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the pulse

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Learning to Care for Those in Harm's Way

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Sherman Awarded Employee of the Quarter

By Christopher Austin

Elena Sherman, a graduate education specialist, was chosen as senior employee of the fourth quarter of 2016 at the Uniformed Services University of the Health Sciences (USU).

Sherman began working at USU in 2011 in support of Preventive Medicine and Biostatistics Graduate Programs. For the past two years, she has been with the Graduate Education Office in the F. Edward Hébert School of Medicine (SOM), providing guidance to more than 200 graduate students.

“Ms. Sherman is responsible for coordinating the administrative aspects of the overall USU graduate program,” said Dr. Gregory P. Mueller, associate dean for Graduate Education at USU, in his letter nominating Sherman. “This is a complex and demanding challenge that requires considerable attention to programmatic details, and the specific needs of the students, faculty and staff involved.”

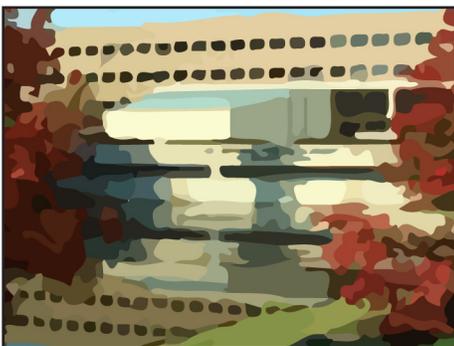
Sherman is responsible for providing support for the USU graduate program, including preparing reports for the Board of Regents, the Dean of the SOM, and the University President, while simultaneously overseeing the graduate student body’s progress from admission to graduation.

“She’s always accessible to answer questions from students, faculty and staff, and she always demonstrates a genuine concern for the well-being of the students when their personal needs arise,” Mueller said.

On top of this, Sherman helps coordinate major university events including Research Days, the



Elena Sherman, a graduate education specialist, has been chosen as senior employee of the fourth quarter of 2016 at USUHS (Photo by Tom Balfour)

**On the cover**

An illustration of the USU campus tells us spring is finally here. (Photo Illustration by MC3 Rob Ferrone)

Graduate Student Open House and Commencement, and much of the new graduate student orientation.

“Ms. Sherman has taken on many challenges in the two years she has been in the position, addressing the problems with clarity and supportive concern for the well-being of the graduate students,” said Dr. Brian Cox, a professor of Pharmacology and Neuroscience at USU.

Malware Attacks on the Rise

By Christopher Austin

Recent cyber-attacks against the Uniformed Services University of the Health Sciences (USU) have made use of ransomware, specialized malware that encrypts users' data that can only be unlocked by paying hackers for a decryption key. While the USU Cyber Security Branch does have measures in place to prevent malware, the University's best defense is its own users.

Most malware comes to users in phishing attacks and through browsing of unknown websites. Malicious actors send emails under the name of someone else in order to get them to download infected files, or use links that take them to infected websites. The last instances of malware attacks against USU came in the form of a PDF with JavaScript that activated once the file was opened and it infected Microsoft Excel and Word attachments.

Because of these attacks, Cyber Security frequently sends out phishing alerts to USU users, and it is why cyber awareness training is an annual requirement for all personnel.

"We get questions every day from people asking if [emails] are legitimate, which is good, because it shows that people are aware and they're being vigilant," said Christopher Jodrie, USU Information System Security officer. "It's everyone's responsibility when on the [Department of Defense] networks to follow the security policies and best practices, and people are taking that seriously."

Systems infected with ransomware are likely to infect any associated shared drives to which the system is connected. When one person's computer system is infected, it has the potential to impact the entire university.

"Surprisingly, the FBI's recommendation on ransomware is that, unless you've got a good backup, you're not going to get that data back, so go ahead and pay the ransom," Timothy Rapp, vice president, Information and Education Technology and chief information officer at USU, said. "The downside of the recommendation is that there is no guarantee that they're going to get you that decryption key, nor will that potentially be the last payment."

The Washington Post reported that in December of last year Los Angeles Valley Community College was hit with a ransomware attack that ended with them paying the \$28,000 ransom to regain control of their data.

Initially, the threat of ransomware only meant the loss of data, but more recent versions have also allowed malicious actors access to a user's data. Healthcare institutions are some of the greatest targets because medical records can fetch a higher price on the black market than most others, including credit card statements.

