

ONE HEALTH

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U.S. Army Public Health Command

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(Cover) Members of the Special MEDCOM Response Capability-Public Health team practice decontamination procedures during training led by U.S. Army Public Health Command Headquarters G-3 Operations team. (More in News and notes - page 7)

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USAPHC senior leaders learn art of building mutual trust, unit cohesion

CHANEL S. WEAVER
USAPHC PUBLIC AFFAIRS

Senior leaders at the U.S. Army Public Health Command recently learned lessons and techniques to improve communication, resolve conflict and develop a high performing, unified Army public health team. The leaders took advantage of a rare opportunity to participate in a week-long training session at Aberdeen Proving Ground, Md., July 9–13.

Maj. Gen. Jimmie O. Keenan, USAPHC commander, requested the training to attain command-wide conceptual unity in order to successfully fulfill the USAPHC mission of protecting the health of America's Sons and Daughters.

"When I came into the organization, although we had successfully merged two organizations, I didn't feel the Public Health Command was operating at its full potential," said Keenan.

"To take care of America's Sons and Daughters, we have to have a commitment to collaborate and to respect and honor all of our staff equally," Keenan added.

One of the training's basic principles is the concept of viewing and treating people as people, and focusing outward on how one can help others in and outside the workplace.

"The purpose of this training was to build trust, promote unity and enhance communication among the various senior professionals that lead the USAPHC," said Col. Jeff Peters, director of the Human Systems Transformation Office at the Office of the Surgeon General. "Through understanding each other's goals and objectives, the USAPHC can be successful in its mission."

The Human Systems Transformation Office provided the leadership training. Individuals within this office offer custom-



Maj. Gen. Jimmie O. Keenan, USAPHC commander, gives remarks during USAPHC senior leader training held July 9–13 at Aberdeen Proving Ground, Md.

ized training for various commands on effective tools to leverage their individual strengths, enable higher levels of trust, and develop partnerships—all of which are critical to enable readiness and accomplish the Army's mission. Its members frequently travel to various U.S. Army Medical Command organizations within the U.S. and abroad to explore opportunities for enhancing human performance, creating synergy and promoting collaboration across various organizations.

Sgt. Maj. Surendra Mangra, command sergeant major at Public Health Command Region-Pacific, is a certified master resiliency trainer in the Army. He said he is familiar with the principles that were taught in the class, so the instruction served as refresher material for him.

"I realize that relationships are important, and it's vital to treat every individual with respect, instead of like a machine," said Mangra. "When you build trust and rapport with your teammates, the organization can reap huge dividends."

Attendees who participated in the leadership training said it will have a lasting impact and will help them in their careers.

"This command has people at locations all around the world, and it was refreshing to come together and see how we can work more cohesively to achieve our mission," said Col. Robin King, commander of PHCR-West. "I enjoyed interacting with members of the command whom I rarely get to see and working together to see how we could successfully lead an organization that is in transition."

(TOP) Col. James E. Cook, commander of PHCR-Pacific, Lt. Col. Deydre Teyhen, commander of PHCR-South, and Laura Mitvalsky, director of the Health Promotion and Wellness Portfolio, exchange ideas during USAPHC senior leadership training.

(BOTTOM) Lucretia Robertson, an organizational development specialist in the Trust Enhancement & Sustainment Task Force, lists some of the goals of the USAPHC senior leader training that occurred July 9–13.

Debbie Austin, director of Human Resources at the USAPHC, also valued the training.

"I tend to wait for people to ask for what they need from me, and I work diligently to fulfill these requests," said Austin. "After this training, however, I know it's more beneficial if I ask people what I can do for them. It's always good to serve others."

Austin said the techniques that were taught in the classroom can also be used in her personal life.

"This training can help you develop better relationships with your spouse, children or other members of your family," said Austin. "Good communication is the foundation for any successful relationship."

Peters said such feedback makes his job worthwhile.

"One of the most rewarding aspects of my job occurs when I get an e-mail from a course attendee who tells me that the training we gave them benefitted them in their personal life," said Peters. "We did not set out to achieve this goal, but it's pretty gratifying to receive this feedback."

Although the initial training offered was targeted to senior leaders, Keenan said she is confident that the leaders will begin to mentor their staff members, and make the USAPHC an organization where each person is respected, and every individual can grow and flourish.

"Those who have taken the course have to model the behaviors; they have to talk to their staffs about what was learned," said Keenan. "Our mission dictates that we have to work as one. We have to think, 'what can I give?' instead of 'what can I get?' We need to recognize each person as a person, not an object."



Although the team from the Human Transformation Office has visited many organizations, Peters said USAPHC is special.

"The USAPHC is a unique organization because it recently merged two major commands to achieve a single mission," said Peters. "Research shows that as few as 30 percent of mergers in the private sector are ultimately successful."

Despite these odds, Peters said he sees potential and promise among the individuals who make up USAPHC.

