

Center for the Study of Traumatic Stress

Leaning Into the Future

2023 Annual Report

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CSTS



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With its multidisciplinary and collaborative team of scientists, educators, clinicians, staff and thought leaders, CSTS advances its mission, helps sustain the Nation's readiness and contributes to the global community as an internationally renowned Center in trauma and disaster psychiatry.

— Dr. Robert J. Ursano

From the Director

In its 36th year, the Center for the Study of Traumatic Stress (CSTS) at Uniformed Services University (USU) remains dedicated to its mission of



supporting the Department of Defense (DoD) and the Nation by conducting cutting-edge research and providing education and consultation aimed at mitigating the impact of trauma. CSTS is at the forefront of applying science-based solutions to address the behavioral

health challenges stemming from trauma, disasters, terrorism, community violence and public health threats. The CSTS mission is accomplished through leadership, research, training, education, service, outreach, collaboration, consultation and global health engagement.

With its multidisciplinary and collaborative team of scientists, educators, clinicians, staff and thought leaders, CSTS advances its mission, helps sustain the Nation's readiness and contributes to the global community as an internationally renowned Center in trauma and disaster psychiatry. Throughout 2023, CSTS has continued its core programmatic research activities, while expanding its scope, launching new initiatives that underscore the Center's commitment to evidence-based approaches and proactive responses to current and future needs. In this way, CSTS leans into the future supporting DoD and the Nation.

This year, CSTS began a multi-year partnership with the National Guard Bureau (NGB), Army National Guard (ARNG) and Air National Guard

(ANG) to provide state-of-the-art support in integrated primary prevention and behavioral health for National Guard (NG) personnel. Additionally, a new research partnership with the Defense Advanced Research Projects Agency (DARPA) explores the role of emotion regulation and cognitive flexibility in health and performance. The Center also initiated a study funded by the Centers for Disease Control and Prevention (CDC) focusing on World Trade Center responders and grief from the 9/11 attacks, continuing the Center's contributing to the establishment of the *Diagnostic and Statistical Manual of Mental Disorders 5, Text Revision (DSM-5-TR)* prolonged grief disorder diagnosis. Stemming from the Army Study to Assess Risk and Resilience in Servicemembers-Longitudinal Study (Army STARRS / STARRS-LS), CSTS researchers continue to develop and demonstrate the role of machine learning risk models of suicide in assisting the Defense Health Agency's (DHA) clinical and research communities.

Continuing the theme of collaboration, CSTS Scientists, in collaboration with Harvard University colleagues, initiated a pioneering interagency research fellowship program with the Department of Veterans Affairs (VA). The Researcher-in-Residence Program represents one of the inaugural interagency endeavors between the DoD and the VA focusing on the behavioral health of Service members and veterans during the critical transition from active duty to veteran status. Additionally, CSTS Scientists forged a significant collaboration with the American Psychiatric Association to develop an online education and training course, "Disaster and Preventive Psychiatry: Safeguarding Health and Cultivating Community

CSTS is at the forefront of applying science-based solutions to address the behavioral health challenges stemming from trauma, disasters, terrorism, community violence and public health threats.

From the Director, continued from page 1

Resilience.” Comprising nine interactive modules, the course, now available, comprehensively addresses topics related to well-being and resilience in the context of disasters.

Amidst global and national crises, CSTS has continued its global and national leadership in providing outreach and support. The Center maintains strong ties with colleagues in Ukraine and provides consultation and educational resources for those affected by the war in Ukraine. The Israel-Hamas War, which began in October 2023, also saw CSTS provide consultation, research and knowledge tools to those affected. Domestically, CSTS also supported multiple agencies in the US at the federal, state and local levels in responding to the Maui wildfire disaster and the tragic shootings in Maine.

Internally, CSTS grew its capabilities and capacities. Expanding on the Amygdala Conference, the Brain, Behavior, and Mind Lecture Series was held in September. Dr. Ned Kalin, Hedberg Professor and Chair at the University of Wisconsin and Editor in Chief of the *American Journal of Psychiatry*, gave the lecture. Recognizing the influence and relevance of machine learning approaches to psychiatry, CSTS expanded its internal working group on predictive analytics. CSTS continued as a core lead of the newly formed Brain and Behavior Hub of the USU School of Medicine and the specific Hub workgroup on Stress, PTSD and Health. Understanding the importance of strategic thinking in its research, CSTS founded and launched the CSTS Strategic Directions Board, which comprises thought leaders in the fields of psychiatry, psychology, public health, clinical

care and disaster response. Chaired by Dr. Terry Rauch, the Director of Research and Development for Health Readiness Policy and Oversight at the Office of the Assistant Secretary of Defense (Health Affairs), the Strategic Directions Board meets biannually to discuss the latest strategic challenges and opportunities that CSTS can address with its unique capabilities.

In 2023, CSTS Scientists published 43 peer-reviewed manuscripts in leading national and international journals. CSTS Scientists also gave dozens of presentations at conferences and professional meetings to enhance discussions, collaborations and networking, as well as science. Matching the growth in research initiatives over the last year, CSTS has grown its multidisciplinary team and partnership network. Robust and adaptive teams and partnerships help ensure that CSTS delivers solutions to our stakeholders.

In this Annual Report, you will find summaries of new and ongoing activities. CSTS leans into the future, ready to address challenges and needs of the present with a watchful and strategic eye for what is to come. On behalf of CSTS, I extend our gratitude to colleagues and friends for their support. We eagerly anticipate the challenges and opportunities that lie ahead.

Robert J. Ursano, MD
Professor of Psychiatry and Neuroscience
Department of Psychiatry
Director, Center for the Study of Traumatic Stress
Uniformed Services University

The CSTS mission is accomplished through leadership, research, training, education, service, outreach, collaboration, consultation and global health engagement.

Our Mission

CSTS supports the USU Strategic Framework and the mission of the DoD. The Center is committed to advancing trauma-informed care and is dedicated to furthering the Nation's understanding of the impact of trauma on individuals, families and communities. As part of our Nation's federal medical school (America's Medical School) at USU, the Center's mission is well-positioned to rapidly respond to DoD mission-relevant activities.

The Center's work spans a broad range of trauma exposures, including combat, terrorism, natural and human-made disasters, public health threats, such as the COVID-19 pandemic, and humanitarian operations. CSTS has been in-

involved in nearly every major disaster our Nation has faced over the past 36 years. The Center works to ensure that behavioral health is addressed in the face of public health threats, disaster planning and disaster recovery.

Mitigating the effects of disaster and trauma in military and civilian populations builds community and national resilience. The Center informs and educates community, regional, state, national and global stakeholders in government, industry, health care, public health and academia. CSTS advances trauma-informed care by providing leadership in research, education, training, consultation, global health and service.



CSTS CAPABILITIES

CSTS is a multidisciplinary and multifaceted research center that possesses the capabilities to study psychiatric and psychological phenomena and their sequelae at the molecular, individual, organization, national and international levels. Our core and focused capabilities illustrate the key ways that CSTS ensures relevant research and consultation for our stakeholders.

CORE CAPABILITIES

- Rapid Response to Psychological Impact of Emerging Threats
- Disaster Psychiatry
- Public Health
- Laboratory Neuroscience
- Translational Science
- Randomized Clinical Trials
- Applied Military Research
- Cutting-Edge Statistics & Methodologies

FOCUSED CAPABILITIES

- Big Data & Machine Learning
- Early Emotional Response to Trauma & Stress
- Event-Related Disorders
- Mental Health Sequelae
- Treatment
- Child & Family
- Sleep & Performance (Lab & Field)
- Genomics

What's New in 2023

International Support in Disaster Psychiatry

In October 2023, Hamas launched an attack on Israel, sparking the *Israel-Hamas Conflict*, which led to the Israel-Hamas war, that has persisted into 2024. There have been numerous casualties on both sides, displaced citizens and humanitarian crises. As a result, exposure to trauma has been extensive. Responding to this crisis, CSTS developed a webpage providing resources to affected populations, including Service members, families, health care workers, aid workers and leaders. Additionally, CSTS provided consultation to current and former Israel Defence Forces (IDF) personnel on the psychological challenges of death notifications to surviving family members, impact of exposure to human remains and strategies for hostage and prisoner of war reintegration. The CSTS website launched a section entitled, “Israel-Hamas War Mental Health Resources” following the attacks, which was provided in English and Hebrew.

The ongoing *War in Ukraine* has necessitated continued support from CSTS to our Ukraine allies. Numerous and extensive consultations, education and partner collaborations have been provided to support those affected across many communities. Two publications with the Five Eyes Alliance Advisory Group on Mental Health have brought attention to the mental health consequences of war in Ukraine as well as strategies for bolstering resilience among groups supporting those affected by the war. CSTS worked with the Defense Institute of Medical Operations (DIMO) to support the Ukrainian Army with combat and operational sustainment guidance. Furthermore, partnerships with the Walter Reed Army Institute of Research (WRAIR) and Harvard University have continued to support Ukrainian mental health leaders and providers.

New Partnerships

An exciting new project commenced in the summer with the *Defense Advanced Research Projects Agency (DARPA)*. CSTS partnered with DARPA to

establish the Emotion Regulation and Cognitive Flexibility Program (ERCFP). Emotional regulation and cognitive flexibility have been shown to be strong protective factors that bolster psychological health and performance and ameliorate the negative impact of trauma. Supporting the DARPA STRENGTHEN (Strengthening Resilient Emotions and Nimble Cognition Through Engineering Neuroplasticity) initiative, CSTS fulfills the role of the Independent Verification and Validation (IV&V) team and works closely with researchers from Columbia University, Harvard University’s McLean Hospital, and the University of Wisconsin. CSTS provides expertise, ensuring a cutting-edge research strategy, design and methodology and milestone achievement. Additionally, CSTS ensures that resulting interventions from ERCFP are applicable and relevant to military and veteran populations.

CSTS began a multi-year partnership with the *National Guard Bureau (NGB)*, *Army National Guard (ARNG)* and *Air National Guard (ANG)* to help develop, maintain, evaluate and consult for two new large-scale programs designed to bolster National Guard (NG) members’ psychological health and resilience. The Integrated Primary Prevention Workforce (IPPW) program supports last year’s DoD Instruction 6400.11—DoD Integrated Primary Prevention Policy for Prevention Workforce and Leaders. CSTS supports the implementation and assessment of Comprehensive Integrated Primary Prevention plans throughout the NGB and its 54 states and territories in both the ARNG and ANG. CSTS support of the ARNG Behavioral Health (BH) program consists of working with ARNG BH leaders to leverage evidence-based practices that standardize behavioral health practice and policy across the 54 states and territories.

