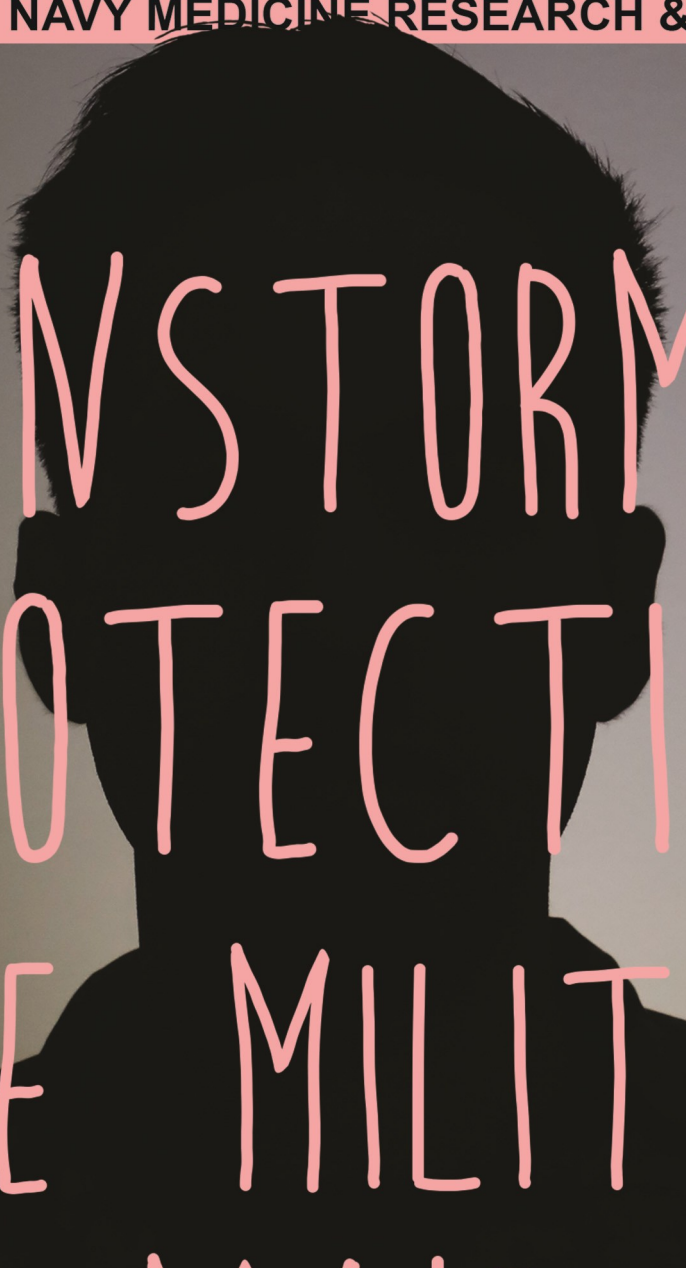


SCOPE

MAGAZINE OF NAVY MEDICINE RESEARCH & DEVELOPMENT

SUMMER 2025

A black silhouette of a person's head and shoulders, facing forward, positioned behind the main title text.

BRAINSTORMING:
PROTECTING
THE MILITARY
MIND

SCOPE

MAGAZINE OF NAVY MEDICINE RESEARCH & DEVELOPMENT

ISSUE 9 SUMMER 2025

Editor's Desk

I spent this past weekend down in Hampton Roads, VA (or Tidewater, as some might know it). I was on a narrow, tree-covered two-lane road and noticed a flurry of leaves falling and swirling on the pavement. As I headed back to D.C., somewhere along I-95, I noticed the slight color shifts in the trees, and it hit me.

Fall is coming.

Usually, this would have me excited, what with hoodies, football, Halloween and pumpkin spice everything. But it's still summer — and this is a summer issue, so the fall will need to wait.

In this issue you'll see many great things that happened this summer. And it was a hot one; just ask anyone who was in this year's MHSRS photo. This summer was filled with COMREL visits, milestones and a few ballgames. So put your hoodie away for now, hold off on the pumpkin spice latte, and read about NMR&D and the awesome summer we had.

— Tommy Lamkin

THE SCOPE

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outgoing and incoming CMCs for
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On the Cover:

U.S. Navy Sailors are just
some of the beneficiaries of
NMRC's brain injury
research

Photo by Tommy Lamkin



Corpsman Up: Naval Medical Research Command Medical Tech Administers Emergency Aid Mid-Flight; Receives Award for Actions

By Tommy Lamkin

Hospital Corpsman 2nd Class Alvin Ciasico, from Naval Medical Research Command (NMRC), received a Navy and Marine Corps Achievement Medal at an August 11th all-hands call and awards ceremony for administering emergency medical aid.

On July 12th, while aboard a United Airlines flight from Los Angeles to Narita, Japan, Ciasico responded to an unconscious passenger at the request of airline crew in search of a doctor or medical first responder. Ciasico, a Navy corpsman with a field medical technician specialty, was the only such responder aboard the aircraft.

“She was laying on the ground, and I immediately administered care.

With limited supplies I provided her IV fluid, oxygen and had an AED defibrillator on stand-by”

“I went on the back of the plane and saw an unconscious patient,” said Ciasico, “She was laying on the ground, and I immediately administered care. With limited supplies I provided her IV fluid, oxygen and had an AED defibrillator on stand-by.”

After a head-to-toe assessment, he asked others who witnessed the incident about possible injuries, checked the individual’s airway and vital signs and discovered that she did not have a radial pulse. Her head had been visibly bruised by her fall, so Ciasico stabilized her head and neck to avoid further injury.

Continued on page 48



NAMRU San Antonio Researchers continue Studies on a Portable Ozone Sterilizer

By Burrell Parmer

Research scientists assigned to Naval Medical Research Unit (NAMRU)

San Antonio are conducting ongoing research on a portable device with the capability of sterilizing medical instruments on the battlefield or in austere environments, which will help in the treatment and recovery of wounded warfighters.

Partnering with SteriO3, the Rugged Ozone Sterilization System Model M1 (ROSS M1) will enable combat medics, corpsmen, dentists and surgical personnel to sterilize instruments needed for dentistry and surgery, utilizing a process that would sanitize the medical instruments within an hour.

To maintain medical and military readiness, the ROSS M1 was tested

on its capability to effectively eliminate a broad spectrum of pathogens, including bacteria and fungi.

“The sterilizer is light enough to be carried by medical personnel, has enough space for a dental cassette, and utilizes a small amount of hydrogen peroxide to sterilize instruments”

3D printed instruments are also being tested, allowing for seamless integration and sterilization of custom-designed tools and components, enhancing its utility and adaptability for specialized needs.

“The ROSS M1 generates ozone and vaporized hydrogen peroxide that allows the sterilization of medical and dental instruments in the field,” said Andres Martinez Murillo, of Keller, Texas, principal investigator for the portable ozone project. “The sterilizer is light enough to be carried by medical personnel, has enough space for a dental cassette (a storage box for holding dental materials to allow for sterilization access), and utilizes a small amount of hydrogen peroxide to sterilize instruments.”

Testing the flexibility, portability and efficiency against multiple species of harmful microorganisms helps to promote and maintain medical and military readiness, especially in austere environments.

“The ability to sterilize on demand will allow treatment of the critically injured and help improve the survival rate by reducing the likelihood of infection with proper sterilization,” said Murillo.

“The ability to sterilize on demand will allow treatment of the critically injured and help improve the survival rate by reducing the likelihood of infection with proper sterilization”

“Additionally, it is important to test the sterilization of 3D print materials and other heat sensitive materials as it would allow for these items to be generated on-demand in forward and austere settings, where it may not be viable to receive tools through normal logistics.”



According to Murillo, a graduate of Rice and Johns Hopkins Universities, there are many different types of sterilizers currently being used: steam, chemical (chlorine dioxide, peracetic acid or glutaraldehyde) gas (ethylene oxide).

“Most of these units, such as the Big Bertha Steam Sterilizer, require multiple personnel to mobilize while the ROSS M1 can be carried by one person,” Murillo said.

NAMRU San Antonio has been collaborating with SteriO3 since 2021 with the third generation of the ROSS M1 being delivered by SteriO3 representatives on May 22, 2025.

“The third iteration prototype provided to us generates ozone and nebulizes hydrogen peroxide into a vapor in the chamber,” stated Murillo. “The thing that makes it better than the previous version is that it has updated hardware and pipe system, so it no longer runs on Arduino code. Because of this, the

system is lighter and able to be updated through Wi-Fi, allowing for the cycles to be more modular and allow us to test for the optimal settings for sterilization.”

“Additionally, the system now has an ozone, humidity and temperature sensor that lets us know how much ozone was generated per run, and the data can be archived,” continued Murillo. “Lastly, the nebulizer system was modified to output the vaporized hydrogen peroxide through three nozzles rather than just one for a potentially more even spray throughout the system.”

The next primary steps for the study will be to challenge the ROSS M1 against fungal and other bacterial strains, test mechanical properties of the 3D printed instruments after exposure to sterilization gas in addition to complex dental and surgical instruments (such as items with hinges), evaluate the life of the battery and conduct multiple back-to-back runs and environmental testing. ■



Strengthening Medical Logistics: NAMRU EURAFCENT Visit to USAMMC-E Sets Stage for Future Collaboration

By Diana Naranjo

In an effort to enhance military medical logistics and build interservice collaboration, Lt. Cmdr. Matthew Forbes and Logistics Specialist 1st Class Johnny Muldrow of Naval Medical Research Unit (NAMRU) EURAFCENT conducted a three-day visit to the U.S. Army Medical Materiel Center-Europe (USAMMC-E) from August 25 to 27.

Forbes and Muldrow aimed to establish a relationship between USAMMC-E and NAMRU EUR-

***“NAMRU
EURAFCENT works in
three separated
geographical areas, and a
partnership with
USAMMC-E will allow us
to efficiently ship across
those three different
regions, including critical
cold-chain medical
supplies”***

AFCENT, and secure expert guidance on improving shipping processes for Class VIII medical supplies, such as consumables, reagents or samples.

NAMRU EURAFCENT visitors also gained insight into ESAMMC-E capabilities in training and support for medical supply shipping logistics, including equipment acquisition, packaging of materials and partnering for deliveries in remote or austere locations.



Lt. Cmdr. Matthew Forbes

This visit marks the next step toward improved interservice collaboration and logistical capabilities on behalf of U.S. service member health. As NAMRU EURAFCENT continues to support surveillance and research, partnerships like this one will ensure mission success across multiple theaters of operation.

“Our visit to USAMMC-E will shift how we manage logistics for the command,” said Forbes. “NAMRU EURAFCENT works in three separate geographical areas, and a partnership with USAMMC-E will allow us to efficiently ship across those three different regions, including critical cold-chain medical supplies.”

NAMRU EURAFCENT’s mission requires the shipping of medical supplies to key operational sites, including Egypt, Ghana and Djibouti. Connecting directly with USAMMC-E points of contact is intended to streamline supply chain operations and ensure timely delivery of critical medical materials.

“Building partnerships like this will enhance our ability to support science, and most importantly, optimize operational disease surveillance for the warfighter,” Forbes added.

In the next few months, NAMRU EURAFCENT will establish a for-

mal process to start orders through USAMMC-E, update command methods for shipping classification under the Defense Medical Logistics-Enterprise Solution and follow up with facilitated communications through USAMMC-Southwest Asia as the Theater Lead Agent for Medical Material for the Central Command, and the Defense Logistics Agency in Germany.

NAMRU EURAFCENT, part of Navy Medicine Research & Development, conducts research, surveillance and studies of vaccines, therapeutic agents, diagnostic assays and vector control measures in the EU-COM, AFRICOM and CENTCOM Areas of Responsibility to better prevent and treat infectious diseases in support of Navy, Marine Corps and joint U.S. warfighter health, readiness and lethality. ■



Courtesy photo /USAMMC-E



NHRC Researchers Win 2025 Dr. Delores M. Etter Top Scientists and Engineers of the Year Award

By John Marciano

Two research teams from Naval Health Research Center's (NHRC) warfighter performance department won the Assistant Secretary of the Navy (Research, Development and Acquisition) 2025 Dr. Delores M. Etter Top Scientists and Engineers of the Year award. These awards are presented to Navy civilian and military scientists in recognition for their contributions to the Navy and Department of Defense (DoD).

In the category of Teams Collaborating Across the Department of Navy, the Command Readiness Endurance and Watchstanding (CREW) team, and the Expeditionary Cognitive Science (ExCS)

“Having won two Etter awards, really exemplifies the impact NHRC scientists have on not just health and performance of our service members, but on readiness of our sailors and certainly on advancing lethality with the work our scientists do with Marine Infantry, and marksmanship standards”

Group's Marksmanship Study took home the honors.

The CREW team, led by NHRC's Principal Investigator Dr. Rachel Markwald, is developing an operational fatigue risk management system that uses wearable biometric devices, such as rings or watches, to collect sleep data to monitor fatigue risk and sailor readiness. In addition to the wearable devices, the CREW system includes secure, off-line hubs and a processor on the ship to passively transfer and process the sailors' data to provide leadership with near real-time sleep and fatigue data to inform operational decision making with minimal burden to sailors.



