, and the need for mandatory immunization policies.
5. Another problem, with which medical personnel must deal, is the reemergence of tuberculosis. Both East and West Coast ships have experienced outbreaks of tuberculosis in recent years and were investigated by

NEPMU-5 personnel. These outbreaks caused a total revision of our tuberculosis program. (BUMED instruction 6224.8 dated 8 Feb 93).

6. About 128 Marines contracted malaria in Somalia of which 97 were interviewed. Recommendations as a result of this work were to expand directly observed therapy, to encourage commands in malarious areas to enforce prophylactic and preventive measures and to continue to search for more acceptable repellents as well as better ways to encourage individual compliance with measures in existence. These studies showed the importance of impregnated bednets in the native military community in malarious areas, something that many malaria researchers have already shown with semi-immune populations in malarious areas.

7. Within a few hours after notification, NEPMU-5 staff responded to an invasive streptococcal outbreak among BUD/S (Basic Underwater Demolition/Seal) in February 1995 in San Diego. Changes and recommendations were made regarding Hell Week to ensure increased opportunities for personal hygiene and reduce the occurrence of this problem.

8. In 1996, CAPT Olson and colleagues were discussing the plague of Athens and wrote a letter to the editor of the Emerging Infectious Disease journal proposing the cause of the plague. Soon after their discussion, subway excavations in Athens uncovered a pile of partially burned bones that archaeologists were able to date back to the time of the plague (430-427 (or 425) B.C.). CAPT Olson and colleagues suggesting testing these bones using PCR methods to discover what the real cause of the plague was. As a result, in the fall of 1998, CAPT Olson was invited (and went) to Athens to meet with some academic collaborators on the project (both Greek and American). The mystery still awaits a solution.

9. For seven years, NEPMU-5 personnel have taught the Operational Preventive Medicine Course, a 2-week course designed to identify mission critical public health concerns in operational settings, with an emphasis on planning and practical management of preventive medicine operations from pre-deployment to post-deployment. It is an excellent course that involves ALL departments at NEPMU-5 and was originally developed to prevent the loss of knowledge gained during the Gulf War in 1991. The target audience includes both physicians and non-physicians.

10. NEPMU-5 and DVECC JAX personnel, with additional entomology and industrial hygiene support from NEPMU-2 and NEHC, led a preventive medicine

Continued next page

**NEPMU-5 Personnel Contribute to Preventive Medicine
Continued from p. 6**

MMART to Honduras to support Joint Task Force Bravo in Operation CENTAM Relief. Hurricane Mitch had devastated the country, killing at least 7,000 people and displacing over one million others. The MMART deployed on 72-hour notice and provided Preventive Medicine (PM) assessments of general conditions, general PM support to our troops involved in relief work, disease vector control, community medical support, deployed medical surveillance, infectious disease laboratory analysis, and industrial hygiene assessment.



Team members traveled all over the country doing PM work. A Navy PMT and Army MEDRETE helo to a remote village in Honduras.

These highlights demonstrate two significant areas of influence by NEPMU-5. First, important policies have resulted which have reduced the incidence of specific infectious diseases among subsequent susceptible populations. Second, the NEPMU-5 staff throughout the years has made important contributions that have impacted civilian populations and the entire military community. The hard work and efforts of all who are represented here deserve our praise and thanks for a job well done.

LCDR CHRISTINE BEADLE, M.D., M.P.H.
MC, USN
EPIDEMIOLOGY DEPARTMENT, NEPMU-5

**50 MORE YEARS OF EXCELLENCE
IN ENVIRONMENTAL &
PREVENTIVE MEDICINE!!**

**For a thorough description and
discussion of the history of NEPMU6,
Pearl Harbor, HI, see the current
issue of *Navy Medicine*.**

NEPMU-5 Celebrates 50 Years of Service Continued from p. 3
love.

The ceremony was brought to a close with the cutting of a beautiful cake, bearing the 50th anniversary logo. Performing the honors were CAPT Elizabeth K. Ledbetter MC, USN and LTJG Romel A. Racosas MSC, USNR. All participants and guests were invited to attend a reception/potluck that followed, inside the Unit, which had been decorated for the occasion.



Cake cutting performed at the NEPMU-5 Fiftieth Anniversary Celebration



Cake bearing the 50th anniversary logo of the NEPMUs

***A special thanks to LT Allen R. Lumanog
for providing the historical photographs
that appear throughout this issue, after
researching the NEPMU-5 archives.***

NEXT ISSUE: JULY '99

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From the S.E.L.



