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PAC Chairs Group Chair’s Message

My Fellow PHS Officers,

The U. S. Public Health Service faces a unique moment in the course of a uniformed service that may define our identity for the next several decades. Having transformed the Corps in the years following 9/11 that better defined our mission, core values, and standards of service, we have since been tested in several highly visible disasters from Katrina to Ebola. We have also been tested by external forces- from economic recession to implementation of a national health care system. Only time will tell whether the Corps’ response to these internal and external tests strengthens its constitution or diminishes its relevance. Many of the professions that we represent (doctors, nurses, therapists, etc.) themselves are under more scrutiny, competition and change not considered a generation before. How each of us acts today and throughout our careers, as officers, professionals and members of our communities, can lead to a more robust, effective and engaged U.S. Public Health Service protecting future generations of Americans.

As I read the articles in this newsletter, I am encouraged to see so many officers standing up for the future of the Corps using all the avenues we have open to us. They bring the best leadership, service, integrity and excellence to bear on our nation’s key health and safety needs, both directly and indirectly. Officers taking the PHS mission to heart, affect lives beyond the scope of their agency or deployment. Walking the walk, literally and figuratively, benefits not only your health but also those around you who recognize your leadership as a Commissioned Corps officer of the U.S. Public Health Service.

Respectfully,

CDR Nathan Epling, P.E.

One Health in Action: Management of a Pet Dog after Exposure to a Human Patient with Ebola Virus Disease

Contributed by CAPT Casey Barton Behravesh MS, DVM, DrPH, DACVPM, Veterinary Category

At the Centers for Disease Control and Prevention (CDC), many of us had been discussing the potential animal-human interface issues with Ebola virus. As soon as the media reported on the situation in Spain where a Spanish Ebola patient's pet dog was euthanized after exposure to a human patient with a confirmed Ebola virus infection, we had a conference call between CDC, the U.S. Department of Agriculture (USDA), and the American Veterinary Medical Association (AVMA) and many other human and animal health partners to discuss how to address companion animal issues if this situation ever occurred in the United States. That was the day before we learned about the first Texas nurse to be confirmed with Ebola. On the next day in October 2014, a health-care worker who had been part of the treatment team for the first laboratory-confirmed case of Ebola virus disease imported to the United States, developed symptoms of Ebola virus disease. A presumptive positive reverse transcription PCR assay result for Ebola virus RNA in a blood sample from the worker was confirmed by the CDC, making this the first documented occurrence of domestic transmission of Ebola virus in the United States. The Texas Department of State Health Services commissioner issued a control order requiring disinfection and decontamination of the health-care worker's residence. This process was delayed until the patient's pet dog, Bentley, (which, having been exposed to a human with Ebola virus disease, and potentially posed a public health risk) was removed from the residence. Along with our partners, we quickly recognized the need to address these animal-human interface issues, especially those involving companion animals. We all wanted to do what was in the best interest of protecting public health while determining how to save this pet dog. As a veterinarian, I knew it was important to address the human Ebola patient's pet dog because of the importance of the human-animal bond and the mental health aspects for the owner with Ebola who was fighting for her life. Because of this, I volunteered to serve as the lead of the CDC Ebola Animal-Human Interface Team and also volunteered to serve as the Chair of the AVMA Ebola Companion Animal Response Working Group.



CAPT Barton Behravesh with Nina Pham and Bentley at the North American Veterinary Conference in January 2015

What did we know about Ebola virus and dogs? To date, there have been no reports of dogs or cats becoming sick with Ebola or of being able to spread Ebola to people or other animals. Even in areas in Africa where Ebola is present, there have been no reports of dogs and cats becoming sick with Ebola. There is limited evidence that dogs become infected with Ebola virus, but there is no evidence they develop disease. The risk to pets becoming sick with Ebola in the United States is very low, as pets would have to come into contact with blood and body fluids of a person with Ebola virus.

AVMA coordinated the AVMA Ebola Companion Animal Response Working Group — a fantastic group of dedicated human and animal health officials at the local and state level, veterinarians, animal control officers,

AVMA, the National Association of State Public Health Veterinarians (NASPHV), USDA, US Army Medical Research Institute of Infectious Diseases, Defense Health Agency Veterinary Services, and many other wonderful partners — to address a real-time life-or-death issue for this pet. This truly was a team effort, and the experience was very rewarding.

The most rewarding part of this experience was being part of the team that saved Bentley, so he could be reunited with his owner who, thankfully, survived Ebola virus. The group definitely bonded over this experience and walked away with new friends. “Team Bentley” also attended several national meetings to share this story, helping to spread the word about the importance of including animals in emergency response planning, even when limited information exists for a given disease and animal species. I had the opportunity to meet Bentley and his owner at the North American Veterinary Conference in January 2015. The wonderful veterinarians at Texas A&M University who cared for Bentley during the 21-day quarantine made sure to give his owner daily updates and photos to let her know that Bentley was okay. The owner told me how important it was for her own recovery to know that her beloved pet dog was being cared for and that she knew she would be reunited with Bentley. This is a perfect example of the importance of the human-animal bond. This experience helped people at CDC, a human health agency, recognize the power of the pet and the importance of including pets in zoonotic disease planning. Also, the AVMA Working Group developed guidance that helped states across the U.S. and other countries become better prepared if this situation were to happen in their jurisdictions. It is very rewarding to hear from these officials how our guidance documents really helped them be better prepared as they now include companion animals in their planning. The guidance documents are available by clicking [here](#).

Pets must be included in emergency response planning for zoonotic disease issues, such as Ebola virus, even when limited scientific data exist for a given disease and animal species. Pets are a very powerful and important part of people’s lives and must be accounted for during public health emergencies. It is my goal to share with others the importance of factoring animal health into the improvement of human health through an interdisciplinary One Health approach, "the collaborative effort of multiple disciplines — working locally, nationally, and globally — to attain optimal health for people, animals and the environment." One Health involves all of us!