NHRC Warfighter Performance Department Receives Communication Award at MHSRS

By John Marciano

Research physiologist, Doug Jones and cognitive scientist, Tim Dunn of the Naval Health Research Center's warfighter performance department, together with the NHRC public affairs team, have been awarded the 2025 MHSRS Warfighter Medical Research Public Communications Award.

This award is presented to recognize those who have made a major contribution to broadening the general public's awareness of Department of Defense-sponsored military medical research that impacts the warfighter through any aspect of public communications. Entries are judged on scientific accuracy, initiative, originality, clarity of interpretation and value in foster-

ing a better understanding of warfighter-related medical research by non-science audiences.

During exercise Arctic Edge 2024, a joint operation field training exercise that focused on operations in extreme cold weather, Jones and Dunn collaborated on a cold weather technology project, in which they were sought out by producers of National Public Radio's (NPR) Marketplace podcast. Upon NPR's invitation to NHRC's warfighter laboratory, they recorded a special episode on the challenges warfighters face operating in extreme weather environments, and the work military scientists are doing to improve their readiness and lethality to meet those challenges.

NPR's Marketplace season 6 episode 1, "The Changing Threat" was released on Sept. 11, 2024, and was broadcast on over 800 public radio stations and made available as a podcast, with 11 million weekly listeners.

"The hard work that both Drs. Dunn and Jones do in and out of the lab speaks volumes about the dedication and passion they each have to their research. Both these men are the type of scientists who take the lead and will actually immerse themselves in the ice ponds to ensure accurate work. We at NHRC are very proud of their accomplishments," said Capt. Kellie McMullen, commanding officer, NHRC. ■



NMRC Holds Change of Command

Story by Sidney Hinds / Photos by Tommy Lamkin

Naval Medical Research Command (NMRC) held a Change of Command ceremony in the Daniel K. Inouye building on the Forest Glen Annex on August 13.

Capt. Franca Jones was relieved as commander of NMRC, and of all Navy Medicine Research & Development (NMR&D), by Capt. Eric Welsh in an official ceremony in front of staff, family, friends and several distinguished guests.

During the ceremony, Jones remarked upon both the successes NMRC has seen in recent years, as well as the challenges and opportunities ahead. Jones's tenure as NMRC commander saw significant

***“I am grateful.
Grateful for
your dedication
to the mission,
to the Navy, to
our country
and to each
other”***

advances in the development of countermeasures to infectious diseases affecting service member performance, advances in tracking brain injury as a result of blast exposure and an expansion of NMR&D cooperation with international partners on behalf of warfighter health and readiness.

“I am impressed with the adversity the people of this command have had overcome on behalf of the mission,” Jones said. “I am proud of the people who make NMRC the driving force of Medical R&D that it is. But most of all, I am grateful. Grateful for your dedication to the mission, to the Navy, to our country and to each other.”





“Each and every one of you here today, and in our fellow commands across the country and the globe, have dedicated your lives to keeping the Nation’s defenders fit, healthy, and ready to complete the mission,” Jones added, “whenever and wherever it brings us. Who wouldn’t want to be part of a team dedicated to that mission.”

Welsh, previously the commanding officer of Naval Health Research Center (NHRC), a command within NMR&D, also expressed gratitude to the staff at NMRC, and enthusiasm for his new role.

“It’s humbling and an honor to command this organization,” Welsh said. “Capt. Jones has worked tirelessly and achieved unsurpassed results with your expertise.”

*“It is humbling
and an honor to
command this
great
organization”*

During Welsh’s tenure as commanding officer for NHRC, the command expanded mental and behavioral health research efforts for suicide prevention, intervention support to operational commands and prevention of adverse behavioral and mental health outcomes. This work has informed clinical practice and treatment for traumatic brain

injury, post-traumatic stress disorder, major depressive disorder and suicidality among at-risk service members.

NMRC, headquarters of Navy Medicine Research & Development, is engaged in a broad spectrum of activity from basic science in the laboratory to field studies in austere and remote areas of the world to investigations in operational environments. In support of Navy, Marine Corps and joint U.S. warfighter health, readiness and lethality, researchers study infectious diseases, biological warfare detection and defense, combat casualty care, environmental health concerns, aerospace and undersea medicine, operational mission support and epidemiology. ■



NSMRL's Homegrown Award Winning NPRHP Team

By Emily Swedlund

Naval Submarine Medical Research Laboratory (NSMRL)'s Naval Psychological Readiness and Human Performance (NPRHP) team received two awards this summer; the Military Health System Research Symposium (MHSRS) Outstanding Research Accomplishment by a Military Team award and the Charles S. Gersoni Military Psychology Award from the Society for Military Psychology.

The MHSRS Team Awards recognize outstanding medical research contributions, particularly in areas relevant to warfighter health and readiness. MHSRS recognizes one

military team and one academic team for this award each year.

The Gersoni Award is presented to one team or individual per year for outstanding contributions to military psychology in research, service, product development or administration. Presentation of this award reflects acknowledgement of the teams' service on behalf of the welfare of military personnel.

The NPRHP team focuses on improving the holistic health of the undersea warfighter, and has received recognition for their work modernizing the Submarine Environment Fit Test (SUBFIT), which

was recently implemented throughout the entire Submarine Force (SUBFOR) and was covered by NSMRL public affairs earlier this year.

SUBFIT has been a long time in the making. When NSMRL was founded in the 1940s, psychological readiness screening was one of three original focus areas. The team focused on screening for psychological factors that were incongruent with submarine life. Submarine service is voluntary, and submariners often operate in extreme environments, so it is important to find sailors who are mentally and physically fit for the challenge.



“Because time is a flat circle, we’re still facing some of the same issues they faced in the 1940s,” said Justin Handy, a cognitive psychologist and principal investigator on the NPRHP team. “We’re still working to find solutions to screening and assessment challenges that have been around since the beginning of the Submarine Force, and carrying on that legacy.”

NSMRL developed the Submarine Environmental Screener (SUBSCREEN) as one potential solution in 1986, and the program ran successfully until 2020. In 2017, submarine leadership recognized that SUBSCREEN was leaving issues unresolved, so they called a Summit in Groton, Conn. Representatives from the Navy medical, submarine and naval reactor communities came together to propose updates to the submarine screening process, and solve the issue of unplanned losses (when a

sailor leaves submarine duty earlier than planned). The summit sought a long-term solution that would identify resilient submariners with the correct disposition for this extreme service.

“We’re still working to find solutions to screening and assessment challenges that have been around since the beginning of the Submarine Force, and carrying on that legacy”

The eventual result of this summit was the creation of SUBFIT, a program initiated by Cmdr. Jay Haran, a uniformed research psychologist assigned to NSMRL at the time of the summit, and a term coined by

Dr. Andrea Bizarro, an industrial-organization (IO) psychologist on the team. Haran envisioned a team of experts with diverse backgrounds, who would create a program from the ground up that was tailored specifically to the Submarine Force and their needs. Team members include psychologists (IO, clinical, applied, and cognitive), military personnel and data scientists. This talent pool allowed the team to build a completely customized tool.

“We developed SUBFIT from the ground up,” said Dr. Dominica Hernandez, clinical psychologist and principal investigator on the NPRHP team. “SUBSCREEN focused on psychopathologies, but we wanted to place more emphasis on the performance component, so that we could develop and retain the incoming sailors. We didn’t want to impact just the individual, but the culture as a whole.”

For the updated SUBFIT, the team emphasized the developmental side of the screening process. The goal was to equip sailors with the necessary tools when they enter the fleet—i.e., retain submariners, prevent unplanned losses and maximize the effectiveness of the submariners during their time in the fleet. SUBFIT enables SUBFOR leadership to intervene early and support the warfighter throughout all stages of their career continuum.

With so much historical work, NPRHP was able to compare their SUBFIT tool to SUBSCREEN and other commercial off-the-shelf products, such as the MMPI (Minnesota Multiphasic Personality Inventory), and create a triage assessment. They started with a personality-based job analysis focused on key qualities and characteristics for success in submarine duty and then slowly added existing validated measures to address elements like general personality, coping, organizational commitment, resilience and mindfulness, which are important traits when working in the extreme submarine environment.

“After taking the SUBFIT, each sailor gets a summary of their results and three specific goals, based on their assessment,” explained Handy. “As a relatively small team, it’s really a miracle we’ve been able to do so much, especially since we work in such a limited technological environment, so these assessments are really all paper and pencil.”

“Because we built everything our-

selves, we’re basically saving millions of dollars,” continued Hernandez. “Everything we do is coded and programmed here, and we’re able to interpret our own reports, so there’s no need for extra clinicians at the end stage.”

With support from SUBFOR leadership, SUBFIT was greenlit for implementation in the training pipeline in April 2022, and was released for use in the operational fleet starting in March 2025.

“Because we built everything ourselves, we’re basically saving millions of dollars”

“We really have to think, is there utility in what we’re doing to help them, is there value in providing that self-reflective feedback,” said Hernandez.

“SUBFIT serves as a conduit to have those conversations and to encourage sailors to think introspectively about themselves, and provide them with the language to talk about issues that they might not have had otherwise.”

“With SUBSCREEN, there were efforts to try and answer the ‘what’s next’ question, but there wasn’t a fully realized vision on how that info could be used to fuel a post-assessment type interaction,”

continued Handy. “Now we’ve built that process in place, and it’s just continuing to expand.”

This kind of tailored assessment program exists only in the Submarine Force, and only because of the efforts of the NPRHP team. However, under Handy, the program is beginning expansion into the nuclear community.

“This is still a work in progress, and there are different challenges for these different communities,” explained Handy. “But it’s another example of trying to leverage these tools and keep the same mission of readiness and lethality.”

The SUBFIT program is just one branch of the NPRHP team. They were recently solicited by the Navy’s Talent Management Center of Excellence to develop a leadership competency model specific to the Submarine Force, as part of a larger Navy-wide effort to create a Navy Leadership Assessment Program. They are also working directly with SUBFOR leadership to investigate help-seeking behaviors and stigma to reduce harmful behaviors. Additionally, Handy is working with Navy Advanced Medical Development, partnering with industry in order to develop an underwater capable tablet, which will be the first of its kind optimized for research purposes.

“Obviously, SUBFIT is still in its infancy,” said Hernandez, “but we’ve seen a reduction in non-graduation numbers, and a reduction in reclassification, and these very early analyses show promising results.” ■



NMR&D WRAPS UP ANOTHER SUCCESSFUL MHSRS

*Story by Emily Swedlund
Photos by Tommy Lamkin
and Sidney Hinds*



ADVANCED THROUGH RESEARCH & DEVELOPMENT

The eight Navy Medicine Research and Development (NMR&D) commands wrapped up attendance at the Military Health System Research Symposium (MHSRS), which began on August 04 and concluded on August 07.

MHSRS, a four-day event which takes place annually at the Gaylord Palms Resort & Conference Center, provided personnel with multiple forums to demonstrate the impact NMR&D research has on the U.S. warfighter.

Over 100 NMR&D personnel attended MHSRS this year, including military, civilian and contractor research, medical and support personnel. Attendees participated in a range of conference activities, speaking at 26 breakout sessions, presenting 95 research posters

across three poster sessions and engaging with stakeholders and potential collaborators throughout the Military Health System.

This year's MHSRS was an outstanding demonstration of how the talented scientists of Navy Medicine Research and Development work together to field medical solutions in support of Joint Force health and readiness"

"This year's MHSRS was an outstanding demonstration of how the talented scientists of Navy Medi-

cine Research and Development work together to field medical solutions in support of Joint Force health and readiness," said Capt. Franca Jones, commander, Naval Medical Research Command (NMRC). "This year's symposium highlighted extensive collaborations between commands in NMR&D, other service laboratories, industry and academia."

"MHSRS is really an opportunity to help our junior researchers understand our military medical research environment," said Capt. William Howard, commanding officer of Naval Medical Research Unit (NAMRU) Dayton. "We also use it as an opportunity for our seasoned researchers to remain calibrated and find opportunities. We try to maximize our participation for the benefit of our command as well as for military research in general."



During the opening plenary session, two NMR&D commands were recognized. Justin Handy, from the Naval Submarine Medical Research Laboratory (NSMRL) in Groton, CT, received the Outstanding Research Accomplishment for a Military Team award on behalf of the Naval Psychological Readiness and Human Performance team. The team was recognized for their work to improve submariner and nuclear-operator screening, career prediction and individual coaching, which fosters readiness, professional development, leadership, team performance and retention within the Submarine Force.