I arrived on board the Navy Environmental and Preventive Medicine Unit Two in August 1998. I relieved Senior Chief Lugo as she transferred to the Fleet Reserves. I extended the traditional Fair Winds and Following Seas and accepted the challenge of the responsibilities as the new Senior Enlisted Leader for NEPMU-2. I attended my first Surgeon General's Conference here in Norfolk, Virginia. Many enlisted issues were discussed with the Force Master Chief, Master Chief Mark Weldon. As always manning levels were of the greatest concerns, and doing more with less. To help out with the shortages of Preventive Medicine Technicians, we have been attending job recruitment fairs. The first one was up at Great Lakes and the second was at NNMC Bethesda, Maryland, which I had an opportunity to attend. I saw many young corpsmen that were enthused about attending a "C" school. Many personnel were interested in becoming Preventive Medicine Technicians. Both job fairs were a great success and more will be planned in the future.

I most recently headed a team of technicians with CDR Jacobs into Nicaragua, Central America. We were tasked with providing relief efforts to the country of Nicaragua in the aftermath of the devastation from hurricane Mitch. This was a tremendous learning experience. We were assigned to the Joint Task Force for Operation Build Hope. This was the ultimate in training missions for technicians. We covered everything from preventive medicine to breaking out those old Fleet Marine Force techniques that some of us learned many years ago. It was one of the greatest opportunities for field preventive medicine while at the same time having the opportunity to do good for others less fortunate than most of us. There will be more details about our deployment in the upcoming issues of Navy Medicine and in this issue of Fleet Public Health.

After the deployment to Nicaragua, we returned to get the command ready for another once in a lifetime opportunity, the 50th anniversary of Navy Environmental and Preventive Medicine Units. This was also a great historical experience; I learned things that I never knew about navy preventive medicine and some of our origins. It was interesting to see one thing never has changed in the 50 years that have passed, the needs for our services will never go away and preventing a fellow shipmate or a community from becoming sick in any environment will be the forefront into the new millenium. This has been and will always be our continued challenges. If there are any questions or issues that I can be helpful with please contact me.

HMCS (SW/AW/FMF) BARRY MULLEN, SEL, NEPMU-2
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The NEPMU-2 Tradition of Service and Achievement...

06 APR 1954 - Already, the Navy recognized the importance of educating military medical personnel on Atomic, Biological, and Chemical Defense. It was defined in one of the monthly reports that "all personnel of this Unit have been made aware of the Unit's responsibilities in regard to radiological defense and each man has been instructed in the maintenance and operation of the five radiological detection meters which are part of our equipment". Ongoing training is documented for decontamination procedures, radiac equipment, laboratory procedures outlined for rapid identification of agents, and response teams.

13 JAN 1955 - Prenatal classes for Navy Dependents were started at the Unit in cooperation with the Norfolk City Health Department and the Family Clinic of the U.S. Naval Air Station. These classes continued well into the 1960's.

1959-1960 - NEPMU-2 conducted a study of a flu-like illness (denoted as Underwater Swimmer's Disease) that was occurring in Underwater Swimmer's School in Key West, FL. Exhaustive epidemiological and laboratory investigation showed a predictable relationship between the use of the French aqua lung and the onset of the disease. In particular, the disease was isolated to the use of a Cousteau-Gagnon regulator in warm and humid climates. Recommendations were made to prevent the illness by cleaning and sterilizing the regulators just prior to their use. This is just one example of how proactive intervention by the Unit helped eliminate and prevent nonbattle disease that was affecting the operational mission of a Navy command.

1962 - Through the efforts of NEPMU-2, tattoo shops within a 100-mile radius of Norfolk Naval Base were closed.

1962 - A six-person Preventive Medicine Team was flown to Honduras, Central America to determine the cause of an outbreak of gastroenteritis among the people of San Pedro Sula. The disease was found to be water-borne Shigellosis.

01 DEC 1967 - The Purple Heart was presented to one of the PMT's in the Unit for a wound that he sustained as the result of indirect enemy action in September-October 1951 while he was serving as a Company Hospital Corpsman with the Marines in Korea.

August, 1969 - A team from NEPMU-2 was sent to provide disaster relief to Gulfport and Biloxi, Mississippi

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NEPMU-2 Tradition...

Continued from p. 8

following storm destruction from Hurricane Camille.

1971 - Since its conception, the Unit had been managing the Mobile X-ray Units that conducted annual chest x-rays on all active duty personnel to evaluate for TB. An evaluation of the effectiveness of the annual x-ray program was performed by the Unit. The program was judged useless as a case finding tool for tuberculosis. Therefore, this program and the Mobile X-ray Units were abolished.