"There are assigned values for certain types of information. The best information – the one people want the most – is personally identifiable information," Jodrie

said. "Someone can get credit card information, but once you realize that your credit card is compromised, you cancel it and it's no longer effective. But if someone has your personal information, they can open up accounts. It's much easier for them to exploit that type of information."

The three institutions targeted most by malicious actors are education, medical and DoD, according to Rapp. "Good luck for us, because we're all three."

Malicious actors, often attacking from foreign locations, write programs to create the ransomware itself. Each new iteration of the ransomware is made to be slightly different from the last by these programs, making them difficult for security programs to quickly adjust for scanning.

"Through Google, we get very good virus scanning, but the problem is that it can take hours after the first version of [the malware] hits the Google server before it has time to detect it. Because it has to scan every email message and drive file," said Sean Baker, chief technology officer. "It can take hours to realize it's a malicious file, and it's in that time that clicking on it becomes problematic."

The Network Operations and Communications Directorate has advocated switching the University over from traditional network shared drives to Google Drive because it provides auditing and

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Dr. David Benedek Named New Psychiatry Department Chair



*Photo by Tom Balfour
Story by Sharon Holland*

Army Colonel (Dr.) David M. Benedek will succeed Dr. Robert J. Ursano as chair of the Department of Psychiatry at the Uniformed Services University of the Health Sciences' (USU) F. Edward Hebert School of Medicine. Ursano announced last year that he would be stepping down as chair after 24 years, but will remain with the department as the director of USU's Center for the Study of Traumatic Stress.

Hebert School of Medicine Dean Dr. Arthur L. Kellermann made the announcement March 1, 2017, to university faculty and staff.

"In the parlance of academic medicine, Dr. Benedek is not only a 'triple threat' - he's a 'quadruple threat.' In addition to being an outstanding clinician, researcher and educator, he is a high performing military medical officer, with a past record of deployments to hot spots around the world in support of our armed forces. He'll be a wonderful leader and role model at USU," said Kellermann.

Benedek received his B.A. from the University of Virginia in 1986 and his

M.D. from the Uniformed Services University School of Medicine in 1991.

After Internship and Residency in Psychiatry at Walter Reed Army Medical Center, he served as Division Psychiatrist, First Armor Division (Germany) and deployed to the former Yugoslavia in support of U.S. and NATO Troops in Operation Joint Endeavor.

He returned to Walter Reed to complete forensic psychiatry fellowship training in 1998 and served as Assistant Chief, Inpatient Psychiatry.

He subsequently served as Training Director, National Capital Consortium Military Forensic Psychiatry Fellowship, and remained in that position until he joined USU's fulltime faculty from 2004-2015.

Benedek is presently Director of the Walter Reed National Military Medical Center's Center for Forensic Behavioral Sciences (CFBS)—a highly acclaimed organization operating worldwide at the interface between behavioral science and the legal, intelligence and justice communities.

The CFBS supports the only accredited forensic psychiatry and forensic psychology fellowship training programs in the DoD.

Benedek has authored or co-authored more than 100 scientific publications in prestigious journals including *Lancet*, *Molecular Psychiatry*, *Translational Psychiatry*, *JAMA Psychiatry*, the *American Journal of Psychiatry*, and many others. He has presented on numerous aspects of PTSD and military, disaster, and forensic psychiatry at regional, national, and international professional and scientific conferences.

He served as a consultant to the

American Psychiatric Association's Practice Guideline for the treatment of Acute Stress Disorder and Posttraumatic Stress Disorder workgroup in the development of its 2004 practice guideline, as lead author on the 2009 PTSD guideline update and on the American Psychiatric Association's Committee on Confidentiality and Scientific Program Committee.

His translational educational skills are evident in the highly acclaimed books he has edited, including the *Clinical Manual for Management of PTSD*—a leading text on an illness of critical concern to the military and the nation.

Benedek has received more than \$10 million dollars in research funding for studies of translational neuroscience, disaster response, psychotherapeutic and pharmacologic treatments for Posttraumatic Stress Disorder and disaster resilience and preparedness programs.