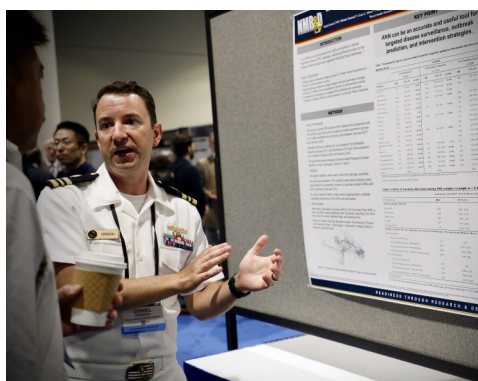
Dr. Doug Jones, Dr. Timothy Dunn, and John Marciano, from the Naval Health Research Center (NHRC) in San Diego, CA, received the Warfighter Medicine Research Public Communication Award for their

work raising public awareness of their DOD-sponsored medical research in the area of arctic performance.

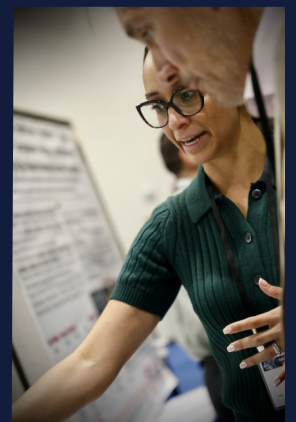
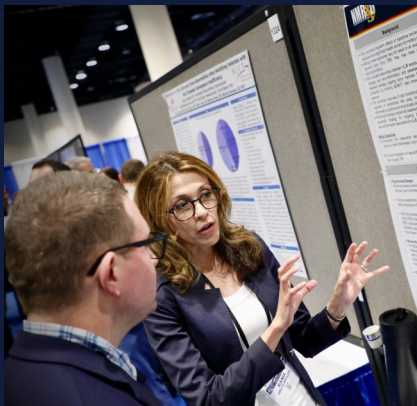
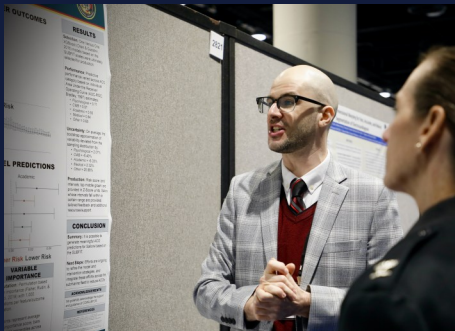
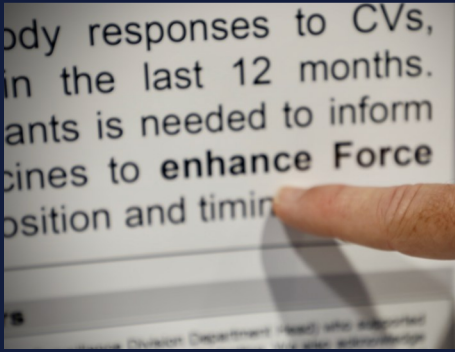
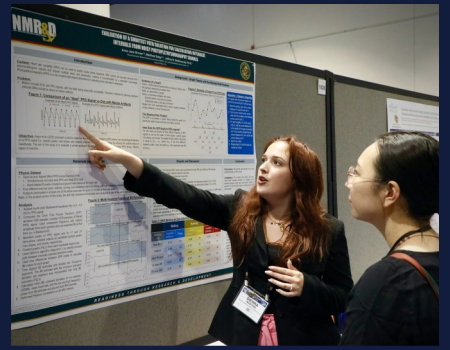
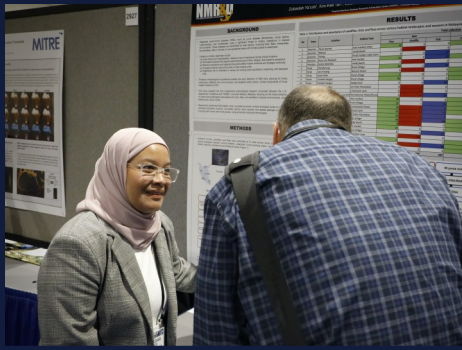
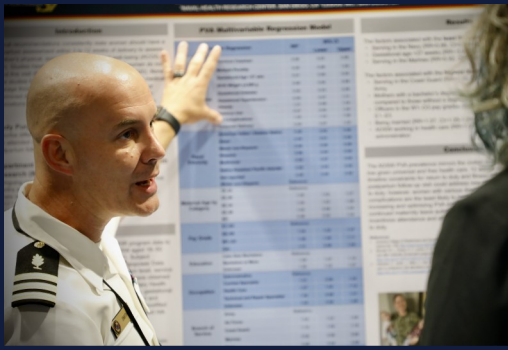
“It’s exciting and immensely rewarding when the world takes notice, recognizing their individual achievements, showcasing the real-world impact of their important research, and offering inspiration to others to pursue careers in STEM”

director. “It’s exciting and immensely rewarding when the world takes notice, recognizing their individual achievements, showcasing the real-world impact of their important research, and offering inspiration to others to pursue careers in STEM.”

Three NMR&D poster presentations were recognized during the final awards ceremony, out of over 1400 posters from throughout the three poster sessions. Dr. Sabrina Snyder, from NAMRU San Antonio, was awarded first place for her poster on the survival analysis of a dental self-healing composite, and Dr. Kayla Septer, from NMRC, was awarded second place, for her poster on the antigenic characterization of currently circulating seasonal influenza strains. Lt. Cmdr. Daniel Crouch, from NHRC, was given an honorable mention for Poster Session 2 for his presentation on using anomaly seasonality decomposition and artificial neural network modeling to predict febrile respiratory illness among U.S. military recruitment populations.



“Dr. Jones, Dr. Dunn, and their team of top scientists work diligently in the background to help our sailors and soldiers do their jobs in the harshest of environments,” said Dr. Ken Earhart, NHRC scientific





Dr. Elliot Dirr, of NAMRU-Dayton, was also recognized during this ceremony, getting third place in the Young Investigators competition, for his presentation on how the partial pressure of oxygen and nitrogen impacts the development of noise-induced hearing loss.

“This year we had two oral presentations, nine posters and two session chairs, and we’re especially

proud of Dr. Elliott Dirr for his win in the young investigators category,” said Howard. “Our command cultivates the mindset of starting all research endeavors with the needs of the warfighter, and I know that is reflected in our contributions to military medical research.”

“Our command cultivates the mindset of starting all research endeavors with the needs of the warfighter, and I know that is reflected in our contributions to military medical research”

With over 3500 registrants this year, MHSRS presents a unique opportunity for researchers and leadership to meet with future collaborators in the Military Health System.

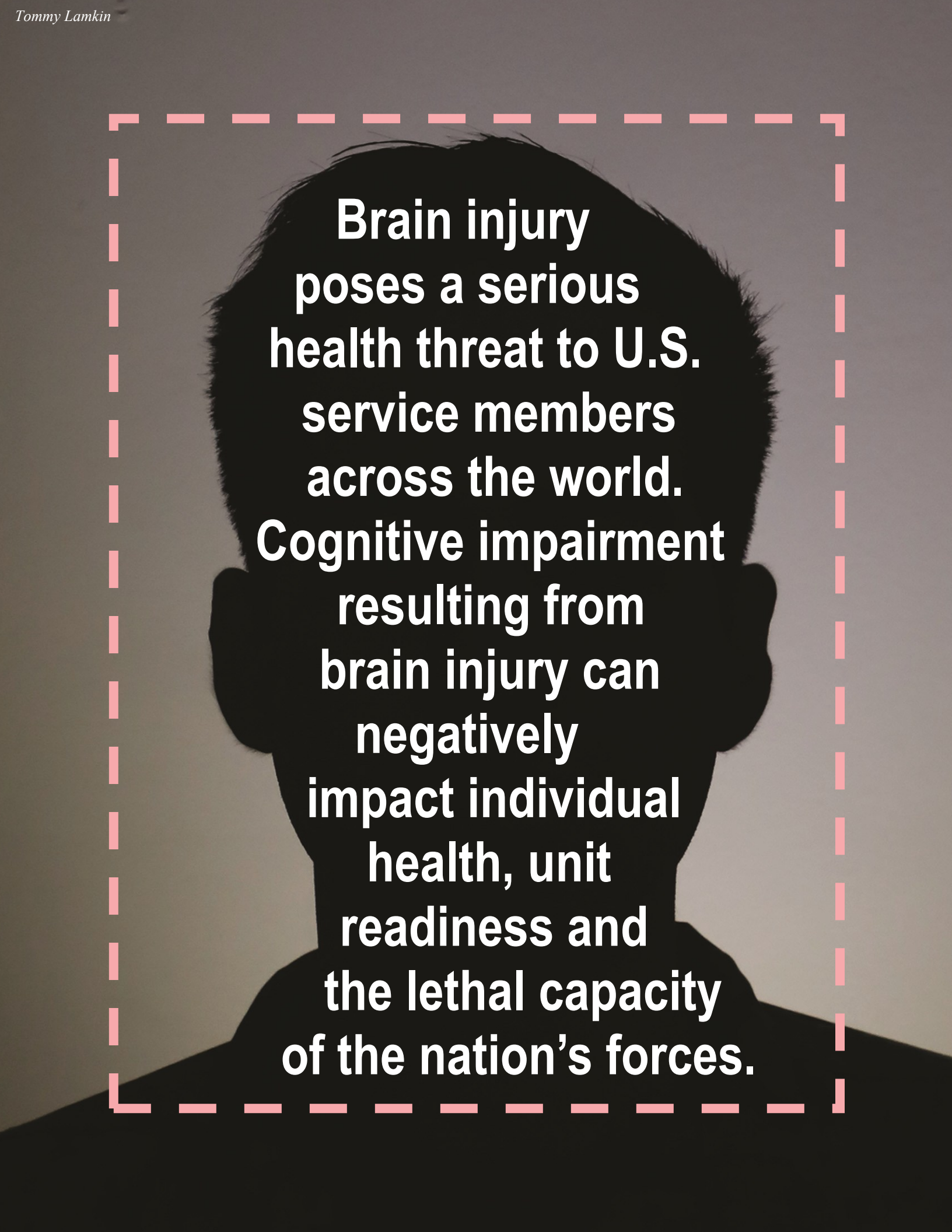
NMR&D is led by NMRC, and is comprised of NSMRL, NHRC, and NAMRU Dayton, San Antonio, INDO PACIFIC, EURAFCENT, and SOUTH.

MHSRS is the DoD’s premier scientific meeting that focuses specifically on the unique medical needs of service members. This annual educational symposium brings together healthcare professionals, researchers, and DoD leaders for four days of critical learning, intensive idea sharing and relationship building. ■



BRAINSTORMING:
PROTECTING
THE MILITARY
MIND

— — — — —
BY SIDNEY HINDS

A black silhouette of a person's head and shoulders is centered against a light gray background. The silhouette is facing forward. Overlaid on the silhouette is a large block of white text. The text is enclosed within a dashed red rectangular border. The text is in a bold, sans-serif font and is arranged in ten lines.

**Brain injury
poses a serious
health threat to U.S.
service members
across the world.
Cognitive impairment
resulting from
brain injury can
negatively
impact individual
health, unit
readiness and
the lethal capacity
of the nation's forces.**

In defense of U.S. service members, Navy Medicine Research & Development (NMR&D) has explored causes of and solutions to warfighter brain injury resulting from exposure to blast overpressure (BOP) for over 20 years, seeking answers to how injuries occur, and what measures can be taken to reduce the adverse effects of BOP on military readiness.

NMR&D scientists have taken on a range of challenges in the brain injury arena in the past two decades. Military operators use a variety of research-informed measures to minimize the potential adverse effects of blast exposure. Approaches include the use of protective gear, and techniques such as stand-off distances from explosives and weapons to minimize adverse effects.

Researchers with Naval Medical Research Command (NMRC), the headquarters of NMR&D, maintain multiple ongoing efforts and collaborations with partners across the

medical science community to find solutions for U.S. service members.

Frequency

A recent NMRC study, executed in partnership with the University of Virginia (UVA), looked at service members (specifically, special operations personnel) who experienced large numbers of blast exposures over the course of their careers. The study explored a key factor of blast exposure that, despite brain injury being at the forefront of many national conversations, often gets left out:

Frequency.

Stephen Ahlers, director of NMRC's Operational Undersea Medicine Directorate (OUMD), emphasized that the total number and severity of blasts exposures are key factors in predicting future issues with brain inflammation and associated neurological effects.

Inflammation has been associated with reduced volume and thickness of brain structures, which can affect several key brain functions.

"It is well established that exposure to BOP events can result in traumatic brain injuries that range from mild to severe," Ahlers explained, "but there has also been a concern that repetitive exposures to 'low intensity' BOP events that do not result in acute symptoms can contribute to a more subtle form of brain injury resulting from the accumulated effects of repetitive blast exposures, leading to impaired performance and mental decline."

Very often these types of exposures are referred to as "subclinical," since they do not result in acute symptoms.

One NMRC study examined data collected from breaching trainers: individuals exposed to many blasts over the course of two weeks in training to learn breaching techniques. Despite being physically located further away from explosions than the trainees themselves, breacher instructors, who had experienced many more blast exposures over potentially decades-long careers, showed neurological effects such as reduced cortical volume, alterations in the brain's white matter axonal pathways and increased brain inflammation.