A new publication is available that describes the movement, quarantine, care, testing, and release of the pet dog, highlighting the interdisciplinary, One Health approach and extensive collaboration and communication across local, county, state, and federal agencies involved in the response. (*J Am Vet Med Assoc* 2015;247:531–538).

50th Annual USPHS Scientific and Training Symposium

Contributed by LCDR Scott Williams, Dental Category



DePAC Award Winners with RADM Makrides; left to right (back) RADM Nicholas Makrides, CAPT Kathleen Mary O'Connor-Moran, CAPT Gary Pannabecker, CAPT Dean Coppola, LCDR Scott Williams; (front) CDR Sharon Raghubar, CAPT Lynn Van Pelt, LCDR Abby Shannon, CAPT Renee Joskow

The 50th Annual USPHS Scientific and Training Symposium was held in Atlanta, Georgia, on May 18-21. This year's symposium was not only a great opportunity for Corps Officers to meet our new Surgeon General VADM Vivek H. Murthy, MD, MBA; but it also served as an opportunity for Corps Officers from all over the country to showcase the magnificent work we accomplish on a daily basis and learn together through the many available lectures and continuing education courses.

The event drew hundreds of attendees from federal agencies such as the Indian Health Service, the Office of Public Health Emergency Preparedness, Bureau of Prisons, the Department of Homeland Security, the National Disaster Medical System, the Health Resources and Services Administration, the Centers for Disease Control and Prevention, the U.S. Food and Drug Administration, the Medical Reserve Corps, the National Institutes of Health and other components of the Departments of Health and Human Services, Defense, Justice, Transportation, as well as numerous state and local agencies and public health institutions.

The theme for the 2015 COF Symposium was "Public Health Diversity: Succeeding in a Flatter World." Tuesday, May 19th provided the opportunity for each of the USPHS Categories to host their own Category Day to gain category specific continuing education and present category specific awards. The Dental Category was able to incorporate 6.5 hours of continuing dental education on a broad range of topics focused on enhancing the attendee's skills both clinically and as public health administrators. LCDR Scott B. Williams started the day with a call to order followed by opening remarks by CDR Leira Vargas-Del Toro. Michael Rosenthal, DMD, Administrative Chief Resident, Emory University, Department of Oral and Maxillofacial Surgery started the day off with a in depth lecture entitled "Current Concepts of Medication Related Osteonecrosis of the Jaw(MRONJ)." The lecture included an excellent synopsis of the clinical

terminology and staging of MRONJ lesions, as well as new medications and risk factors associated with the initiation and progression of the disease.

The second lecture of the day was the David Satcher Keynote Lecture provided by John Featherstone, MSc, PhD, Dean and Distinguished Professor, University of California San Francisco. The lecture entitled “CAMBRA-Caries Management by Risk Assessment in the Public Health Setting” provided useful guidance on the use of caries risk assessment tools on which to build your clinical treatment to reduce the risk of dental caries in the future.

The David Stacher Lecture was followed by lunch and the Dental Category Awards Program conducted by RADM Nicholas Makrides. The lunch session always provides a wonderful opportunity for Officers to socialize and network with fellow Dental Officers from other agencies and areas of the country. RADM Makrides had the honor to recognize and present awards to the recipients of the DePAC Awards, Special Assignment Awards, and CPO Exemplary Service Awards. During the awards presentation the Dental Category Officers and guests were honored to meet the newly appointed 19th Surgeon General of the United States VADM Vivek H. Murthy who gave a very pointed and motivational talk about his vision of the Corps moving forward and our role in advancing the public health of the Nation.



Surgeon General, VADM Vivek H. Murthy addressing the Dental Category

Following lunch, our third speaker Jennifer Cleveland, DDS, MPH Dental Officer for the CDC Division of Oral Health presented a lecture entitled “Transmission of Infectious Agents in Dental Settings, 2001-2014.” This

lecture was a wonderful update on the transmission of blood-borne pathogens in dental settings, as well as the most current strategies to prevent infections. The lecture covered the process of how the CDC identifies and responds to potential disease transmissions and included three instances of healthcare-associated patient to patient viral hepatitis transmission between 2002 and 2014 and also included strategies for prevention of future transmissions.



2015 David Satcher Keynote Lecturer, Dr. John Featherstone and RADM Nicholas Makrides

The fourth speaker Barbara Gooch, DMD, Associate Director for Science, CDC Division of Oral Health, presented a lecture entitled “CDC Dental Update: Fluoridation, Clinical Preventive Services and Tooth Retention.” This lecture included the science and rationale behind the recent change in the CDC

recommendation for community water fluoridation and other preventive measures to improve tooth retention.

The final speaker of the day was CAPT Arlene Lester, DDS, MPH, FACD, Regional Minority Health Consultant for DHHS. CAPT Lester presented a very informative lecture entitled “Health Equality and Health Disparities.” Her lecture focused on how advances in modern dentistry, medicine and technology have increased the life spans and quality of life of American citizens, however, there are still well-documented health disparities between racial and ethnic populations. Her lecture also included national initiatives that are currently in place to



COF 2015 Dental Category Day Social at Pitty Pats Porch

decrease those disparities and how our role as USPHS Officers function within those initiatives to improve the health of the American People.

CDR Vargas-Del Toro along with RADM Makrides gave our closing remarks, and the educational portion of Category Day concluded. Category Day also provided the opportunity for socializing and subsequently, fellow Officers convened at Pitty Pat’s Porch that evening for a wonderful night of food and mingling.

The 2016 USPHS Scientific and Training Symposium will be held in Oklahoma City on May 16-19, 2016. Please visit the [Symposium Website](#) for updates on the upcoming 51st Annual Symposium.