"The people at the USAPHC are some of the most committed people I have had the pleasure of meeting," said Peters. "I admire the professionalism I see in the organization, and I can tell that the people are passionate and committed to their mission of addressing public health challenges in support of the Army." ▲

NEWS AND NOTES

FROM AROUND THE COMMAND

The U.S. Army Public Health Command, U.S. Army Veterinary Corps, and U.S. Army Medical Department Center and School formed a multidisciplinary food safety communication team to address concerns about the amount of time service members spend off-base and their possible exposure to local foods in deployed locations. Current pre-deployment training focuses on consuming only foods approved by U.S. military preventive medicine and veterinary personnel. The training does not prepare service members to make informed local Afghan food choices that decrease the risk of foodborne illness. To address this, team members crafted and evaluated a comprehensive risk communication campaign to educate service members on making informed food choices during deployment. The package provides information on how to identify the risk level of common local food items and the importance of avoiding high-risk food items. It contains a Food Risk Smart Card, sticker and eCard as well as a poster for service members and a pocket card and toolkit for leaders. The materials are available from the Health Information Products eCatalog: <https://usaphcapps.amedd.army.mil/hioshopping-cart/>. The communication team was comprised of health information specialists, epidemiologists, food safety and environmental health specialists, and recently deployed preventive medicine and veterinary personnel.

Aberdeen Proving Ground hosted a congressional visit July 23 from U.S. Senator Christopher Coons (D-Dela.) and staff, representatives from the University of Delaware, and APG senior leaders. The visit's purpose was to educate the visitors about installation chemical and biological capabilities. Coordinated by the U.S. Army Research, Development and Engineering Command, the visit featured demonstrations and exhibits from APG organizations engaged in CBRN support. Exhibits from the USAPHC highlighted command support to Operation Tomodachi, health physics capabilities, veterinary services and environmental sampling. The Mobile Environmental Sampling Monitoring Vehicle exhibit explained support to the

Fort Huachuca, Ariz., 2011 wildfires. Army Institute of Public Health personnel demonstrated various aspects of these specialties and John Resta, AIPH director, briefed. USAPHC's participation ensured the public health role in manmade and natural disasters was conveyed to key command stakeholders and partners. Coons' aides requested a follow-up visit to the USAPHC for additional briefings about USAPHC capabilities.

Public Health Command Region-Europe hosted the 58th International Military Veterinary Medical Symposium, May 14-19 in Garmisch-Partenkirchen, Germany. The event brought more than 100 veterinarians from 15 countries together to share ideas and lessons learned. Maj. Gen. Jimmie O. Keenan, USAPHC commander, Brig. Gen. John Poppe, chief of the Veterinary Corps, and retired Brig. Gen. Timothy Adams, former USAPHC commander and the 24th Veterinary Corps chief, attended. The symposium provided 23 hours of Registry of Approved Continuing Education credits for veterinarians assigned within Europe.

New development requirements for the Defense Occupational Environmental Health Readiness System Exposure Characterization function were finalized on May 29 during a teleconference among the Army, Air Force, Navy and Marine Corps. The new function will include the ability to enter the locations of deployed individuals; associate periodic occupational and environmental monitoring summaries, or POEMS, to those locations; and modify conceptual site models in the occupational and environmental health site assessment to exposure pathways. This will more accurately characterize the potential exposure and enable the association of samples and surveys directly to the potential exposure. It will also enable the creation of a more complete individual exposure record, as DOEHS will have the ability to report industrial hygiene, environmental health, radiation, incident and registry-related exposure data in one report. This new functionally function is expected to be available in DOEHS within six months.

The DOD Food Analysis and Diagnostic Laboratory at PHCR-South coordinated efforts to obtain National Animal Health Laboratory Network membership for avian influenza testing. The NAHLN is a cooperative effort between two USDA agencies—the Animal and Plant Health Inspection Service and the National Institute of Food and Agriculture and the American Association of Veterinary Laboratory Diagnosticians. It is a multifaceted network of sets of laboratories that focus on different diseases, using common testing methods and software platforms to process diagnostic requests and share information. NAHLN laboratories have the capability and capacity to conduct nationwide surveillance testing for the early detection of an animal disease outbreak. The FADL gained NAHLN membership as part of validation efforts using the Joint Biological Agent Identification and Diagnostic System to test for avian influenza in bird samples. With this accreditation PHCR-South sets itself apart from other laboratories by ensuring veterinary diagnostic testing are in accordance with USDA, APHIS, and National Veterinary Laboratory standards. As a NAHLN member, PHCR-South will be one of a few dozen laboratories in the country capable of testing birds for the avian influenza virus.

USAPHC Chemical, Biological, Radiological and Nuclear, or CBRN, Technical Advisory Group, conducted a mid-year FY12 project internal program review on June 5 for ongoing CBRN projects funded through the Army surgeon general's office. USAPHC personnel briefed the following projects: radiation hazards operations training; field, laser and radio frequency hazards course; CBRN high-power microwave classification scale; engineering human tissue models for risk assessment of nanomaterials; biological military exposure guidelines; and CS (tear gas) exposures and acute respiratory infection rates in an Army basic combat training population. Many of these projects are performed in collaboration with other DOD and federal laboratories, including Uniformed Services University of the Health

Sciences, U.S. Air Force, U.S. Navy, and Oak Ridge National Laboratory. The final deliverables include after-action reports and technical reports due at the end of this fiscal year. These projects will be eligible for continued funding next year and will be considered together with new project starts, which are currently being reviewed by the USAPHC CBRN Technical Advisory Group. Continuing projects and new starts will be reviewed by the Office of the Surgeon General in late August.

