



NAVAL MEDICAL

# R&D

NEWS

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# NAVAL MEDICAL RESEARCH CENTER CHANGE OF COMMAND AND RETIREMENT (COVER)

[Click Photo To Play Video](#)

*From Naval Medical Research Center Public Affairs*



SILVER SPRING, Md. – Capt. Adam W. Armstrong relieved Capt. Jacqueline D. Rychnovsky during a Change of Command and Retirement Ceremony held at the Naval Medical Research Center (NMRC), April 6.

During the ceremony Rychnovsky retired after 27 years of honorable naval service. She assumed command of NMRC in 2015.

“My decision to join the Navy Nurse Corps was one of the best decisions of my life,” said Rychnovsky, a native of Liberty, Missouri, who joined the Navy in 1990. “It provided me the opportunity to see the world and earn two graduate degrees. The Navy provided me the opportunity to follow my dream of becoming both a Pediatric Nurse Practitioner and a nurse researcher, with the bonus of spending a tour on Capitol Hill and then the Bureau of Medicine and Surgery and two overseas tours.”

After completing Officer Indoctrination School her first assignment was at Naval Hospital Charleston, South Carolina. In 1993 she moved on to the Naval Medical Clinic, Key West, Florida, as the Pediatric Charge Nurse. In 1997 she graduated from the University of Florida with a Masters of Science in Nursing degree. As a certified Pediatric Nurse Practitioner her next tour took her to the Pediatric Clinic in Jacksonville, Florida.

She later served as Head of Nursing Research at the Naval Medical Center, San Diego; along with a six month tour as Head of Inpatient Nursing, at the Expeditionary Medical Facility, Camp Arifjan....

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# THE DOD BIRTH & INFANT HEALTH REGISTRY: EVERY MONTH IS THE MONTH OF THE MILITARY CHILD (FEATURE)

*From Naval Health Research Center Public Affairs*

SAN DIEGO - April is the Month of the Military Child in recognition of the important role of children in military families and communities. What better way to celebrate military children than by protecting their health?

The Department of Defense (DoD) Birth and Infant Health Registry was established in 1998 by the Assistant Secretary of Defense for Health Affairs to do just that. At the time, the growing number of women on active duty, along with diverse occupational exposures associated with military service, prompted the establishment of the Registry, which is managed by the Deployment Health Research Department at the Naval Health Research Center (NHRC) in San Diego.

Around the time the Registry was established, military service members, veterans, and DoD officials began to raise questions about potential exposures experienced during Operation Desert Storm and their possible effects on reproductive health.

The Registry quickly became a valuable tool for monitoring the health of both service members and of the youngest members of the DoD family—military children.

The Registry’s goal is to explore possible relationships between military service and reproductive health. It does this by regularly gathering information about births among DoD service members or their spouses, applying scientific methods, and objectively researching infant health outcomes up to their first birthday. Registry researchers have access to large, DoD medical databases that capture all birth and health outcomes for infants born to military families...

**DoD BIRTH & INFANT HEALTH REGISTRY**  
EVERY MONTH IS THE MONTH OF THE MILITARY CHILD  
BY: NAVAL HEALTH RESEARCH CENTER PUBLIC AFFAIRS

