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Summary of the Military Health System Research Symposium (MHSRS)



Questions?

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Summary of the Military Health System Research Symposium (MHSRS) September 12-15, 2022 in Kissimmee, FL

OVERVIEW

After two-years of COVID-19 related cancellations, everyone was eager to reunite in person for the military's largest scientific meeting of the year, with a focus on the unique medical needs of the Warfighter. It was a record setting conference with more than 2,300 scientific abstracts submitted (the highest number in the history of the conference), 65 scientific breakout sessions, over 1,300 poster presentations, and more than 4,000 attendees (an unprecedented turnout).

Below is an overview of MHSRS and key meetings and takeaways. It includes a summary of information gleaned from attending the plenary opening remarks and breakout sessions on specific military medical challenges, and an overview of some of G2G's one-on-one meetings with Program Managers and Directors. Please let us know if you have any questions or would like additional information by contacting Liz Powell, lpowell@G2Gconsulting.com or Greg Kapcar, gkapcar@G2Gconsulting.com.

KEY SESSIONS AND TOPICS

Plenary Session:

The featured presenters were from the Defense Health Agency (DHA) and Uniformed Services University (USU) and included:

- **Ms. Seileen Mullen – Acting Assistant Secretary of Defense for Health Affairs** – She highlighted the military's key role in developing COVID-19 vaccines as well as the enduring importance of applied research work. She noted the Army is shifting R&D assets to the Defense Health Agency (DHA), which will control all health assets. To better prepare for the next biological threat, she emphasized the department's investments in biosurveillance, a topic that has the attention of senior leadership. In closing, she lifted up Diversity, Equity, and Inclusion (DEI) as a general area of need across all levels of the DoD, especially considering women currently make up 17% of the military force (and growing).
- **LTG Ronald Place – Director, DHA** – He is in the final months of his directorship and military career. He outlined three key priorities for military leadership: 1) prepare for any contingency, 2) perform consistently well at DoD core mission, and 3) strive for constant improvement. Director Place provided valuable advice for companies seeking to collaborate with the military: not every interaction should be about getting your company grant or contract money, communicate transparently and concisely about capabilities, timelines AND what was learned from failures – trusted relationships matter!



- **BG Katherine A. Simonson, Transitioning Assistant Director for Support (AD-S)** – Much of BG Simonson’s remarks focused on the reorganization of DHA. She takes over October 1, following Dr. Butler’s retirement and Sean Biggerstaff will lead research and engineering. She stated the top three investment areas are now: 1) combat casualty care, 2) military operation medicine, and 3) military infectious disease.
- **Dr. John Holcomb – Professor at University of Alabama Birmingham & USU** – The focus of Dr. Holcomb’s remarks was on improving trauma outcomes. He favorably noted the recent return in military medicine towards using whole blood (WB) and other blood derived products in damage control resuscitation. He addressed the need for reprioritizing research funding towards clinical research, including deploying researchers to battlefields during war, and conducting translational research during interwar periods.
- **Dr. Terry Rauch – Acting Deputy Assistant Secretary of Defense for Health Readiness, Policy and Oversight** – Dr. Rauch stressed the importance of innovation from industry partners to solve the biggest problems on the battlefield; with uncontrollable hemorrhage remaining as the number one cause of death for Warfighters.
- **MAJ GEN Jonathan Woodson, M.D., MSS, F.A.C.S., President, Uniformed Services University of the Health Sciences** – Dr. Woodson talked about USU’s top priorities as developing future leaders and serving as a translational hub for the Military Health System (MHS). He outlined four critical needs: 1) integration of joint medical systems from point of injury (POI) to roles 4 & 5 (e.g. continuum of care integrated with latest technology, use of advanced sensors, etc.); 2) advanced adaptation of ruggedized and lightweight decision support tools with greater predictive capabilities; 3) education and training for care providers using digital platforms with immersive VR and realistic trainings; and 4.) increased collaboration among DoD research, civilian companies and collaborators, academia and other governmental agencies.
- **COL Stuart Tyner – Director, Military Infectious Diseases Research Program (MIDRP)** – He led a Q&A session with several of the panelists which further highlighted initiatives and priorities of the MHS including: 1) additional funding for the DoD’s biosurveillance and infectious disease portfolio led by Dr. Rauch; 2) removing unwarranted duplication in infectious disease research; 3) collaborations with the VA on a 5-year major research consortium on TBI and long COVID; 4) Medical Research & Engineering interests in AI/ML, precision medicine in clinic & field, medical simulations, medic training, sensor technologies, and resilience monitoring; 5) interagency collaboration on Cancer Moonshot 2.0 led by Dr. Craig Shriver; 6) nutrition health for servicemembers who face food insecurity; and 7) pharmaceuticals program like the existing one at VA led by LTG Place.