The Air Quality Surveillance Program performed an asphalt plant characterization for U.S. Army Reserve. Particulate matter emissions were sampled on a mobile asphalt plant operated by the 748th Engineer Detachment, 88th Regional Support Command, U.S. Army Reserve Fairchild Air Force Base, Wash., June 11-15. The USAR requested this PM testing to show compliance with the local county Air Pollution Control Authority standards and to ensure the air quality and health of that military community.

The Environmental Medicine Program authored four articles and an editorial in the June issue of the Journal of Occupational and Environmental Medicine. The issue is devoted to deployment. It contains recommendations for medical surveillance of deployed Soldiers that are not current MEDCOM practice, and these are discussed in the editorial by DOD authors.

The DOD Military Working Dog Veterinary Service was awarded full accreditation by the Council on Accreditation of the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC International). Years of inter-service teamwork and support led to this major accomplishment. Members of the Council on Accreditation commended the staff of the LTC Daniel E. Holland MWD Hospital and Medina MWD Clinic for their strong commitment to the program evidenced by state-of-the-art veterinary hospital facilities and a 35-year history of American Animal Hospital Association accreditation. The process produced a functioning body

with true operational and strategic significance, matching canine program research and development requirements with the skills and services of academic research partners in mutually-supportive relationships. The AAALAC International accreditation program supports the USAPHC and Veterinary Corps' strategic plans for oversight of MWD research and complies with the requirements of DODI 3216.01, "Use of Animals in DOD Programs."

A USAPHC epidemiologist co-authored a paper on Chlamydia trachomatis reported among Army Soldiers from 2008–2011. The project the paper discusses was completed in collaboration with USAPHC, the Navy and Marine Corps Public Health Center and the DOD Global Emerging Infections System. Clemmons was selected to present the paper July 2 at the 7th meeting of the European Society for Chlamydia Research in Amsterdam, the Netherlands. The paper discussed the Army's disease reporting systems and examined how the transition to a more accessible Web-based reporting system in October 2010 impacted reported trends. The analysis confirmed high annual rates of chlamydia throughout the reporting period, with a notable decline in report submissions during the first few months after the new system was implemented. While a marked improvement in the ability of the system to capture case reports in remote locations occurred, the anticipated surge in chlamydia incidence rates was not observed. A more comprehensive review that augments case reports with laboratory and medical records, is needed to more accurately determine disease burden.

Sgts. Sharia Leal and Bala Abarshi, USAPHC Best Warrior competitors, were guests of President Barack Obama and his wife at the White House 4th of July 2012 "Salute to the Military" barbecue and concert. Obama saluted "this generation of heroes" for their service and sacrifice to defend American freedoms. Invited attendees included 120 Soldiers and family members deemed to be outstanding, those who had recently returned from deployment, wounded warriors, and Soldiers who received special recognition. ▲



Maj. Gen. Jimmie O. Keenan, USAPHC commander, passes the colors to Col. James Cook during the change of command ceremony at USAPHC-Pacific as Sgt. Maj. Surendra Mangra, PHCR-Pacific command sergeant major, observes. (Photo by Pacific Regional Medical Command)



Cook takes command at PHCR-Pacific

Maj. Gen. Jimmie O. Keenan, USAPHC commander, hosted the USAPHC-Pacific change of command ceremony at the Camp Zama Community Activity Center, Japan, July 2. Outgoing commander, Col. Michael R. Brumage, relinquished command to Col. James E. Cook.

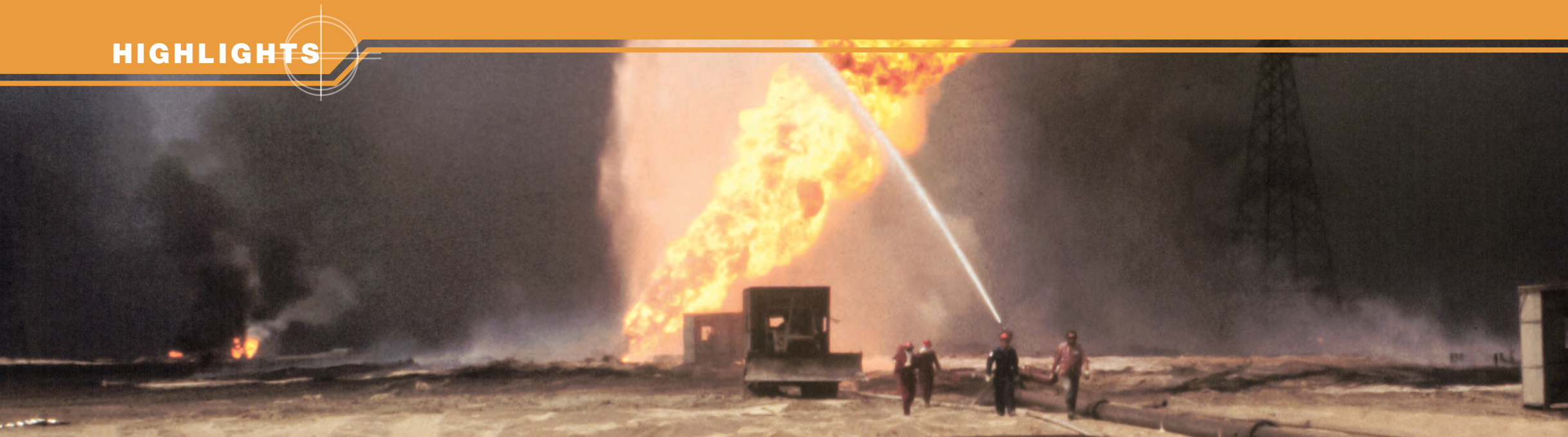
Keenan praised the dedicated personnel of PHCR-Pacific for supporting the command mission across their extensive area of responsibility, and acknowledged Brumage for his leadership during Japan's March 2011 earthquake and tsunami.