Mentoring In The Commissioned Corps

Contributed by CAPT Philip Driscoll, DDS, United States Coast Guard, Dental Category

Growing up, an adage I frequently heard my mother say was, “each generation stands on the shoulders of the previous one.” The simple meaning, of course, is that the knowledge and experience gained by previous generations is passed on, benefiting and pushing forward the next generation to greater heights of achievement. The lessons of history bear witness to this simple fact: caveman to walkman and beyond. The slow accumulation of knowledge - not so slow anymore - over the span of many centuries has resulted in a world filled with technological wonders that were completely unimaginable when I was just a boy, some of it unimaginable just a few short years ago.

As silly as it may sound, in some ways, an individual’s career progression is similar to that of the overall advancement of mankind. As a junior officer, things start very simply, but over time the officer progresses to greater levels of responsibility and knowledge and can achieve unimaginable success. Nonetheless, in the beginning, we usually lean a lot on the guy or gal next to us who is just as green, or perhaps even greener.



CAPT Philip Driscoll, DDS

“Fake it ‘till you make it,” is an expression that I occasionally heard as a young officer, and eventually you do make it along with a healthy share of bruises. Undeniably, without guidance, the path can be pretty rough and discouraging at times. There is so much information that must be absorbed in those initial years: daily work routines and paperwork, clinic and corps policies, readiness and promotion requirements, proper drafting of a curriculum vitae Public-Health-Service style, and so on; and not to mention learning to understand the overall commissioned-corps culture. You are back in school for sure.

So, you may say, “What’s the big deal?” We have Officer Basic School (OBC) and there are always the many instructions and manuals available to aide one’s navigation through the bureaucratic jungle. And, yes, indeed, you would be right in saying that. There is, in fact, no end of information out there ostensibly to help you. The problem, though, - besides being laborious, cumbersome, and time consuming to sift through - is that often this information raises as many questions as it answers. And, truth be told, without experience sometimes it does not even answer your particular questions. Indeed, at times the search for the proverbial needle in a haystack may not appear so daunting after all. As the American author, Clarence Day, best known for his work *Life with Father* once said, “Information's pretty thin stuff unless mixed with experience.”

I could probably credit innumerable people in the Corps for my success. Everyone I have worked with has taught me something; however, there is less than a handful that ever took a real interest and actually made any significant impact on my career. I will mention only one, my former DePAC mentor, CAPT Gary Pannabecker, an Indian Health Service Officer stationed in Browning, Montana.

I credit CAPT Pannabecker as the one individual that got me involved and helped pave the way for my career. He answered my numerous questions and dispelled my many concerns. He gave me those much needed answers and more importantly he gave me the benefit of his many years of experience. I treasure all that he did for me, and I still maintain contact with him.

If you are a seasoned officer, consider lending those shoulders out. I am sure that there is a junior officer that could make good use of them. If you are a junior officer and looking for some shoulders to lean on, then contact the DePAC Mentoring Workgroup and we will actively search out an officer to provide you support and guidance.

For more information about mentoring in the commissioned corps, visit the [DePAC website](#).

Contact Officer: CAPT Philip Driscoll, *Mentoring Workgroup Member and Mentor* (Philip.G.Driscoll@uscg.mil)

What's your professional culture?

Contributed by CAPT Aaron Sigler, Pharmacy Category

The greatest adjustment required when transitioning from the DoD to PHS is the culture. Certainly there are numerous advantages to being a PHS officer that are easily accepted. For me, switching from the Navy was fairly simple in terms of the uniform, ranks, grooming requirements, and so on, as they were very similar. About a year after I joined, I deployed to an IHS duty station in Bethel, AK in order to backfill for a staffing shortage. At the time, I was a Lieutenant with a new baby and was excited to serve. In hindsight, I was fortunate to be deployed with CAPT (ret.) Jim Stumpf and CAPT (CDR at the time) Sharon Thoma. Not only did they provide context and guidance both personally and professionally, they took care of me. Groceries are expensive in Bethel. Everything has to be flown in during the winter. I recall the three of us gathering supplies for the two weeks. Only realizing, at the check-out, they had no intentions of letting me pay. I did not bring this up as a belated thank you, but as recognition that senior staff looked after junior staff. It was the same in the Navy that I had just left. The officers would support the enlisted when it came time for pizza on a Friday after a long week. It was a culture to which I could relate. Other aspects of the new PHS culture, however, were very different. I joined prior to implementation of the "transformation," when attention to uniform standards was inconsistent. At the time, I remember thinking there was little depth of knowledge regarding Officership, likely stemming from low reinforcement or social incentives. However, years later, I can argue with old Navy friends that PHS has officers as fine as any other service. What remains different is our culture. We hug. For many PHS officers that haven't served in the armed forces, I am not sure they can appreciate how different that is. I wouldn't have hugged my kids while in uniform. We also sing during our PHS March (our Anthem), as opposed to standing at attention, as Navy enlisted and Officers would do during "Anchors Aweigh." Certainly there are a few others, but those two items stand out to me. It has taken me years to embrace these differences and assimilate into a different PHS culture. Different doesn't mean bad, it just requires understanding and framing those differences in a way that makes sense.

So what's your PHS culture like at work? Are you shaping it? Have you created a culture of excellence? Have you embraced the positive actions and adjusted those less complimentary to our service? I encourage you to engage your fellow officers and reflect on how you should carry yourself at your current duty station and everywhere you represent the Public Health Service. Ultimately, what do you want your PHS culture to be? Finally, ask yourself if you're taking steps to make that vision a reality?

Bone Marrow Transplant Registry Drive Increases Alaska Native and American Indian Donor Pool

Contributed By CDR Anne Marie Bott, Pharmacy Category

Less than 1% of the Alaska Native and American Indian people are represented in the bone marrow transplant registry drive. The only cure for some patients with blood disorders, such as acute leukemia, is stem cell transplant which uses cells from a donor's bone marrow. A person is more likely to find a donor from the same ethnic background. To increase the pool of Alaska Native and American Indian donors, event coordinator CDR Anne Marie Bott worked with Alaska Native Medical Center's senior leadership and CAPT Matthew Olnes (oncologist) to host a 2-day bone marrow registry drive on April 8th and 9th at the main hospital entrance.