Topics and Breakout Sessions:

This year, MHSRS included several sessions with high-level leaders explaining policy priorities within DoD, future agency structural changes, and Program Directors/researchers leading breakout sessions. Some key topics covered included:

- Defense Health Agency Realignment/Integration of Medical Systems/Warfighter Readiness
- Biosurveillance and Responding to Biological Threats
- SARS- CoV-2 Therapeutics and Diagnostics (Wastewater)
- SARS- CoV-2 Clinical Studies and Epidemiology (Long COVID)
- Vaccine Development/ Bloodborne Infection in Combat Operations
- Women’s Health/Women in the Military/Diversity, Equity, and Inclusion



- Combatting Uncontrollable Hemorrhage on the Battlefield
- Pain Management/Warfighter Suicide Prevention
- Traumatic Brain Injury (TBI)/ Blast-Induced Neurotrauma and Treatment
- Improving Biomedical Manufacturing
- AI's Role in Military Medicine/ Digital Learning Platforms/Education
- Burn Injury Management

Some of the sessions G2G attended included:

- US DoD Warfighter Brain Health Initiative – Focused on the DoD neurotrauma portfolio and associated National Trauma Research Action Plan. Included discussion of TBI in the context of the larger combat casualty care research program – Focused on closing gaps in combat related TBI at point of injury through to evacuation
- Novel Clinical Assessments and Interventions for mild Traumatic Brain Injury – Focused on TBI management and assessment, including technologies to mitigate symptoms and tests to evaluate rehabilitation
- Advances in Prolonged Field Care – Focused on technologies for hemorrhage control, and wound treatment, as well as methods to assess organ system function
- Military Exposures & Subsequent Long-Term Outcomes – Discussion of longitudinal studies of service members who experienced blast trauma, TBI and environmental exposures
- Force Health Protection: Research – Focused on methodologies to quantify impacts of environmental exposures such as those from burn pits and jet fuel
- Defense Health Programs and US Army Research Funding Opportunities – Provided an overview of funding opportunities and how to track them and included leadership from the offices of CDMRP, SBIR/STTR Program, and MTEC
- Mitigating Bloodborne Infection Risk in Large Scale Combat Operations – Focused on preventing HIV transmission in combat settings, army liposome formulations, and the relationship between monoclonal antibodies and diseases
- Biomedical Manufacturing for Warfighter Treatment Needs – Focused on how to manufacture technologies to achieve cost- effective production of cell/tissue therapies as well expediting commercialization of technologies into healthcare solutions
- Antimicrobial Development to Counter Wound Infections in Military Personnel – Focused on how to treat wound infections via the microbiome and the preclinical and early development pipeline of novel antimicrobials
- SARS CoV-2 Therapeutics and Diagnostics – Focused on the federal COVID-19 response, insights into pandemic research through Epidemiology, Immunology, and Clinical Characteristics of Emerging Infectious Diseases with Pandemic Potential (EPICC), and wastewater-based SARS-CoV-2 surveillance for Army installations
- SARS CoV-2 Clinical Studies/Epidemiology – Focused on the role of vaccination in the fight against Long COVID as well as evidence from the EPICC cohort

G2G'S MEETINGS WITH PROGRAM MANAGERS AND DIRECTORS

G2G garnered more information on priorities and who is managing areas of interest to specific bioscience fields. Some key meetings of interest included:



Deputy Director, Research and Development Directorate (J-9) at Defense Health Agency – Currently manages science and technology (S&T) endeavors at DHA. Under the latest iteration of the DHA reorganization, he will oversee the research and development capabilities of the US Army Military Research and Development command (USAMRDC). He provided key insights about how the reorganization impacts funding, oversight, and availability of opportunities. Key takeaways on funding include:

- 85-90% of designated Army research money will shift to the DHA's funding streams under the Defense Health Program (DHP) by October 1, 2022
- \$400 million in Army S&T funds will be added to the existing \$800 million DHP allocation, with \$200-\$300 million supplemented by restoral funds
- \$40 million in Air Force S&T funds, will likely continue under the DHP
- \$40 million to Navy for infrastructure and operations, not S&T
- CDMRP will remain the same (per Congress) and the same is true for USAMRDC's Broad Agency Announcement for at least the next two years, after which they will become known as 'DHA' BAAs with focus areas likely remaining the same

While the DHA reorganization is not expected to result in downsizing of personnel, it is expected to ensure enhanced transparency and accountability for funds and outcomes to align with command requirements from Army Futures Command. Additional insights gained include:

- Public health funding will be transferred to DHA
- Navy is expected to keep jurisdiction of its labs
- Support for the US Army Aeromedical Research Lab (USAARL) and US Army Research Institute of Environmental Medicine (USRIEM) are not subject to DHA changes
- The Joint Program Office (JPO) procures health technologies, whereas Services procures for operations
- Acquisition (scale up, mass production of a technology) is aligned with each directorate at USAMRDC (CCCRP, MIDRP, CRMRP)

Program Manager, BioFabUSA/Advanced Regenerative Manufacturing Institute (ARMI) – Hosted a breakout session titled “Biomedical Manufacturing for Warfighter Treatment Needs” dedicated to explaining how to achieve cost-effective production of cell and tissue therapies as well as how to expedite commercialization of technologies into healthcare solutions. We also spoke with the Senior Director of Business Development and Membership Services at BioFab who laid out pricing options for becoming members of the group.