"During Operation Tomodachi, his (Col. Brumage) steady resolve was critical to the establishment of a joint response that was both effective and efficient," Keenan explained.

She said that Cook is "the right choice at the right time" for PHCR-Pacific as she wished him luck in his new command.

Cook is a certified preventive medicine physician and holds a Master of Public Health degree in epidemiology.

The command supports 57 separate duty sites, in 18 different countries, spanning seven different time zones. Command members routinely collaborate with U.S. Army Japan and the Pacific Regional Medical Command to provide proactive public health services for the area. ▲



USAPHC examines CENTCOM air

(USAPHC photo)

LYN KUKRAL
PUBLIC AFFAIRS OFFICE

AIR and the potential health effects from breathing it, may be the environmental health question of most interest to emerge from the last 10 years of operations in U.S. Central Command.

With partners in the Department of Defense, Veterans Affairs, other government agencies and academic institutions, U.S. Army Public Health Command has been involved since the first Gulf War in characterizing the air in Southwest Asia.

In this mostly dry, desert-like part of the world, the air routinely measures higher in particulate matter than almost all locations in the continental U.S. and commonly exceeds U.S. Environmental Protection Agency standards.

“Particulate matter, or PM, is defined generally as a small mass of solid or liquid matter that is breathable. Organic and inorganic chemicals in this air can be attached to these small masses,” explained Jeffrey L. Kirkpatrick, director of Health Risk Management at USAPHC. “Examples of PM that we have found in our (CENTCOM) sampling include dust from the terrain and weather conditions, primarily dust storms, and chemicals and compounds from oil fires, vehicle fuel and combustion, industry, and other human activities.”

Both naturally occurring and man-made PM have potential to cause health effects.

“We see this naturally occurring particulate matter as a potential cause of short-term, primarily irritant,

effects on the respiratory system.” said Coleen Baird, a physician who heads the USAPHC Environmental Medicine Program. “It is an open question whether geologic sources of pollution are causing more serious and long-term illness. We are also concerned about other local and regional sources of particulates, such as industrial activity and military and indigenous waste disposal (burn pits).”

While service members have expressed concern about the health effects associated with breathing air in the CENTCOM region and especially with exposure to smoke from burn pits, scientific results to date are mixed.

“We know that upper respiratory effects due to inhalation exposures have occurred,” explained Baird, “These include sore throat, cough, eye irritation, runny nose and other cold-like symptoms.

“We also know that chronic respiratory conditions such as asthma and chronic bronchitis may be worsened,” she added.

But despite multiple studies by USAPHC and other government and non-government scientists, the question of whether individual service members will suffer long-term health effects from PM in the air remains unanswered.

“The evidence to date does not support an association between deployment to Southwest Asia and chronic respiratory or cardiovascular conditions, nor does it disprove the existence of such an association,” Baird said.

“Based on medical literature and scientific studies in other occupational environments, long-term health effects are plausible,” said Joseph Abraham, an epidemiologist in the USAPHC Environmental Medicine Program. “However, long-term health effects have not been consistently observed on a population basis. We’ve looked at, and are continuing to monitor, respiratory and cardiovascular disease diagnoses. With one exception, they have not significantly increased.”

That exception is a non-specific International Classification of Diseases diagnostic code, ICD9 code 490, which stands for “bronchitis, not specified as acute or chronic.” This diagnosis, Abraham said, appears to have increased over the last 10 years among military personnel.

But it isn’t certain why.

“It is unclear whether this diagnosis reflects an increase in a true chronic disease, bronchitis associated with viral or bacterial illnesses, or simply with changes in health care utilization patterns,” Abraham said.

Most studies done by USAPHC and other organizations are retrospective, looking at various records and trying to link medical conditions, primarily respiratory or cardiovascular, and inhalation exposures.

“Most of our studies have looked at the rates of medical visits for which a respiratory or cardiovascular disease code has been entered in DOD medical databases,” Baird explained. “We correlate these medical encounters with other databases that tell us how often, where and when a Soldier has deployed and what the general environmental conditions were at or near those locations.”