1977 - NEPMU-2 personnel conducted tuberculosis contact evaluations on the 573 residents and staff of the Naval home in Gulfport, Mississippi due to the identification of two cases of sputum positive tuberculosis.

1982 - 1983 - NEPMU-2 developed a Field Sanitation Augmentation Unit as part of the Mobile Medical Augmentation Readiness Team. Task organized under NEHC, this team was staffed, trained, and equipped to augment FMF and JTF units to provide essential health assistance in the event of war or natural disasters.

NEPMU-2 fielded this team to support military operations in Beirut, Lebanon in 1982.

1991 - Personnel from NEPMU-2 were deployed with a Preventive Medicine Augmentation Team to support military operations during Desert Shield/Desert Storm. During this same year, a team from the Unit was sent to Naval Hospital Guantanamo Bay, Cuba to provide Preventive Medicine support as part of the Haitian Migrant Operations.

AUG 1998 - OCT 1998 - The Epidemiology Department from NEPMU-2 helped conduct a large investigation of a TB outbreak aboard USS WASP.

DEC 1998 - FEB 1999 - NEPMU-2 fielded a nine person Preventive Medicine team to Nicaragua to provide Humanitarian Assistance after damage sustained from Hurricane Mitch. Also, the Unit's Senior Entomologist was deployed to Honduras because of his unique experience in aerial spraying techniques.

CAPT Dwight Fulton, OIC, NEPMU-2



Air sampling during the 1960s involved a manual operation of the pump by the industrial hygienist, while another person held the collection medium. Collar clips had not yet been invented



Indoor air quality was not always a big issue--We've come a long way.

Outstanding Navy Performer Receives Area Recognition



Preventive Medicine Technician for NEHC's Preventive Medicine Directorate was recently awarded the Tidewater (Virginia) Environmental Health Association's "Environmental Health Specialist of the Year" award. Her many innovative accomplishments for Navy preventive medicine and service to community were cited. She competed against civilian environmental health specialists from over 10 agencies and counties in southeastern Virginia for this prestigious award. Pictured with the recipient is the President, Tidewater Environmental Health Association.

NEPMU-2: a History

On 16 MAR 1942, a team of Epidemiology and Sanitation Technicians was sent from National Naval Medical Center Bethesda to make a survey of the Naval Training Center at Naval Operating Base, Norfolk, VA. In May 1942, the members of this team officially stood up Epidemiology Unit #24 which became known as the District Epidemiological Unit of the Fifth Naval District under the cognizance of the Base Medical Office. Its mission was "the prevention of epidemic conditions including acute contagious diseases such as streptococcal infections, scarlet fever, diphtheria, and meningitis; acute gastroenteritis including food poisoning; malaria, typhoid fever, and dysentery; and any parasitic disease of epidemic character".

The history of this Unit from 1945 through 1949 is vague, because at that time, it was not clear how the Epidemiological Units would fit into the structure of the Medical Department. The units basically survived as best they could by performing entomological and environmental sanitation services. However, since the Units had proven their worth during World War II, the Navy decided to officially establish five Navy Epidemic Disease Control Units, one of which was home based in Norfolk, VA and was designated as U.S. Navy Epidemic Disease Control Unit No. 2. The document mandating this to happen was dated 10 March 1949. U.S. Navy Epidemic Disease Control Unit No. 2 was temporarily housed in the Unit A Dispensary outside the Main Gate of Norfolk Operating Base and had as its primary mission, "the prevention of epidemic disease conditions". On 27 NOV 1950, the Unit was moved to Building Z-192 inside Gate 2 of the Norfolk Operating Base and remained there until 1970.

On 12 NOV 1952, U.S. Navy Epidemic Disease Control Unit #2 was redesignated as U.S. Navy Preventive Medicine Unit No. 2. Its mission was growing and becoming more complex. U.S. Navy Preventive Medicine Unit No. 2 was "to supplement the efforts of local medical activities in recognizing, defining, and devising means of preventing or controlling health problems of naval importance due to biological, physical, chemical, and/or other causes". The unit was also "to act as a center for the detection and identification of biological warfare as well as to furnish assistance in the study and control of serious outbreaks of disease". In doing this, the Unit was "to operate closely with the other military services, the Public Health Service, and the health departments of states, cities, territories, and foreign governments".