NMRC researchers have been studying the effects of repeated low-level BOP exposure in military and veteran populations since 2006, alongside the command's partner institutions.



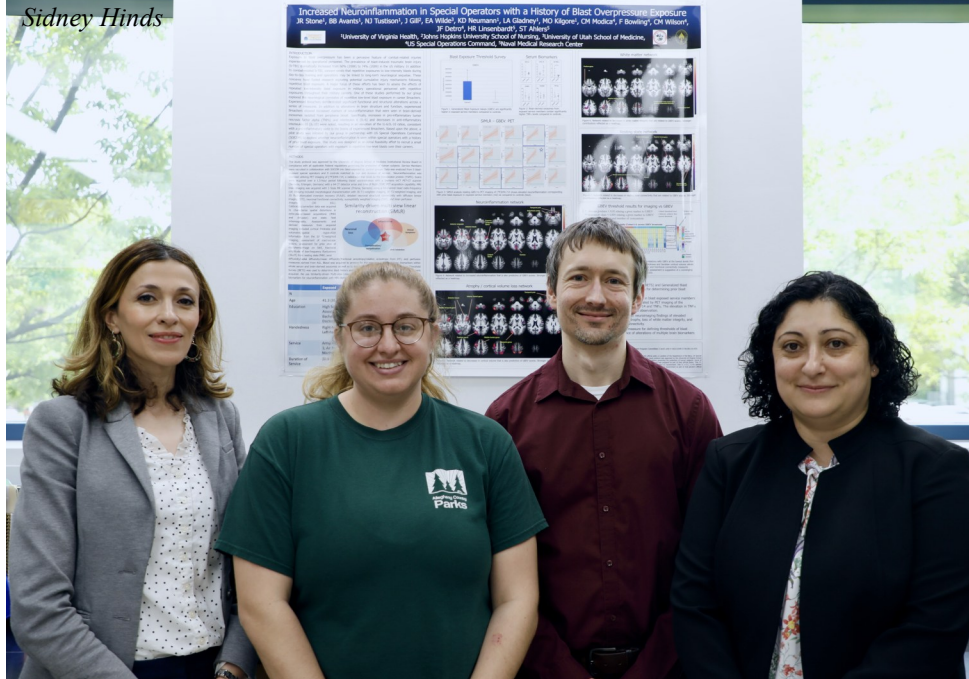
(Here, ‘low-level’ refers to exposures that are experienced in the course of military duties with weapon systems and explosives, but do not result in acute symptoms like a concussion.)

“Research performed by our colleagues at the Naval Health Research Center (NHRC) established that, in military personnel with a significant blast history, TBI outcome will be worse,” explained Ahlers. “A history of blast exposure that increases inflammation of the brain could explain why a history of BOP exposure can worsen TBI outcomes.”

Tracking

Efforts like those of NMR&D require a large body of research that scientists can draw from to inform their findings.

This information collection is critical to research in any field. The proper accumulation and organization of the data that research provides is what allows scientists to



form conclusions, and allows policy makers to shape regulations in the interest of service members.

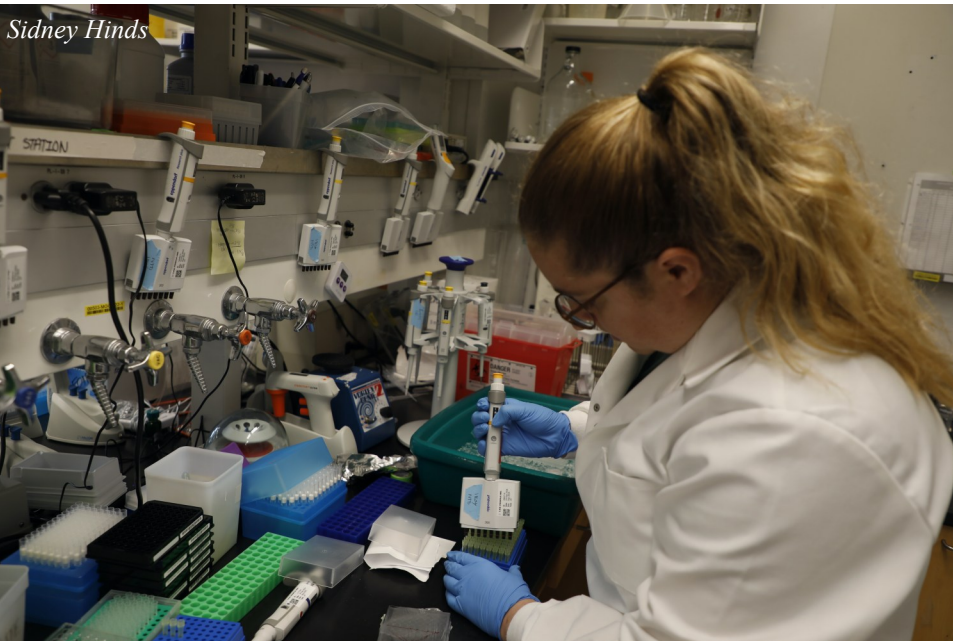
The challenge of accumulating data on individuals’ blast exposure history becomes even more difficult when it comes to brain injury, due to several factors, including weighing down the warfighter with measuring equipment, such as wearable blast dosimeters and the infrastructure required to capture data.

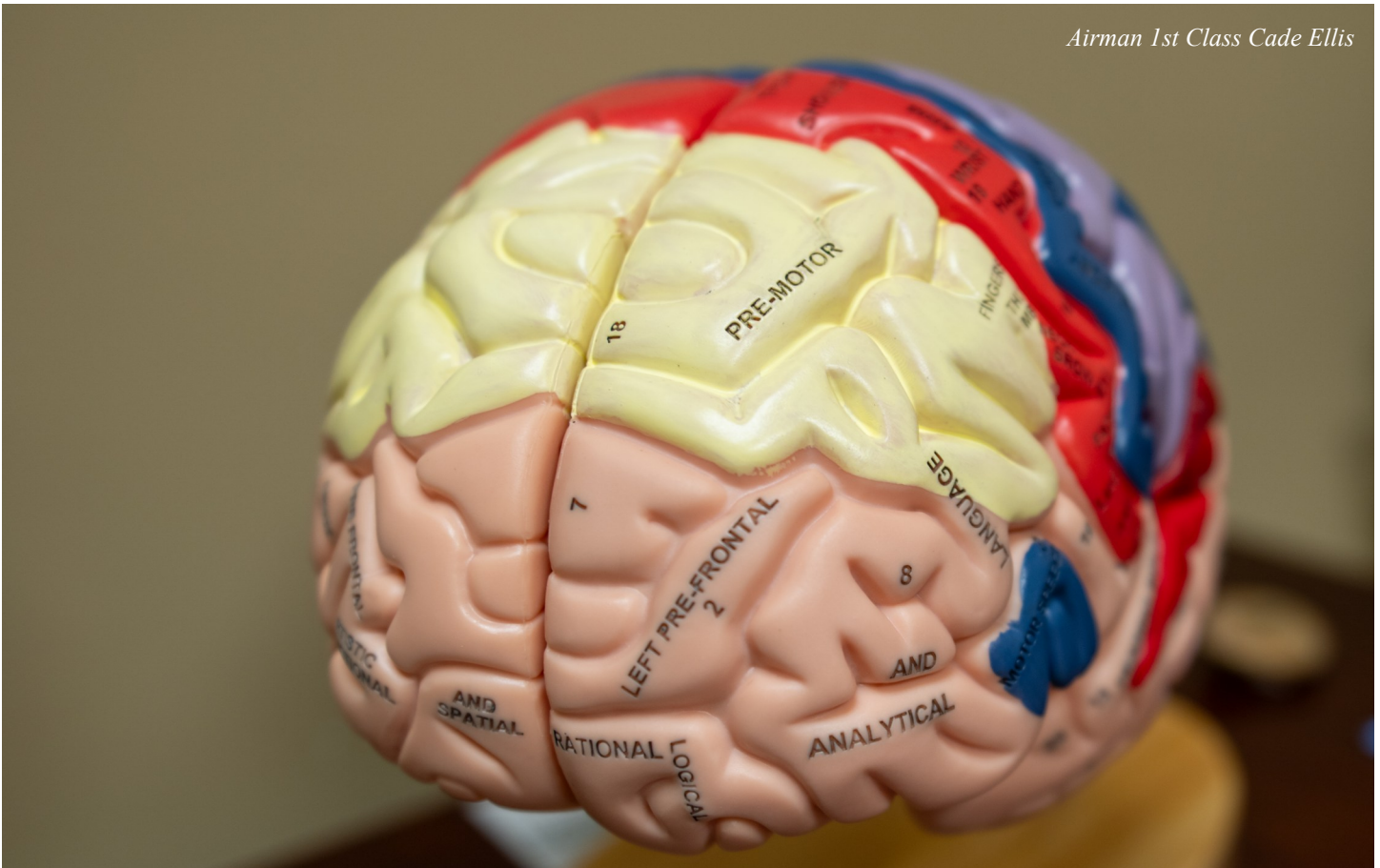
To address these complications,

NMRC researchers developed the blast exposure threshold survey (BETS) to gauge the total amount of blast exposure individual military personnel had experienced over the course of their careers (generalized blast exposure value (GBEV), and determine how this history affects the brain.

The BETS is a self-reporting survey that asks service members to provide information on their exposure to munitions, in the context of their military careers, previous professions (such as law enforcement) and in their personal lives.

NMRC researchers are currently working alongside investigators from multiple institutions that use the BETS and GBEV to assess the health effects from blast exposure in military and veteran populations. Combined with the analytics capabilities of the command’s partners at UVA, this study will allow NMRC to update the GBEV algorithm using the collective responses and comprehensive health data collected by collaborators.





“It allows us to track certain key metrics,” Ahlers explained. “What categories of weapons systems are you exposed to? How often? How long since? Are you reporting any symptoms? Headaches? Slow thinking? It also helps us to establish a relationship between blast history and brain health effects.”

“This questionnaire is short,” added Dr. Hans Linsenbardt, a research psychologist with NMRC. “It can be given to thousands of people at a time, and it gives actionable information, whether that’s to researchers, the service members’ clinicians or whoever.”

Researchers use BETS results to create an individual’s GBEV. This value can be compared to known thresholds at which people begin to self-report symptoms of brain injury, and potentially mitigate expo-

sure that could compromise warfighter health and performance.

Findings

“We have come to understand that all blast is not equal,” Linsenbardt remarked, when speaking to results from data gathered from the BETS tool. “Different weapon systems and different explosives have different effects on the brain. If you work a lot with artillery, for example, versus breaching explosives, you may see different neurological impacts.”

“Hearing changes are the canary in the coal mine when it comes to symptoms associated with repetitive blast exposures,” Ahlers added. “The tympanic membrane is the most sensitive to pressure, even

when protected. Many career breachers report hearing issues later in their career, and when your hearing is impaired, you are more likely to have cognitive issues or even mental health concerns, such as PTSD.”

Data compiled by the BETS tool will empower military leaders to recognize when service members are approaching a number of exposures correlated with symptoms of brain injury, allowing necessary training for warfighters to take place without placing them at undue risk. Researchers are also identifying gaps in data collection that might represent additional factors in how brain injury will affect service members, to include factors such as diet and childhood history (such as participation in youth impact sports).

“We are incorporating key members of the DoD public health community, including representatives from the services and the Defense Health Agency, into this effort,” said Ahlers. “By integrating all of these components, we aim to enhance the support for the warfighter, operational units, DoD public health entities, and both DoD and VA health providers working to monitor and mitigate the effects of blast exposure on warfighter and veteran health and performance.”

This new study will draw upon 1,600 respondents to the BETS.

Blood and the Brain

As part of its research into brain inflammation, NMRC evaluates protein samples from brains to see how they are affected by different degrees of blast exposure.

These efforts look at blast effects on the body’s cerebrovascular system, or the network of vessels that provide blood to the brain. Damage to this network can impair cognitive function, and worsen outcomes for service members exposed to subsequent traumatic injury.

NMRC’s cerebrovascular research efforts have their origins in the command’s interactions with neurosurgeons treating blast-exposed TBI patients at Walter Reed in the early 2000s. Many of these patients had latent delayed cerebral vasospasm, a significant contraction of blood vessels that can reduce blood flow to the brain and that often occurs in otherwise uninjured parts of the brain.

NMRC was among the first groups to focus on cerebral vasculature as the system where brain injury might begin. Previously, most research focused on changes in the white matter of the brain (the neuronal axon bundles that conduct nervous impulses). According to NMRC researchers, changes in vasculature occur before changes in neurons, and lead to changes in blood and oxygen supply to the brain, which can in turn cause injury to or disease of the brain.

This holds true in other diseases of the brain, such as Parkinson's and Alzheimer's. The NMRC team has discovered that examining cerebrovascular disease is important to blast-related traumatic brain injury.