**MAIN GOAL:**  
INCREASE UNDERSTANDING OF HOW MILITARY SERVICE AFFECTS SERVICE MEMBERS' REPRODUCTIVE HEALTH.

**AVERAGE NUMBER OF ANNUAL BIRTHS TO DOD BENEFICIARIES IN THE U.S. (2001-2014)**

- <501
- 501-1,000
- 1,001-2,100
- >2,100

APPROXIMATELY 8,000 BIRTHS OCCURED OVERSEAS

**EACH YEAR, APPROXIMATELY 90,000-120,000 INFANTS ARE BORN TO MILITARY FAMILIES.**

**DOD OPERATIONAL ENVIRONMENTAL CONCERNS STUDIED:**

- MILITARY OCCUPATION
- GEOGRAPHICAL LOCATION
- MILITARY-UNIQUE EXPOSURES
- DEPLOYMENTS
- VACCINATIONS DURING PREGNANCY

**BIRTH & INFANT HEALTH OUTCOMES STUDIED:**

- BIRTH DEFECTS
- PRETERM BIRTH
- INFANT SEX RATIO (RATIO OF MALE INFANTS TO FEMALE INFANTS)
- BIRTH WEIGHT
- GROWTH PROBLEMS IN UTERO AND IN INFANCY

**DATA FROM OVER 1.6M INFANTS**

**NHRC ALSO MANAGES TWO ACTIVE ENROLLMENT PREGNANCY REGISTRIES:**

- THE BIOTHRAX® (ANTHRAX) VACCINE IN PREGNANCY REGISTRY (BAVPR)
- THE NATIONAL SMALLPOX VACCINE IN PREGNANCY REGISTRY (NSVIPR)

**IMPORTANT FINDINGS:**

- ABOUT 3-4% OF INFANTS BORN TO SERVICE MEMBERS OR THEIR SPOUSES ARE DIAGNOSED WITH A BIRTH DEFECT. THIS RATE IS SIMILAR TO RATES SEEN IN CIVILIAN POPULATIONS.
- RATES OF PRETERM BIRTH AND GROWTH PROBLEMS COMPARABLE TO OR LOWER THAN NON-MILITARY POPULATIONS.

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# R&D CHRONICLES: A BRIEF HISTORY OF SEASICKNESS IN THE U.S. NAVY

By André B. Sobocinski, Historian, BUMED

*“As soon as we meet the swell of the ocean, most of those who have not sailed before, and some of those who have, begin to feel unable to keep on their feet; they feel unaccountably helpless; soon they have vertigo and nausea; and it is not very long before the impulse to empty the stomach becomes irresistible.”*

*~Medical Director Joseph Wilson, USN (1879)*

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For as long as there have been ships and voyages at sea, there has existed a struggle to achieve one’s “sea legs.” Whether sailing on calm or turbulent waters, the disturbing lack of equilibrium we term seasickness is almost certainly a guarantee.



Perhaps it is no surprise the word for nausea is rooted in the Greek name for ship (“Naus”); seasickness has been a bane for mariners since ancient times. Although science has come closer than ever before to unlocking the mystery of this type of motion sickness, there are still many notions as to its cause and who is most susceptible.

One of the prevailing theories holds that the affliction arises from a sensory conflict between the eyes and inner ear which triggers a guttural reaction. Over the last 50 years researchers have speculated, those who are deaf and without fully functioning vestibular systems are less prone to motion sickness.

From the moment the U.S. Navy launched its first frigate, shipboard medical personnel have sought cures and concocted their own treatments for seasick Sailors.

In the nineteenth century, Navy physicians proposed everything from fresh air and remaining on deck “as long as possible,” to the intake of foods like smoked herring or ginger cakes and imbibing aromatic drinks like coffee, tea or brandy. More extreme measures were proposed including the administering of opiates, chlorate hydrate, seawater enemas, or as Assistant Surgeon Robert Boyd prescribed in 1896, “muriate of cocaine.”

While still in the age of wooden sailing ships, surgeon William Johnson, USN (born. 1804) presciently stated seasickness was the result of the “impression produced on the optic nerve and transmitted to the brain by the continued motion of the vessel” and advised afflicted Sailors to “keep [their] eyes shut.”

The spectrum for seasickness cures remained as varied into the 1900s....

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# NMRC RESEARCHERS PARTICIPATE IN NMHM STEM INITIATIVE, BRAIN AWARENESS WEEK 2017

From Naval Medical Research Center Public Affairs



SILVER SPRING, Md. – Researchers from the Naval Medical Research Center (NMRC) participated in the National Museum of Health and Medicine (NMHM) Annual Brain Awareness Week, March 16. Brain Awareness Week is one of the museum’s central efforts to support the Department of Defense (DoD) Science Technology Engineering and Math (STEM) workforce development initiatives.