(continued on page 12)

SPIROMETRY – one tool for evaluating respiratory symptoms

As the Environmental Medicine Program investigates the respiratory health of DOD service members and civilians who deployed to Southwest Asia and other locations with burn pits, high particulate matter, gases and other air contaminants, its staff continually looks for methods of evaluating respiratory function. One of these methods is spirometry.

Spirometry is the preferred screening pulmonary function test. The machine used to perform this test, measures the amount and speed of air that can be inhaled and exhaled over specific time intervals. It can be used to assess lung conditions such as asthma, bronchitis, emphysema and other problems affecting breathing. Health professionals use this method to compare an individual’s results to standard reference values matched for age, race, height, and gender. Challenges to achieving valid, accurate results include state of the art equipment, unreserved effort by the person being tested, and the need for healthcare personnel to be rigorously trained to conduct the testing and interpret the results.

Expanding the use of spirometry could play an increased role in monitoring the respiratory health of service members.

However, the Army has not yet decided to implement spirometry testing for all Soldiers. A recent editorial in the *Journal of Occupational and Environmental Medicine* co-authored by Coleen Baird, a physician who heads the Environmental Medicine Program, indicates that while spirometry testing on a population basis deserves further study, it is not currently warranted across the board to establish baselines in service members and conduct screening after deployment.

The JOEM editorial indicates that spirometry use in those who don’t have respiratory symptoms is not recommended by any professional respiratory health group, nor is routine screening recommended in those at increased risk due to smoking or asthma. As well, routine spirometry use has been found to lead to increased risk of overdiagnosis and misinterpretation, which could adversely impact military careers. Baird and Col. Lisa Zacher, co-author, recommend feasibility studies be performed to assess predictive value; two studies are currently ongoing at Fort Hood and Joint Base San Antonio, Texas. ▲

The fact that almost 70 percent of service members report respiratory symptoms in post-deployment questionnaires is cause for concern. However, USAPHC physicians and epidemiologists have not observed a consistent link between deployment and an increase in respiratory or cardiovascular diagnoses.

USAPHC scientists acknowledge their studies have limitations, however.

“Asking whether a population, in this case service members deployed to Southwest Asia, will experience chronic, long-term health effects from environmental exposures is a complicated and nuanced question,” Baird said.

One complicating factor is that the data available are not as specific or detailed as physicians and epidemiologists attempting to look back and draw conclusions about health effects would like.

In addition to changing healthcare utilization discussed above, clinicians may choose a diagnosis code that doesn’t correspond to a standardized clinical definition of a disease, Abraham explained. When scientists make decisions about how to interpret codes, there is a potential for error.

As well, medical records contain limited information on behavioral and other individual-level factors, like cigarette smoking and overall fitness, that may affect the relationship between air pollution and health status.

It’s not just medical data that cause uncertainties.

“There are literally thousands of environmental surveillance reports associated with air quality in Southwest and Central Asia from the last 10 years,” Kirkpatrick said. “However, there is variability, and so uncertainty, in the degree to which these data represent usual conditions and exposures of personnel.”

Much research has been conducted to characterize air pollution health effects throughout the world.

But associations between short-term exposure to air pollution and severe health effects in most studies have been observed in populations of children, older adults, and among individuals with pre-existing health conditions, Abraham said.

“The additional risk to health associated with naturally occurring particulate matter is small, so the long-term cumulative effects of exposure are often only observed in older age groups with relatively higher baseline risks of having adverse health events,” he added.

Other researchers have found evidence of associations between deployment experiences and chronic disease.

Researchers at the Veterans Affairs Medical Center in Northport, New York, have published several studies linking asthma and lung function abnormalities with deployment to Iraq. A total of 49 Soldiers were referred for lung biopsy to Vanderbilt University Medical Center; 38 of whom were diagnosed with constrictive bronchiolitis, a chronic lung disease, and all of whom were considered to have abnormal biopsy results. The biopsies and diagnoses are undergoing independent review at National Jewish Medical Center in Denver. Representatives from both studies are working with the DOD and the VA to continue study of potential health effects from PM exposure in CENTCOM and recommend appropriate medical treatments and monitoring.

Environmental Medicine Program staff has not found literature that addresses presence or absence of cardio-respiratory effects in Southwest Asia’s indigenous population.

“I would not say that indigenous populations are not experiencing cardio-respiratory effects,” Abraham said. “We simply lack the data.”

USAPHC, the DOD and the VA are continuing to evaluate long-term health effects of deployment-associated inhalational exposures, Baird said. ▲

Dust storm in Southwest Asia. (USAPHC photo)

EXTREME CONDITIONING



USAPHC evaluates impact of extreme conditioning programs

(U.S. Army photo)

CHANEL S. WEAVER
PUBLIC AFFAIRS

Just as athletes undergo intense training to compete in a sport, Soldiers frequently engage in physical training to stay fit and agile.

The nation’s warfighters are mandated to meet strict height and weight standards, or they risk discharge from the Army.

This obligation to stay fit, however, has led many Soldiers to participate in Extreme Conditioning Programs. ECPs are workout regimens that focus on aggressive, high-intensity, high-volume exercises with short rest periods between sets. Examples include CrossFit®, P90X®, Insanity®, and PT Pyramid. Many ECPs are commercially available, and some Army installations offer them through their fitness centers or other physical activity and recreational facilities.