Volunteers for the drive included oncologists, oncology pharmacists, oncology nurses, and neighboring hospital, Providence Alaska, oncology pharmacists. A total of 15 volunteers went through a telephone training session prior to the drive.



CDR Anne Marie Bott, LCDR Matthew Duff and LT Jessica Thompson

Eligible donors needed to be between the ages of 18 to 44 years old. For those 45 to 60 years old, a computer was available at the drive to sign up through the online program where a kit would be mailed directly to the donor's address. For eligible donors, an application and consent form were filled out, and 4 non-invasive cheek swabs were sampled. These items were sent to the National Marrow Donor Program for typing. This information was then put into a national registry.

The drive was highly successful, with all 105 bone marrow registry kits being used. The drive ran out of kits early on the second day due to the overwhelming support. In addition, others signed up online at the drive. Sixty four percent of the kits were used by volunteers of Alaska Native and American Indian decent. In addition, multiple PHS officers joined the registry.

For any questions on hosting a bone marrow registry drive in your area, please contact CDR Anne Marie Bott at ambott@anthc.org.

Ensuring Biosecurity Combating Ebola at Home and Abroad

On the ground in West Africa and at home in the United States, Commissioned Corps officers of the U.S. Public Health Service worked to contain, and defeat, the worst Ebola outbreak in history.

Contributed by Lt. Diana Wong, Ph.D., M.S.A.M.E., USPHS, Engineering Category



A U.S. Public Health Service flag flies above the Monrovia Medical Unit in Liberia. Commissioned Corps officers along with uniformed service members and personnel from numerous U.S. government agencies served in the United States and deployed overseas to help contain and defeat the Ebola Virus Disease outbreak that ravaged West Africa in 2014. PHOTO BY LT. SHANE DECKERT, USPHS

The rain had stopped but everything remained wet, even as the hot, sweltering West African humidity lingered. The largest Ebola Virus Disease outbreak in history had been raging for months. It was September 2014, and the first U.S. Public Health Service (PHS) team had just arrived in Monrovia, Liberia, known as the wettest capital in the world, at the peak of precipitation and monsoon thunderstorm season. The stifling discomfort was just the first of many challenges PHS officers faced, and overcame—both at home and overseas—in the international fight against Ebola.

ON THE GROUND IN LIBERIA

As PHS engineers reached the Monrovia Medical Unit (MMU), they were set to staff a standard military field hospital but the facility already was beginning to exhibit structural concerns. The floorboards of many tents were rotting with mold. A threat of the floor caving in was real before the PHS even received its first patients. Fortunately, in this instance the engineers located hand-me-down sledgehammers that had been left by the U.S. Navy Seabees and the rotted floorboards could be addressed. On a daily basis, key decisions continuously had to be made to prioritize which issues were the most urgent. Resources were a limitation and the team often had to be inventive.

Another type of challenge would emerge within the MMU treatment tents. A PHS safety team was charged with minimizing the hazards of the disease “hot zone” for those who were sent to battle it. Much time was spent meticulously spraying bleach and doffing personal protection equipment. Wearing non-breathable layers of plastic that left the wearer dehydrated in the African humidity fortunately was not the only line of defense for those who provided patient care. Safety team members implemented robust engineering controls into the facility, equipment and processes to minimize the risk of exposure.



The suspected ward of the Monrovia Medical Unit housed medical workers who were Ebola symptomatic and awaiting lab work to return. If they tested positive, they were then moved to the confirmed ward. PHOTO BY SGT. 1ST CLASS NATHAN HOSKINS, JOINT FORCES COMMAND-UNITED ASSISTANCE PUBLIC AFFAIRS

URGENT DOMESTIC RESPONSE

More than 5,000-mi away, at airports in major cities along the eastern half of the United States (Hartsfield-Jackson Atlanta International Airport, Washington Dulles International Airport, John F. Kennedy International Airport in New York, Chicago O’Hare International Airport, and Newark Liberty International Airport), hundreds of PHS officers stood on the front lines receiving travelers from Guinea, Liberia, Sierra Leone and later, Mali. These nations were ground zero of the Ebola outbreak.

In a multi-agency effort that involved Customs and Border Protection, the U.S. Coast Guard, and the Centers for Disease and Control and Prevention, the job at hand was to screen and educate. It was vital the travelers were screened by trained personnel before being allowed entry. In a given day, a typical case might be a man who did not appear to present symptoms, stated he was not a health care worker, and would say that he did not interact with one of his neighbors who might have been sick. In the most important part of the process,

PHS officers had to make a decision. This often meant assessing that the visitor was not infected and most likely had low risk, but making sure to inform him of the disease, what symptoms to look for, and the crucial procedures to follow if he did develop symptoms. With his contact information logged, the visitor would receive an Ebola CARE (Check and Report Ebola) Kit, which reemphasized the necessary steps in case symptoms developed.

In Washington, D.C., the Department of Homeland Security's Office of Health Affairs and National Biosurveillance Integration Center were providing situational awareness and decision support to department leadership and interagency partners in preparing for and responding to Ebola. PHS officers provided a gamut of information—including situation assessments, screening questionnaire recommendations, and analysis of air passenger data to support government decision-making.

COLLABORATIVE EFFORT

While the responsibilities of PHS officers were different, they shared the same ultimate goal: to prevent the spread of Ebola beyond West Africa and protect the public health of the nation. The enemy the world faced was an invisible killer that only gave evidence of its presence when the hemorrhagic fever symptoms (fever, sore throat, muscular pain and headaches that painfully gave way to vomiting, diarrhea and possibly internal and external bleeding) manifested in its hosts, at which point the host may have already infected dozens of new ones.

