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Fourth Annual Military Medical Industry Day to Enable Collaboration and Idea Exchange between Industry, Academia, Military and other Medical Professionals

Author: Dr. Scott Walter

The City of San Antonio, the San Antonio Economic Development Department Corporation (SAEDC), and VelocityTX hosted the fourth Military Medical Industry Day (MMID) on 2 May 2023 at the Henry B. Gonzalez Convention Center.

As in previous years, last week's event highlighted San Antonio's leading military medical research missions, including the Naval Medical Research Unit-San Antonio, the 59th Medical Wing, and the U.S. Army Institute of Surgical Research (ISR). These three organizations focus on enhancing the treatment of combat wounded, advancing important clinical research initiatives related to the treatment of burns, polytraumatic injuries, and directed energy, among others. There missions promote medical readiness through training opportunities for military medical personnel and contribute to the development of healthy communities by providing routine care to service members, veterans, and their families. Dr. Niemeyer, the Chief Scientist for the 59 MDW, briefed the 59 MDW medical research and development mission and capabilities at industry day. She noted "Industry day is a tremendous opportunity provided by the city and VelocityTX that enables collaborations between the military and industry to address warfighter medical needs and requirements, which in turn benefit the civilian population."

Also highlighted was the Defense Health Agency (DHA) and its role in coordinating and aligning medical research, development, and acquisition for the DoD, represented

by this year's keynote speaker Dr. Sean Biggerstaff, Acting Deputy Assistant Director, Research and Engineering for DHA. Presentations and panel discussions were offered throughout the day, exploring Air Force, Navy, and Army medical requirements, medical R&D funding opportunities, information about San Antonio-based military medical R&D capabilities, and lessons learned from others familiar with the development of new medical capabilities for the DoD. Attendees were also provided the opportunity to meet semi-privately with a panel of subject matter experts from all three services to ask questions and receive immediate feedback about proposal submissions and requirements, pitch ideas, and clarifications on preferred research approaches. Conceived as part of the City of San Antonio's Military Life Science Commercialization Action Plan, MMID was founded to promote collaboration among military research organizations, industry, academia, non-profit organizations, and other organizations to facilitate medical research and development (R&D), promote discussion of military needs, spotlight funding opportunities, and enable community commercialization opportunities to address needs and create lifesaving technologies.

Tuesday's event was preceded by three preparatory webinars held in February, March, and April to introduce MMID and convey information about the military's ability to establish technology transfer agreements, license of military developed intellectual property, and utilize the DoD's partnership with the US Food and Drug Administration (FDA) to obtain approval/certification of new medical products.

MMID IV was considered extremely successful, with over 266 attendees, an increase of more than 20 percent over last year's event. The SA MMID planning team is seeking any/all feedback to improve the SA MMID 2024 event already under development. For more information about MMID, visit Military Medical Industry Day III (sanantonio.gov) and https://www.velocitytx.org/support/sammi/.

Data Sharing in DHA

Data sharing in research promotes collaboration between researchers, allows for reproducibility and validation of study results. Data sharing has many benefits but it is not without its risks. To ensure privacy and security are addressed, researcher needs to ensure they are following DHA guidelines for sharing DHA data. The DHA Privacy and Civil Liberties Office (PLCO; also called the DHA Privacy Office) is responsible for verifying

compliance with privacy laws and policies, such as the Privacy Act of 1974 and DoD Instruction 5400.11, DoD Privacy and Civil Liberties Programs.

A Data Sharing Agreement (DSA) is an administrative control used by DHA to document that the requested use of data is in compliance with the previously mentioned Federal laws and DoD policies. A DHA DSA, or Data Use Agreement (DUA), is needed if contractors or non-government researchers seek to obtain Military Health System (MHS) data, "managed by DHA" (commonly referred to as DHA data), to perform a government-sponsored initiative. Government personnel conducting research must also obtain a DHA DSA or DUA. Data "managed by DHA" is any verbal clinical data from Military Health System (MHS) patients or providers, hard copy medical records data, and digital data maintained on DHA systems or systems that are determined to fall under the purview of the DHA Chief Information Officer.

If your study involves data collected in these ways, you will be required to complete a formal application, the template for which is found at the link below. The DHA PCLO has a list of frequently accessed systems that contain DHA data to assist data requestors in determining whether data are DHA data. DSA applicants must obtain HRRP or IRB approval (depending on study type) prior to submission to DHA PLCO. An initial Data Sharing Agreement Application (DSAA) will need to be submitted with supporting documentation. Supporting documents include, but are not limited to: IRB/HRPP approval letter, study protocol, letter(s) of support, and de-identification plan. If the project requires the use of Social Security Numbers, then a Social Security Justification must be completed as well.