On the first day of the conference (September 12), the Biden Administration signed an executive order announcing a National Biotechnology and Biomanufacturing Initiative, which was referenced at a high level in this session. According to the White House, the \$2 billion Initiative has several goals including:

- Leverage biotechnology for strengthened supply chains
- Expand domestic biomanufacturing
- Foster innovation across the U.S.
- Bring bio-products to market
- Train the next generation of biotechnologists
- Drive regulatory innovation to increase access to products of biotechnology
- Advance measurements and standards for the bioeconomy
- Reduce risk through investing in biosecurity innovations



- Facilitate data sharing to advance the bioeconomy

Program Manager & Deputy Program Manager, Warfighter Expeditionary Medicine and Treatment, U.S. Army Medical Materiel Development Activity (USAMMDA) – They lead the development and fielding of FDA-cleared or -approved medical devices, drugs, and biologics that fulfill unmet requirements in varied focus areas including hemorrhage detection and control, extremity injury repair, combat burns and wounds, multi-organ support, extremity injury repair, sensory systems, and acute treatment and imaging devices.

ISR Research and Development Transition Manager, Task Area Manager, Critical Care Systems – High level takeaways from this conversation are:

- Ultrasound imaging is an incredibly crowded field
- Heparin is a big deal and there may be DoD money available for it
- Interested in oxygen research
- Endoscopy procedures are not done in the field

Director, Congressionally Directed Medical Research Programs, USAMRDC – She oversees all CDMRP programs which collectively amount to \$1.54 billion in FY22 appropriations spread over 30+ programs. Key takeaways from conversations with her and her colleagues include:

- CDMRP funds projects that fill unmet needs, both in the military and civilian spaces that can be deployed in field or clinic rapidly (~3-5 years)
- Applicants must clearly address end user/consumer impacts to receive funding –important in programmatic review, as stakeholders are actively involved in the process
- Monies to awardees are obligated upfront at time of award, because CDMRP funding is not technically guaranteed each year as it is Congressional Special Interest Funding
- For FY22, the new Toxic Exposures Research Program (TERP) has been allocated \$30 million and combines areas of interest previously included under Peer-Reviewed Gulf War Illness Research Program, the Peer Reviewed Medical Research Program (Burn Pits and Metals Toxicology topic areas) and the Peer-Reviewed Neurotoxin Exposure Treatment Parkinson's Research Program.

Director of Trauma and Clinical Care, 59th Medical Wing (59MDW)/ST Office – She provided insights on accessing restoral funding for specific research projects of interest to her office whereby directors create a ‘wish list’ of projects to be considered and applications are reviewed by the Joint Commission. These are fed into an algorithm that maps out how the project addresses military gaps and requirements. After passing through the algorithm, the application then gets a prioritization score, is returned, and can be reviewed and revised if need be. Leaders are then able to make final decisions and prioritize projects to be funded.

Director of Technology Transition/Transfer, 59MDW/ST Office – He noted that if the technology/innovation is not medical related, it is not a fit for the 59MDW since it is no longer under the Air Force, but rather DHA. He added that AFWERX is still under the Air Force and Performance is staying under the Air Force 71th Human Performance Wing.

Director of Commercialization, Military Technology Enterprise Consortium (MTEC) – Discussed how to become a general member of MTEC, member benefits, as well as the MTEC Commercialization Program (M-Corps). M-Corps provides a network of subject matter experts and service providers to



help companies find assistance needed to address the business, technical, and regulatory challenges associated with medical product development, as well as outreach, education, mentoring, commercialization, and investment support to MTEC members. Of note, nonprofit organizations are not typically able to join M-Corps.

Director, Brain Trauma Neuroprotection, Center for Military Psychiatry and Neuroscience, Walter Reed Army Institute of Research (WRAIR) and colleagues – Shared insights about collaborations on research, including through grants and CRADAs and accessing DoD resources such as the Federal Interagency Traumatic Brain Injury Research (FITBIR) Informatics System.

G2G had dozens of meetings during the MHSRS conference but found these to be the most important to summarize.

In closing, simply attending and participating in the conference provides great opportunities to gain intel on military needs, gaps, and requirements and to engage with DoD researchers, program and project managers, leadership, and decision makers. Applying to present at next year's 2023 MHSRS conference will raise your visibility for R&D efforts, technology, innovation, and/or new products and enables meeting military program managers and collaborators. Each year, the deadline to submit an abstract to be considered to present at the MHSRS conference is set for February/March. Should you have any questions, please contact Liz Powell, lpowell@G2Gconsulting.com or Greg Kapcar, gkapcar@G2Gconsulting.com.