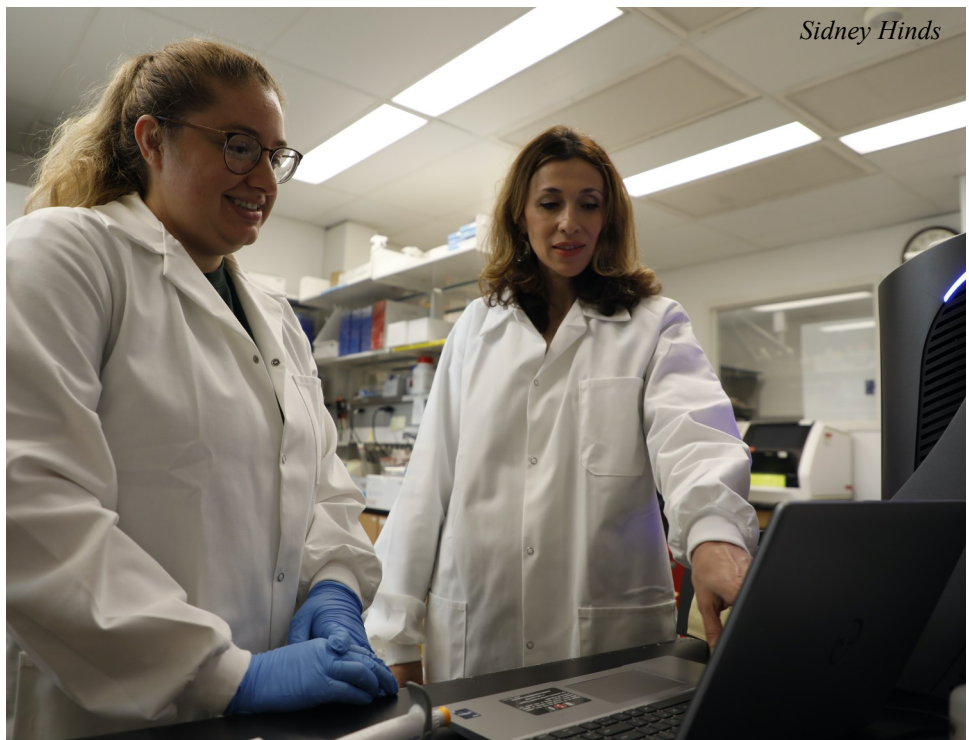
NMRC researchers were able to demonstrate that the mechanisms that lead to vasospasm occurred in the cerebral vasculature - the muscle cells in blood vessels and other support cells in the brain around blood vessels – and identify chang-

es in those cells that led to poor oxygen flow to the brain.

This disruption of blood, and therefore oxygen, flow may cause, in the long run, neurological and cognitive issues in patients.

NMRC’s inflammation research has helped characterize how injury changes the brain, and has identified targets that can be used for diagnosis and treatment of service members.

“These discoveries help describe the underlying mechanisms involved with blast exposure-related changes in the brain,” said Ahlers. “These discoveries help us understand the disease. They help us name the disease for what it is. And most importantly, with that greater understanding of what the injury is, we can better prevent and treat the disease by developing sensitive biomarkers that come from an understanding of the complex physiological and biochemical changes in the brain.”



NHRC Research

Naval Health Research Center (NHRC), another command within NMR&D, has several research efforts underway into brain injury causes and prevention, which aim to enhance service member performance. One such research study is looking into how cold exposure can impair cognitive functions, which can in turn affect performance in areas like marksmanship, critical for military operations. The data collected from this study will inform methods that monitor, predict and prevent declines in performance in extremely cold operational environments.

These research projects use virtual reality and specialized measurement tools to evaluate how factors like brain activity, eye movement metrics and coordination relate to concussion recovery and operational readiness.

“We are investigating how these

metrics correlate with cognitive and motor performance, including shooting accuracy and response times under varying conditions,” explained Pinata Sessoms, with NHRC. “This research aims to enhance our understanding of recovery trajectories and improve return-to-duty readiness for service members.”

NHRC also has a long-term project underway to identify neuro-markers (here meaning measurable indicators or qualities of a brain that researchers can use to evaluate the effect of outside factors on that brain) for mild traumatic brain injury (mTBI) and PTSD, and to answer long-standing questions on service member personalized rehabilitation protocols and return-to-duty decision making following clinical treatment.

TBI research has additional applications for other forms of injury.

“Brain function can be disrupted not only by direct trauma, but also from physical injuries,” said Sessoms, “such as anterior cruciate ligament (ACL) rupture. Our Bayesian ACL project is exploring how the brain adapts during recovery and how these changes relate to proprioceptive [referring to the brain’s ability to perceive the location and movement of parts of the body] integration and motor performance. Understanding these neural adaptations is key to improving rehabilitation strategies and ensuring service members return to peak physical readiness after ACL reconstruction surgery.”

“NHRC research has also shown a relationship between TBI and musculoskeletal injury,” Sessoms added, “which highlights the importance of ensuring service members are fit to return-to-duty in order to prevent subsequent injuries.”



Danielle Cazarez



Danielle Cazarez

The Path Ahead

NMRC is currently recruiting for a study to understand long-term health effects of mTBI, and examine long-term physical and mental changes.

Symptoms such as chronic headaches or sleep disturbances can be long-lasting, and can begin months after the initial injury. This study will seek to better understand why some symptoms may last longer than others, and use that information to develop methods to help service members recover faster and avoid those long-lasting symptoms.

“Protecting the neurological health of our service members is critical not only for their long-term well-being, but also for sustaining the readiness and operational effectiveness of our nation’s forces. By combining advanced neuroimaging, biomarker analyses, and computational approaches at the University of Virginia School of Medicine with the Navy’s decades of operational research, we are building the

knowledge base needed to recognize, monitor and ultimately mitigate the effects of repeated blast exposure. This partnership is help-

ing us move from simply documenting the problem to developing actionable solutions that safeguard the brain health of those who defend our country.”

“Protecting the neurological health of our service members is critical not only for their long-term well-being, but also for sustaining the readiness and operational effectiveness of our nation’s forces.”

Research is, by its nature, a long-term yield. Ongoing projects to evaluate brain inflammation in military and veteran populations employ highly sophisticated laboratory techniques, neuropsychological assessments and computational and statistical models to address the many factors and complexities at play.

The results to date of NMRC’s long-standing efforts into brain injury represent outcomes that can be applied directly to service member fitness and warfighter lethality. Ahlers’ team is currently working with the Navy and Marine Corps Force Health Protection Command and U.S. Navy leadership to make the BETS tool available as a mobile app to service members across the DoD, to aid military members and their leaders to protect them from the effects of excessive blast exposure, and keep them healthy, fit and ready to defend the nation.

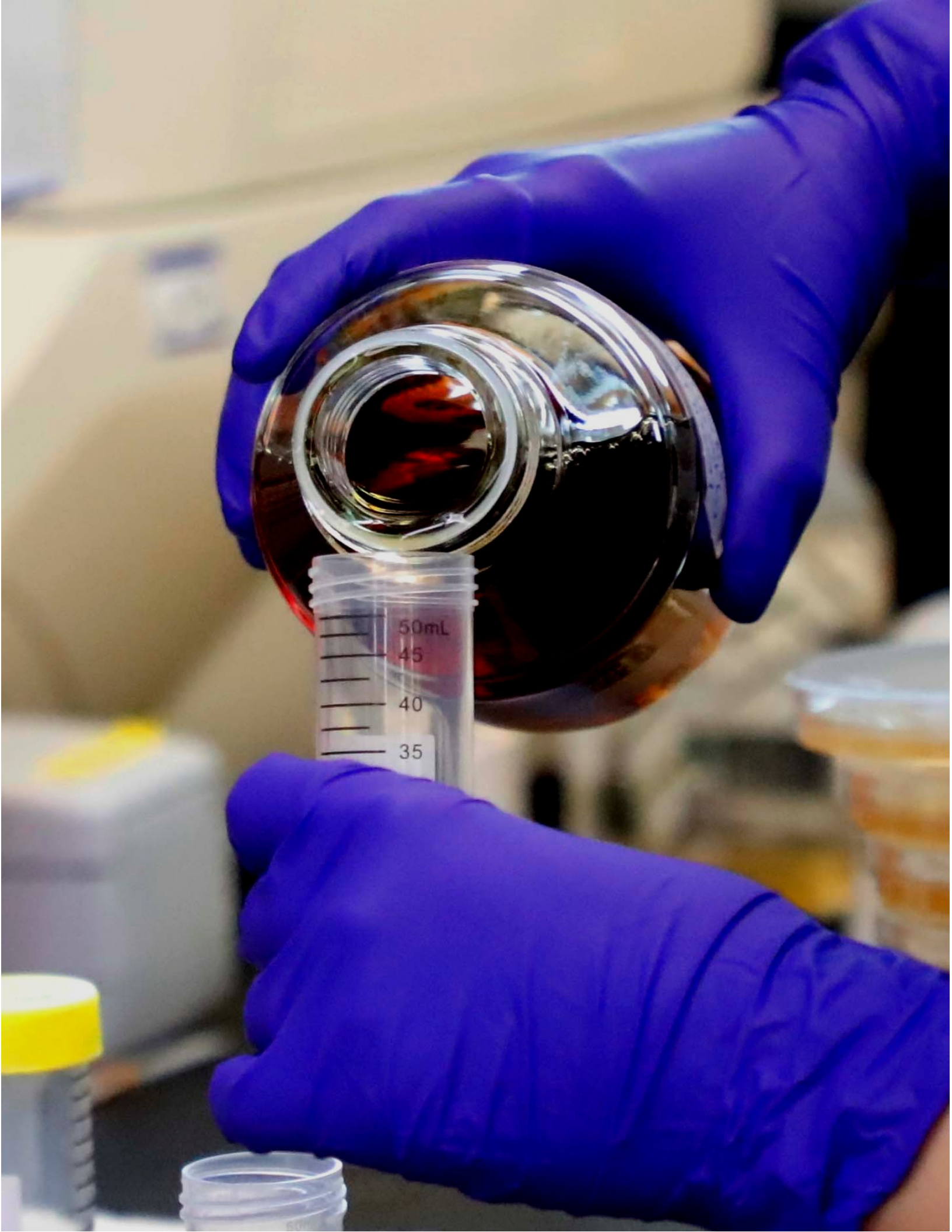
“To see this work being recognized for its unique contributions is very meaningful to our team,” Ahlers commented. “We’re grateful that this work can potentially influence policy and practice, and therapies. We never foresaw this interaction and partnership with our military public health colleagues, but we welcome it wholeheartedly, because at the end of the day, what we’re doing together will benefit the warfighter.” ■



Danielle Cazarez

NAVY MEDICINE
& ARMY MEDICINE
SUBMIT PROVISIONAL PATENT FOR
**ANTIMICROBIAL
THERAPY**

STORY & PHOTOS BY ALEECE WILLIAMS



Yoann Le Breton, with Naval Medical Research Command (NMRC), and Evelina Angov, with the Walter Reed Army Institute of Research (WRAIR), submitted a provisional patent application for an antimicrobial, non-antibiotic solution to wound care on July 17.

Le Breton and Angov, both microbiologists, have experimented with different versions of their messenger ribonucleic acid (mRNA)-based antimicrobial solutions to test its effectiveness on wounds, potential application methods and viability in deployed environments where infections resulting from injury present a significant threat to warfighter readiness.

Le Breton's ultimate vision of this antimicrobial therapy development is creating a treatment that can be distributed as easily as powder, and that can be applied directly into the wounded tissues, or part of a wound dressing.

His idea for a preventative medical solution, kept at room temperature, will allow warfighters access to previously unavailable treatments in remote and austere environments. Without access to treatments that prevent the growth of life-threatening bacteria, service members are more susceptible to the various illnesses they may encounter in the deployed setting, threatening force readiness. By eliminating this risk, researchers can further minimize detriments to total force lethality.

"One issue with current mRNA



“One issue with current mRNA vaccines is that you have to rely on a complicated chain of supply”

vaccines is that you have to rely on a complicated chain of supply,” said Le Breton, “and it’s very difficult to move from production to the patient, so we are trying to see if we can tweak the recipe to make it easier to keep this treatment at room temperature.”

With a treatment capable of preventing bacteria growth in an arm’s reach, warfighters will also be bet-

ter-equipped to treat themselves and others in the event of a mass casualty event where traditional healthcare is not readily available. This resource will limit mission stoppage in scenarios where members would be susceptible to life-threatening bacterial infections, and ensure service members remain mission-ready and multi-capable. The current iteration of this treatment can protect cells from staphylococcal (staph) infection, a dangerous and frequently drug-resistant bacteria, for up to 3 days.

Collaborative effort on this treatment began when Le Breton contemplated the potential of using mRNA to fight antibiotic-resistant bacteria, a method not previously seen. This prompted Le Breton to draft various proposals over the course of 2022, hypothesizing a wound care alternative to standard antibiotic treatments. Ultimately his research culminated in his partnership with Angov, due to her experience in developing mRNA vaccines.