NMRC Operational and Undersea Medicine Directorate (OUMD) researchers Lt. Cmdr. Peter Walker, Dr. Anna Tschiffely, and Jonathan Statz, participated in the event and highlighted research being done in OUMD laboratory’s relating to blast injuries and monitoring brain activity....

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# NAMRU-D RESEARCHER HIGHLIGHTED BY OFFICE OF THE SECRETARY OF DEFENSE

From Naval Medical Research Unit - Dayton Public Affairs

DAYTON – In celebration of Women’s History Month, the Office of the Secretary of Defense (OSD) highlighted the accomplishments of a number of exemplary individuals across the Department of Defense. Dr. Karen Mummy from the Naval Medical Research Unit – Dayton (NAMRU-D) was one of three individuals featured on the OSD Office of Diversity Management and Equal Opportunity web site.

Director of NAMRU-D’s Environmental Health Research Effects Directorate, Mummy leads a scientific team of over 20 active duty, civilian and contractor scientists focusing on understanding the health concerns of environmental stressors and toxicants on the warfighter.

Having earned a doctorate in microbiology from Miami University, and before moving to NAMRU-D , Mummy completed a joint post-doctoral fellowship in the Department of Pediatrics at Massachusetts General Hospital, and the Department of Microbiology and Molecular Genetics at Harvard Medical School.



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## NMRC RESEARCHER TRAVELS TO HUNGARY FOR ANNUAL NATO CHESS TOURNAMENT

*From Naval Medical Research Center Public Affairs*



SILVER SPRING, Md. – “At these tournaments, my mind is teeming with pawns and little else,” said Lt. Chaselynn Watters, staff scientist in the Wound Infections Department at the Naval Medical Research Center (NMRC). Watters was selected to represent the United States Navy at the 28th annual North Atlantic Treaty Organization (NATO) Chess Championship held at the ornate and historic Stefania Palace, Cultural Center of National Defense, Budapest, Hungary, March 26 – April 1, 2017.

NATO, composed of 28 countries, was established in 1948 to “safeguard the freedom and security of its members through political and military means,” according to the NATO website. The

NATO Chess Championship officially began in 1989 in Hammelburg, Germany, and continues to bring military chess players together in different parts of the world to dual in a friendly battle of wits. The tournament consists of seven rounds, with a time control for each player of 120 minutes. If, by the 40th move, the game was not yet over, 30 minutes are added to the clock, for a total of five hours maximum playing time.

Gifts are typically given from one opponent to another at the beginning of each round, “They range from military memorabilia from the representing country, to food or drink from said country. I don’t know where this tradition started, but I think it fits nicely into the spirit of the tournament which seems to be centered on goodwill and camaraderie among our NATO allies,” said Watters. Watters presented his opponents with NMRC items, such as command coins, pens, and ball caps.

While some games end well before the five hour maximum playing time, others draw on. When asked if there was a particularly difficult match at the tournament, he recalled, “My second game of the tournament, I was pitted against a bespectacled chess expert from Luxembourg – we played a positional match which eventually led to an endgame of same colored bishops where I was ahead a pawn. This game turned into the longest game of my life,” said Watters. “I tried to whittle away his time and get him to make a mistake, but his fortress was too tough to break, and he defended for over 200 moves.” Watters’ draw or tie came with a sweet end, as he noted, “It was an excellent fight and we were fast friends after that, checking on each other’s games and standings throughout the tournament, and having nice chats at dinner time.”