Cramped for space, the Unit moved to its current location on 22 SEP 1970. The Surgeon General of the Navy, Admiral Faucett, was the guest speaker at the dedication

A Special Acknowledgement

Approximately 6 weeks ago, a retired Medical Service Corps Officer called NEPMU-2 to ask if the Unit was doing anything for the 50th Anniversary of Preventive Medicine Units in the Navy. He was concerned that Navy Medicine was not aware of this historic milestone and wanted to provide some personal background on the history of the Units. It so happens that this Medical Service Corps Officer, CAPT Louis R. Kaufman, distinguished himself in the Navy Preventive Medicine community for 30 years, retiring from the Navy in 1979. Of this 30 years, eight were spent as a staff member for U.S. Navy Preventive Medicine Unit No. 2 during the 1950's and 60's. He was a member of the original Unit established in 1949. In 1959, the young LT Kaufman was attending the University of North Carolina to obtain his Masters of Public Health. The thesis that he wrote to complete the program was entitled "The Predicament of the U.S. Navy Preventive Medicine Units". As part of this thesis, CAPT Kaufman wrote a section on the development of Preventive Medicine Units in the Navy. In reviewing the articles submitted for this publication that detailed the history of the different Preventive Medicine Units in the Navy, it was noted that all contain excerpts drawn from this thesis written by CAPT Kaufman in 1959. Much of what we know about the early history of Preventive Medicine Units in the Navy can be attributed to the work of CAPT Kaufman.

and the formal opening of NEPMU-2's facility located at Powhatan and Virginia Streets on the Naval Station in Norfolk. This facility has remained intact to this day except for the addition of a new wing housing a state-of-the-art Consolidated Industrial Hygiene Lab that was dedicated in July 1998.

This dedication of the new building was followed by yet another change in the designation of the Unit. On 11 FEB 1971, by order of OPNAV NOTICE 5450, U.S. Navy Preventive Medicine Unit No. 2 was redesignated as the Navy Environmental and Preventive Medicine Unit No. 2. It was felt that the previous designation as Navy Preventive Medicine Unit No. 2 did not "totally encompass the increase in national concern over man's environment and its possible effects on human health, wildlife resources, and other natural elements of the world". It was felt that the addition of the word "Environmental" would definitely emphasize the increasing spectrum of involvement of these units.

Finally, on 13 March 1981, NEPMU-2 was reorganized into its current structure as an Echelon 4 activity under the Navy Environmental Health Center. Its current mission is to provide specialized consultation, advice,

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A Combination of Chronology and Perspective give Meaning to our Past

History of the Consolidated Industrial Hygiene Laboratories

The Consolidated Industrial Hygiene Laboratories (CIHL's) are responsible for providing consultation, training, and analytical services to Navy Industrial Hygiene and Occupational Health Departments. These services include chemical analysis of organic and inorganic compounds in air and bulk materials, along with toxicological testing of biological samples for the determination of occupational exposures. Airborne and bulk asbestos analysis training is also given. CIHL personnel also provide coordination and consultation in sample collection. An intricate component of our educational mission involves advising customers about proper sampling media, appropriate sample volumes, analytical methodology limitations, interfering substances and proper sample submission mandates.

NEPMU-2 Norfolk IH Laboratory

The genesis of the Navy Environmental and Preventive Medicine Unit No. 2 (NEPMU-2) laboratory was conceptualized by the Industrial Hygiene Department of the Navy Industrial Environmental Health Center at #3333 Vine Street in Cincinnati. LTJG William M. Coleman III and Gerry Wright were assigned the task of establishing a scientific laboratory in 1974. In 1976 American Industrial Hygiene Association (AIHA) accreditation was obtained. Presently, the NEPMU-2 laboratory and an Army laboratory are the oldest, continuously accredited industrial hygiene laboratories in the federal government. In July 1979 the laboratory moved from Cincinnati, Ohio, to Norfolk, Virginia where it is currently located. Analytical services were then available within a close proximity of the Fleet.

NEPMU-5 San Diego IH Laboratory

In the mid 1970's the Industrial Hygiene Department of Naval Regional Medical Center, San Diego, started laboratory testing in the basement of the old hospital building. Since only microscopes and other donated equipment were originally available for testing, various tests were forwarded to the laboratory in Cincinnati and other places for analysis. The demand for expanded laboratory testing was met by establishing an Industrial Hygiene Laboratory under the Industrial Hygiene Division, NMCS. Dr. Robert Holland, a Ph.D. chemist, was hired in 1979 to oversee the laboratory and perform on site analytical testing. He immediately purchased a new gas chromatograph and an atomic absorption spectrophotometer as his first analytical instruments. Growth and expansion led to the laboratory relocating to NAS North Island in Jan of 1984, where it is currently

located. In 1986 the laboratory was accredited by the AIHA.