“I’m very excited about this relationship between WRAIR and NMRC,” said Angov. “It’s a great example of how we can work together in a positive way — this is a true collaborative, a positive experience for the groups.”

The research so far has led to several grants to further bolster the joint NMRC-WRAIR studies. These grants, coupled with the provisional patent application, will allow NMRC and WRAIR scientists to continue expanding their research while maintaining protection of their intellectual property.



According to the NMRC legal team, obtaining patent protection for new inventions and technologies can offer multiple benefits.

“The inventions and technologies coming from NMRC are focused on facilitating war fighter health and operational readiness,” said Anthony Vu, patent attorney at NMRC. “Securing a patent prevents another entity from filing and profiting from a similar or identical invention that may also charge the government to use its own technology.”

NMRC can license patents on technology it has created to generate additional funding for warfighter-focused research. Holding patents also encourages cooperation with



other researchers, agencies, partner nations and collaborators in academia.

A provisional patent application was filed to establish an early filing date for the antimicrobial therapy, and to ensure protection of NMRC intellectual property while Le Breton and Angov continue their research. Subsequently, another patent application, called a non-provisional patent application, will be filed with the United States Patent and Trademark Office (USPTO). Generally, a non-

provisional patent application will be examined by the USPTO, and if it meets all the mandatory legal requirements, the non-provisional patent application can mature into a patent.

Through further development and trials, Angov and Le Breton hope to develop a shelf-stable formula that provides the utmost accessibility to military forces, can provide the recipient’s cells a line of defense from various bacteria and be distributed more easily than typical antibiotic treatments.■



LOOKING *At*

with André B. Sobocinski
Historian, Bureau of Medicine and Surgery



From Body Armor to Better Medicine: A Short History of the Navy's Field Medical Research Laboratory

"It consisted of a zippered, sleeveless jacket constructed of a water-resistant nylon incorporating two-types of armor. One, a flexible pad of basketweave nylon, covers the upper chest and shoulder girdle; the other, overlapping Doron plates, covers the lower chest, back and abdomen. These Doron plates consist of several layers of fiber glass cloth, bonded or laminated together with a resin."

~Description of the NMFRL-designed armored utility jacket, 1951

In June 1951, the Navy shipped prototypes of its newly designed armored utility jacket to Korea where it would be worn by select Marine and Army combat units fighting in the war. After three months of assessing its value, Navy medical observers in theater concluded that this protective clothing was universally desired by combat troops, had a positive "psychological influence on morale" and minimized the risk of fatality. The Navy was still perfecting the design when word of this "miraculous life-saving device" spread across the combat theater leading to fervent requisitions from the services. By June 27, 1953—the date of the Korean War ceasefire—the Navy had received a total of 121,000 orders from the Army and Marine Corps.

The armored utility jacket was the product and brainchild of the Naval Medical Field Research Laboratory

(NMFRL) in Camp Lejeune, N.C. Founded on August 30, 1943, through a joint agreement by Bureau of Medicine and Surgery (BUMED) and the Commandant of the Marine Corps, NMFRL was dedicated to "scientific research, development and testing pertinent and peculiar to the practice of amphibious medicine." The laboratory's proximity to amphibious personnel training under simulated battle conditions allowed for unique "frontline" evaluation of field-level conditions.

At its peak, the NMFRL was comprised of physicians, scientists, engineers and technicians organized into eight scientific departments—Biophysics, Microbiology, Entomology, Body Armor and Wound Ballistics, Physiology, Biochemistry, Psychology, and Equipment Testing and Development.

Although body armor may have been the lab's most significant early achievement over its three decades of existence, its staff was actively engaged in everything from anti-malarial studies and the investigation of UV light protection to the field evaluation of adenovirus vaccine to perfecting cold weather gear and studying heat stress casualties.

During World War II, the fight against malaria was as critical as any battle on the front lines. While mosquito-control measures and the antimalarial drug Atabrine helped curb the disease's spread, a significant problem remained: Atabrine's severe side effects. Many service members suffered from debilitating symptoms like nausea, vomiting, diarrhea, skin discoloration, and even serious neurological and psychiatric issues. This made regular use of the drug difficult, creating a pressing need for a more tolerable and effective alternative.

To address this urgent need, NMFL—in conjunction with the Board for the Coordination of Malaria Studies—launched a three-month clinical trial in late 1945. Presaging the COVID-19 Health Action Response for Marines (CHARM) study nearly 75 years later, more than a thousand Marine recruits at Parris Island, South Carolina, volunteered and were randomly assigned to one of five groups. They received either Atabrine, one of four experimental antimalarial drugs, or a placebo. Researchers monitored the participants for drug compliance and side effects. The study identified one of the new drugs, chloroquine, as not only highly effective but also the best tolerated of all the medications tested. In contrast, Atabrine had the

highest rate of side effects. The data accumulated from this study not only provided crucial clinical information on a new drug, but it also established a gold standard for conducting future clinical trials. The full findings were later published in the December 1948 issue of the *Journal of the National Malaria Society*.



During the Vietnam War, NMFL scientists devised a silicone-based ointment to prevent immersion foot, an incapacitating condition caused by overexposure to water. The Navy-led field studies revealed that the ointment prevented 75 percent of immersion foot cases in battlefield conditions. In 1966, Marine Corps Commandant Gen. Wallace Greene called the silicone ointment one of the most significant medical innovations of the war.

In the mid-1960s, the lab began experimenting with light-weight, wide-mesh netting treated with insect repellent for use in field tents. Out of this research came the development of the so-called anti-mosquito netting jacket or mosquito shirt. Like the field tents, the polyester-cotton jacket was treated with an insect repellent that produced a “vapor barrier” between the openings of the jacket’s mesh fabric. Lab personnel successfully field tested the jacket in Alaska, Africa, Indonesia, Panama, Vietnam and Guantanamo Bay, Cuba, and found that it could protect the wearer for up to a “thousand hours.” The jacket would later become commercially available and released under an assortment of names (e.g., “the bug jacket.”)



Despite the beneficial work conducted by NMRFL, the post-Vietnam draw down brought questions about the long-term value of the laboratory. Originally partly subsidized by the Marine Corps, BUMED would assume complete funding responsibility beginning in fiscal year 1972. This would be the beginning of the end, and NMRFL was formally disestablished on July 1, 1976, just short of the laboratory's 33rd birthday. ■

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Aleece Williams

NMRC Command Master Chief Reenlists, Turns Over Office

By Aleece Williams

Naval Medical Research Command (NMRC) held a reenlistment and change of office ceremony Sept. 3, in which Master Chief Hospital Corpsman Phillip Jean-Gilles turned over his role as command master chief (CMC) to Master Chief Hospital Corpsman Christopher Cariss.

Lt. Sara Tuck, a microbiologist with NMRC, administered the oath of enlistment for Jean-Gilles who will carry his 26-year Navy career to nearly 30 years with this reenlistment.

“It has truly been an honor serving

as the command master chief for Naval Medical Research Command over the past three years,” said Jean-Gilles. “Working alongside our

*“Working alongside
our incredible
enlisted Sailors,
dedicated officers
and talented
civilians has been
the highlight of my
career”*

ed officers and talented civilians has been the highlight of my career. They all play a vital role in advancing the mission, and I am deeply grateful for the professionalism, commitment and teamwork that define this command.”

Immediately following Jean Gilles’ reenlistment, Capt. Eric Welsh, commander, NMRC, officiated a change of office relieving Jean-Gilles of his responsibilities. Jean-Gilles passed down the CMC identification badge, commonly known as the “cookie,” to represent the immediate transfer of responsibility to Cariss.

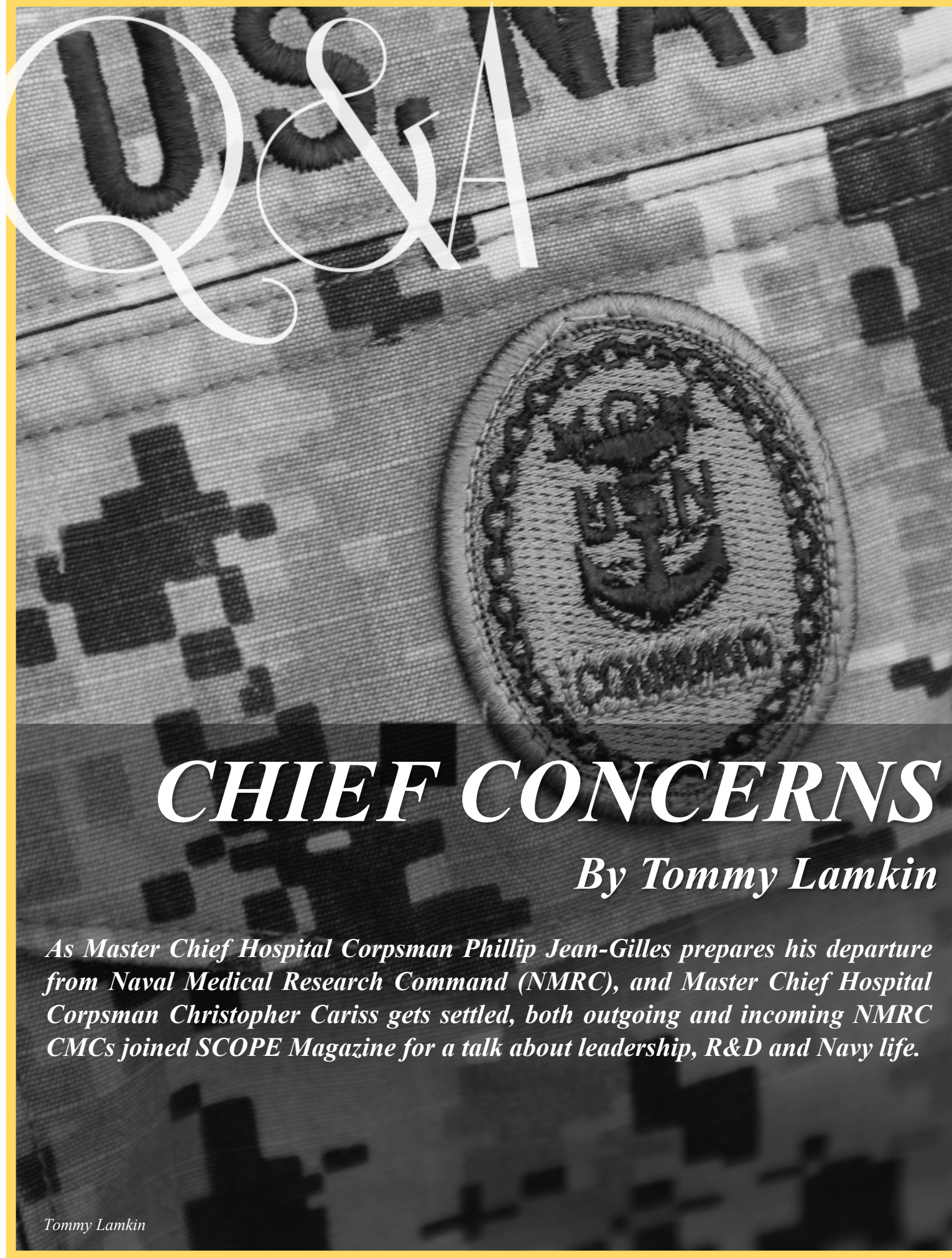
Jean-Gilles also shared a few remarks about his time with NMRC and expressed his appreciation for the team he has worked with. Following this tour, he will be moving on to the Uniformed Services University as the command master chief.

“Today was especially meaningful, as I had the privilege of both reenlisting and conducting the change of office ceremony. I look forward with great confidence to seeing Master Chief Cariss take the helm as command master chief,” Jean-Gilles added. “His leadership, vision and dedication will undoubtedly take NMR&D [Navy Medicine Research & Development] to new heights, and I am excited to watch the command continue to thrive under his guidance. Thank you again for the opportunity to serve—it has been the honor of a lifetime.”

Cariss assumed the CMC position following an assignment with Naval Medical Readiness and Training Command, Jacksonville, as senior enlisted leader for the Director of Branch Health Clinics, where he oversaw five Navy Medicine Readiness and Training Units.

“This opportunity is incredibly exciting,” said Cariss. “The command has a strong reputation. Master Chief Jean-Gilles’ reputation precedes him, and I look forward to carrying on the legacy he has left here. When I learned this role was available, I wasn’t sure what was next, but I knew this was a once in a lifetime position that I’d be honored to take on – I’m very excited for what’s to come.” ■





CHIEF CONCERNS

By Tommy Lamkin

As Master Chief Hospital Corpsman Phillip Jean-Gilles prepares his departure from Naval Medical Research Command (NMRC), and Master Chief Hospital Corpsman Christopher Cariss gets settled, both outgoing and incoming NMRC CMCs joined SCOPE Magazine for a talk about leadership, R&D and Navy life.

Tommy Lamkin

Editor's Note: Content from this Q&A has been edited for brevity and clarity.

Tommy Lamkin: Master Chief Jean, what have the last three years been like?