While ECPs are growing in popularity, Army experts say these physically demanding workouts can pose unique risks.

A recent U.S. Army Public Health Command assessment evaluated Soldiers’ injuries six months prior to and six months following the implementation of a physical fitness program that included elements of ECPs.

“While observing a specific ECP in action, some of the tasks the Soldiers performed included carrying another Soldier on their shoulders, flipping tires, and throwing cinder blocks — exercises that simulated activities that may be encountered while deployed,” said Tyson Grier, a health scientist at the USAPHC, who served as part of the evaluation team.

“ WE ARE CONSTANTLY EVALUATING
ARMY ACTIVITIES TO DETERMINE
EFFECTIVE WAYS TO MINIMIZE INJURIES. ”

Michelle Chervak

The results of the evaluation suggested that programs with elements of ECPs appear to carry risks.

“Overuse injuries increased 16 percent among Soldiers who participated in ECPs, while increasing just 7 percent among Soldiers who continued with traditional Army physical training during the same time period,” said Michelle Chervak, who holds a doctorate in public health and works in the USAPHC’s Injury Prevention Program.

The USAPHC investigation also revealed that overweight and obese Soldiers, as well as Soldiers who smoke, experience a greater risk of injury when they began participating in ECPs.

USAPHC experts say the duration and intensity of these workouts may lead to more injuries than other types of conditioning programs. Risks associated with ECPs may include muscle strains, torn ligaments, stress

fractures and exertional rhabdomyolysis (a potentially life-threatening condition resulting from breakdown of muscle following heavy physical activity).

Although the training provided by ECPs may be challenging and operationally relevant, Army scientists say ECPs are especially risky for those individuals who are just starting to participate in such programs.

“These Soldiers may try to keep up with others who may be more fit and stronger, and as a result, they may incur injuries from over-use, overreaching and overtraining,” said Grier. “Additionally, some of the exercises require a high degree of skill and coordination to safely execute.”

Grier also said there is insufficient evidence to determine if ECPs are beneficial.

Chervak said it is important for Soldiers and leaders to understand the actions they can take to minimize injuries prior to and during their participation in ECPs.

You should keep in mind that Army Physical Readiness Training was specifically designed to fulfill the physical fitness requirements of Soldiers while minimizing the risk of injury. ECPs should not be used as a replacement for PRT, according to USAPHC injury prevention and health promotion professionals.

They also said they will continue to evaluate the effects of ECPs on physical fitness and injury risk and educate Soldiers and senior leaders about ECPs. The goals of these efforts are to better understand the risks and benefits of ECPs and maintain Army readiness.

“Injuries are a major health problem for the Army,” said Chervak. “They can result in lost duty time for medical treatment and extensive rehabilitation, which can adversely affect individual and unit readiness.

“We are constantly evaluating Army activities to determine effective ways to minimize injuries.”

Recommendations to minimize injuries:

- Require all authorized physical fitness trainers to be certified by a nationally recognized, nonprofit certifying organization (such as the American College of Sports Medicine Certified Health Fitness Specialist and/or National Strength and Conditioning Association Certified Strength and Conditioning Specialist), as well as the respective ECP (for example, Cross-Fit level 1 coach certification).
- Inspect designated exercise areas regularly to ensure they are safe (for example, surfaces are flat, provide good traction, and are free of obstacles).
- Introduce ECPs to new participants gradually.
- Ensure Soldiers with a health condition (for example, high blood pressure, previous heat injury, mild traumatic brain injury or musculoskeletal injury) that might be affected by participating in an ECP are medically cleared before starting or resuming participation in an ECP.
- Tailor supplemental conditioning programs (particularly ECPs) to the individual based on his or her fitness level, training goals, and job-specific needs and demands.
- Limit full participation in ECPs to those Soldiers who are healthy, very fit and acclimated to the programs.
- Increase the duration of rest periods between sets of exercise, and schedule rest days (especially just before or after exhaustive military training) to optimize recovery and minimize fatigue.
- Coordinate supplemental physical training, such as ECPs, with required military training in an effort to eliminate redundant activities and minimize over-use injuries. ▲

For more information on reducing injuries when participating in ECPs, visit:

U.S. Army Public Health Command
http://phc.amedd.army.mil/PHC%20Resource%20Library/PHN_No_0312-01_Extreme_Conditioning_Programs_and_the_Army_2012.pdf

For more information on Army Physical Readiness Training , visit:

TRADOC Physical Readiness Division (PRD)
on AKO
<https://www.us.army.mil/suite/page/346316>

Staff Sgt. Jeremy W. King, a squad leader with Military Police Platoon, Headquarters and Headquarters Company, 1st Brigade Special Troops Battalion, 1st Brigade Combat Team, 82d Airborne Division, increase the difficulty of pushups with his feet uphill while doing mid-day physical training at the Joint Readiness Training Center at Fort Polk, La. (U.S. Army photo by Spc. Michael J. MacLeod)



Environmental health risk assessment can lead to informed risk management decisions



The health of Soldiers, their families and civilians depends on good decisions made by informed leaders. The U.S. Army Public Health Command is dedicated to providing the most accurate and complete information to help commanders and other leaders make good decisions.