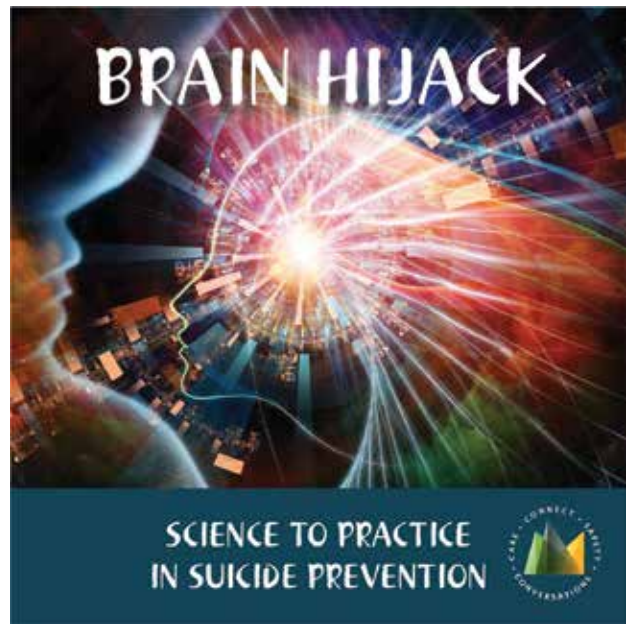
The Army Study to Assess Risk and Resilience in Servicemembers (STARRS) research team, in collaboration with our partners at Harvard, has pioneered a groundbreaking interagency research fellowship program with the VA. The *VA/STARRS-*

LS Researcher-in-Residence Program aims to explore research-based solutions for Service members vulnerable to suicide as they transition from active duty to veteran status. Notably, this marks the inception of the first-ever DoD-VA research fellowship program specifically addressing this critical research gap. Commencing in 2023, the *VA/STARRS-LS Researcher-In-Residence Program* has welcomed two VA research scientists who will collaborate part-time with STARRS-LS researchers for a two-year term. Dr. Emily Edwards from the Bronx, New York VA, and Dr. Claire Houtsma from the Southeast Louisiana Veterans Health Care System are the inaugural Researcher-in-Residence fellows. Over the next five years, this program will annually integrate two new VA Researchers-in-Residence. For further details, please refer to the VA's Health Services Research and Development website featuring the Researcher-in-Residence Program: VA/STARRS-LS Researcher-in-Residence Program.



Suicide Prevention Projects

Last year, CSTS' *Suicide Prevention Program (SPP)* implemented unique and evidence-based resources to address suicide and related risk factors at the individual, peer, organizational and leadership levels. These resources were developed in partnership with the DoD and academia. The SPP delivered resources that transition research into actionable, easy-to-implement resources for multiple populations affected by suicide and its concomitant risk factors. These resources include: the Mental Push-Ups mindfulness application; Safe Is Strong education materials for providers; Warrior Mindset video on resilience in combat scenarios; Project Safeguard lethal means and voluntary reductions in firearms access initiative; the Suicide Prevention Essentials Course; Let's Talk About Your Guns podcasts; Psychiatry Electronic Modules on suicide risk assessment; Bereavement Adaptation Interactive tool; the Family Survivor Self-Care toolkit; Finding the Words



video simulations; Brain Hijack podcast on drivers of suicide risk; and Supporting Our Shipmates project with the US Coast Guard (USCG).

Strategic Directions Board

In 2023, CSTS established its *Strategic Directions Board*. The Board assists the Center by providing strategic guidance to enhance and expand CSTS global leadership in trauma-informed research, education and consultation relevant to the DoD and the Nation. The Board meets biannually and reviews current Center activities and its operational and strategic direction with a focus on ensuring the Center is prepared to meet emerging threats, gaps and opportunities. Dr. Terry Rauch serves as the Board's Chair. Dr. Rauch is the Director for Medical Research and Development, Health Readiness Policy and Oversight, Health Affairs, US Department of Defense. Board members include: Dr. Amy Adler, Senior Scientist, Center for Military Psychiatry and Neuroscience, Walter Reed Army Institute of Research; Rear Admiral Matthew Kleiman, Assistant US Surgeon General, US Public Health Service Commissioned Corps; Dr. Harvey Pollard, Department of Anatomy, Physiology and Genetics, Uniformed Services University; Dr. Rudy Rull, Principal Investigator, Millennium Cohort Study, Department Head, Deployment Health

Research, Naval Health Research Center; Dr. Paula Schnurr, Executive Director, National Center for Posttraumatic Stress Disorder, Department of Veterans Affairs; Delores Johnson Davis, Federal Executive Retired; Rear Admiral (Retired) Dr. Dori Reissman, US Public Health Service Commissioned Corps; Dr. David Riggs, Director, Center for Deployment Psychology, Uniformed Services University; and Lieutenant General (Retired) Dr. Eric Schoomaker, Former US Army Surgeon General and Commanding General of the US Army Medical Command.

Machine Learning & Predictive Analytics

This past year CSTS has expanded its capabilities and capacities in the machine learning and predictive analytics application of precision psychiatry. Building on the foundational research conducted in the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS), CSTS scientists supported calls from military health system senior leaders to work with the clinical and research communities to operationalize suicide risk models that eventually can be utilized in clinical care. Specifically, three risk models have been advanced: high risk—predicting suicide post-psychiatric hospitalization in order to target enhanced case management for Service members at highest risk; moderate risk—predicting suicide in Service members in outpatient behavioral health care who are diagnosed with suicide ideation but the clinician determines that risk is insufficient to warrant immediate hospitalization; low risk—predicting suicide in Service members who screen positive for suicide ideation in outpatient health care (e.g., annual physical). Furthermore, recognizing the importance and utility of machine learning in psychiatry, CSTS established its own internal working group on machine learning and predictive analytics. The goal of this working group is to train on and master cutting-edge statistical approaches to machine learning and predictive analytics. Developing fluency ensures that CSTS can focus state-of-the-art statistical approaches to CSTS research priorities.

Global Behavioral Health Community 'Tracks' Initiative

In 2023, the USU Department of Psychiatry and the CSTS team initiated the DoD Global Behavioral Health Community initiative, a groundbreaking effort uniting clinicians, educators, operational leaders and researchers across the DoD psychiatry community and beyond. Monthly meetings convene stakeholders from four distinct tracks: Clinical, Operational and Leadership, Academia and Teaching, and Research.

The *Clinical Track* focuses on delivering optimal care to military personnel and families while fostering resilience and well-being across the armed forces. Through a collaborative and interdisciplinary approach, participants receive training on critical topics including posttraumatic stress disorder (PTSD), suicide prevention, disaster psychiatry, and the diagnosis and treatment of mental disorders in diverse military settings.

The *Operational and Leadership Track* provides a platform for global tri-service operational psychiatry, offering networking, mentorship and education. This inclusive forum encourages dialogue across ranks and operational contexts, emphasizing resource maximization and psychological readiness while aligning with military mental health policies and readiness protocols.

The *Academia and Teaching Track* nurtures excellence, collaboration, and innovation in academic psychiatry. Participants engage in discussions and workshops focused on teaching, scholarship, and career management, fostering an interconnected network dedicated to educational advancement.

The *Research Track* fosters collaboration and innovation among researchers within and beyond the USU network, promoting dialogue between clinical and pre-clinical researchers in DoD psychiatry. Through highlighting cutting-edge research and facilitating collaboration opportunities, this track advances scientific discourse aimed at enhancing the psychological health and performance of the warfighter.

To join one or more of our community tracks, please visit: https://docs.google.com/forms/d/e/1FAIpQLSeapPq7G2BOYFh52L_qnWPd2gUcO9bsLgs-j92U6KQQLAH6EuQ/viewform

Research

RESEARCH ON US SERVICE MEMBERS

Study to Assess Risk and Resilience in Service Members — Longitudinal Study (STARRS-LS)

[The continuation of the Army Study to Assess Risk and Resilience in Service Members (Army STARRS) research]

The logo for STARRS-LS features the word "STARRS-LS" in a bold, black, sans-serif font. The letter "A" is replaced by a yellow star with a black outline. Below the main text, the full name "Study to Assess Risk and Resilience in Servicemembers - Longitudinal Study" is written in a smaller, black, sans-serif font.

Study to Assess Risk and Resilience in Servicemembers - Longitudinal Study

Since 2009, CSTS has provided scientific leadership, project management and financial oversight for the STARRS research programs active duty Soldiers. Army STARRS (2009-2015) and STARRS-LS (2016 onward) use state-of-the-art data collection methodologies and machine learning and predictive analytics designed to help the Army and DoD address the long-standing problem of suicide and understand and predict suicide and suicide-related behavior. Both Army STARRS and STARRS-LS involve a collaborative, multidisciplinary effort that includes USU, the University of California, San Diego (UCSD), Harvard Medical School and the University of Michigan.

Army STARRS was composed of a series of distinct but integrated studies, including large, representative samples of Soldiers and targeted cohort studies, designed to comprehensively examine the mental health and resilience of active duty Soldiers, including Regular Army, ARNG and activated Army Reserve. These studies included the Historical Administrative Data Study (HADS), which uses a vast range of existing Army/DoD administrative data for all Soldiers (more than 1.6 million) on active duty from 2004-2009. Army STARRS also involved collecting data directly from a combined total of more than 100,000 active duty Soldiers throughout the US and overseas. The research included administering

questionnaires, conducting neurocognitive tests, collecting blood samples and performing a broad range of data and genetic analyses.

Under STARRS-LS, the research team has continued and enhanced the Army STARRS research by expanding the sample size, extending the follow-up period, further developing the STARRS platforms and systems and conducting additional data analyses of Army STARRS and STARRS-LS data. STARRS-LS expanded the size and extended the duration of the HADS historical cohort by including additional Soldiers and obtaining an additional twelve years of Army/DoD administrative data for the period of 2010-2021. This study now includes all active duty Soldiers (more than three million) across the eighteen-year period of 2004-2021. For the STARRS-LS longitudinal cohort, the research team has been locating, re-contacting and collecting survey data every two years from a representative sample of approximately 15,000 Army STARRS participants. A total of four waves of survey data collection were conducted to continue following the cohort over an eight-year period. Additional waves of follow-up survey data collection are being planned for 2024 and beyond.