HCMC Phillip Jean-Gilles: They've been incredibly interesting, without a doubt. NMRC is unlike any other command, it has its own language, culture and unique infrastructure. The organization is predominantly staffed by civilians, and the military personnel we do have are highly specialized, researchers, psychologists and medical doctors. It's a command filled with subject matter experts dedicated to advancing research.

But our mission extends far beyond Navy Medicine. We support the entire military, the Combatant Commands and even partner nations in their efforts to combat infectious diseases. The scope of what we provide is vast, and there truly isn't another organization like NMR&D. The way we're structured and manned sets us apart from any other command.

TL: Yeah, the manning here is heavy with contractors and civilians, and a lot of PhDs...does that make being the CMC harder than if this was a place with 600 Sailors?

PJG: It can be challenging if you're not confident in who you are and what you bring to the table. This command is unique, and success here depends on understanding the value of your own experience, your fleet background and your



Aleece Williams

ability to bridge the gap between the innovators doing the research and the end users who will ultimately benefit from it. If you approach the role expecting it to mirror a traditional CMC billet with hundreds of Sailors, you'll likely find yourself struggling.

However, if you recognize the broader scope of the mission and learn to leverage your strengths, the role becomes incredibly rewarding. The key is being able to provide meaningful counsel to the Commander, the Deputy Commander and the subordinate commands while also serving as a connector across a workforce of military, civilian, and contractor personnel. In that space, you can truly thrive and make a lasting impact.

TL: And CMC, how've the last three days been treating you?

HCMC Christopher Cariss: The transition has been smooth, thanks to the warm welcome from everyone. I'm excited about the opportunities here to contribute to our mission readiness and further develop our team. My experience in a high-

operational-tempo environment has instilled in me the importance of proactive problem-solving and resourcefulness. I look forward to leveraging that experience to enhance our command's capabilities and dedicate more time to professional development for our Sailors, fostering a culture of continuous improvement.

TL: What do you think of being in a place like this as a chief? You've got a lot of people who don't know what a chief is, and some who don't recognize the anchor or your stars. What's that like?

PJG: It's a humbling experience. Coming up through the ranks, you assume that everyone understands the Navy structure, the role of a Chief, and the significance of the anchors we wear. But in a place like this, where the majority of the workforce is civilian or contractor and comes from very different professional backgrounds, you quickly realize that not everyone has that same frame of reference. It forces you to step back and recognize that the Navy's traditions and hierarchy aren't universally understood.

That creates both a challenge and an opportunity. It challenges you to communicate your role and value in a way that resonates outside the traditional Navy context, but it also gives you the chance to educate, build relationships and demonstrate leadership through action rather than just rank. In many ways, it reinforces the idea that being a Chief isn't about the anchors, it's about how you carry yourself, how you support the mission, and how you earn respect across your team.

TL: *Let's say we have a JO [junior officer] at one of the NAMRUs, or an enlisted person sitting down in San Antonio, what advice would you give them right now, picking this up and reading it?*

PJG: Stay curious, and never hesitate to ask questions. The work being done across the NMR&D command is unique, and it requires Sailors to lean into their expertise while continuing to grow. Many of our enlisted personnel come from ships or operational commands with diverse backgrounds, whether as preventive medicine technicians, lab techs or other specialties, and those skills are invaluable in supporting and advancing research. By bringing that operational perspective into the research environment, they add depth and relevance to the mission.

At the same time, our command structure is lean, which means Sailors are often tasked with collateral

duties alongside their primary responsibilities. That can feel overwhelming, but it's also an opportunity. The key is to recognize how your individual skill set can strategically enhance those roles and contribute to the bigger picture. That's something I've emphasized and continue to push forward, leveraging the full range of enlisted talent to strengthen the mission and ensure our impact is felt across the fleet and beyond.

TL: *Is there something that, say, an HM2 could be proactive in to set them up for success?*

PJG: Absolutely. For an HM2, success comes from a balance of leadership and personal accountability.



Tommy Lamkin

Even in a research-focused environment, there are plenty of opportunities to stay sharp and maintain core skills, whether that's working with the hospital, supporting base operations, or finding ways to apply medical expertise in different settings. Being proactive in seeking out those opportunities not only keeps your knowledge, skills and abilities current, but also shows initiative and a commitment to growth. From the leadership side, it's on the CMC and the senior enlisted team to ensure corpsmen are maintaining those KSAs [Knowledge Skills and Abilities] and are being properly utilized. If we see gaps, then it's our responsibility to address them, whether that means advocating for manpower changes or adjusting how billets are structured. The goal is to make sure Sailors are set up for success, both

in their current roles and for the future, by ensuring their skills remain relevant and their contributions are maximized.

TL: *I know you've stressed manning before...how would you say we have developed in the past two years as far as some of our billets, and how they're being distributed?*

PJG: From what I've gathered, there's been a significant shift over the past few years in how our billets are structured and distributed. At one time, we had an abundance of corpsmen within NMR&D, but as the organization evolved, closing certain labs and realigning missions, the number of billets decreased. With those changes, some skill sets that were once tied to specific labs no longer had a clear place in the command, creating gaps in alignment and utilization.

That's where the role of the CMC comes in: to be that persistent advocate; the "squeaky wheel," ensuring that these critical skill sets don't get lost in the shuffle. It's about pushing to maintain the right balance of manning across the enterprise while making sure our Sailors' skills are preserved and applied in meaningful ways. The goal is to continue refining billet distribution so that we're not only meeting today's mission but also preparing for the future demands of Navy Medicine research and development.

TL: *Do you pick up some of the knowledge needed to do that piece of the job along the way? Is there a lesson like that at the Senior Enlisted Academy?*

CC: It's experience. Senior Enlisted Leadership roles demand a commitment to continuous learning and a dedication to the mission.

Tommy Lamkin





My experiences, particularly as an ISIC preceptor, highlighted the importance of swift decision-making and resource management to ensure operational readiness. The majority of corpsmen I precepted were Independent Duty Corpsman, (IDC) and they were a “red line” for all the ships on the waterfront. Maintaining fully qualified personnel underscores our commitment to the well-being of our Sailors and the success of our deployments.

TL: *These are small boys?*

CC: Yeah, during my tenure, we had IDC’s serving independently on mine sweepers, PCs, DDGs, cruisers and frigates. Ships can’t get underway without an IDC and that’s why they are a critical “red line.” So figuring out how to make that stuff work takes planning, foresight, leadership and creativity when the pool of personnel with a specialized NEC is already limited. That’s just a small example.

PJG: And that point really underscores the value of experience.

There’s no formal course that teaches you how to manage manning at this level, it’s something you learn through engagement and responsibility. You quickly realize two things: first, you must have the right people in place to support the mission, and second, you have to become well-versed in the processes that ensure you can get and retain those people. That blend of operational necessity and hands-on experience is what drives real understanding.

TL: *And then I take it, you’re building relationships with people down in Millington.*

PJG: 100%.

TL: *And if you were an SEL in Jacksonville, you’ve probably already have some kind of foundation so that, if he had to walk out today, you would know exactly who to call?*

CC: Yes, regarding manning, the detailing shop and ECM are on speed dial.

PJG: A great example of that is Jerry Diederich, our current NMR&D manpower officer. He started out here as a Chief here, working directly with manpower and manning, and over time he developed that deep understanding of the process. That experience makes him such a valuable asset that, even after retirement, he now manages manpower for all of NMR&D. He didn’t go through any formal course to become the “manpower guy.” He built that expertise through his role as a Chief and by staying engaged in the work.

TL: *Yeah. My last division with Sailors, and on a ship, was 2013. And we had a small division, and tracking, everybody, it just seemed super easy. Also my last job at was a TYCOM [Type Command], and we had those manning pieces. But we’re not IDCs, we’re not that critical, and if we had a body that couldn’t get underway with, say, the [USS] Iwo Jima, then we’d just pluck somebody else out of somewhere else and put them there. It was always band aids. Everything was a band aid, nothing was permanent.*

PJG: Yeah. That’s a great point.

CC: That’s easier to do when you’re in the fleet; operational forces are a higher priority to fill.

PJG: At NMRC, it’s a different challenge. We’re lower on the manning priority list, which means advocating for our needs requires persistence. That’s where relationships and constant engagement come into play. The CMC has to be on the phone, making those calls, pushing for bodies, and ensuring our needs are heard.



If you're not that squeaky wheel, then you risk being overlooked, and that's when the gaps start to form. Consistent advocacy is the only way to keep us manned and mission-ready.

TL: *What do you hope to accomplish, or set out to accomplish, in the next 90 days, the next couple years?*

CC: My immediate priority is to build on the positive foundation established by my predecessor, reinforcing the value of the CMC role within BUMED. This means fostering a command climate rooted in respect, dignity and inclusivity, where every Sailor feels valued and empowered to contribute their best. By prioritizing the well-being and professional development of our Sailors, we ensure a mission-ready

force capable of meeting any challenge. This is a direct investment in our warfighters and contributes to our overall readiness.

TL: *What do you tell a fellow chief when they say, 'well, what the heck is NMRC?'*

PJG: The answer starts with explaining that it's the Navy's hub for medical research and development, driving innovation that directly supports the warfighter. Through programs like EMDEC, the Executive Medical Department Enlisted Course, we engage the senior enlisted community to show how our work connects to the broader mission of Navy Medicine. It's about making sure Chiefs, Senior Chiefs and Master Chiefs understand that NMRC isn't just a lab; it's a critical part of ensuring readiness, survivability, and long-term health for

Sailors and Marines. Beyond that, the message is about advocacy, keeping research visible and relevant at every table where decisions are made. If we don't tell our story and push to be part of the conversation, no one else will. That's why the question shouldn't just be "what is NMRC?" but rather "where is research in this effort?" By framing it that way, we reinforce the idea that research and development aren't optional add-ons, they're essential to advancing Navy Medicine and strengthening military medicine as a whole.

TL: *Right. I can relate.*

Sidney Hinds: *Based on your time here, what would you say that all the folks in the NMR&D community could do to help CMC as he continues that effort?*

PJG: To leverage him. his experience and connections. Scientists and researchers often run into delays simply because they don't know the right point of contact, but the CMC can bridge that gap quickly thanks to his network and background, including his time as a TYCOM IDC. By reaching out to him early and often, they can save time, cut through red tape, and focus on their work. The more the community leans on his expertise and relationships, the easier it becomes to navigate processes and keep research moving forward. I know I was able to help a lot of researchers, but there's a lot of protocols that I find on the back end that

they're struggling to find out who the POC is at AIRPAC, and they've been struggling for months. I can tell them, "that's a phone call away!"

TL: *What's the absolute best thing about being a Navy master chief?*

CC: Oh, man. The best thing about being a Navy master chief? First, before I started my Navy journey, I have to say thanks and pay homage to my grandfather, my "Pop." Immediately after I graduated high school my stepdad said to me "Awesome, you graduated. You have until the end of the summer to get out of my house." So, I talked to my grandfather hoping he would take me in and he said, "sure, I'll

help you out. I'll help you find a place to live."

He drove me to the Navy recruiter.
(everyone laughs)

And that's how it all started. The Navy has provided me with all the tools necessary for life. I also met my wife at my first duty station and both of our kids were born in Navy Hospitals in Jacksonville and San Diego. The Navy has shaped me into who I am today and provided support through all of family's major milestones. All that to say, the greatest privilege of being a Navy Master Chief is the opportunity to serve and give back to an organization that has shaped my life.



Aleece Williams

I am deeply grateful for the experiences, mentorship and personal growth the Navy has afforded me. Now it's my duty to pay it forward by developing the next generation of Navy leaders, fostering a culture of excellence and ensuring that every Sailor has all the resources and support they need to succeed. Our people are our greatest asset, and their well-being and development are paramount to accomplishing the mission.

TL: *Alright, and JG, what's the best thing about being a master chief?*

PJG: Influence. The influence you're able to have across every level of the organization. People, whether they're civilians, officers, or enlisted, naturally turn to the CMC for guidance because of the experience and perspective that position brings. That trust allows us to shape decisions, mentor others and provide advice that has a real impact on both individuals and the mission.

What makes it even more meaningful is the access you're given to conversations at the highest levels. You're not questioned about why you're in the room, you're expected to be there and your voice carries weight. That ability to represent the enlisted force, contribute to strategic discussions and ensure their perspective is heard is both powerful and rewarding. It's a reminder of the responsibility that comes with the anchors, and the privilege of using that influence to make a difference.

TL: *And it was a big deal for NMRC. You weren't here to hear*

how big of a deal it was that we were getting a master chief. Yeah. It was like an arrival to a new plateau for the command.

SH: *Yeah, for a while it was all anyone could talk about.*

PJG: 100%. When NMRC brought in a Master Chief, it really was a turning point: a signal that the command had reached a new level of leadership presence and influence. From the moment I arrived here, I was included in every conversation, whether it involved civilian matters, officer concerns, enlisted challenges or disciplinary issues. That level of being part of the conversation underscored how significant the role was, not just symbolically, but in shaping how the command operates day to day. What makes it meaningful is that leadership has trusted and acted on my advice the vast majority of the time. To be effective, you have to stay relevant, knowledgeable, and ready to apply your experience across a wide range of issues. There shouldn't be a conversation you're unfamiliar with, because that's how you ensure your voice carries weight. It's both a privilege and a responsibility. An important burden, but one that allows you to truly make a positive difference for the command and the people within it.