Applicants are required to notify the DHA PLCO of any changes to the data use, storage or disclosure as given in the DSAA and ensure timely renewal of the DSA, if necessary. They must also submit a completed Certification of Data Disposition (CDD) to the DHA PLCO no later than 30 days after the expiration of the DSA.

A DSAA is not required if a researcher is not accessing or requesting identifiable data at any time or only de-identified data is requested by the PI and used only for the duration of an entire study. If identifiable data provided by participants (I.e. participant enrolls themselves in the study and provides their own information and DHA systems not accessed at any time to verify the data participant provides), a DSAA is also not required.

NOTE: The DHA PLCO does not provide data extractions or grant system access. The System Managers who grant access to data require a DSA.

If you have any questions regarding data sharing please reach out the DHA PLCO office at dha.ncr.pcl.mbx.data-sharing@health.mil.

Additional information and templates can be found:

https://info.health.mil/cos/admin/privacy/Data%20Sharing%20Program/Pages/Home.aspx

https://www.health.mil/Military-Health-Topics/Privacy-and-Civil-Liberties/Data-Sharing-Agreements

List of Systems Containing DHA Data

https://www.health.mil/Reference-Center/Publications/2021/01/20/List-of-Systems-Containing-DHA-Data

Augmenting the Adaptive Acquisition Framework with a Commercial Development Pathway

By Dr. Scott Walter

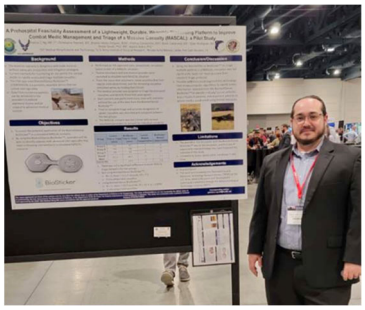
In his article "Augmenting the Adaptive Acquisition Framework with a Commercial Development Pathway" published in the Jun-July 2023 edition of Defense Acquisition University (DAU) magazine, Dr. Scott Walter presents an argument that the six transitional acquisition pathways of the Adaptive Acquisition Framework in DoDI 5000.02 should be amended with an inclusion of a seventh pathway for developing commercial products that are both required/desired by the military and have a viable market for commercial sales of the products. His argument is based on the need to include outside investments from venture capitalists, angel investors, large corporations, and others as well as the cutting edge ideas from industry to reduce development costs and risks while creating a product that meets (and possibly exceeds) military requirements which is more affordable and capable due to civilian-use sales and inputs. Dr. Walter provides a brief review of congressionally-driven acquisition reforms over the past four decades, and identifies that while tremendous progress has been accomplished, the acquisition reforms fell short of Congress's intent for the DoD to work closer with industry to achieve cost savings, reduce the time to field (via the commercial market), and field new capabilities at the speed of relevancy. He cites examples of commercial development pathways such as prize competitions, venture capitalist partnerships, and cooperative development agreements as well as desired medical capabilities that could be developed using these approaches such as freeze dried blood and other lifesaving products. The article can be found at May - June Defense Acquisition magazine:

https://www.dau.edu/library/defense-atl/p/DefAcqMag-May-June23.

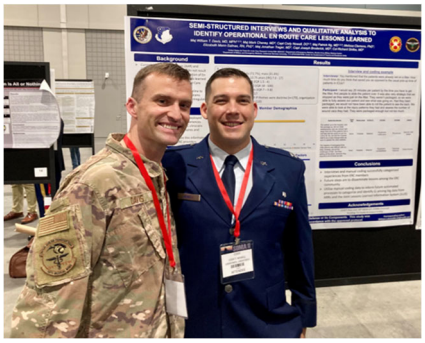
2023 Special Operations Medical Association Scientific Assembly

Dr. Sheila Savell

Twelve representatives from ECRC and CRESTT attended the 2023 Special Operations Medical Association Scientific Assembly in Raleigh, NC. The Special Operations Medical Association is a professional organization whose vision is "to enhance knowledge, experience, skills, and wisdom of current and future Special Operations and Tactical providers." Their mission is "to advance the science, technology, knowledge and skills of unconventional medicine providers in order to increase survival, reduce suffering, and speed recovery of those who are injured or become ill during Special Operations or Tactical missions." (https://specialoperationsmedicine.org/mission-vision-and-goals/) The team presented two posters and one podium presentation.