During STARRS-LS, the Army and DoD added the VA as a partner. Over the long duration of the follow-up period, a majority of the participants have separated from the Army and transitioned to civilian life. The STARRS research team has been collaborating with VA scientists on subgroups and outcomes of importance to the VA. In 2023, the Army and DoD continued to use STARRS findings and knowledge to develop products such as reports, publications, leadership tools and risk mitigation strategies. The STARRS research has informed the VA suicide outreach program for post-hospitalization intervention. The STARRS research team is also one of the leaders in the nation at demonstrating the value of machine learning and predictive analytic models as clinical care tools.

Approximately every six months, the team continued to brief the progress and findings of the

research to senior DoD, Army and VA leadership, including the Assistant Secretary of Defense for Health Affairs, the Assistant Secretary of the Army for Manpower and Reserve Affairs and the Deputy Chief of Research and Development for the VA.

Throughout 2023, the research team published important and potentially actionable findings for the DoD, the Army and the VA. At the end of 2023, the research team had 127 STARRS publications in high-impact, peer-reviewed scientific journals.

Psychological Stress and Resilience in Mortuary Affairs (MA) Soldiers: Longitudinal Study

US Army MA Soldiers recover, identify and evacuate the remains of the deceased from the theater of war, disasters and other mission sites. They are a unique population of Soldiers who are exposed to death, deployment-related stress and work in combat and other extreme environments. CSTS longitudinal research of MA Soldiers represents the longest ongoing study to examine the individual, unit and family stressors, risk factors and resiliency of MA Soldiers. The study includes quantitative data collected through questionnaires, qualitative data collected through semi-structured interviews and saliva samples, which will be analyzed for potential DNA- and RNA-related biomarkers of stress and resiliency. Questionnaires are group-administered to MA detachments approximately one week before and after deployment to the Middle East. Empirical



MSgt Moore, Nur Bookwala & Dr. Quinn Biggs, JMAC, Ft Gregg-Adams, VA.

and descriptive data are collected on factors such as PTSD, depression, distress (e.g., anger, hostility, somatization), substance use and instrumental and emotional support.

In 2023, Reserve MA Soldiers from the 673rd Quartermaster (QM) Company (CO) (Newark, Delaware) and active-duty MA Soldiers from the 54th QM CO (Fort Gregg-Adams, Virginia) participated in the study by completing deployment-related questionnaires. In total, 92 questionnaires were collected in 2023. Overall, the study questionnaire has been administered 85 times and 3,972 questionnaires have been collected since the study began in 2005. Data analyses in 2023 included an examination of change in rates of probable PTSD and depression over time (15-year period from 2005 to 2019) among Soldiers who had and had not previously deployed to the Middle East, as well as an examination of initial emotional responses to exposure to human remains. A manuscript reporting study findings is in process for publication in a scientific journal. Findings from the MA study target resiliency, preparation, training and education of Soldiers for the stressors of deployment and work with the deceased.

Troop Education for Army Morale (TEAM)

TEAM is a novel stress management and resilience-building early intervention program designed to improve readjustment after deployment. It has been offered to US Army MA Soldiers, a group at high risk for psychological distress due to their exposure to human remains and the combat environment. The TEAM intervention is based on the five evidence-informed principles of Psychological First Aid (PFA): safety, calming, connectedness, self-efficacy and hope/optimism. TEAM is delivered through four group workshops, informational handouts, a dedicated website and phone and email support services. A total of 125 MA Soldiers in 10 cohorts participated in a randomized controlled trial study of TEAM. Although the intervention did not reduce rates of PTSD, higher workshop participation was associated with fewer posttraumatic symptoms and higher satisfaction with the TEAM program. Of the variety of skills that the trainings offered, calming (relaxation training) and problem solving were

two of the skills reported to be most helpful. During the COVID-19 pandemic, TEAM intervention materials were adapted for an online format using video conferencing and sharing materials electronically when individuals were not able to meet in person. The online intervention content can be posted on a dedicated website for 24/7 access or delivered through group sessions at specified intervals (e.g., once a week). The online adaptation of TEAM broadened the application of the intervention for use in a variety of military and civilian populations, including first responders, disaster workers, medical personnel, mortuary personnel and others who are exposed to human remains.

Ecological Momentary Assessment (EMA) of Posttraumatic Stress Symptoms in US Military Service Members (Daily Diary Study)

The Daily Diary Study uses a novel EMA methodology to assess in real time the changes in posttraumatic stress symptoms of US Service members. The research is designed to examine the relationship between variability in posttraumatic stress symptoms and psychiatric disorders, sleep, health risk behaviors (e.g., alcohol and tobacco use), pain and other areas of health and functioning. Study participants completed daily assessments of posttraumatic stress symptoms four times per day for 15 consecutive days on electronic tablets, using a sophisticated software application that was developed specifically for use in this study. Psychiatric disorders (e.g., PTSD, depression) were assessed at baseline and in one- and three-month follow-up assessments. Participants had the option to wear a wrist actigraph to objectively measure sleep and complement self-reports of sleep during the 15-day assessment period. Participants also had the option to donate saliva and/or blood samples for genetic analysis to identify potential genetic biomarkers and gene-environment interactions that may distinguish and/or mediate stress responses and resilience to stress-related disorders. In total, 187 participants have been recruited since the study began.

Data analyses in 2023 included examination of within-day variation in posttraumatic stress symptoms. Study findings on within-day variation in the

four PTSD subscales (intrusion, avoidance, negative cognition, hyperarousal) were disseminated in a poster presentation at a national scientific conference. In addition, findings on time-of-day variation in PTSD subscales were disseminated in a poster presentation at the Military Health System Research Symposium. A manuscript reporting study findings of daily variation in suicidal ideation frequency and intensity is underway for publication in a scientific journal. The Daily Diary Study represents the cutting edge in psychological assessment methodology, measures, equipment, technology and research design to better understand posttraumatic stress symptoms and improve the well-being of Service members.

Firearm Behavioral Practices in US Army Service Members and Veterans

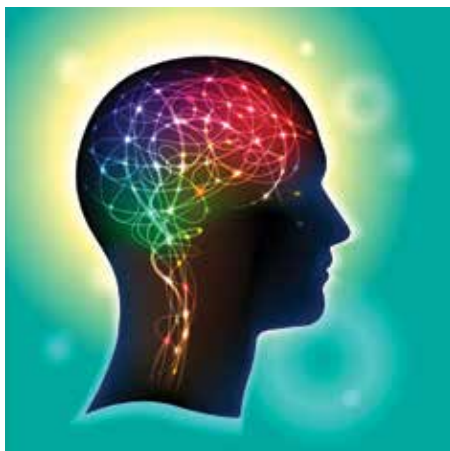
The annual firearm suicide rate increased 11% from 2019 to 2022, reaching epidemic proportions in the US, according to a recent report from the Center for Disease Control and Prevention (CDC). In 2023, CSTS Scientists and collaborators from Harvard University and University of South Florida (USF) completed an R01 grant funded by the CDC to study firearm behavioral practices and suicide risk in US Army Service members. The study objective was to develop an understanding of Service members' firearm behavioral practices and suicidal behaviors, and to identify actionable targets for suicide intervention



Daily Diary Study recruitment.

using data from the Army STARRS and STARRS-LS. The broader impact of this study is the development of a comprehensive understanding of risk and protective factors of firearm-related suicide, thus improving risk identification capabilities in military and civilian populations.

CSTS, the USF and Harvard University Scientists presented at the 2023 National Research Conference on Firearm Injury Prevention in Chicago, IL, to disseminate research findings. Key findings presented focused on the unsecure (loaded and unlocked) storage of a personal firearm or other weapon and the increased lifetime and past-year risk of suicide ideation. Of note, carrying a weapon other than a gun predicted lifetime and past-year risk of suicide ideation and attempt after controlling for history of mental disorders and lifetime interpersonal violence. These findings suggest that secure storage interventions (for firearms and other weapons) may have the potential to alter suicide risk among Service members with personal firearms in their homes. Gun ownership for safety/protection and history of generalized anxiety disorder significantly predicted unsecure storage practices, which may be related to perceptions of safety. Finally, state-level policies were significantly associated with lower odds of suicide death resulting from a firearm injury. To our knowledge, this is the most extensive examination to date of the association of firearm variables with both suicide attempt and death in a large, longitudinal military sample. Findings from this study have significant public health relevance in terms of improving our understanding of how and why firearm owner-



ship is related to suicidal behavior in US Army Service members. Further, our focus on psychological variables that may impact the association

between suicide and firearm ownership may shed light on intervention targets in this population and may generalize to the civilian population as well.

Emotion Regulation and Cognitive Flexibility Program (ERCFP): Targets for Improving Psychological Health and Enhancing Performance

In partnership with DARPA, CSTS established the Emotion Regulation and Cognitive Flexibility Program (ERCFP) to advance our understanding of emotion regulation (ER) and cognitive flexibility (CF), two key protective factors that promote psychological health and buffer against the negative effects of traumatic stress. The ERCFP supports research investigating the neural, cognitive, affective and behavioral correlates of ER and CF, with the goal of developing treatments targeting ER and CF to improve psychobiological functioning in Service members. Through this partnership, CSTS is serving as the Independent Verification and Validation (IV&V) team for DARPA's STRENGTHEN (Strengthening Resilient Emotions and Nimble Cognition Through Engineering Neuroplasticity) program, which launched in 2023. Under STRENGTHEN, three teams, led by researchers from Columbia University, Harvard University-affiliated McLean Hospital, and the University of Wisconsin–Madison, are developing novel hybrid interventions that combine brain-based techniques (e.g., transcranial magnetic stimulation) with behavioral treatments (e.g., cognitive behavioral therapy) to optimize the neural circuitry underlying ER and CF.

As the IV&V partner for STRENGTHEN, CSTS provides ongoing review of each team's research strategy and evaluates their progress toward program milestones. CSTS works closely with DARPA and the research teams to provide consultation and support in study design, methodology and areas of subject matter expertise. As the DoD transition partner, CSTS is pursuing efforts to ensure STRENGTHEN interventions can be efficiently researched and scaled in military and veteran populations. To this end, the ERCFP has established a science panel to facilitate the advancement of STRENGTHEN findings into future research and clinical efforts.