Media transmitted graphic descriptions and images of patients and evoked worldwide fear. However, educating the population of what is known about Ebola, and how to mitigate and prevent infection, is by far one of the most important tools in reducing unnecessary panic and making sure it does not spread. Understanding that Ebola is not transmitted through respiratory means is relevant in knowing it will not spread as easily as influenza, for example. Effectively communicating that the disease spreads through direct contact with body fluids of an infected human or animal eventually held the key to discouraging locals from touching and washing the bodies of deceased and infected family members.

When the Ebola outbreak began in Guinea, in December 2013, it was surprising since Ebola had never been found in the region before. Through porous, easily crossed borders, the virus spread to Liberia and Sierra Leone. With increased air travel and globalized economies, the world realized the potential pandemic threat the disease posed. To prevent that from happening and to protect the citizens of the United States, numerous government agencies were mobilized. In addition to the efforts of the Department of Defense and Department of State, the Department of Health and Human Services and Department of Homeland Security took the lead on the clinical, public health and border security aspects of the Ebola crisis.

For PHS officers involved in the response, many either worked at various U.S. government agencies as their regular duty stations or deployed to support specific missions. This included 70 officers comprising the first of what would eventually be four PHS MMU teams that deployed to West Africa. The group trained in Anniston, Ala., before flying to Liberia for a 60-day deployment.

According to World Health Organization's 2010 World Health Statistics there are no more than 10 physicians per 100,000 people in the affected region of West Africa. By comparison, there are 245 physicians per 100,000 people in the United States. Local health care workers were, and remain, essential to getting to the goal of zero new Ebola cases. There were too few of these fighters against the disease in the countries hardest hit. The PHS MMU teams were the only U.S. government entities providing direct patient care to this narrow but immensely critical line of defense.



U.S. Public Health Service officers reinforce flooring tarpaulin in the Monrovia Medical Unit's confirmed ward. The medical facility was constructed to care for medical workers who became sick while treating Ebola patients. U.S. PUBLIC HEALTH SERVICE PHOTO

PROTECTING HEALTH AND SAFETY

For those PHS engineers working on infrastructure-related issues in Liberia, improvising work-arounds was a common requirement. Instead of replacing hospital floor boards in a “hot zone,” for instance, where a rusty nail puncturing personal protective equipment could have led to deadly infection, the team devised a plan to minimize hazardous exposure to staff and patients by overlaying plastic-wrapped, water-proofed floor boards. Additionally, when it was realized that road conditions on the 45-minute commute for the MMU team to travel to the hospital were too dangerous and filled with accident-prone drivers, which put the entire team at risk, PHS officers led construction of a new “tent city” living quarters that allowed the team to safely live right next to the hospital. This proximity was invaluable in giving the team more time and energy to accomplish the direct mission. Redirecting poor drainage of rain water and potentially biohazard wastes; building showers for patients; and jury rigging vital water storages to decelerate chlorine degradation were just some of the many projects executed in order to keep the MMU operating safely and effectively.

While the PHS MMU teams overseas focused on keeping Ebola at bay, at U.S. borders and airports, the Centers for Disease Control and Prevention, aided by Customs and Border Protection, enforced Code of Federal Regulations, Title 42–Parts 70 and 71. This empowers the agency to detain, medically examine, or conditionally release individuals reasonably believed to be carrying a communicable disease. Because state and local authorities are the primary authorities to order and enforce quarantine and isolation, complex coordination between the federal agencies, airlines, local public health authorities and many other stakeholders was required to enhance entry screening. To aid with process and staffing needs, PHS officers were brought in at selected ports of entry to relieve Coast Guard corpsmen who had temporarily overseen the secondary medical screening. Daily inspections and educating travelers, along with rigorous analysis of entry data from West Africa in concert with public health engineering professionals across the Atlantic helped ensure Ebola did not progress stateside.

A GLOBAL FIGHT

Nearly a year after the peak of the Ebola outbreak, the numbers of new cases has finally began to diminish. Liberia saw a handful of new cases in June 2015 after being declared Ebola free in May. The virus is still a real threat in Sierra Leone and Guinea.

In the endless war against disease, a truly global fight, the PHS will be ready to stand on the front lines when needed again, having proven itself a unique and adaptive force “known the world around.”

Lt. Diana Wong, Ph.D., M.S.A.M., USPHS, is Analytics Engineer, National Biosurveillance Integration Center, Office of Health Affairs, Department of Homeland Security; diana.wong@hq.dhs.gov .

*Lt. Shane Deckert, P.E., M.S.A.M., USPHS, Indian Health Service, Lt. Jessica Sharpe, M.S.A.M., USPHS, National Park Service, and Lt. j.g. Michael Simpson, EIT, M.S.A.M., USPHS, Food and Drug Administration, contributed to this article. **“This article was originally published in The Military Engineer magazine.”***

What Officers Need to Know to Prepare for the Revised APFT

Contributed by LT Katrina Piercy, Lead APFT Working Group, Dietician Category*

In February 2014, a panel of Commissioned Corps subject matter experts was charged by Commissioned Corps Headquarters to review, evaluate, and recommend a revised evidence-based physical readiness standard. As of 30 June 2015, all officers are required to complete the Annual Physical Fitness Test (APFT) yearly to maintain the physical fitness basic readiness requirement. The revised APFT is effective 1 January 2016. More information about the policy changes can be found in MC 337 and POM 15-004.

What is required for the APFT?

Officers must complete one exercise from each of the four APFT components. There are alternative exercises for the cardiorespiratory endurance and core endurance exercise. Officers who can pass the current APFT should be able to complete the revised APFT. *It is important for officers to start training in advance of the expiration of their APFT to ensure they can meet the new standards.*

Officers who are unable to do a category of exercises (cardiorespiratory endurance, flexibility, etc.) due to a medical limitation can request a medical waiver for that component and will complete the rest of the APFT. More information on medical waivers is in the Frequently Asked Questions document.