He directed the National Capital Area Integrated Clinical Study Site, one of ten clinical sites in the INTRuST Clinical Consortium for Psychological Health and Traumatic Brain Injury, funded by the Congressionally Directed Medical Research Program.

He was the USU site principal investigator for the Army Study to Assess Risk and Resilience in Service Members (Army STARRS) component study 'Soldier Health Outcomes Study-B (SHOS-B).'

He has extensive collaborations with the Veterans Administration (VA) and was one of a handful of leaders involved in the establishment of the VA National PTSD Brain Bank, where he serves on its executive committee and leads the Assessment Core.

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CNRM Hosts 7th Annual NCI TBI Research Symposium

By Christopher Austin

Traumatic brain injury (TBI) experts from universities, federal agencies and other organizations throughout the local area gathered March 8-9, 2017, to share research findings during the seventh annual National Capital Area TBI Research Symposium. The event was hosted by the Uniformed Services University of the Health Sciences (USU) Center for Neuroscience and Regenerative Medicine (CNRM).

The event brought together several hundred researchers from clinical and preclinical fields related to TBI and psychological health so they could share observations and research results, in an effort to ultimately improve the lives of not just Service members, but civilians that suffer from TBI as well.

“Traumatic brain injury is a very heterogeneous and challenging clinical problem on many levels. The field must integrate diverse research to address these needs,” said Dr. Regina Armstrong, the director of CNRM and of the Neuroscience Graduate Program at USU. “Our symposium is a highly inclusive forum for military, federal, and academic research related to traumatic brain injury to share results, discuss techniques, and foster new ideas or collaborations. We also build in opportunities for students and junior investigators to help develop their interest and expertise; they will take forward the research we do today and do the hard work to turn it into future treatments.”

The symposium covered a variety

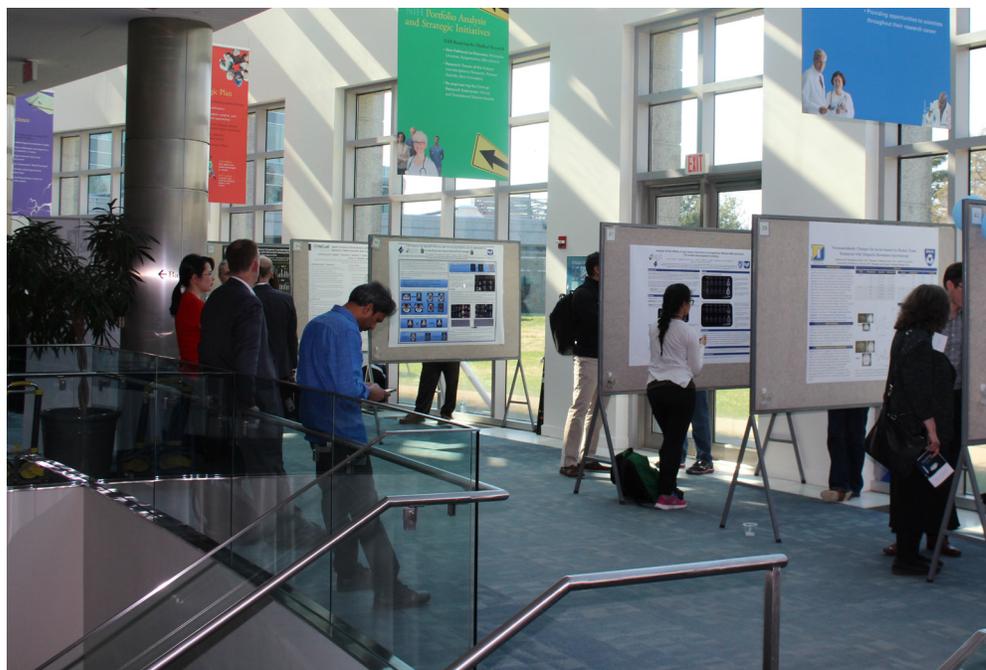
of topics in TBI research, which researchers summarized in oral presentations, poster sessions and breakout sessions. Research discussed included the effects of air-lifting subjects after trauma and how that impacts oxygen reaching the brain, the difference between the effects of repeated mild TBIs on different genders, and the different ways that parts of the brain recover from mild TBIs.