NEPMU-5 Mare Island IH Laboratory

Industrial hygienists in the Medical Department initiated the testing of workplace hazards at Mare Island Naval Shipyard (MINS) in the mid 1960's. Frank Kieffer, a chemist, was hired in 1966 to perform the analysis in the newly organized Industrial Hygiene Laboratory. The only instrument he had at the time was a small gas chromatograph. In 1973 the laboratory control was changed to the Navy Regional Medical Center in Oakland CA. It received its accreditation from AIHA in 1978. Gradually the personnel grew to a staff of 5 chemists by 1985. The laboratory with its new equipment was then relocated to the new clinic building at MINS. In the spring of 1996 the Mare Island Naval Shipyard was closed due to BRAC, and the laboratory with its equipment and personnel was moved and consolidated with the CIHL at Naval Air Station North Island.

NEPMU-6 Pearl Harbor IH Laboratory

The roots of the Industrial Hygiene Laboratory at Pearl Harbor began in the 1960's, when the industrial hygienists at the Pearl Harbor Naval Shipyard Dispensary established a laboratory to analyze their samples. In the 1970's the Dispensary became part of the Naval Regional Medical Clinic, with the industrial hygienists continuing to operate the laboratory. In 1978 the Industrial Hygiene Laboratory was formally established under the Industrial Hygiene Division, Naval Medical Clinic Pearl Harbor. A chemist was hired to run the laboratory, and to pursue accreditation from the AIHA. This accreditation was achieved in 1980. In 1989 the laboratory moved into new spaces located in the Clinic in Pearl Harbor where it is currently located.

The Consolidated Industrial Hygiene Laboratories In 1986, NAVMEDCOM established the Consolidated Industrial Hygiene Laboratory Program, which was overseen by the Navy Environmental Health Center. The CIHL's were tasked with providing analytical support for industrial hygiene samples collected within their command regions. In October 1989 BUMED transferred the ownership of the four CIHL's from the Clinics to the Navy Environmental and Preventive Medicine Units. The laboratories were distributed as follows: one at NEPMU-2, in Norfolk Virginia, two at NEPMU-5 (one at Mare Island and one at North Island), and one at NEPMU-6, in Pearl Harbor, Hawaii. Plans were then developed for the construction of three modern state-of-the-art laboratories.

These ambitious plans came to fruition with the completion in 1989 of new laboratory spaces by the

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Malaria as a Force in the Development of the NEPMUs

Malaria wreaked havoc on our forces in the Southwest Pacific in World War II. The reality of the situation for the naval forces that were deployed there, prompted Frank Knox, Secretary of the Navy to write in 1944 that "malaria most assuredly is health menace No. 1 in this war. Any advances which the Navy may make, or assist in making, toward improved preventive methods, treatment or control would possess great military, not to say humanitarian, value." The grim reality of the toll of malaria on all of the allied forces motivated commanders (such as General MacArthur) to place more command emphasis on antimalarial measures among the American troops than had existed previously. As a result of actions such as these, the attack rates of malaria decreased dramatically during the last half of World War II, even though combat was still occurring in very malarious areas.

Many mistakes concerning prevention of malaria were made in the early stages of the South Pacific campaign. This shortsightedness was responsible for the serious impact that malaria had on the troops. Line personnel disregarded the importance of personal protection, and most of the men either lost or discarded their head and bed nets during the landing operations. Infected local inhabitants were employed to do manual labor (such as unloading supplies from the ships) so that the troops were free for combat. Many of these local inhabitants were reservoirs of malaria, which allowed close contact with infected anopheline mosquitoes and susceptible American troops. Suppressives were not always available and the lack of supervision by line officers caused initial attempts at administering suppressive treatment with these drugs to fail. Some of our own infected naval personnel served as reservoirs of malaria in further campaigns.

After military commanders were convinced of the significance of malaria prevention and control, adequately organized and supported malarial control programs were established. This included a real commitment to the anti-malarial program, including the establishment of top priorities for supplies and personnel. In April 1943, MacArthur ordered all allied forces to follow steps to eradicate malaria including adequately supplying forces entering highly malarious areas with anti-malaria tablets, mosquito netting, and protective clothing. Troops were also required to receive individual and unit training in anti-malarial procedures as well as assigning properly trained and equipped malaria control units in areas where troops were stationed or expected to operate.