Exercise Component	Main APFT Exercise	Alternate Exercise
Cardiorespiratory Endurance	1.5 mile run	Swim - 450 m/500 yd Elliptical – 12 min Stationary Bike – 12 m
Upper Body Endurance	Push-ups - 2 min	N/A
Core Endurance	Plank	Side-bridge Sit-ups - 2 min
Flexibility	Seated Toe Touch	N/A

What is new about the revised APFT?

NEW Exercise Options

- Three exercises (elliptical, stationary bike, plank) and a new flexibility component (seated toe touch) added

EVIDENCE-BASED Standards

- Standards based on review of Navy and Coast Guard standards and current literature

PARITY with Uniformed Services for Scoring

- Scoring has been updated to align better with other uniformed services
- Cardiorespiratory endurance, upper body endurance, and core endurance have 6 levels with a corresponding point value
 - Levels include Maximum, Outstanding, Excellent, Good, Satisfactory, Failure
- In order to pass the APFT, an officer must achieve a satisfactory or greater level in each of these components
- The flexibility component seated toe touch exercise is scored as satisfactory or unsatisfactory
 - Scoring unsatisfactory on the seated toe touch will lower the overall APFT score by one level, and could lead to failing the APFT if the overall APFT score is satisfactory
- If the APFT is passed, the final APFT score is based on the *average* score from cardiorespiratory endurance, upper body endurance, and core endurance components
- Overall APFT levels and point values:
 - Maximum = 100 points (i.e., scored maximum on each exercise)
 - Outstanding = 90-99 points
 - Excellent = 75-89 points
 - Good = 60-74 points
 - Satisfactory = 45-59 points
 - Failure = <45 points

MORE Age Bands in 5 Year Increments

- Additional age bands (5 year intervals)
- Maximum age band has increased from 50+ to 65+

FLEXIBLE Options for Documentation

- Options for observing and verifying APFT
 - An active-duty commissioned officer can observe and verify in person (current method)
 - An active-duty commissioned officer can observe and verify remotely (via cell phone or computer video)
 - A federal employee non-officer adult (e.g. coworker) can observe and verify in person
- Entering results of APFT
 - Form PHS-7044 and Direct Access will be updated
 - Officer inputs results into Direct Access and retains Form-7044 for their records

RECOGNITION for High Achievement

- Increase level from prior APFT (e.g. "Good" to "Excellent")
- Achieve Maximum or Outstanding level
- Achieve Maximum or Outstanding level for 3 years consecutively

Resources for Officers

The APFT Procedures & Instructions guide and Frequently Asked Questions are posted on the [CCMIS website under Readiness](#). Additional items will be coming; including a video demonstration of the APFT exercises, updated Form-7044, and Direct Access will be updated for entering in results.

*APFT Working Group members: RADM Sarah Linde, CAPT Bart Drinkard, CAPT Scott Gaustad, CAPT Bernard Parker, CAPT Richard Troiano, CDR Dan Brum, CDR Juliette Touré, LCDR Elizabeth DeGrange

Leaving a Lasting Mark

Contributed by CAPT Danny Walters, Environmental Health Officer Category

Tattooing is an art and a unique talent, but it puts clients and tattooists at risk of coming in contact with blood. Clients and artists may get exposed to a bloodborne pathogen, such as hepatitis B virus, hepatitis C virus, or human immunodeficiency virus (HIV). Environmental health inspectors assure the safety of tattooing by establishing sanitation and infection control procedures.

Artists can expose clients or themselves to a bloodborne virus during the set-up, procedure, break down, and clean-up stages. These exposures can occur through needlesticks, contact with dried blood on equipment or surfaces, or blood splashes in the eyes, nose, or mouth. Keeping a clean shop and using safe work practices, ensures a safe and professional atmosphere for artists and clients.

Environmental Health Officers (EHOs) assigned to the Oklahoma City Area Indian Health Service (OCAIHS) are trained to provide a wide range of environmental health support services to the Tribes they serve. Whether it's conducting a safety inspection of a Tribal Head Start facility or investigating a potential communicable disease outbreak, EHOs are prepared to address any public health issue at a moment's notice. In addition, EHOs also partner with other federal, state, county, and local entities to address public health issues that affect a Tribe.

In an unprecedented event, the Citizen Potawatomi Nation (CPN), OCAIHS, and the Oklahoma State Department of Health (OSDH), established an inter-jurisdictional collaborative with a unified goal of protecting the public's health during a national tattoo convention.

Initial Request for Assistance

In April of 2014, a three day national tattoo convention was held at the CPN Firelake Grand Casino in Shawnee, Oklahoma. The convention assembled some of the nation's most talented tattoo artists with the purpose of allowing the public to attend where individuals could watch artists work or pay to receive a tattoo. Due to the anticipated high number of individual artists (approximately 105) that would be operating, the unique nature of the event, and the length of the convention, the Health Director for the CPN requested and received approval from Tribal leadership to obtain additional support services from the OCAIHS and the OSDH. The request issued to the OCAIHS was to provide EHOs that would provide assistance to CPN health services staff in performing on-site infection control inspections prior to and during the event.

Operational Planning

Six weeks prior to the convention, several meetings were held between the CPN, OCAIHS and the OSDH. The purpose of the meetings was to discuss various operational issues such as:

- OCAIHS and OSDH support service expectations
- Enforcement
- Inspection frequencies
- Team member rotation schedules
- Staff training
- Creating site specific inspection checklists and other pertinent pre-operational documentation
- Vendor credentialing and verification
- Pre-event vendor check-in procedures

Training

One major challenge that faced the OCAIHS survey team in preparing for the event was their limited knowledge in tattooing equipment and operations. At the time of the event, there were no tattooing vendors operating within any Tribes that receive direct environmental health services from the OCAIS. Although all staff members possessed the knowledge and skill-sets from an infection control standpoint, they were not familiar with the various equipment and techniques utilized when performing a tattoo. To properly mitigate this challenge, detailed tattoo oriented infection control training was needed.