“This is the third symposium I’ve been to. It keeps growing every year,” said Christina Marion, a student in the Neuroscience Graduate Program at USU. “I think my favorite part about it is that it brings people from both the clinical and preclinical sides together to learn from each other. I’m hoping to talk with people who can help inform my research, and I’m hoping I can inform other people’s research as well. I find that this symposium is really great for that.”

Marion’s project was titled, “Attenuation of traumatic axonal injury relative to myelin pathology after mild traumatic brain injury in mice lacking Sarm1.” She worked on the project under Armstrong and Dr. Kryslaine Radomski, a staff scientist in the Department of Anatomy, Physiology and Genetics (APG) at USU.

Marion’s project won first place in the graduate student poster presentation.

Third place was won by another USU student, Ashley Russell, a student in the USU Graduate Neuroscience Program and fellow in the CNRM, for her project “Effects of mild brain blast injury on neuroendocrine stress response.” She worked on the



Researchers from around the local area gathered in the National Institute of Health’s Natcher Conference Center on March 8 and 9 for the seventh annual National Capital Area Traumatic Brain Injury Research Symposium. (Photo by Christopher Austin)

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Cancer Moonshot and APOLLO Consortium Offer University Researchers an Opportunity for Collaboration

By Christopher Austin

Army Col. (Dr.) Craig Shriver, director of the Murtha Cancer Center (MCC) at Uniformed Services University of the Health Sciences (USU), and professor of Surgery at USU, addressed the University community during a town hall meeting on Feb. 10 to give an update on the Federal Cancer Moonshot program.

The Cancer Moonshot is an initiative to accelerate cancer research by achieving 10 years of work over a five year period. It was introduced by former President Barack Obama during his 2016 State of The Union address, and led by former Vice President Joe Biden.

The town hall focused on the Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium. Created from a collaboration between MCC, the Department of Veterans Affairs, and the National Cancer Institute, APOLLO's goal is to perform in-depth molecular analyses of the DNA, RNA, and protein elements of up to 8,000 highly curated human cancer specimens of all types that are being accrued through the MCC's ongoing IRB approved bio banking capabilities

Coinciding with the forum, MCC put out a request for applications from researchers at USU that would give them access to various MCC biorepositories, and access to working within the APOLLO program in addition to \$250,000 in funding for direct costs.

Members of the USU community

can become involved by proposing research that would dovetail with or otherwise meet the needs of, the APOLLO program, Shriver said. The top three proposals that help the APOLLO program with its analytics goals will be selected to move forward



“It’s not just biobanking, we’re going to run these samples through the genome center and proteomics core of Murtha, but there’s a lot of opportunities for scientists to engage with the samples,” Shriver said. “There’s a tremendous amount of opportunities in this type of program because this has never been done before at this scale.”

Shriver hopes that having the USU community involved will help generate more possible uses for MCC's biobanks, and more analytic and scientific opportunities for the data coming off the sequencing and proteomic platforms using APOLLO samples.

“We really do want – but

more importantly need – their involvement and expertise at very basic scientific levels. Even experts in immunology, microbiology, information technology and data science, diabetes and other experts who are in these fields – these samples will have other genetic and protein findings that relate to other diagnosis, even extending beyond cancer, and understanding the relationship between these other diagnosis and cancer can indeed be an outcome of these projects,” he said.

The petabytes of data that will result from the APOLLO will be available in an open data commons in the future, where the anonymized data from the human samples will be made available to the larger scientific community.

“I want to meet the goal in five years of having basically the full proteogenomics understanding of a variety of human cancers, which does not exist now, and without the cancer moonshot project, specifically the APOLLO, would not exist in the future,” Shriver said.

Dr. Faye G. Abdellah, Founding Dean of Daniel K. Inouye Graduate School of Nursing, Dies at 97

By Sharon Holland

Dr. Faye Glenn Abdellah, founding Dean of the Uniformed Services University of the Health Sciences (USU) Daniel K. Inouye Graduate School of Nursing (GSN), and retired Rear Admiral of the U.S. Public Health Service (USPHS) passed away Friday, Feb. 24, at the age of 97.

Abdellah was a pioneer and internationally recognized leader in nursing whose contributions substantially improved the nation's health.

A true visionary, Abdellah was dedicated to advancing the nursing profession and is considered to be among the world's most influential nursing theorists and public health scientists.