“Chess struck a chord with me mainly as a way to make friends and for the intellectual competitive combat. I’ve dabbled in the black and white since age 13, but began regular training and playing in chess tournaments in college.” Watters learned a lot of his skill from his chess coaches in graduate school: former Women’s World Champion of Chess, Grandmaster Susan Polgar, and former U.S. Champion, Grandmaster Alexander Onischuk. Training with them on a weekly basis and having the opportunity to play with talented international students, according to Watters, has both increased his delight in diversity and his chess playing abilities.

Distinguishing themselves among the 18 nations at the event, the top three placing nations were 1. Germany, 2. Denmark, 3. Poland – the United States placed 8th....

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## NAMRU-SA Hosts International Delegation to Foster Medical Research and Collaborations

*From Naval Medical Research Unit - San Antonio Public Affairs*

SAN ANTONIO - Representing the Americas, a group of 60 business leaders and policy officials visited Naval Medical Research Unit San Antonio, as part of a larger tour of military medical facilities at Joint Base San Antonio-Fort Sam Houston April 3.

The group included foreign ministers, private sector leaders, mayors and senior leaders from major cities, leadership of major universities, presidents of competitiveness councils and other senior leadership.

The delegation is part of the 2017 Americas Competitiveness Exchange, or ACE, on Innovation. ACE is a local economic development program hosted by the U.S. Department of Commerce, through the International Trade Administration, Economic Development Administration; U.S. Department of State; the government of Mexico and the Organization of American States, or OAS.



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## MILITARY MEDICINE PROMOTES GLOBAL HEALTH SECURITY WITH PARTNER NATIONS IN WEST AFRICA

*Story Courtesy of Health.Mil*



The word *health* resonates across borders and cultures.

That lesson was made clear during a recent trip by Military Health System leaders to three African nations, underscoring the enduring commitment of the MHS to help partners build enhanced capabilities to respond to infectious disease and other public health threats around the world.

As part of the Joint West Africa Research Group (JWARG), the team traveled to several medical research and clinical training facilities in Nigeria, Liberia and Ghana, where U.S. military medical experts are helping to strengthen important

biosurveillance and clinical response capabilities. They also took the opportunity to meet with military and public health leaders in each nation to discuss how to continue the momentum of recent successes.

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# SUPPORTING THE 21ST CENTURY SAILOR WITH SCIENCE

*From Naval Health Research Center Public Affairs*



SAN DIEGO – Naval Health Research Center (NHRC) welcomed Rear Adm. Ann Burkhardt, director, 21st Century Sailor Office, on an official visit, March 13.

During the visit, Burkhardt met with Capt. Rita Simmons, NHRC's commanding officer, and other key scientific personnel to discuss the command's research that aligns with 21st Century Sailor initiatives.

“NHRC's robust research portfolio includes several projects that dovetail with 21st Century Sailor objectives in terms of promoting the physical and psychological readiness and resilience of our warfighters,” said Simmons. “We have a diverse group

of scientists with expertise that spans behavioral health and neuroscience to sleep physiology and biomedical engineering, which makes us well-equipped to leverage our research capabilities to support the 21st Century Sailor Office's mission.”

Researchers from NHRC's Health and Behavioral Sciences Department provided Burkhardt with an overview of current research projects that directly address 21st Century Sailor initiatives of readiness, inclusion, and continuum of service.

Burkhardt was particularly interested in learning more about NHRC's longitudinal research and how that data could be used to improve readiness and resilience. Two studies of particular interest were the Millennium Cohort Study, the largest longitudinal study in military history that aims to understand the long-term health outcomes of military service, and the Recruit Assessment Project, which collects pre-service health and behavioral data to understand how military service impacts physical and psychological health.

Researchers also highlighted current research initiatives to develop:

- A mobile app to help prevent prescription drug misuse
- Leadership training to support improved sleep habits and well-being
- An improved suicide screening for use in primary care settings

“By identifying and better understanding factors that impact readiness and resilience, researchers can arm leaders across the DoD, both on the operational and medical fronts, with the knowledge they need to develop the tools and interventions that optimize warfighter health and performance,” said Simmons.

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