Since inspectors for the OSDH Consumer Protection Division (CPD) are responsible for inspecting all individual tattooing operations within state jurisdictions, and do so on a frequent basis, they were requested by the CPN and the OCAIHS to provide the necessary training. On March 25, 2014, inspectors from the CPD provided that on-site training to CPN health systems staff and OCAIHS EHOs at a local tattoo shop in Oklahoma City.



Citizen Potawatomi Nation, Oklahoma City Area IHS and Oklahoma State Department of Health

The Call to Serve Beyond Our Borders – The Mission To Liberia

Contributed by CDR Robert A. Windom, Health Services Officer Category

I joined the US Public Health Service to continue my service to country, after first serving nine years as a US Navy Medical Service Corps Officer. My Navy experience was very rewarding, leaving no question that I wanted to continue my commitment in uniform in the Commissioned Corps. I am proud to follow in the footsteps of my father, who served in the United States Marine Corps during the Vietnam War, and my grandfather before him, who served during WWII in the US Army. I always felt that my sacrifice paled in comparison to that made by my father and grandfather, but I wanted to do my small part in continuing an honorable family tradition of service. My small part grew exponentially when I was called to deploy to Liberia, and I felt the highest level of pride when my father referred to my deployment as heroic.

In October 2014, I was selected as a member of Team 1 deploying to staff the 25-bed Monrovia Medical Unit (MMU) field hospital, now known as Camp Eason. The mission was an unprecedented two month assignment. Our team firmly believed that our presence had a profound impact on building capacity in Liberia to address the spread of the Ebola Virus Disease (EVD). We were providing hope through our presence by setting the tone for Liberian and International health care workers to feel more confident about the care that they would receive if exposed to EVD. We were trailblazers; other countries looked toward our example of capacity building, sparking them to send additional resources and support to the area. Our team exceeded expectations by changing the paradigm of Ebola treatment in the field, elevating the level of care, and improving survival outcomes for patients. I not only served in my primary administrative role, but went outside my assigned duty to assist others on the team in areas such as Planning, Operations, and Facility Engineering, to name a few. All team members showed extreme flexibility, camaraderie, and compassion in meeting the global public health mission amidst the most austere and hazardous conditions.

When first notified of my deployment, some friends and family asked why I would travel thousands of miles to put myself in harm's way. The question of why I accepted the mission was answered six years ago when I took my oath of office. At that time, I decided that I would fulfill my obligation to serve whenever called upon. It is what we do; it is what we signed up for and anticipate! It is truly humbling to be one of the first 69 officers to answer the call for this historic mission. I often looked around and sometimes wondered why I was selected to be a part of this talent laden group of medical professionals. I am a non-clinician that does not provide direct patient care, yet I held firm in knowing that it would be supporting the clinicians, being a reliable team player, and doing the little things that would have the biggest impact on the success of the mission. I stepped up immediately to assist whenever I was asked to complete a task, and did the little things that often went unnoticed. I also stepped up in roles that were completely out of my normal comfort level, such as assisting the movement of deceased EVD patients. I accepted this mission with a goal to make a positive difference and help diminish the threat of EVD by doing whatever was necessary for my team.

When asked what did I sacrifice or miss out on in order to serve on this mission, I could make a list of special events, such as my son's 20th birthday, to the holidays and family gatherings. I would round out the list with items such as favorite meals, hot showers, movie nights at home with family, or alone time. However, long before I first thought about what I would miss, I thought of the numerous things I would gain from this experience. There was no doubt that the experience of serving on this mission far outweighed what many would view as things I would sacrifice back home. The life lesson and example for my children of a selfless act that is bigger than the individual goes far beyond any suggested sacrifice. We responded to a global health crisis and I was honored to be a part of a team of Uniformed Service members who willingly stepped up to

answer the call of duty. I would feel much more at a loss if I was offered the opportunity, but did not join this mission.

It was such an incredible experience to be a part of MMU Team 1. It gave me the opportunity to observe and work closely with fellow officers, lending toward my own personal and professional growth. One of my many observations was that the officers I deployed with all had a tenacity to make something out of nothing. There were many times when resources were extremely limited, yet resourcefulness was in abundance. All officers, regardless of discipline or degree, worked together, and never fell short of accomplishing the task at hand. Another observation was that the diversity of the roles filled by deployed Health Services Officers was a true reflection of the diversity of our PAC. I had the distinct honor to be the first presenter for the 2015 HAPAG Speaker Series. The presentation was titled: USPHS Ebola Response from a Health Administrator's Perspective. As I prepared my presentation, I reflected on the various contributions by Health Services Officers as a whole. There were many roles filled by HSO's, both forward deployed in Liberia, as well as Home Support assignments. HSOs took part as facilitators at the CDC training site in Anniston, AL. CDR Thomas Janisko was a member of Team 1's Prev Med/Safety section, and also served as a key facilitator and educator for multiple team trainings. CDR Maria Benke, CDR Jyl Woolfolk, and our PAC Chair CDR Stacey Evans, were a few of the officers that provided exceptional leadership as Section Chiefs in Liberia. There was an HSO serving as Executive Officer to the Commanding Officer, while another served as Public Information Officer. Back stateside, LT Tracy Tilghman developed and implemented the operational plan for the first ever Family Support Network, established as a method for communicating pertinent deployment updates, as well as providing assurance and comfort to family members of deployed officers. Several other HSO's provided critical coordination and support at DCCPR, USAID, Quarantine Stations, and Emergency Operations Centers. I could continue sharing the various roles filled by HSO's and the tremendous impact made by each officer, but there are too many to list.

Through the highs and lows, I can best sum up this deployment with the following quote: "It's the action, not the fruit of the action, that's important. You have to do the right thing. It may not be in your power, may not be in your time, that there'll be any fruit. But that doesn't mean you stop doing the right thing. You may never know what results come from your action. But if you do nothing, there will be no result." — Mahatma Gandhi.



Photo: CDR Robert Windom gets assistance with "donning" his Personal Protective Equipment (PPE) as he prepares to enter into the Ebola patient treatment area, also known as the hot zone.