In 1937, 18-year-old Faye Abdellah witnessed the explosion of the German passenger airship, Hindenburg, in Lakehurst, New Jersey, which became a crucial turning point in her life.

In an interview years later for *Advance for Nurses*, she said, "I could see people jumping from the zeppelin and didn't know how I would take care of them, so I vowed that I would learn nursing."

Abdellah earned a nursing diploma from the Ann May School of Nursing in Neptune, New Jersey, undergraduate, masters and doctoral degrees from Columbia University, NY and graduate work in the sciences from Rutgers University.

She authored more than 153 publications, some translated into six languages, including her seminal works, "Better Nursing Care Through Nursing Research" and "Patient

Centered Approach to Nursing," which forever changed the focus of nursing theory from disease-centered to patient-centered.

She was the recipient of twelve honorary university degrees, and numerous awards, including the prestigious Allied Signal Award in 1989 and the Institute of Medicine's Gustav O. Lienhard Award in 1992, all recognizing her innovative work in nursing research and health care.

Abdellah was the first nurse and the first woman to serve as Deputy Surgeon General (with Dr. C. Everett Koop) and was first nurse to hold the rank of Rear Admiral (upper half). Her incredible leadership abilities resulted in many truly remarkable accomplishments, including the development of the first tested coronary care unit, saving thousands of lives.

Dr. Abdellah was renowned as an expert in health policies related to long-term care, mental retardation, the developmentally disabled, aging, hospice, and AIDS.

In 1989, she retired from the Public Health Service, and shortly thereafter, Congress directed the initiation of a demonstration program at USU for the preparation of family nurse practitioners to meet the needs of the uniformed services.

Abdellah stepped forward to assist then-USU President Dr. James A. Zimble establish the GSN in 1993, and under her leadership the GSN grew from a single master's degree program with two students, to a premier, fully accredited graduate



school.

Today, the GSN offers advanced practice and research doctoral degrees, and more than 700 nurse scientists, nurse anesthetists, clinical specialists, and family, women's health and psychiatric mental health nurse practitioner alumni are advancing military, veteran and federal health.

Abdellah was a charter Fellow in the American Academy of Nursing, later serving as the Academy's President and in 1994 she was one of the first Fellows to receive the Academy's highest honor, the "Living Legend" Award.

In 1999, she was elected to the Hall of Fame for Distinguished Graduates and Scholars at Columbia University, and the following year, was inducted into the National Women's Hall of Fame for a lifetime spent establishing and leading essential health care programs for the nation. In acknowledging the recognition, Abdellah said, "We cannot wait for the world to change... Those of us

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In addition to past operational experiences in Bosnia and Croatia, Benedek deployed to Cuba, Iraq and Kuwait in conjunction with Mental Health Advisory Teams and other advisory task forces.

He served as Consultant to the U.S. Army Surgeon General for Forensic Psychiatry from 2004–2008. His military service awards include Defense Superior Service Medal, the Meritorious Service Medal and the Army Commendation (3OLC).

In 2002 he received the U.S. Army Surgeon General's "A" Proficiency Designator (a rare honor for a Major), and was inducted into the Order of Military Medical Merit.

He has served multiple terms as President of the Society of Uniformed Service Psychiatrists — the Military District Branch of the American

Psychiatric Association, and is a Distinguished Fellow of the American Psychiatric Association.

He has consulted to the highest levels of government leadership on matters relating to the psychological consequences of disaster, war and terrorism.

Benedek has received several national teaching awards, including the American Psychiatric Association's Nancy C.A. Roeske award for excellence in medical education, and in 2015, a USU Impact Award for Outstanding Contribution to Psychiatric Education.

In addition, he has received the National Capital Consortium's LTG Claire Chennault Award for Outstanding Military Psychiatry Faculty Member.

During his prior service on USU's

faculty, he directed the human behavior course, the third-year psychiatry clerkship, a fourth-year psychiatry elective, and played an important role in designing the School of Medicine's current neuroscience and behavior module.

"I feel deeply honored to have been selected as the next chair of Psychiatry at USU. I am mindful of the tremendous example Bob Ursano has set for many years in leading the Department to its well-deserved reputation for excellence," said Benedek.