Research on Reserve Components of the US Armed Forces

National Guard Programs

In late 2023, CSTS began collaborations with the National Guard Bureau (NGB) in two project areas: Warrior Resilience and Fitness-Integrated Primary Prevention (IPP) and ARNG Behavioral Health. CSTS is supporting these cutting-edge initiatives in the following areas: strategic planning, data management, training and education, knowledge products development and dissemination, and consultation to 54 states and territories.

The Integrated Primary Prevention project aims to shape and implement a full-time integrated primary prevention program within the 54 states and territories to increase readiness of all people through a holistic approach for primary prevention of self-directed harm and prohibited abusive or harmful acts. Looking ahead, the CSTS IPP team is preparing for engagements with the 54 states and territories regarding their Comprehensive Integrated Primary Prevention Plans development, implementation and evaluation processes.

The ARNG program aims to optimize behavioral health readiness among the ARNG, increase access to care and increase quality of care through standardization of evidenced-informed practices, policies and community partnerships. CSTS ARNG BH team is preparing for engagements with key stakeholders in the ARNG BH community and for participation in the annual BH training event for the 54 states and territories. We look forward to expanding our work in 2024.

National Guard and Reserve Longitudinal Study

The Mental Health and Service Utilization among Reserve and NG forces study was conducted in collaboration with Dr. Sandro Galea at Boston University. It addresses the epidemiology and trajectory of mental health problems, deployment stress, health risk behaviors and health care utilization over a four-year period among Reserve Component (RC) members. Using a representative national cohort of 2,003 RC members, CSTS has been actively analyzing

this comprehensive dataset.

In 2023, the Center examined the association of suicide risk with a variety of adversities faced by RC members who transitioned out of the Service. Five types of adversities were identified: health, job/employment, interpersonal, financial and health care access adversities. Transitioning out of Service and adversities both increased the risk for suicide ideation. In particular, experiencing an adversity increased the risk for suicide ideation regardless of separation status, and separation from Service further increased risk among those who experienced an adversity. These results suggest that transitioning from military to civilian life may be a critical period for interventions to address the unique needs of the RC's citizen-Soldiers and reduce their suicidal risk.

New York National Guard (NYNG) Warfighter Readiness and Resilience Assessment: COVID-19 Activation

The US National Guard (NG) served as a critical component of the Nation's response to the COVID-19 pandemic. Identifying, monitoring and understanding resilience and risk factors associated with mental and behavioral health outcomes in NG Service members who were activated in response to the pandemic is central to sustaining force readiness and preparing for subsequent disasters. To address the immediate need for information to promote force well-being and readiness, CSTS collaborated with the NYNG to develop a rapid public health surveillance assessment, which was completed by almost 4,000 NYNG Service members between August and December 2020. The assessment identified high stress work tasks, personal COVID-19-related experiences, stressors and concerns, resilience factors and psychological and behavioral health responses among NG Service members who did and did not activate during the pandemic.

In 2023, Center Scientists conducted examinations that identified: (1) the association of unit cohesion and leadership support with post-activation PTSD, clinically significant anxiety and depression symptoms and problematic anger; (2) COVID-19-related concerns, strategies to help manage stress, the extent of sleep difficulties and increased substance

use, including alcohol, tobacco and caffeine/energy drink consumption during the pandemic; (3) the relationship of high stress COVID-19 disaster work tasks to PTSD, anxiety and depression and anger; and 4) the influence of personal COVID-19 experiences (i.e., the individual or a close friend or family member testing positive for COVID-19 or experiencing the loss of a close friend or family member due to COVID-19) on psychological responses. Study findings will inform recommendations for leadership to promote mental and behavioral health and readiness among NG personnel during and following disaster response.

RESEARCH ON DISASTERS AND TERRORISM

Natural Disasters Health Response to Multiple Hurricanes

In 2023, CSTS Scientists continued to examine psychological and behavioral responses following natural disasters, including psychological distress, posttraumatic disorders, health risk behaviors and functional/occupational impairment. In particular, the Center examined predictive factors that influence recovery and resilience following disaster exposure, which can be targeted for preventive interventions in first responders who are exposed to multiple disasters. This work is particularly important globally, as the world experienced a wide range of natural disasters during 2023, with a significant increase in threats to and loss of life and economic impact. In the US, these events resulted in the National Oceanic and Atmospheric Association (NOAA) identifying 2023 as a record year for billion-dollar disasters, including devastating wildfires in Hawaii, Hurricane Idalia in Florida, Tropical Storm Hilary in southern California, severe drought in the South and Midwest and extreme record-breaking heat in several US states during the summer. Internationally, disaster events, such as Cyclone Freddy in Madagascar, severe flooding in African, South Asian and South American countries, earthquakes in Turkey and Syria and wildfires in Chile were significant indicators of extreme weather and natural catastrophes.

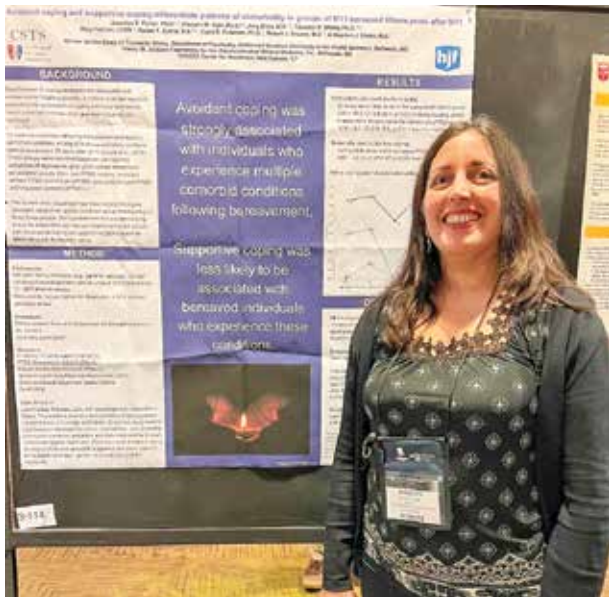
During 2023, Center Scientists continued to

identify factors that are important to recovery from natural disasters. This important research continues to inform action-oriented recommendations for disaster responders and community members, including community-level interventions, programs focused on social and workplace support and strategies to promote resilience during and following disaster exposure.



RESEARCH IN THE CHILD AND FAMILY PROGRAM (CFP)

The CFP conducts research to better understand the needs of all children and families affected by traumatic events, with special emphasis on the needs of US military families. Although military children and families possess unique strengths, they can be affected by combat-related illness and injury, bereavement, child maltreatment and family violence. Currently, there are six CFP project areas: bereavement, child maltreatment, combat-injured families, family violence, suicide prevention in families and targeting family risk associated with unsafe firearm storage practices. In addition to CSTS-based work, the CFP maintains collaborative relationships with other departments at USU, other academic institutions and community organizations. The products of CFP's research program inform scientists, clinicians and the general public about the impact of stress and trauma on children and families. CFP's pioneering research is also translated into actionable and educational materials for military and government stakeholders, clinicians and community leaders. In addition, CFP consults with military and government



Dr. Joscelyn Fisher poster presentation at ISTSS annual meeting.

leadership, informs national media outlets and conducts research that promotes a deeper understanding of children in the US and throughout the world.

Bereavement

Grief and Health-Related Quality of Life in World Trade Center 9/11 Survivors Study

An ongoing CFP project examines outcomes associated with trauma and bereavement in 9/11 Survivors (individuals who worked or lived at or near the World Trade Center site in New York City on 9/11). Using existing and newly-collected data, we are examining the complex inter-relationships of bereavement burden and physical and mental health burden in order to better inform World Trade Center Health Program programming. This project is being conducted in collaboration with colleagues at Columbia University, the World Trade Center Health Registry and Voices Center of Resilience.

The National Military Family Bereavement Study (NMFBS)

The NMFBS is the first large, systematic study to examine the impact of US military Service member's death on surviving family members. Findings

have informed development of diagnostic criteria for a condition of impairing grief. CSTS partnered with colleagues at Columbia University, New York University, University of Pittsburgh and UCSD to develop a proposal for criteria for prolonged grief disorder, a new diagnosis included in the *DSM-5-TR*. A recent publication by CSTS Scientists reported increased rates of both ill-defined conditions and mental health diagnoses and health care utilization following bereavement. These findings suggest a need for proactive health monitoring of military widows to identify and treat mental health conditions and recognize manifestations of physical symptoms. In addition, another analysis examined the influence of adverse childhood experiences on grief adaptation in bereaved military family members.

Stepping Forward in Grief (SFG) Study

An online program that addresses grief adaptation may be a helpful resource for bereaved military family members. CFP formed a partnership with the Center for Prolonged Grief at Columbia University to adapt principles from Complicated Grief Therapy (CGT), found to be helpful in civilian



populations, for a digital intervention aimed to assist with grief integration and decrease risk for long-term problems.

The goal of SFG, a randomized controlled trial, was to compare the effectiveness of two digital programs (GriefSteps and WellnessSteps) in helping those bereaved by military service-related death. Results indicated that there were small, but statistically significant, improvements in grief and in functional impairment among those in the high grief group. These results indicate that a novel modality, requiring little oversight or cost, can markedly increase the ability to reach bereaved family members.

Study of Long-Term Outcomes of Terrorism-Related Grief

The CFP partnered with Voices of September 11 (VOICES), a nonprofit organization that aids 9/11-affected families, and the Canadian Resource Centre for Victims of Crime (CRC), an organization

supporting family members who were bereaved by the Air India Flight 182 bombing, to investigate long-term bereavement outcomes in family members following a terrorism-related death. The team published two manuscripts in 2023. The first manuscript identified three groups of bereaved family members that were differentiated according to patterns of depression, anxiety and grief. The second manuscript examined the effects of receiving multiple notifications about the identification of fragmented remains of a family member. Results indicated that multiple notifications were differentially associated with posttraumatic stress, but not grief severity. Results from this publication were also described on the International Society for Traumatic Stress Studies' (ISTSS) Trauma Blog and were used to develop an interactive fact sheet for health care providers about death notification within health care facilities. A more recent analysis of these data examined predictors of co-occurring pain and comorbid psychiatric conditions in family members of 9/11 victims.