Poster: Maj Ng, (PI), presented by Christopher Bennett



"A Prehospital Feasibility Assessment of a Lightweight, Durable, Wearable Biosensing Platform to Improve Combat Medic Management and Triage of a Massive Casualty (MASCAL): a Pilot Study"

Conclusions: Using the BioIntelliSense BioStickerTM to triage multiple patients in a MASCAL simulation was not significantly faster nor more accurate than standard triage protocols

Possible additions could augment this technology that allows computer algorithms to rapidly assess information obtained from the BioIntelliSense BioStickerTM to identify critically injured patients, less critically ill patients, and expectant patients on whom medics could avoid using limited resources.

Poster: Maj Davis (PI), Presented by Capt Cody Newell

"Semi-Structured Interviews and Qualitative Analysis to Identify Operational En Route Care Lessons Learned"

Conclusions: Interviews and manual coding successfully categorized experiences from ERC members

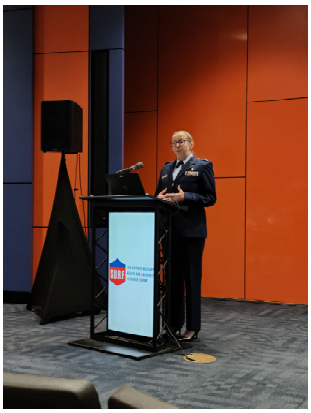
Future steps are to disseminate lessons among the ERC community; and to utilize manual coding data to inform future automated processes to categorize and identify LL among big data from ARRs and the Joint Lessons Learned Information System (JLLIS).

9th Annual San Antonio Military Health and Universities Research Forum

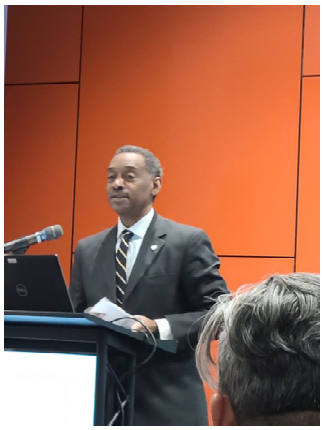
The 9th Annual San Antonio Military Health and Universities Research Forum (SURF) was held on June 15 at the University of Texas at San Antonio (UTSA). It was attended by over 300 people from the 59th Medical Wing, BAMC, NAMRU, UT Health SA, UTSA, and local biotechnology industry individuals. 38 podium and 88 poster presentations were given.

Opening Remarks Speakers

Opening remarks from given by JoAnn Browning, UTSA Interim Vice President for Research, Dr. Byron Hepburn, UT Health SA Military Health Institute, COL Sean Hipp, Vice-commander, BAMC, and Lt Col Tonya White from the 59th Medical Wing.



Lt Col White giving opening remarks



Dr. Jonathan Woodson giving the Keynote Address

The Keynote Address was given by Jonathan Woodson, M.D., MG, USAR (Ret), President, Uniformed Services University of the Health Sciences. His presentation was entitled "Innovation and Leadership in Health Care: Urgent Matters!".

The 59th Medical Wing was well represented in a panel presentation entitled "SPaR: Arming the Warfighter with Self-Sustaining Resilience". The panel presenters were Maj Andrea "Andi" Krunnfusz, Ph.D. and Maj John R. Jones, Ph.D., Military Readiness and Clinical Health Psychology Fellows, 59th Medical Operations Squadron; Benjamin M. Keizer, Ph.D., Board-Certified Clinical Health Psychologist, San Antonio Uniformed Services Health Education Consortium; Meghan Lewis, Occupational Therapist, Center for the Intrepid at Brooke Army Medical Center; Nick Levine, Postdoctoral Fellow, Center for the Intrepid at Brooke Army Medical Center; and Jeffrey Tiede, M.D., Director, Center for the Intrepid, Brooke Army Medical Center.

SPaR Panel – (left to right) Bob Christy, Ph.D., UT Health SA Military Health Institute, Maj Andrea Krunnfusz, Maj John Jones, Benjamin M. Keizer, Ph.D., Jeffrey Tiede, M.D., Nick Levine, Ph.D., and Meghan Lewis

Poster awards were presented to: 1st Place: Abigail Johnson, UT Health SA, for "Efficacy of Stop the Bleed Curriculum in Young Adolescents"; 2nd Place: MAJ Bryan Yu, Army/Baylor University for "Ultrasonographic Characterization of Scapholunate Joint Interval in Wrist Extended and Neutral Push-up Positions", and 3rd Place: Brittany Dang, UTMB, for "The Effect of Polycystic Ovarian Syndrome on Fibrocystic Breast Changes in Postmenopausal Women".

Poster Award Winners: (left to right) Abigail Johnson, Bryan Yu, Brittany Dang, Michael Morris, MD, Dean of SAUSHEC.