The emphasis on this antimalarial campaign fell on the

Malaria and Epidemic Control Units that were formed in 1942-1944 under the authority of the South Pacific Malaria and Epidemic Control Organization. There were more than 150 of these units formed, most of which consisted of an officer who was a qualified entomologist and 3 to 5 enlisted technicians. Some of the larger units were attached to Marine Corps divisions and were composed of 4 officers experienced in malariology, entomology, and parasitology as well as having an engineer from the construction battalion and 12 enlisted technicians from various categories. These units contained both Navy and Army personnel and were usually led by senior Medical Corps officers with malariology backgrounds.

After such top-level command support was provided, malaria was rendered a much less important problem for our forces for the remainder of the war, though combat was still occurring in very malarious areas. This also was a milestone in the history of preventive medicine and was a striking example of what systematic organized efforts could accomplish in disease prevention and control.

After World War II, some of the Malaria and Epidemic Control Units were reorganized into U.S. Navy Epidemic Disease Control Units and U.S. Navy Malaria and Mosquito Control Units. In 1952, these two types of units were reorganized into U.S. Navy Preventive Medicine Units. These units were later reorganized into the Navy Environmental and Preventive Medicine Units, which are still in existence today.

**LCDR CHRISTINE BEADLE, MC, USN
EPIDEMIOLOGY DEPARTMENT
NEPMU-5**

See also:

C. Beadle and S. Hoffman, "History of Malaria in the United States Naval Forces at War: World War I through the Vietnam Conflict," **Clinical Infectious Diseases**, 1993, volume 16, pages 320-9

NEPMU-2: a History

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recommendations, and technical services in matters of environmental health, preventive medicine, and occupational safety to naval shore activities and fleet units of operating forces in the area extending from 100 W longitude to 20 W longitude, including Iceland.

NEPMU-2 consists of a team of dedicated civilian and military professionals that are responsible for carrying out this mission. Currently, the command consists of 18 civilian and 31 military personnel making up 10 departments. It is these individuals that are carrying on the legacy of pride and professionalism that was established by those who served at NEPMU-2 before them.

CAPT Dwight Fulton, OIC, NEPMU-2

Our Origin

Prior to World War II, Medical Department personnel from ships and shore stations handled preventive medicine problems in the US Navy. In 1942, during the initial phase of the Solomons Campaign, it was found that the ratio of casualties due to malaria, epidemic gastroenteritis, respiratory infections, dengue and other infectious diseases compared with battle injuries was appallingly high. To solve this problem, the South Pacific Malaria and Epidemic Control Organization was established and sent to areas where troops were deployed. The success of these Units was reflected in the low incidence rates of malaria and the communicable diseases in the areas where they were operating.

Following World War II, most of the Malaria and Epidemic Control Units were disbanded. In 1949, six Navy Epidemic Disease Control Units (EDCU) were established in place of the Epidemiological Units. The mission of the new units was to prevent epidemic disease

conditions by providing technical assistance to local commands.

When the Korean War broke, the Navy organized two mobile Fleet Epidemic Disease Control Units aboard ships designated as FEDCUs. Their mission was preventive medicine in the forward areas – the study and control of communicable disease among United Nations forces and POWs. Their mission was changed not much later to “preventing or controlling health problems of naval importance due to biological, physical, chemical or other causes.” At the time the units received their new mission, their names were changed to US Navy Preventive Medicine Units. In 1957, their mission was again changed to include more specialized and technical services.

In 1971, the units became Navy Environmental and Preventive Medicine Units.

LT A.R. LUMANOG, MSC, USN
INDUSTRIAL HYGIENE DEPT. NEPMU-5

The Experience in Europe...

In 1952, Navy preventive medicine changed their units' names to, logically enough, Preventive Medicine Units (PMUs) to better reflect their role in Navy medicine. Preventive Medicine Units 3 (Camp LeJeune) and 4 (Great Lakes) were disbanded in 1956 due to operational difficulties. The same year PMU-7 was established in Naples, Italy to serve the Sixth Fleet and Naval forces operating in the Mediterranean. In addition, 1957 witnessed the demise of PMU-8 due to budget cutbacks. In 1971, the PMUs again changed their name as their part in supporting the Fleet was changed. Adopting the name they currently bear, the PMUs were redesignated Navy Environmental and Preventive Medicine Units.