Bereavement Coping Study

The goal of this study was to determine whether military family survivors of suicide, accident and combat deaths use similar or different coping strategies and to examine associations between risk factors, specific coping strategies and grief, depression



and suicidal ideation. This information will identify actionable targets for intervention programs. A related publication from this study used data from the NMFBS to examine differential contributions of specific coping strategies and their relationships with cause of death in contributing to grief severity, depression and posttraumatic growth.

Disenfranchised Grief

Through its collaborations with Sons and Daughters in Touch (SDIT), an organization of children whose fathers died or were MIA in the Vietnam War, CFP noted the consistency with which this population felt their loss was unacknowledged or rejected. This phenomenon is consistent with the concept of disenfranchised grief (DG), which refers to the experiences of bereaved persons whose grief was not or could not be openly acknowledged, publicly mourned or socially supported by others. CFP is conducting research on DG, which includes developing a measure of DG.

Child Maltreatment in US Military Communities and Families

Another focus area of the CFP involves the identification of risk factors for child maltreatment in military families. The goal of this work is to inform prevention and intervention strategies that promote military family health, well-being and resilience. CFP's initial work in this area primarily focused on child neglect, the child maltreatment type most commonly reported in the US and most frequently associated with child fatality. CFP Scientists also conducted a congressionally mandated study designed to advance understanding of risk and protective factors for all types of child maltreatment in military families.

Combat-Injured Families

CFP Scientists conducted three studies to examine the impact of combat injury on military families. These studies included families participating in Operation Purple Healing Adventures (OPHA), an annual summer camp program for combat-injured Service members and their families sponsored by

the National Military Family Association (NMFA), families of patients at Walter Reed National Military Medical Center (WRNMMC) and San Antonio Military Medical Center affected by combat injury and families participating in “Families OverComing Under Stress-Combat Injury” (FOCUS-CI), a family-centered, strength-based and evidence-informed preventive intervention. A recent publication in *Depression and Anxiety* described the impact of combat injury and military deployment on mental health symptoms in a sample of military wives. The aim of CFP’s work in this area is to help us better understand the impact of combat injury on Service members and their families and inform interventions that more effectively address their needs.

Family Violence

In 2023, CSTS continued its focus on supporting the Army Office of the Deputy Chief of Staff (DCS) G-9. We attended the Army Family Advocacy Program (FAP) annual Fatality Review Board (FRB) of violence-related deaths in the Army, including suicides, of children and adults and drafted the annual FRB report. This report summarized the characteristics of child abuse and neglect-related fatalities, intimate partner violence-related fatalities and longitudinal analyses of trends. We also reviewed recommendations for prevention and treatment of maltreatment-related fatalities in the Army.

We continued publishing our *Research Review*, a publication of research-based information for the Army FAP community. We focused on: (1) Nonfatal Firearm Violence: Threats and Injuries in Families; (2) Recantation of Adult Domestic Abuse: What it Means for the Army Family Advocacy Program; (3) Food Insecurity: Effects on Health and Family Stress; and (4) Preventing Ineffective Arguing, Verbal Altercations and Verbal Aggression.

CSTS continued to provide the FAP with quarterly statistical data monitoring of installation-level FAP report changes throughout 2023. These briefing books are specific to 40 different Army installations and geographic areas with comparisons of installation/area-level data to the entire Army. Data reported included the number of incidents of abuse (physical, emotional and sexual) and neglect of chil-



dren. Data on adults were provided by the Defense Manpower Data Center.

Targeting Family Risk Associated with Unsafe Firearm Storage Practices

Unsafe firearm storage (e.g., maintaining household firearms unlocked and loaded) has been associated with suicides, accidents and family violence in both military families as well as families in the general US population. Continued noncompliance with safe storage recommendations combined with persistent rates of firearm-related suicide in military Service members suggest that risk factors for unsafe firearm storage and effective lethal means safety strategies have not been fully delineated. This project proposes that existing efforts to reduce lethal means access in military and veteran families have not adequately addressed family-level attitudes and behaviors that may promote unsafe firearm storage, including: (1) the intergenerational effects of firearm storage (or firearm family socialization); (2) general family home safety practices; (3) adult family member shared decision-making regarding firearm storage; and (4) parental misunderstanding of children’s motivations. This study will determine patterns of family-level behaviors and attitudes associated with unsafe firearm storage practices among military-connected families with children.

RESEARCH IN NEUROSCIENCE AND NEUROBIOLOGY

Trauma-Related Disorders Research

Genetics and Biomarkers

Post-traumatic stress disorder (PTSD) remains a complex and devastating trauma-related disorder, with its exact molecular mechanisms eluding scientific understanding. Emerging research points towards FK506-binding protein 5 (FKBP5) as a crucial player, functioning as a negative-feedback regulator of the glucocorticoid receptor (GR). This association potentially links stress hormone signaling to mitochondria in PTSD, offering a novel avenue for exploration. In 2023, the Center undertook a thorough investigation of this hypothesis, employing a multifaceted approach that integrated pharmacology, bioinformatics and mass spectrometry techniques.

The primary focus of the investigation was to unveil the intricate molecular interactions involving FKBP5 within mitochondria, unraveling the potential links between glucocorticoid signaling and mitochondrial functions in the context of PTSD. The comprehensive analysis delved into diverse aspects, including the Kyoto Encyclopedia of Genes and Genomes (KEGG) pathways, biological processes and molecular functions associated with FKBP5. The findings, derived from the application of fold change cutoff values, revealed a spectrum of differentially expressed genes within mitochondria. Both upregulated and downregulated FKBP5-associated proteins were identified, contributing to the delineation of distinct protein-protein interaction networks within this crucial cellular organelle. Notably, the investigation identified a significant over-representation of KEGG pathways, biological processes and molecular functions linked to FKBP5, emphasizing its potential role in mitochondrial dynamics in the context of PTSD.

A pivotal discovery was the observation of FKBP5 overexpression in the mitochondria of white blood cells in Service members diagnosed with PTSD. This significant finding not only supports the hypothesized link between FKBP5 and stress-related responses, but it also suggests a potential role for

FKBP5 and its associated proteins as biomarkers for PTSD. The identification of these molecular markers could revolutionize diagnostic approaches and contribute to a deeper understanding of the underlying biological processes associated with PTSD.

The integration of bioinformatics approaches allowed us to uncover intricate relationships and patterns that might have remained obscured using traditional methodologies. The data derived from the investigation shed light on the complex interplay between glucocorticoid signaling and FKBP5 within mitochondria, providing valuable insights into the molecular landscape of PTSD.

In conclusion, CSTS's 2023 investigation has significantly advanced the understanding of the molecular mechanisms underpinning PTSD. The identification of FKBP5 and its associated proteins as potential biomarkers marks a crucial step toward developing targeted interventions and diagnostic tools for individuals grappling with stress-related disorders. The findings not only contribute to the scientific discourse surrounding PTSD, but also open avenues for further research and therapeutic development in this critical area of mental health.

Nightmare Deconstruction and Reprocessing for Treatment of PTSD-Related Nightmares

Nightmares are a highly prevalent re-experiencing symptom after trauma. For many patients, nightmares and insomnia are highly debilitating re-experiencing symptoms of PTSD, and too often the symptoms persist even after successful evidence-based treatments. Sleep disturbance and associated fatigue represent a threat to readiness. CSTS completed a pilot trial of Nightmare Deconstruction and Reprocessing (NDR), an exposure-based psychotherapy for trauma-related nightmares and insomnia. NDR is an adaptation of the Hill cognitive-experiential model for working with dreams in psychotherapy. Working with their therapists, patients recall their most distressing nightmare images and associate their thoughts and feelings about them in order to facilitate reconsolidation of trauma memories. Results from the pilot study suggest that NDR may be effective in decreasing the frequency and severity of nightmares and insomnia, with moderate

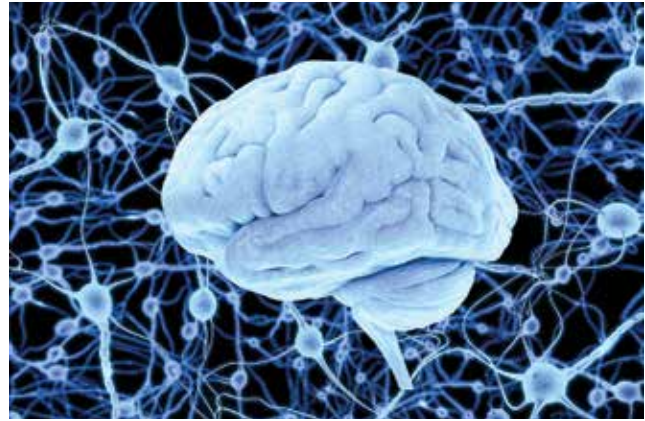
effect sizes. NDR was well tolerated by study participants, with 80 percent completing treatment. The study also evaluated multiple potential biomarkers of treatment response, including genomic and serum markers at multiple points in treatment. The study collected continuous physiologic data over eight weeks of study treatment using a wristband sensor as another potential marker of treatment response. We detected changes in expression of brain-derived neurotrophic factor and in cardiovascular and electrodermal activity in response to exposure to nightmare content during NDR sessions. We are currently starting a follow-on study in which NDR will be compared to NightWare, a non-exposure treatment for nightmares that uses a wearable device to interrupt nightmares during sleep.

The Veterans Affairs (VA) National PTSD Brain Bank

The Veterans Affairs (VA) National PTSD Brain Bank was established as a multi-site collaborative human tissue bank led by the VA National Center for PTSD. The VA PTSD Brain Bank collects, processes and stores tissue donations and medical information for use in future neurophysiological research on PTSD. This unique resource allows qualified investigators nationwide to use the clinical and biological information stored in the bank to identify biomarkers that are unique to PTSD, refine diagnostic assessment, improve treatment efficiency and ultimately develop preventive strategies for this disorder.

CSTS Scientists co-founded the VA PTSD Brain Bank and continue to serve on its Steering Committee as well as the Tissue Access Committee and Diagnostic Assessment Core. CSTS Scientists also continued to collaborate with other Brain Bank investigators on scientific manuscripts. In 2023, CSTS enrolled its first future donors from their recruitment location at the Armed Forces Retirement Home in Washington, DC, and CSTS has established a second recruitment site at Brooke Army Medical Center in San Antonio, TX, which will be poised to begin advertising to veterans in 2024.