TL: *And so I guess that leads in to my next question for you both- what's the worst thing about being a master chief?*

PJG: Everybody comes to you, because we're here to help solve problems, and you don't really have the same outlet to share your own problems. Your circle of sounding

boards becomes very small, because even within the Chiefs mess, you can't always unload everything that you're carrying. In many ways, the DCOM and COM become the only true sounding boards you can rely on, which can make the role feel isolating at times. That weight is tough to carry, but it comes with the anchors and the role of the CMC. The key is not taking things personally, and staying objective, always keeping in mind that your role is about making the right decisions for the right reasons. As long as you stay grounded in that purpose, the burden becomes manageable. It's challenging, but it's also part of the responsibility and trust that comes with being the CMC.

CC: I wouldn't say there's a worst aspect to being a Master Chief, rather understanding that new challenges will arise. Within those challenges come tough conversations and difficult decisions that need to be addressed. I still have people from Jackson calling me cause it's lonely at the top. It'll stop for me on November 1st, 2028. For you, it'll be, what, July 1st?

PJG: Yeah.

TL: *Yeah. And with that reenlistment yesterday, that will take you to 30 years?*

PJG: Just a little bit shy: It'll be 29 and some change.

CC: I guess one thing I never expected is the important stuff that you have to do as a triad, right? Like, you're doing the CMGs, you're dealing with base SARC, the sexual assault response coordinator, the case management group for the base.

TL: Okay, so last question. Tonight is the first game of the season. How are we calling it? JG, how are the Bears going to do? Are you going to get revenge for last year's Hail Mary game against the Commanders?

PJG: Truth be told, there are only two games on the schedule that really matter to me, the Commanders and the Packers. Those are the ones I circled this season, because they carry a different kind of weight. The Commanders game especially sticks with me because of that Hail Mary loss, and I'll never be able to let that go until we get it back. I don't care if the Bears end up with a losing season overall, those two wins are the ones I need. Beating the Packers is always personal but avenging that Hail Mary against the Commanders is something I feel

like we owe ourselves as fans. Until that happens, it's unfinished business.

TL: And you know, and I'm going to mention here to everybody, how before that play happened, you were at the stadium, they got that touchdown, and you walked out smiling. And then you heard that crowd.

JG: That game is burned into my memory. We had just scored, the game felt sealed, and I turned to my wife saying, "let's get out early and beat the traffic." We're walking out of the stadium and fireworks are going off. Then suddenly, Commanders fans are pouring out, and when we pulled up the phone, there it was. The Commanders completed a Hail Mary for the win. I couldn't believe it.

TL: I remember the walk back to the Metro. It was wild.

PJG: The walk back was brutal. I had been high-fiving people, celebrating like it was over, and then in an instant it flipped into one of the worst sports moments I've lived through. My wife still has the video from the end, and every time I see it, I'm reminded of how bad that loss was. It's the kind of memory that sticks with you as a fan and the kind you desperately want revenge for.

TL: Now you can step into it. All right, Chris. The Eagles, are they going to repeat it?

CC: I want them to. You can never tell, though. They have a great team, but we're just going to have to see. I can tell you this, though: Dallas is going to lose tonight. ■



Sidney Hinds

Corpsman Up cont'd from page 3

"I was travelling to the Philippines with my daughter to see my family that I haven't seen in a while. I would like to thank God for giving me the courage and to be able to Corpsman up on a medical emergency midflight," Ciasico said.

Aircraft crew made a call to emergency services. Ciasico provided a medical status report, and services determined the situation to be a medical emergency. The flight was diverted mid-flight to Seattle, where first responders were waiting. Once on the ground, Ciasico assisted emergency crews and aided in a medical evacuation.

"HM2 Ciasico's actions aboard the flight exemplify the unwavering dedication and compassion that define the proud tradition of the hospital corpsman," said Master Chief Hospital Corpsman Phillip Jean-Gilles, NMRC's command master

chief. "Even while traveling to see his family, HM2 Ciasico did not hesitate to answer the call to provide medical care to those in need, embodying the core values of selflessness and readiness that have been the hallmark of corpsmen throughout history."

"I'm grateful for the Navy for the skills I developed from corpsman school and field medical training," Ciasico added. "Without those medical skills, attention to detail and being able to adapt in stressful situations, I don't think I would be able to do a head-to-toe medical/emergency treatment, stabilize her vitals, familiarize emergency medical equipment, even administer IVs and safely turn her over to medical emergency services."

Ciasico, who works in NMRC's administrative department, received his second achievement medal for his actions aboard that flight. In a

letter to Ciasico, the flight crew stated "Our crew is endlessly grateful to have your assistance during the medical emergency in the air. We know that the patient will have the best possible outcome thanks to your care. It has been an honor to fly with you."

"I am deeply proud to serve alongside HM2 Ciasico, whose professionalism and compassion reflect the very best of our Navy's medical community," added Jean-Gilles. "His willingness to step forward in a moment of need, regardless of personal plans, highlights the true spirit of the Hospital Corpsman—always prepared to care for others, no matter where duty calls. HM2 Ciasico's exemplary conduct not only saved lives, but also inspires all who wear the uniform to uphold the enduring tradition of excellence and service that defines our corps."

Etter Award cont'd from page 8

NHRC's second Etter award went to the ExCS Group, led by Dr. Timothy Dunn, for the team's work on directly enhancing and modernizing marksmanship assessment and training across the U.S. Marine Corps. Over the last several years, Dunn's ExCS team led the design, testing and deployment of four cornerstone capabilities, which included the Joint Marksmanship Assessment Package, used across the DoD for high-resolution marksmanship assessment.

"Having won two Etter awards really exemplifies the impact NHRC



scientists have on not just health and performance of our service members, but on readiness of our sailors and certainly on advancing lethality with the work our scientists do with Marine Infantry, and marksmanship standards," said Dr. Kenneth Earhart, NHRC Chief Science Executive.

"It also highlights, as Dr. Etter stated so clearly, the role our navy scientists play in educating the future generation of scientists through STEM engagement. I am very proud of both Dr. Markwald and Dr. Dunn for their tireless efforts leading both teams," ■

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SAN DIEGO (Aug. 14, 2025) Medical Service Corps (MSC) officers from Naval Health Research Center (NHRC) pose for a photo during a celebration of the MSC birthday. — *Danielle Cazarez*



SAN ANTONIO (Aug. 14, 2025) Darrin Frye, chief science director with Naval Medical Research Unit (NAMRU) San Antonio, gives a tour of command research facilities to visiting flight nurses from the Royal Thai Air Force, at the Battlefield Health and Trauma Research Institute. The nurses visited medical commands within Joint Base San Antonio to enhance their nursing knowledge and skills, to include advancing the quality of nursing practices related to disease management. — *Burrell Parmer*

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DAYTON, Ohio (July 9, 2025) Olivia Slomski, an Oak Ridge Institute for Science and Education (ORISE) research assistant at Naval Medical Research Unit (NAMRU) Dayton, analyzes data from a CPU terminal next to the off-vertical axis rotation (OVAR) chair on at Wright-Patterson Air Force Base, Ohio. Slomski placed in the top 10 of the national ORISE Ignite Off! competition on August 29 with her presentation, Autogenic Feedback Training Exercise (AFTE): Mitigating Motion Sickness Without Medication. The Ignite Off! competition brings together interns—including undergraduates, recent graduates, graduate students, and postdoctoral researchers—from a broad range of disciplines such as engineering, life sciences, earth sciences, computer and data science, social sciences, and physics and. — *Zachary Wilson*



SAN ANTONIO (July 29, 2025) Lt. Cmdr. Jeffrey Biberston, with NAMRU San Antonio, presents the 2024 Navy Surgeon General's Health Promotion and Wellness Award (Bronze Level) to Commanding Officer Capt. Michael Tiller. The U.S. Navy Surgeon General's Health Promotion and Wellness Program, primarily administered through the Blue H Award, aims to guide, encourage and reward health and wellness initiatives across Navy and Marine Corps organizations with award levels including Bronze Anchor, Silver Eagle and Gold Star. This program focuses on various health topics such as responsible drinking, violence and injury prevention, healthy eating, active living, psychological health, sexual health, tobacco-free living and weight management to maintain a fit and ready force. — *Burrell Parmer*



◀ **SILVER SPRING, Md. (June 11, 2025)** Hospital Corpsmen with Naval Medical Research Command (NMRC) pose during a celebration for the 127th birthday of the U.S. Navy Hospital Corps. — *Sidney Hinds*

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LIMA, Peru (June 27, 2025) NMRC leadership pose following a change of command ceremony in which Capt. Hak Auth (left), relieved Captain Michael G. Prouty (center-left), as commanding officer of NAMRU SOUTH. — *Monica Barrera*



TAKOMA PARK, Md. (June 9, 2025) Hospital Corpsman 2nd class Gilberto Arechigaguzman, with Naval Medical Research Command (NMRC), engages with students at Piney Branch Elementary School about work done by and career opportunities in the Navy and in Medical Research. Piney Branch students had the opportunity to speak with active-duty Sailors and command scientists during the event. — *Elliott Page*



SAN ANTONIO (July 14, 2025) Liliane Moorhead, a senior attending Lehigh University, tests the effects of radio frequency radiation on immune and vascular cells of the body during her internship at NAMRU San Antonio. — *Burrell Parmer*



SIGONELLA, Italy (Sept. 5 2025) NAMRU EURAFCENT participates in Naval Air Station Sigonella's "Keep Sigonella Beautiful" campaign, an initiative to promote environmental compliance and strengthen ties with the local communities. — *Randa Mortellaro*

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DAYTON, Ohio (July 14, 2025) Ryan Rakoczy, NAMRU Dayton, describes a T-6 regulator breathing test to Cmdr. Adam Preston of Naval Air Warfare Center Aircraft Division (NAWCAD) during a visit. Preston tested the regulator in both normal mode (with safety pressure) and modified mode (without safety pressure) by changing the ambient pressure in the box surrounding the regulator. The test system was designed by NAMRU Dayton's Dr. Barbara Shykoff. — Zachary Wilson



ACCRA, Ghana (July 11, 2025) Representatives with NAMRU EURAFCENT and the University of Ghana Medical Centre (UGMC) sign a five-year Cooperative Research and Development Agreement. The agreement was formalized by NAMRU EURAFCENT commanding officer Capt. Virginia Blackman and UGMC CEO Dr. Abdul-Samed Tanko. This agreement marks continuing collaboration between NAMRU and UGMC aimed at advancing infectious disease surveillance and research throughout Ghana and the broader West African region. — Lt. Cmdr. Matthew Forbes



▲SILVER SPRING, Md. (Aug. 12, 2025) An intern with NMRC discusses research undertaken during the summer alongside Navy scientists with Capt. Franca Jones and Master Chief Hospital Corpsman Phillip Jean-Gilles. — Sidney Hinds

▲SILVER SPRING, Md. (June 20, 2025) Sailors and Soldiers with NMRC participate in a command run during a physical training event. — Sidney Hinds



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SAN ANTONIO (June 16, 2025)

Juan Curbelo, a research associate assigned to NAMRU San Antonio's Cellular and Immune Based Adjuncts (CIBACC) Department, presented research titled, "In Vitro Vascular Endothelial Response to Novel Whole Blood Analogue for Resuscitation" at the annual AIM Health R&D Summit held at the Henry B. Gonzalez Convention Center. Designed to promote cross-sector collaboration in the development of life-saving battlefield technologies, the one-day summit brings together top innovators from academia, industry and the military to accelerate the research, development, and commercialization of transformative medical technologies. CIBACC, a subordinate department under the Combat Casualty Care and Operational Medicine directorate, conducts research on stem cell and immune based therapeutics intended to improve war fighter outcomes and survival.

—Burell Parmer

SAN DIEGO (June 17, 2025) Participants of Naval Health Research Center's (NHRC) change of command salute as the Naval Base Point Loma Color Guard parade the colors during the opening of the ceremony. The change of command ceremony, presided over by Capt. Franca Jones, saw Capt. Eric Welsh relieved as commanding officer, NHRC, by Capt. Kellie McMullen. — *Danielle Cazarez*



SILVER SPRING, Md. (Aug. 15, 2025) Rear Adm. Kevin Brown, commander, Naval Medical Forces Pacific, receives a brief from Victor Sugharto of Naval Medical Research Command (NMRC) on NMRC's infectious disease diagnostic capabilities during an official visit. — *Tommy Lamkin*



GROTON, Conn. (Aug. 29, 2025) Staff with the Naval Submarine Medical Research Laboratory (NSMRL) bid farewell to Lt. Cmdr. Neal McNeal at the conclusion of his time with the command, where he served as the department head of the Submarine Medicine and Survival Systems (SUBMED) department. — *Emily Swedlund*



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