NEPMU-7 is currently located on Naval Air Station Sigonella, Sicily following relocation from Naples in 1995. The Unit provides preventive medicine and occupational health support to Naval forces operating in Africa, Europe, and Southwest Asia. During its tenure, NEPMU-7 has played a major role in supporting operational forces and humanitarian missions within its expansive and often turbulent area of operations. From the 1973 cholera epidemic in Naples and early 90s Operations such as Desert Shield and Desert Storm to current operations like Southern Watch and Desert Fox, NEPMU-7 helps line commanders by keeping their Sailors and Marines out of sick bay and on the job.

In addition to support of military operations, NEPMU-7 has been an essential player in regional military to military exercises, medical information exchanges and medical civilian assistance programs to include several MEDCEURs and MEDFLAGs. NEPMU-7 has been particularly active in supporting Partnership for Peace exercises. These exercises are conducted by U.S. forces, hosted in and by former East Bloc countries, and are usually centered on medical information exchange.

The Unit has received numerous awards for its contributions to the Fleet and the community. NEPMU-7 has won two Meritorious Unit Commendations, one for the 1973 Cholera Epidemic in Naples, the other for support rendered during Operations Desert Shield/Storm, operations that also won the Unit the Navy Unit Commendation. NEPMU-7 was also awarded the Armed Forces Service Medal for support of operations in the former Yugoslavia and the NATO Medal for operations in Bosnia.

Future changes in preventive medicine such as video teleconferencing, Forward Deployed Preventive Medicine Units and BUMED's recent realignment of its goals will undoubtedly change the way NEPMU-7 and its sister Units support the Fleet. Nevertheless, as long as there remains a need for the U.S. to deploy ships and Marines around the world, there will be a need for NEPMU-7 and Units like it, **“Proceeding To Their Assistance”**.

Preventive Medicine in WWII: *A Paratrooper's Perspective*

In January 1942, my father, William Prendergast, was awarded the title Private First Class in the 503rd Parachute Regiment, United States Army. The 503rd was formed soon after the attack on Pearl Harbor. The need to put forces in the field was so urgent that this outfit was deployed when it reached regimental strength, vice amassing a full division. To this day, Bill gets funny looks when he says he jumped out of the first airplane he was ever in.

Bill Prendergast participated in airborne assaults in the Markham Valley, New Guinea, and on Leyte Island and Noumfor Island, the Philippines. He also took part in two amphibious assaults in the Philippines. On January 4th, 1945, during an amphibious assault on Mindoro Island, The Philippines, Bill Prendergast was severely wounded. That assault has remained in the forefront of his memory for the last 54 years. "A lot of guys I was in the hospital with had terrible wounds, and when they recovered, they had to get over a morphine addiction." In February 1945, the 503rd jumped on Corregidor. General MacArthur recaptured the island fortress from which he was forced to retreat when he left the Philippines in 1942.

An unexpected twist to my father's experiences is how they have proven germane to my endeavors through my college and professional career as a medical entomologist. I am the youngest of five children. My older brothers swear that Dad never talked about the war. By the time I was a teenager, he couldn't stop talking about it. When I had my first job as an entomologist I told him, "you may be surprised that mosquitoes capable of carrying malaria exist in Buffalo (our hometown)." "Those are them *Anopheles*" was his response. Amazed, I asked how he knew that. "I had malaria three times. I was never so (expletive deleted) sick in my life." There you have it! Dad continued "they stand on their head when they bite ya'." This second point is pretty significant. Forty-two years after being med-evacuated home, PFC Prendergast remembered preventive medicine guidance regarding recognition of malaria vectors. Obviously, this point was worth remembering. "I had dengue once," he went on. "You must have been in the hospital most of the war," was my response. "Like Hell! I was in bed a few days. They gave me some atabrine (a preparation of quinine hydrochloride [BFP]) for malaria and told me to get back to work. One time, they took nine of us out of the hospital and made us jump the next day. But everyone was sick. Guys would be moving down the trail and fall asleep while walking.

You'd be so delirious from being sick ya' wouldn't know where you were going. Guys wandered into the jungle all the time. They'd get tangled in the vines, and that's what'd wake 'em up."

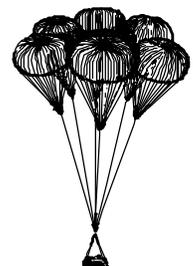
In 1987, my Uncle Tommy was admitted to the hospital. When I asked my father what the doctor said, he responded, "they think it might be malaria. Can you imagine that? They wanted to know if he was ever out of the country." My Uncle Tommy was a medic in North Africa, and hadn't been out of the country since. "The doctor said it can be in your system for years without ya' knowin' it's there."