To date, the VA PTSD Brain Bank has acquired 356 tissue samples from existing collections and donors enrolled through the collaborating institu-



tions. The Brain Bank has also enrolled 244 additional future donors to support the project by providing their antemortem longitudinal assessment data and medical records to accompany their future postmortem tissue donations.

Riluzole Augmentation Treatment for Complicated Combat-Related PTSD

The Center conducted a study of riluzole augmentation for treatment of veterans who experienced continued PTSD symptoms despite treatment with evidence-based medications for PTSD. This study was funded by the Army Military and Operational Medical Readiness Program, and enrolled participants at WRNMMC and the Syracuse Veterans Affairs Medical Center from 2014 to 2017. Key study findings indicated that there was greater improvement in hyperarousal symptoms, such as exaggerated startle responses and hypervigilance, with riluzole treatment compared to placebo. Analysis of proton magnetic resonance spectroscopy (1H-MRS) of the amygdala and anterior cingulate cortex before and after treatment as a potential biomarker of illness and treatment response is ongoing. CSTS Scientists, in collaboration with researchers at Brigham and Women's Hospital, identified discernible changes in brain metabolites in the areas of interest, which are associated with changes in PTSD symptoms.

Sleep and Chronobiology Research

Chronobiology, Light and Sleep Laboratory

From basic science experiments to randomized clinical trials and implementation studies, the

Chronobiology, Light and Sleep Laboratory research program focuses on sleep, circadian rhythms and the physiological effects of light, with the ultimate goal of maximizing human health and well-being. The specific work in 2023 aimed to better understand the neural mechanisms underlying the modulation of the physiological effects of light, including circadian resetting, neuroendocrine regulation, acute alerting properties and mood enhancement, along with the practical application of those findings.

In a multi-phase effort, a significant portion of data collection was completed for research on the kinetics of the alerting response to light. Phase 1 includes a rigorous characterization of the acute alerting and mood enhancement properties of light in a highly controlled laboratory study that varies the intensity and duration of photic exposure while holding the dose constant. In parallel to determining an optimal dosing configuration and describing the degradation of these effects after extinguishing the light, Phase 2 of this work was also initiated. In this overlapping field study component, the lab began to examine efficacy, as well as feasibility of usage in domestic and workplace settings, of the portable light devices that are being employed in Phase 1. Identifying the various barriers and facilitators to uptake in real-world settings, including both operational and residential contexts, will help to guide future refinements and implementation.

In a separate project, two distinct spectrally-engineered architectural lighting technologies were developed and tested for increasing alertness, performance and sleep in Service members who necessarily work nightshift schedules on a high-security watch floor. Analyses revealed increased alertness and performance, enhanced sleep, improved quality of life and high overall satisfaction with the intervention conditions.

The successful transition of new, evidence-based lighting applications in domestic and workplace settings will require a well-designed educational component that increases investment and facilitates adoption of interventions that target sleep, circadian health and other physiological effects of light. To that end, an original education program, Circadian, Light and Sleep Skills (CLASS), was initially cre-

ated for undergraduate students and subsequently tailored for military (CLASS-M) and shipboard Service members (CLASS-SM). CLASS-SM has been shown to improve sleep quality during a period at sea, also leading to better mental health outcomes. A grant proposal to further tailor and test CLASS in a marine population was put together this year, in collaboration with colleagues Dr. Maegan Willing at USU and Dr. Emily Schmied at San Diego State University. Notification of selection for funding near the end of the year means this work on CLASS will continue into the future.

Finally, in 2023, the lab also continued collaborative projects with colleagues across the globe. One study, conducted with the vaccination program at WRNMMC, examined the effects of melatonin supplementation on vaccination efficacy. A collaboration with Emory University assessed sleep, circadian rhythms and cardiometabolic health in African Americans. Another collaboration project, called the Light Exposure Behavior Assessment (LEBA), involved colleagues from the Max Planck Institute for Biological Cybernetics, Monash University, University of Basel, Eindhoven University and University of Colorado–Boulder. The LEBA project team developed a novel, self-reported and psychometrically validated inventory to capture light exposure-related behavior. The results of the validation study were published in *Scientific Reports*. Additional work extending the LEBA is also in progress.

Toward Personalized Care for Insomnia: Machine Learning Algorithms to Predict Response to Insomnia Therapy

In collaboration with Harvard Medical School, our team sought to develop machine learning models to predict response to insomnia medication and, separately, response to cognitive behavioral therapy for insomnia (CBT-I). We constructed two observational longitudinal datasets using data from the Historical Administrative Data Study (HADS), which is a component of the Army Study to Assess Risk and Resilience in (Army STARRS). The first sample comprised more than 7,000 US Army Soldiers diagnosed with insomnia and treated with medication, while a second sample comprised more than 4,000 Soldiers

These methods range from positron emission tomography (PET) studies that document microglial activation and neuroinflammation, changes in synaptic density and beta amyloid deposition and Magnetic Resonance Imaging (MRI) methods that track functional neuronal activity, fluid dynamics, cortical volumetrics and white matter integrity. MRI spectrographic methods will assess in vivo neurochemistry and high-density electroencephalograms (EEG) will be obtained throughout the study to establish the electrophysiological correlates of sleep restriction and recovery.

The present study will evaluate repeated measures in each participant over the course of approximately two and a half months, with ongoing restriction and recovery assessed at the Walter Reed Army Institute of Research (WRAIR), NIH and NiCoE, with ongoing home monitoring between these visits. It should be noted that pinpointing the precise pathophysiological mechanisms involved will suggest interventions (e.g., anti-inflammatory or antioxidant treatments, facilitation of CNS clearance and augmentation of sleep efficacy) that might mitigate such effects or reverse them entirely.

Pre-Deployment and Deployment-Related Risk and Resilience Factors for Insomnia in Military Personnel

Insomnia is prevalent among Service members, especially those with combat exposure, affecting performance and well-being and increasing risk for psychological and physical war-related injuries. Many aspects of deployment (including combat exposure, assigned job, unit cohesion, sleep-wake schedule and base location) disrupt sleep and increase fatigue, while pre-deployment factors may amplify or dampen effects of deployment on sleep.

A CSTS team will use data from the Pre/Post Deployment Study (PPDS), a component of the Army Study to Assess Risk and Resilience in Service members (Army STARRS). The PPDS includes one assessment immediately prior to and three assessments at standard intervals following deployment. For the approximately 4,500 soldiers who completed all four surveys, the team will examine the effects of deployment-related variables on post-deployment

insomnia and evaluate the extent to which pre-deployment variables modify those effects.

This research will expand the evidence base on which military-relevant solutions can be built to prevent or mitigate the effects of deployment-related sleep loss and fatigue. The team will work with military policymakers to transition the study findings to practice, providing guidance: (a) to inform deployment-related policy, allowing senior leaders to modify aspects of policy that increase the likelihood of deployment-related fatigue and medical evacuation risk; (b) to facilitate the identification of Service members at greatest risk for, and those likely to show resilience to, sleep-related effects of deployment; and (c) to inform clinical practice guidelines for military health providers in both garrison and deployed settings. Results from this work will inform medical screening standards for deployment to areas of responsibility within combatant commands.



Drs. Rachel Shor and Jeff Thomas with canine friend, Sgt. Grover.

Education and Training

An essential element of the Center's work is education and training. Center Scientists provide education and training to USU medical students committed to service in the Nation's Air Force, Navy, Army and Public Health Service. CSTS educates health care personnel and community leaders at the local, state and federal levels, as well as national, global and private sector settings. One of the Center's instrumental public health education tools is development and dissemination of educational materials to inform stakeholders, including health care personnel, community and organizational leaders, responders and public health emergency workers, families, teaching professionals and policy makers. For nearly a quarter of a century, CSTS has created just-in-time, customized, highly actionable, and easy-to-read educational fact sheets, flyers, pocket cards and other resources to aid national and global stakeholders in mitigating adverse effects of disasters by enhancing efforts at preparedness, response and recovery.

As noted above, a primary focus at CSTS has been the war in Ukraine and ongoing efforts in support of the COVID-19 pandemic, by providing educational resources to partners throughout the DoD, other federal agencies, state and local agencies, professional associations and international partners.

DISASTER RESPONSE AND PUBLIC EDUCATION

Since its inception in 1987, the Center has provided disaster preparedness and response consultation and education in many forms and contexts. CSTS personnel have provided on-the-ground education and consultation following extreme national and global disasters, as well as immediate and long-term remote "reach back" support to assist response and recovery efforts following numerous local, national and global disasters. CSTS personnel have been sought out for guidance on disaster preparedness, response and recovery because of their

experience and subject-matter expertise. The Center's Deputy Director also serves as Chair of the Disaster Committee for the American Psychiatric Association (APA), the world's largest professional organizing body of psychiatrists.

Throughout 2023, the Center provided global consultation and education in response to the war in Ukraine, Hamas terror attacks in Israel and the earthquakes in Turkey, as well as national disasters, such as the mass shootings in Lewiston, Maine, Monterey Park and Half Moon Bay, along with other converging disasters. The Center also supported response efforts to a range of climate-related disasters, including Hurricane Idalia and the severe tornadoes that severely impacted Mississippi and other Central states. Additionally, the Center provided extended and ongoing consultation and resources to local, state and national responder organizations helping during and after the devastating Maui wildfires.

In response to these events, the Center developed and disseminated just-in-time education fact sheets and distributed them to stakeholders involved in disaster response, including the Office of the Assistant Secretary for Preparedness and Response, National Association of State Mental Health Program Directors, as well as national medical organizations providing local response support, such as the APA. The Center also developed and widely disseminated resource pages and worked with partner organizations to support families, first responders and community leaders in the wake of these events.

In October of 2023, the worst terrorist attack in nearly half a century took place in Israel, with hundreds of people killed and several hundred taken hostage by Hamas. This event resulted in a declaration of war by Israel on Hamas, which had claimed thousands of lives and remained ongoing by the end of 2023. The Center developed resources to support communities impacted by these devastating events, including ongoing consultation to senior Israel Defense Forces leadership, as well as mental health education fact sheets translated into additional languages.

SUICIDE PREVENTION PROGRAM

During 2023, CSTS implemented its second year of the Suicide Prevention Program (SPP). Informed by CSTS research findings from Army STARRS, SPP translates science into actionable resources for military and non-military populations to reduce suicidal behavior and promote protective environments. SPP developed and delivered education and leadership products, including fact sheets that provided detailed instructions for leaders in preventing and responding to suicidal ideation and death, and to educate leaders on suicide prevention strategies pertaining to firearm safety and knowing when and how to act when concerned for a Service member.