Photo: 1st Row (L to R): CDR Jyl Woolfolk, CDR Maria Benke, CDR Jennifer Malia, CDR Josef Rivero, CDR Tracy Branch, LCDR Reajul Mojumder

2nd Row (L to R): LCDR Phil Jaquith, CDR Robert Windom, LT Michelle Sheedy, LT Jennifer Danieley, LCDR Pascale Lecuire, CDR Thomas Janisko, LCDR Rafael Torres-Cruz

3rd Row (L to R): LCDR Gregory Dawson, CDR Gregg Gnipp, LCDR Christopher Poulson, LT Michael Muni, LCDR Philip LaFleur, LCDR Brian Burt, LCDR Francis Bertulfo

Infant Guided Feeding Program at Alaska Native Medical Center

Contributed by LCDR Molly Rutledge, Therapist PAC

Approximately 13% of annual births in the United States are preterm and since 1990, the survival rate of this population has increased by 20%. With the increased number of infants entering the neonatal intensive care unit (NICU) directly following birth, there is great demand for medical professionals who are specialized in caring for preterm infants. Preterm infants are defined as those infants born at 37 weeks gestation or earlier. Intervention approaches in the NICU have evolved to focus on individualized developmental care, which includes multidisciplinary teams that are present throughout each infant's experience. Speech-Language Pathologists (SLPs) are often part of this progressive professional team.

Typically, premature infants do not feed as readily as their full term counterparts. Non-nutritive sucking (NNS) and swallowing are present in typical developing fetuses by 15 weeks gestation and continue to advance throughout intrauterine development. SLPs play an important role in performing developmentally appropriate clinical assessment of the feeding behavior and swallowing mechanism of preterm infants. In addition, SLPs are responsible for diagnosing sucking and swallowing disorders and determining the abnormal anatomy/physiology associated with these deficits.

At Alaska Native Medical Center (ANMC), we use evidenced-based intensive interventions to support patients through the infant guided oral feeding process in our Level II NICU. Staff and caregivers are provided with opportunities for educational group sessions, intensive private education sessions, and tools and techniques to assist in feeding including specialty devices and positioning aides. Patients are followed in person and by phone to monitor progress, adjust therapy and provide support. Our NICU program also collaborates with the Alaska State Infant Learning Program (ILP) to offer patients and families additional services, support and post discharge assistance. Recent success of this program across the year of 2015, reveals over 200 staff, caregivers, and other community members have received infant guided feeding training tailored to their needs. In addition, four new feeding device specialty options have been added to the NICU to assure quality and safety of feedings prior to the infants' discharge, many of whom return to remote villages throughout the state of Alaska.



LCDR Molly Rutledge (SLP) provides NICU infant guided feeding training to community professionals. She is seen here demonstrating safe swaddling for feeding with CAPT Health Cohen, USAF, RN.

Important Steps for Public Health

Contributed by CDR Jill Tillman, DPT, OCS, Therapist PAC

One of the greatest threats to the health of Americans today is something that researchers and health experts have termed the “sitting disease.” Hours sitting in front of a computer screen, television screen, and our mobile devices lead to increased risk of obesity, diabetes, depression, cancer, cardiovascular disease, and many other chronic conditions. A sedentary lifestyle is associated with increased mortality risk, even when adjusting for factors such as sex, age, body mass index, smoking status, cardiovascular disease and diabetes.¹

Despite the health benefits of being physically active, only half of US adults and one-quarter of high school students meet the minimum requirements, according to the CDC and Surgeon General. The 2008 Physical Activity Guidelines for Americans recommends that adults get at least 150 minutes of moderate-intensity aerobic physical activity or 75 minutes of vigorous-intensity physical activity, or an equivalent combination, each week and that children and adolescents be active for at least 60 minutes every day.²

Furthermore, new research suggests that not even regular exercise can fully counteract the negative impact of excessive sitting.³ If you spend the majority of your day sitting, 30-60 minutes of doesn't completely protect you from the “sitting disease.” The greatest health benefit is achieved through both moderate intensity exercise and an active lifestyle that involves less sitting. In terms of health benefits, several 10 minute walks is roughly equivalent to a 30 minute session⁴, and probably easier to fit into a busy schedule. Even standing burns about 30% more calories than sitting.



The Surgeon General's recent “Step it Up” Call to Action credits being physically active as one of the most important steps that people of all ages and abilities can take to improve their health.⁵ He specifically cites walking as one of the best ways to increase physical activity. It requires no special equipment or facilities and is accessible, convenient, and physically tolerable for most Americans. Perhaps best of all, it can be easily worked into our busy daily lives. Park farther away from the store or office. Walk 15 minutes at lunch. When sitting for long periods, set a reminder on your watch or computer to prompt you to get up and move. The Call to Action on Walking and Walkable Communities outlines numerous ideas for making our communities more walkable, and encouraging kids and adults to walk more. The Surgeon General calls upon public health professionals to help implement these strategies and programs. It's time to “step it up” for ourselves, our families, and our communities. Learn more at [SurgeonGeneral.Gov](http://www.surgeongeneral.gov).

¹ van der Ploeg HP, Chey T, Korda RJ, Banks E, Bauman A. (2012). Sitting time and all-cause mortality risk in 222 497 Australian Adults. *Arch Intern Med*, 172(6), 494-500.

² <http://health.gov/paguidelines/guidelines/>

³ Biswas A, Oh PI, Faulkner GE, Bajaj RR, Silver MA, Mitchell MS, et al. (2015). Sedentary time and its association with risk for disease incidence, mortality, and hospitalization in adults: a systematic review and meta-analysis. *Ann Intern Med*, 162, 123-132

⁴ <http://www.acsm.org/about-acsm/media-room/news-releases/2011/08/01/acsm-issues-new-recommendations-on-quantity-and-quality-of-exercise>

⁵ <http://www.surgeongeneral.gov/library/calls/walking-and-walkable-communities/index.html>