Many decisions are based on health risk assessments of the environment. Environmental risk assessment focuses on assessing environmental exposures, understanding potential health effects, determining the probability and severity of adverse health outcomes and environmental effects, and characterizing those risks in ways that leaders and stakeholders can understand.

The Environmental Health Risk Assessment Program is a diverse group of public health professionals representing several disciplines: environmental health, environmental science, engineering, biology and microbiology, chemistry, geology, physics, and toxicology. These professionals work together to assess many of the environmental health risks on Army posts and where Soldiers, family members, and civilians live and work.

The program performs many risk assessments using in-house staff but also contributes to risk assessments and associated decisions led by others at the installation, command and policy levels. The Army surgeon general delegated to the EHRAP the responsibility to review and approve environmental health risk assessments completed for the Army as required by Army regulation 200-1, Environmental Protection and Enhancement. With more than 25 members, the EHRAP is one of the largest programs within the USAPHC. The program provides specialized products and services for a wide range of Army and Department of Defense organizations and offices. These include documentation of standardized methods, risk

(LEFT) A U.S. Army Ranger trains at Camp Rudder, Fla. (Photo by John D. Helms)

“The Environmental Health Risk Assessment Program is a diverse group of public health professionals representing several disciplines: environmental health, environmental science, engineering, biology and microbiology, chemistry, geology, physics, and toxicology.”

assessment procedural guidance (for example, technical guides and similar documents), risk reference data and standards, and information databases. Organizations that come to EHRAP for consultations include the Office of the Surgeon General/U.S. Army Medical Command, Installation Management Command, the Army Corps of Engineers and their contractors, geographic Combatant Commands, and the Office of the Secretary of Defense. The EHRAP also actively collaborates internally with other USAPHC portfolios, most notably Toxicology, Environmental Health Engineering, Occupational Health Sciences, and Occupational and Environmental Medicine.

Customers come to EHRAP with questions about environmental cleanup and other risks from exposures to environmental contaminants so educated decisions affecting their personnel and their programs can be made. Risk assessments are used to determine if a hazard (for example, chemicals, microorganisms, or other material) poses significant human health or ecological health risks.

The USAPHC or local personnel collect samples and ship them to laboratories either at USAPHC or other locations for analysis. The EHRAP, often in collaboration with other USAPHC subject-matter experts, then take the results and use them to determine and then characterize potential health risks.

Sherri Hutchens, EHRAP manager, explains that EHRAP will “close the loop” on environmental data by summarizing what it knows about the environmental health during deployments and on our installations, and providing that information to commanders, managers and physicians who deal directly with environmental programs, Soldiers and healthcare providers. The EHRAP reports and services provide comprehensive data organized to help leaders understand possible health risks and risk management consequences.

The program is organized into three sections: operational, sustainment, and strategic, to complement the military public health mission for deployment, sustainment and emerging health risk challenges.

The operational section, headed by Tony Pitrat, focuses on military-unique issues and supports deployments and military-specific health risk assessments in garrison, and provides training to

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support these efforts. Operational section risk assessments include those performed for all U.S. base camps outside the continental U.S. Additionally, this section provides risk assessment training in conjunction with other Health Risk Management Portfolio efforts.

The sustainment section, lead by Jeffrey Leach, focuses on assessing risks to support site-cleanup requirements and for demilitarization operations, range sustainment, and installation and life-cycle responses to environmental hazards. The sustainment section has recently performed risk assessments or consultations for two sites in the Pacific region and is currently conducting risk assessments for two sites in Europe, another site in the Pacific region and several sites in the continental U.S.

The strategic section, lead by Matthew McAtee, focuses on developing and improving risk assessment methods and tools, to include new microbial risk assessment tools, and also works to better integrate chemical and biological and other risk assessment techniques across Army preventive medicine and chemical, biological, radiological and nuclear defense operations. The strategic section has recently provided improved deployment health risk assessment techniques and chemical military exposure guidelines in Technical Guide 230 and microbial risk assessment procedures and biological

military exposure guidelines in TG 316 and its supplements.

The EHRAP understands and responds to environmental health risks faced by members of the Army family in areas from disease prevention and control to field preventive medicine and environmental health and uses the skills of scientific and technical personnel who can analyze the risks and provide information and options to help leaders make decisions. It analyzes the environmental health data and evaluates the probability and severity of potential health concerns that provide the ammunition for leaders to respond appropriately to potential environmental risks.

Health risk assessments are important tools for all of Army public health and are not limited to assessment of environmental hazards by EHRAP. Health risk assessments under various labels, or the development of health risk information, are performed by all USAPHC portfolios.

The upcoming revision to Department of the Army Pamphlet 40-11, Preventive Medicine, will include a chapter that integrates common risk assessment concepts across the Army Public Health Enterprise. EHRAP's McAtee is a key author of the chapter in collaboration with Robert Ryczak of the Proponency Office for Preventive Medicine.