The aims of SPP are to:

- Collaborate with military and non-military communities to address suicide and related risk factors
- Leverage existing promising practices and data-informed interventions to enhance synergy of effort
- Develop data-informed practices, action tools and resources for pre-, during and post-suicide events
- Ensure evaluation of at-risk and hard-to-reach populations, and develop and disseminate resources to support these groups

SPP has a diverse portfolio of twelve projects summarized below:

Mental Push-Ups: Mindfulness in the Military Application: In partnership with the WRAIR, this project adapted evidence-informed mindfulness techniques into an easily accessible mobile app to encourage daily engagement and practice of mindfulness. The mobile app was contextualized for the military as a prevention tool and for improving mental health and wellness. The app is expected to launch in the Summer of 2024.

Safe Is Strong: This project provided education materials for health care providers to: (1) advance understanding of families with members who are at risk of suicide; and (2) inform providers about available prevention and intervention services to reduce suicide risk in vulnerable families. The goal is to

identify profiles of family risk for suicide by examining how suicidality clusters with other indicators of compromised health and safety within families (e.g., child maltreatment, domestic abuse, pediatric emergency room visits, accidental pediatric injuries).

Warrior Mindset: Gaining a Tactical Advantage: In partnership with WRAIR, a video was created that modelled resiliency skills and techniques in realistic battle scenarios. The video demonstrated five key areas: (1) What's Important Now; (2) Deliberate Breathing; (3) Acceptance; (4) Grounding; and (5) Self-talk. The video incorporated positive psychology skills to manage real time extreme stress and ultimately protect from negative health outcomes following combat.

Project Safeguard: With our National Guard (NG) partners, Project Safeguard developed a training model for the NG on lethal means and voluntary reductions in firearm access during at-risk periods. Peer-to-peer counseling incorporated principles of motivational interviewing to encourage secure storage of personal firearms to decrease the risk of death by suicide or other means. A project manuscript was submitted to *Military Medicine* for publication.

Suicide Prevention Essentials Course (SPEC): This project is designing and will deploy a robust e-learning curriculum to educate researchers within diverse settings on the topic of suicide risk determination and management. The course improves knowledge on how to identify and address suicidal risk identified during human subjects research. The curriculum is expected to launch in the Spring of 2024.

Let's Talk About Your Guns: This project developed a podcast series that connects listeners with experts on secure firearm storage. The aim of this podcast series is to strengthen the communication skills and confidence of health care providers, military leaders, family members and peers to enable conversations with Service members about safely storing their personal firearms to prevent death and injury. Guests included Dr. Joseph Simonetti, Dr. Mike Anestis and Dr. Emmy Betz.

Psychiatry Electronic Modules: This project built and deployed two self-learning electronic modules (titled "Body Dysmorphic Disorder" and "I Am So Tired") for training medical personnel. The eMod-

ules provide training on suicide risk assessment and related risk factors for suicide, including body dysmorphic disorder and eating disorders.

Bereavement Adaptation Learning and Navigating Coping Essentials (BALANCE): This project created an interactive tool for bereaved individuals to learn about and practice effective coping strategies. This user-friendly platform allows bereaved individuals to: (1) inventory current coping skills; (2) learn about various coping strategies and their possible effects; (3) practice skills to manage ineffective coping; and (4) expand current coping skills in order to increase sense of control over ability to cope.

The Family Survivor Self-Care Toolkit: This toolkit promotes positive family safety practices for military family members who lost a loved one. The Military Survivor Family Safety Toolkit supports peer-to-peer discussions around family health and safety, well-being, potential harmful behaviors and suicidality. The toolkit's website is expected to launch in Spring 2024.

Finding the Words: This project developed a series of video simulations to demonstrate and teach skills in help-seeking and combat barriers to care. The videos build confidence in key stakeholders to select and deliver the best words to encourage people to seek behavioral health care or other support services.

Brain Hijack: This project developed a podcast series that provides information for military and non-military communities regarding drivers of suicide risk and presents a public health approach to action. This series features expert recommendations for special populations and communities at large. Guests included Dr. Peter Gutierrez, Dr. Thomas Joiner, Dr. April Naturale and other speakers. A manuscript based on this project is currently in development and will be submitted to the *Journal of Creativity in Mental Health* for publication.

Supporting Our Shipmates: Gatekeeper Trainer Project: In partnership with the USCG, this project facilitated a "LivingWorks" Training for Trainers (T4T) mentoring model within the USCG and conducts evaluation on the impact of mentoring on trainer candidates' willingness and readiness to provide interventions to those having thoughts of sui-

cide. A manuscript based on this project is currently in development and will be submitted to *Military Medicine* for publication.

NEUROSCIENCE AND BEHAVIOR MODULE FOR PRE-CLERKSHIP USU MEDICAL STUDENTS

The Neuroscience and Behavior Module is an eight-week, annual, required multidisciplinary course for the first-year USU School of Medicine students. The module teaches medical students the principles of neuroscience through integrated content across a range of disciplines. With a focus on effective management of a variety of neurologic and psychiatric conditions, students learn to recognize, describe and diagnose common neuroscience-related medical conditions. Through simulated patient experiences, effective, safe and patient-centered clinical skills are developed and practiced, including the performance of neurologic and mental status examinations. Topics related to military medicine, medical history and health systems science are integrated throughout the module. The goal is to foster a robust and well-rounded education for future military medical officers.

In 2023, the University continued to provide distance and hybrid learning, in addition to in-person classes and simulations. The Neuroscience module continued to be highly regarded by students and faculty alike as one of the best modules in the



2023 USU On Site Psychiatry Clerkship Site Director meeting.

pre-clerkship curriculum, pioneering new educational techniques and leading students to one of the highest passing rates in the pre-clerkship period while absorbing some of the most challenging material. As early as 2019, the module was recognized for pre-recording all lectures into a higher-quality format that was more accessible to students than recording live lectures. In preparation for 2024, the module continued to enhance online lecture delivery by improving and re-recording 38 (27%) of the 137 video lectures. In collaboration with the Dean's Office, the module also embedded questions (checks for understanding) into the content of 114 (83%) of the 137 video lectures using Panopto's built-in quiz feature. Module instructors continued to fully participate in the expanded hybrid flipped classroom approach for weekly review sessions six times throughout the module. These flipped classrooms invited students to attend a case-based review that highlighted key learning from the week, invited their professors to rephrase important points from their lectures to illustrate case studies and invited ongoing discussion between students and professors in the online chat.

These vignettes, collected from USU graduates and faculty, were intended to demonstrate the operational importance of the medical material the students were learning each week. Based on consultation with the Assessment Sub-Committee and the Associate Dean for Assessment, every module exam question continued to be carefully blueprinted, down to the objectives which were also mapped to the university objectives. Due to the intensive effort put into organizing the material to correlate structure and function with anatomy, basic science and clinical lectures, the class of 2025 suffered no failures during our 2023 module, with no compromise in the integrity or complexity of the material.

EDUCATION AND TRAINING IN COMBAT AND OPERATIONAL STRESS CONTROL: OPERATION BUSHMASTER

In 2023, CSTS Scientists provided annual training in Combat and Operational Stress Control (COSC) as a core component in military medical ed-



Operation Bushmaster annual medical field training exercise.

ucation. In line with USU's mission to prepare uniformed health professionals to support the readiness of the US Armed Forces, CSTS Scientists engaged in curriculum preparation, faculty development and direct teaching as part of the annual medical field training exercise called Operation Bushmaster.

This full-scale training exercise challenged senior medical and graduate nursing students to operate in forward medical units in a complex battlefield simulation over four days, culminating in a mass casualty event. Students evaluated and treated a continuous stream of battlefield casualties and non-battle injuries, and conducted public health and health outreach activities while on a simulated combat deployment. Differentiating the assessment, disposition and treatment of psychiatric illnesses from combat and operational stress reactions were core skills taught and evaluated as part of the exercise. CSTS faculty collaborated with the psychiatry resi-

gency programs of the National Capital Consortium and the San Antonio Uniformed Services Health Education Consortium to provide an opportunity for resident physicians to develop their teaching and leadership skills and understand COSC as part of their core military-unique curriculum.

DISASTER AND PREVENTIVE PSYCHIATRY COURSE

In collaboration with the American Psychiatric Association, Center Scientists developed the online education and training course, “Disaster and Preventive Psychiatry: Protecting Health and Fostering Community Resilience.” This interactive course has nine modules and covers a broad range of content related to well-being and resilience in disasters, including: Psychological and Behavioral Effects; Risk and Vulnerability; Public Health Approaches to Interventions; Psychological First Aid; Risk and Crisis Communication; Leadership Consultation; Responders; and Preparedness. The content was designed to be applicable for a wide range of stakeholders, including health care professionals, responders and safety workers and community leaders. The course is free to the public and includes eight continuing education credits at no charge. The course is embedded with downloadable, action-oriented and evidence-based resources that participants can use to reinforce their knowledge and skills to foster disaster preparedness, response and recovery. This course is the only one of its kind, has been widely lauded by hundreds of course participants on four different continents and represents a unique and enduring resource to further knowledge, skills and attitudes in the mental health aspects of disasters.

BRAIN, BEHAVIOR AND MIND LECTURE

In 2023, the Brain, Behavior and Mind Lecture, sponsored by CSTS in collaboration with the USU Department of Psychiatry and the USU Brain and Behavior Hub, was held in a virtual format. The Brain, Behavior and Mind Lecture is a forum for a global audience to attend lectures by distinguished

scientists, whose work spanning neuroscience, psychiatry, psychology and community has advanced our understanding of brain, behavior and mind, and our ability to sustain mental health. The 2023 distinguished speaker was Ned H. Kalin, MD, Hedberg Professor and Chair of Psychiatry at the University of Wisconsin School of Medicine and Public Health, and Editor-in-Chief of the *American Journal of Psychiatry*. More than 600 persons registered for the event.