More photos are available at the SURF Facebook Page https://www.facebook.com/satxsurf

Enhanced Pre-Pandemic Comorbidities and COVID-19 Prevalence in Male Black Military Popula-

Author: Dr. Susana Asin, 59 MDW/STHC, Director, Center for Advanced Molecular Detection (CAMD)

Diseases such as hypertension, diabetes mellitus, asthma, and cardiovascular conditions have been reported to worsen the progression of coronavirus disease 2019 (COVID-19) and related hospitalization. Many studies have indicated that in the US civilian populations, the COVID-19 pandemic has disproportionately affected the historically marginalized groups. Thus, Black, Hispanic, and Asian individuals have substantially higher rates of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, COVID-19 hospitalization, and death when compared to White individuals. The factors underlying racial disparities in SARS-CoV-2/ COVID-19 prevalence in Military Service Members (MSM) is not well understood.

We conducted a systematic review of Military Health System (MHS) beneficiaries' records by accessing the Defense Medical Epidemiological Database (DMED). The DMED is a web-based tool to remotely query de-identified active component personnel and medical event data contained within the Defense Medical Surveillance System (DMSS). DMSS is an executive information decision support system whose database contains up-to-date and historic data on diseases and medical events. All data on Department of Defense (DoD) service members contained in DMED is validated against DoD personnel data obtained from the Defense Manpower Data Center (DMDC).

We found higher trend in SARS-CoV-2 infection and COVID-19 hospitalizations rates in Black compared to White MSM. This seamless inequality was also seen in other viral infections affecting MSM including Human Immunodeficiency Virus (HIV) and viral hepatitis. We hypothesized this disparity to some extent may be due to the presence of pre-pandemic comorbidities that is affecting this Military sub-population. Supporting our hypothesis, we found a trend towards the enhanced pre-pandemic prevalence of diabetes mellitus, asthma, hypertension, and ischemic heart disease, in-Black compared to White MSM, especially in older Black male adults.

Our results highlight the role of pre-pandemic comorbidities may likely underly the racial disparities in the prevalence of viral infections particularly in Black male MSM. These findings underscore the need for sustained efforts and new policies to reduce or eliminate the healthcare disparities affecting this Military subpopulation, especially in the setting of future pathogens outbreaks or pandemics affecting Military populations.

BATDOK Pilot for Evaluation of High Frequency Hemodynamic Data Transfer to Evaluate En Route Care Human Performance

Author: Maj William Davis

The objective of this project is to conduct an observational cohort study of adults transported by United States Air Force Critical Care Air Transport Teams (CCATT) who receive in-flight monitoring. Patient monitors measure and record hemodynamic data multiple times per minute during usual care. The purpose of this study is to investigate the potential impact of material solutions enabling transfer of hemodynamic monitoring data from patient movement items into the electronic medical record for handoff of more complete vital sign trends. An additional objective of the study is to provide a more definitive answer for cabin altitude restriction's (CAR) impact on hypoxia events given that the most common indication for CAR in combat wounded is to optimize oxygen delivery. The Battlefield Assisted Trauma Distributed Observation Kit (BATDOK™) is a government off the shelf mobile software solution, which can wirelessly and autonomously aggregate streaming vitals from multiple patient monitors and populate documentation forms. We aim to develop a novel capability for use of high frequency data from BATDOK Case Export for transitions of care and quality improvement analyses by end-users without data science expertise or advanced data software.

BATDOK Case Export can generate data summary outputs appropriate for transitions of care and QI evaluations without advanced data science expertise or software.

The 86th Medical Squadron CCATT, a Landstuhl Regional Medical Center capability; the 10th Expeditionary Aeromedical Evacuation Flight, Ramstein AB Germany; and the 18th Medical Group CCATT, Kadena Air Base, Japan are our partners in the execution of this study. SSgt Lois Haley Heitkamp, our collaborator and POC for the CCAT teams in Germany visited the ECRC in March for orientation to the study operating procedures, and to meet the team. Maj William T Davis recently visited Kadena Air Base to meet with study collaborators. These teams are some of the busiest operational CCATT units across the force. Our lead collaborators are Lt Col Wes Trueblood and Sgt Joe Collins. All collaborators are now fully informed of study processes and data collection has begun. We recently received our first transfer of data from Germany. We are looking forward to this collaboration with our partners in the field.

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Science and Technology Contact Information

Our Vision
Grow Medical Leaders, Drive Innovations in Patient Centered Care and Readiness

Our Mission
Conduct clinical studies and translational research and apply knowledge gained to enhance performance, protect the force, and advance medical care and capabilities

Points of Contact

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