"I am very grateful for his efforts in preparing me to accept the challenges ahead, and am also grateful to Dean, the selection committee and others who have expressed their confidence in my ability to do so."

Abdellah, continued from pg. 7

with intelligence, purpose, and vision must take the lead and change the world. Let us move forward together! ... I promise never to rest until my work has been completed."

In 2001 she received the "Breaking Ground in Women's Health Award", and in 2012, she was inducted into the American Nurses Association Hall of Fame. Abdellah retired from USU in 2002 after 49 years of service to the Federal government and the nation.

"This is an incredible loss to the nation and nursing. Her intellect, compassion, and passion for excellence will be deeply missed. As

a former student at USU's GSN, I feel personally blessed to have learned from her leadership," said Rear Adm. Susan Orsega, USPHS Chief Nurse Officer.

"Dr. Abdellah is a nursing icon for leadership in education, research, practice and health policy. She has influenced almost every aspect of nursing and public health. Like Florence Nightingale, she has been a beacon of light for future generations and has provided vision for the science and the practice of nursing. I was privileged to meet her when I was a new graduate and have viewed her as

a mentor throughout my career. Her influence will live on as an inspiration to uniformed officers and health professionals," said Dr. Carol Romano, dean of the Daniel K. Inouye Graduate School of Nursing.

The Graduate School of Nursing, in collaboration with the USPHS, is planning a memorial tribute to honor Dr. Abdellah and the nearly half-century of her extraordinary contributions to the nation that will be held May 2 at the NIH Natcher Auditorium.

Brain Injury Research, continued from pg. 5



Researchers from around the local area gathered in the National Institute of Health's Natcher Conference Center on March 8 and 9 for the seventh annual National Capital Area Traumatic Brain Injury Research Symposium. (Photo by Christopher Austin)

project with Dr. Elizabeth Shupe, a research associate in the Department of Obstetrics and Gynecology (OBG) at USU, Dr. Robert Handa from Colorado State University, and Dr. T. John Wu from OBG at USU, who is Russell's advisor.

"I would like to take away [from the symposium] different views on how people not only study injury, but how data is analyzed and processed to see outcomes," Russell said.

In addition to learning from research techniques and networking, the symposium helps researchers gain experience in communicating their work.

"I've gained new skills as a

presenter and learned what questions to ask other people when I see their projects... I hope this will help me in my future career," said Alex Velosky, a lab tech in APG at USU. He was there to present his poster for Cognitive performance of male and female C57BL/6J mice after repetitive concussive injuries. He worked on this project along with Laura Tucker and Dr. Amanda Fu, senior research associates at APG in CNRM, Dr. Jiong Liu, a research assistant in APG and Dr. Joseph McCabe, professor and vice chair of APG.

The symposium's keynote speaker was Dr. Melanie Boly, a Belgian board certified neurologist who

is currently in the Department of Neurology University of Wisconsin, Madison. She gave a talk on her specialty, the changes that occur in the brain during altered states of consciousness.

The symposium offered qualified attendees continuing medical education credits, sponsored by the Navy Medicine Professional Development Center, and continuing education in nursing credits as well.



Cybersecurity Defense, Continued from Page 3

scanning of files, as well as the ability for the user themselves to restore previous versions of the stored data from before an infection.

It ultimately lies with the users to protect against such attacks, and inform the Cyber Security Branch if such an attack occurs so that they can restore data from before and minimize further compromise of systems and data. There has been a case where a user installed ransomware and didn't inform

InfoSec until over 30 days later, when the backups of the data had been overwritten with the now-encrypted data, Baker said. It could be possible to eliminate the threat of phishing by creating a white list of contacts that can send USU users emails, but that wouldn't support the University, as communication with outside parties is how the university does business.

"The only defense for that gap between the programs scanning

for the malware and the bad actors is the education of the users," Rapp said. "They really are the only true defense to fill that gap. We've got a good set of educated users. That's something we need to continue to do."

Final Frame



Capt. Wendy Foster, 1st Year AEGD-2 HI Resident, does an oral screening while Capt. Samuel Tanner, 1st Year AEGD-2 HI Resident, prepares paperwork at schools located on Schofield Barracks, HI. AEGD-2 conducted oral health presentations, which were attended by nearly 200 kids. The crew did nearly 200 screenings as well. (Courtesy Photo)