Leaches, hornets, and jungle rot, a fungal infection of the feet, were constant menaces to the infantry in South Pacific. "Ya' had to burn the leaches off with a cigarette. The heat would make 'em back out. Every day we'd have to look over our whole body for leaches. When we were in New Guinea, our lead scout walked into a hornet's nest. He got stung so bad he died. Next to him, I was the best swimmer in the outfit. The scout had to swim across the rivers with a rope, so the others could cross. So, they made me scout. They call that a battlefield promotion.

"You couldn't keep your feet dry, so we always had jungle rot. It rained everyday. We even slept in the rain, leaning against a tree with nothing but a poncho. I only had one pair of socks. We had to keep using gentian violet. There was one guy in our outfit who got sent home 'cause he wouldn't use it. He figured his feet would get so bad they'd have to send him home. I never heard what happened to him, but he would have been lucky if he didn't lose both his feet."

Dad had countless accounts of the day-to-day stuff. He also talked often of the operation when he was wounded. "They loaded us onto a Navy ship. We'd been wearing the same clothes for weeks. When we came out of the jungle, we stunk. The Navy didn't want to let us on the ship. They made us stand naked on the deck while they boiled our clothes, and they sprayed us for bugs. Can you imagine that; 1800 men standing in the sun for hours, naked? We shouldn't have been on those Navy ships in the first place. If we would have jumped on Mindoro, I wouldn't have been wounded." "How do you figure that," I asked. "They knew we were comin'; if we'd a jumped, like we were trained, we would've got 'em quick. We were good."

**BRIAN F. PRENDERGAST LT, MSC, USNR
ENTOMOLOGY DEPARTMENT, NEPMU-6**



The San Diego Perspective...

The Unit (NEPMU5) was established on 10 March 1949 as US Navy Epidemic Diseases Control Unit No. 5 at Naval Hospital, San Diego but was later redesignated as US Navy Preventive Medicine Unit No. 5.

The Unit occupied Building 146 of the Naval Hospital until it was moved in 1967 to Building 267, Naval Station, San Diego. It was then renamed as Navy Environmental and Preventive Medicine Unit No. 5 (NEPMU5) on 11 February 1971. It moved into its current facility, Building 3235 in March 1978. In March 1981, the Unit was reorganized as an echelon four activity reporting to the Navy Environmental Health Center. The objectives of NEPMU5 as delineated in BUMED Instruction 6200.3C are:

- * To provide expert and specialized consultation, advice, and recommendations in matters of preventive medicine and environmental health to commands afloat and ashore.

- * To provide epidemiological, laboratory, and technical services to assist in the detection and elimination of direct or potential health hazards to personnel in the naval service and their families.

- * To provide training and indoctrination of personnel in the methods and techniques of preventive medicine.

A number of our accomplishments are reflected in another section of this issue. A proud moment for us was when, in 1992, the Secretary of the Navy awarded



Bacteriological testing procedures for potable water and dairy products have changed...picture is circa 1963 Contrast this to the FDL

the Navy Unit Commendation to NEPMUs for exceptionally meritorious service in support of the deployment of Naval forces for Operation Desert Shield and Desert Storm.

**LT A. R. LUMANOG, MSC, USN
INDUSTRIAL HYGIENE DEPT
NEPMU-5**



An entomologist searches supply boxes for rodents and other pests before they are loaded on the ship. Photo is circa 1963.

History of the Consolidated Industrial Hygiene Laboratories Continued from p. 11

NAVMECLINIC in Pearl Harbor, Hawaii. In 1998, the NEPMU-2 dedicated a new state-of-the-art facility. We anxiously await the completion of the NEPMU-5 laboratory in August of 1999. The fleet currently has three modern AIHA accredited laboratories, with 23 committed staff members. Visit the NEPMU-5 CIHL Department's web page at <http://trout.nosc.mil/~nepmu5/cihl.htm> for a complete listing of our instrumentation and a summary of the analytical capabilities we offer.

We attribute our geometric growth to our team effort. The Commanding Officer of the Navy Environmental Health Center and the Officers in Charge of the Preventive Medicine Units have also furthered our vision of future expansion. Most of all, the customers of our laboratories have provided us with positive feedback regarding technical and support activities. Our vision for the future is fueled by our zeal to continuously enhance customer service, thereby meeting the needs of our ever-changing fleet.

**GEORGE A. LINDSAY, Director of the CIHL
NEPMU-2 Norfolk, VA**

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