Risk assessment products can be powerful tools to organize and articulate scientific knowledge and uncertainty within a framework useful to decision makers. The creation of a risk assessment report is a repeated process designed to be refined until there is consensus on the most important and most uncertain factors affecting the results. Decision-makers need to be confident about important and multi-faceted factors that drive the duration and complexity of the risk assessment life-cycle. This means that communication between risk assessment analysts and decision makers is crucial to successful risk-based decisions. ▲

Information for this article was compiled by Jane Gervasoni with assistance from Sherri Hutchens and EHRAP members.

HRA VOCABULARY

- **Health Risk Assessment** – A method for assessing hazards, sites, and populations by collecting data and organizing scientific knowledge in order to measure exposure to health hazards and the types and amounts of health effects potentially caused by those hazards. The method produces estimates of health risk in a format useful to decision-makers. Health risk assessments can be used to assess health hazards in the environment, in the workplace, or in other settings like at home. Most health risk assessments focus on evaluating risk levels for populations, not for specific individuals.
- **Hazard Identification** – A health risk assessment process that, depending on the context, determines either (1) the types of health hazards present in an environment or workplace setting, or (2) the types of health problems that may be caused by a chemical or other contaminant.
- **Exposure Assessment** – A health risk assessment process that determines how, where, when and how often a population is exposed to a health hazard and the magnitude of that exposure.
- **Dose-Response Assessment** – A health risk assessment process that determines how the risk of a health effect changes as the magnitude, duration and frequency of exposure changes.
- **Risk Characterization** – The final health risk assessment process step that synthesizes the results of the exposure assessment and dose-response assessment to produce measures or predictions of health risk. The best risk characterizations are those that place the risks in context and articulate the primary uncertainties associated with the conclusions. Recommendations for additional investigation or research may be included to address large gaps in knowledge or uncertainties that leave decision-makers uneasy. ▲

Members of the 82nd Airborne Division, Delta 1-321 Airborne Field Artillery Regiment, fire a 155 mm Howitzer during a training mission at Forward Operating Base Andar, Afghanistan, Oct. 10, 2010. (Air Force photo by Staff Sgt. Joseph Swafford)

USAPHC experts receive Wolf Pack award

JANE GERVASONI

EDITOR

Lt. Gen. Patricia Horoho, the Army surgeon general, recognized 22 military and civilian employees of the U.S. Army Public Health Command with Army Medicine's Wolf Pack Award via video teleconference on June 25. Gregg Stevens, the Army Medical Department Civilian Corps chief, presented the award on her behalf to Maj. Gen. Jimmie O. Keenan, USAPHC commander, and John Resta, Army Institute of Public Health director, at Aberdeen Proving Ground-South.

The award honored USAPHC personnel who were part of the 156-person team that supported Army medicine's rabies response. This team was formed in response to the death of an Army specialist who was the first U.S. Soldier to die of rabies since the Vietnam War. The team was led by Col. Steven B. Cersovsky, Epidemiology and Disease Surveillance Portfolio director at USAPHC.

The Wolf Pack Award recognizes exceptional teamwork by an integrated group of military and civilian members focused on excellence. The Rabies Response Team brought together experts from across the AMEDD in the areas of veterinary medicine, epidemiology, disease surveillance, communication and more to ensure that leaders and Soldiers gained awareness of rabies in deployed locations, and that those exposed to animals were assessed and treated appropriately. The team also included members from the other military services, the Centers for Disease Control and Prevention, New York state and county health departments, and military and civilian hospital staffs.

In presenting the award, Stevens said that the work done by this team was an example of the work being done by Army medicine personnel to protect Soldiers. He explained that diversity within the AMEDD is one of its strengths, and the Wolf Pack Award is an example of how diverse talents can combine to solve challenging problems.

Stevens also spoke to the more than 100 assembled civilian and military personnel from the USAPHC about teamwork in Army medicine. He spoke about coming into the Army in 1968 and the oath of office he took as a military officer, explaining that he took the same oath when he became an Army civilian.

"Military and civilians share the Army values. We are all part of the same team," he said.

Stevens also covered the AMEDD Civilian Corps and how it is helping Army Medicine by enhancing civilian opportunities. He explained that there will be a growing need for civilians in leadership positions as the Army moves into the future. He described the AMEDD's Civilian Life-Long Learning Program, designed to provide leadership and other training online for civilians and Soldiers, including continuing education credits, at little or no cost.

"As civilians, we all need to make solid choices about training and other aspects of our careers," Stevens explained. "Choices that support the mission and overcome cultural differences should be a high priority. As civilians, we have a choice about where we work and the training we take, while our military partners have different requirements and priorities."

Stevens said that the Army is working hard for its civilians, but they have responsibilities as well. He spoke about the need to have individual development plans that will help individuals to maintain levels of job proficiency through training and other activities. An IDP will also help chart a career path by identifying new skills and knowledge that will support both the individual and the organizational mission.

"The Army medicine mission of taking care of Soldiers and their families is the most honorable mission in the military," according to Stevens. "Working together as a true team of military, civilians, hybrids (former military working as civilians) and contractors we can achieve excellence in that mission." ▲

**Visit AKO Web sites
for more information on**

the AMEDD Civilian Corps:
<https://ameddciviliancorps.amedd.army.mil>

the Civilian Life-Long Learning Programs:
<https://ke2.army.mil/cl3/Default.aspx>