NORWEGIAN FELLOWSHIP

During 2023, CSTS sponsored Ms. Line Rønning, a research Scientist from the Norwegian Armed Forces. Ms. Rønning’s research interests aligned well with CSTS as she explored gender differences in posttraumatic growth and depression among Norwegian Afghanistan veterans. During her time with CSTS, Ms. Rønning met with Center Scientists, analysts and staff to further develop her work. She also attended daily and weekly science and research meetings, learning CSTS’s approach to trauma research through our multiple research projects. Moreover, Ms. Rønning was able to meet with many other research Scientists and clinicians at the USU and in and around the National Capital Region. Ms. Rønning has maintained strong ties to CSTS and is



Dr. Robert Ursano presenting Ms. Rønning with a certificate of completion.

actively working on several research projects with CSTS Scientists concerning Norwegian Afghanistan veterans. These include a project focused on sexual harassment and bullying, and another project examining different latent profiles of PTSD symptoms, and how they interact with key predictors of suicide and mental health care-seeking behaviors.

US DEPARTMENT OF VETERANS AFFAIRS (VA) RESEARCHER-IN-RESIDENCE

CSTS STARRS-LS research team, along with our partners at Harvard University, established a new interagency research fellowship program with the VA. The purpose of the VA/STARRS-LS Researcher-in-Residence Fellowship Program is the pursuit of research-based solutions for Service members at risk for suicide as they transition from active duty to veteran status. To our knowledge, this is the first DoD-VA research fellowship program addressing this critical gap in research. Beginning in 2023, the VA/STARRS-LS Researcher-in-Residence Fellowship Program brought on two VA research scientists who will work part-time with STARRS-LS researchers for a two-year tenure. Dr. Emily Edwards, from the Bronx, NY VA, and Dr. Claire Houtsma, from the Southeast Louisiana Veterans Health Care System, are the first Researchers-in-Residence Fellows. This program will bring in two new VA Researchers-in-Residence yearly for the next five years. See link from the VA's Health Services Research and Development website showcasing the Researcher-in-Residence Program: [VA/STARRS-LS Researcher-in-Residence Program](#)

TRAINING TO SUPPORT RESEARCH

The Center trains and educates research support staff, such as Research Assistants (RAs). In 2023, a team of 11 RAs supported research efforts at CSTS. At CSTS, RAs provide support to team members on a variety of projects, and learn by working with CSTS Scientists, biostatisticians and program managers. The RAs often conduct literature searches, participate in study recruitment and data collection,



CSTS Research Assistants.

assist in data entry and quality control and develop tables and graphics for study findings. RAs also provide administrative support for meetings, including preparing meeting minutes. While at CSTS, RAs acquire valuable research skills, including developing posters for research presentations at professional conferences. RAs are offered professional development opportunities, including attending workshops and assisting with manuscript preparation for publication in peer-reviewed scientific journals.

Following their tenure at CSTS, RAs often further their education by pursuing advanced degrees. Former Center RAs have engaged in graduate study at institutions including: Yale University, Notre Dame University, Johns Hopkins University, Duke University, Columbia University, Georgetown University, London School of Hygiene and Tropical Medicine, University of Maryland, George Washington University, Catholic University, Florida State University, University of Nebraska – Lincoln, and USU. Opportunities that RAs have pursued following their experience at CSTS have included:

- PhD programs in psychology and related behavioral science fields
- Medical and physician assistant (PA) school
- Law school
- Master's degree programs in psychology, counseling, public health and social work
- Training positions at the NIMH and other institutes at the NIH
- Careers with the FBI

In 2023, CSTS continued its series of within-cen-

ter professional development workshops designed to educate and facilitate discussions among the Center staff on topics critical to success. Workshops this year included discussions on different behavioral health careers in the military, managing psychological consequences in disaster populations and workplace etiquette.

DISSEMINATION AND IMPLEMENTATION OF HEALTH AND RESEARCH KNOWLEDGE

Fact Sheets, Infographics and Pocket Cards

The Center is internationally known for the development and dissemination of mental health education fact sheets, infographics and pocket cards to support disaster response and recovery. The fact sheets are actionable, easy to read and understand and topic-focused education resources developed using expert knowledge, which communicate essential behavioral health content on difficult and/or crisis-related issues. Fact sheets, infographics and pocket cards address the needs of a broad range of stakeholders and partners, including responders and emergency workers, health care providers, community leaders, family members and policy makers. CSTS fact sheets are developed, updated and maintained in an online repository. The content of these resources covers a wide range of issues in disaster preparedness and response, such as: climate-related and other natural disasters; pandemics; terrorism and war; risk and crisis communication; elements of crisis leadership; health risk education; and family health behaviors. CSTS fact sheets, infographics



and pocket cards provide readers with resources tailored to the unique aspects of disaster events that address critical contextual factors for various communities during any given disaster. The Center develops and rapidly disseminates these



Drs. Adam Walsh and Brooke Heintz Morrissey, Suicide Prevention Project presentation, Military Health System Research Symposium.

resources in real time following major disasters and traumatic events, including floods, hurricanes and wildfires, public health threats, such as pandemics and chemical spills and acts of intentional violence, including mass shootings, terrorism and war.

In 2023, the Center developed a resource page and translated fact sheets and pockets cards in response to the Hamas terror attacks in Israel and the war that followed to address the impact on military personnel, children and families, aid workers, refugees and community and military leaders. These fact sheets and pocket cards addressed unique issues, including talking with children about war; caring for Service members injured in war; protecting mental health of military and community members; managing the emotional reactions to human remains exposure; loss and grief; crisis leadership actions; and reintegrating into a community after military service. These products served as essential education resources to support global mental health responses to the war in Ukraine for the NATO ally nations, United Nations, the Five Eyes ministries and numerous Non-Governmental Organizations (NGOs) around the world.

Website

The CSTS website is a primary tool for disseminating relevant and timely information to a wide range of stakeholders (www.CSTSONline.org). Throughout the year, CSTS personnel continually added content and



made content more accessible. Material available on the website includes summaries of current research activities, publication citations, newsletters, conference reports, disaster response pages and a searchable repository of CSTS disaster mental health education fact sheets. The website includes a “What’s New” section to highlight recent disaster education materials, research initiatives, publications, conference summaries and announcements of upcoming events.

In 2023, CSTS continued to create and update webpages to respond to, and provide mental health resources for, natural disasters, human-caused disasters (e.g., shootings) and wars overseas. The updated “War in Ukraine Mental Health Resources” page provides disaster mental health resources in English, French, Japanese, Polish, Ukrainian and Russian. The newly created “Israel-Hamas War Mental Health Resources” page provides disaster mental health resources in English and Hebrew.

The CSTS website saw 30,660 users from 162 countries around the world in 2023. Among these users, 22,123 (72%) were from the US. The most viewed non-main page section in 2023 was the Disaster Event page entitled, “Israel-Hamas War Mental Health Resources,” created in October, 2023. This page had a total of 2,556 views, with the most views (341) occurring on October 11th. CSTS created more than 20 fact sheets in Hebrew.

The SPP website, launched by CSTS in 2022, now has two podcasts available: “Brain Hijack” and “Let’s Talk about Your Guns.” At the end of 2023, there were 16 episodes available for the “Brain Hijack” podcast and eight episodes available for the “Let’s Talk about Your Guns” podcast. The “Brain Hijack” podcast page had 1,008 views and “Let’s Talk about Your Guns” podcast page had 921 views.

A new website called “Safe Is Strong” officially launched in July 2023. This website was viewed by 182 users in 2023.

Social Media

In 2023, the Center continued to grow its online presence through the use of social media. Social media resources allowed for the timely dissemination of relevant content to CSTS partners and the public. CSTS social media engaged users from nine different countries across the globe on X (formerly known as Twitter), Facebook and LinkedIn. The Center now has a Social Media team that works to develop monthly and weekly public health outreach campaigns and other types of communications materials. Moving forward, the Center is exploring new ways to increase its social media presence in 2024 across multiple platforms. CSTS encourages people to visit and follow our postings via X and Facebook to stay up to date on new activities, resources and publications. “Like” CSTS on Facebook, and follow CSTS on X (@CSTS_USU) and LinkedIn.



Nur Bookwala & MSgt Moore, Ft Gregg-Adams, VA.

Consultation & Partnerships

Consultation to other organizations, systems and individuals has long been a primary function of the Center. Through consultation, we disseminate research in real-world applications. It is also the means through which the Center leverages the extensive history and experience of CSTS Scientists. These consultations offer reciprocal learning, providing CSTS with real-time visibility, as well as the opportunity to support a wide variety of partners and stakeholders facing challenges related to trauma and disaster. The variety, breadth and duration of CSTS consultation and partnerships span an impressive range. They include many agencies and organizations throughout the DoD and other federal agencies, as well as state, local and national agencies, international organizations and professional associations. The Center is continuously increasing its consultative activities through emerging partnership opportunities. In an increasingly connected yet challenging world, maintaining existing partnerships, while forging new relationships, will remain central to the CSTS mission.

While CSTS maintains existing consultative partnerships, as world events change, each year new events emerge, and new relationships result. Readers of this report will recall past Annual Reports focusing heavily on COVID-19. Although COVID-19 remains a significant public health, medical and behavioral health issue, it is no longer in the forefront of CSTS's daily agenda. As deaths from COVID-19 continue to decline, the residual trauma and grief remain and CSTS's work in this area continues and adjusts.

In last year's Annual Report, we noted that Russia had invaded Ukraine on February 22, 2022, and our involvement in the aftermath of that ongoing war began in earnest. This conflict continues today and for the foreseeable future. The war in Ukraine has created an ongoing threat to global health security, resulting in the need for extensive and ongoing consultation, education and establishment of partnerships to support mental health and well-being in

affected communities around the world.

On October 7, 2023, Hamas invaded Israel and that conflict continues today. This event, along with other disasters, has led the Center to strengthen existing partnerships and provide consultation through new relationships to support global communities. These relationships allow CSTS to make rapid, substantial and creative contributions following a wide range of high stress and trauma-related events. The following sections include examples of impactful long-standing and new CSTS consultations for 2023.

US GOVERNMENT

Department of Defense

CSTS collaborations with the DoD have been central to the Center's mission, and this relationship remains strong and is growing. CSTS leadership and Scientists meet regularly with USU partners and leadership, as well as the Defense Health Agency to identify new challenges and opportunities, share relevant operational findings and assure adaptation to new priorities.

A CSTS Associate Director was invited to attend the *Senior Spouse Senior Leader Conference*, which was held in person at the Pentagon and hosted by the spouse of the Chairman of the Joint Chiefs of Staff. The topic of discussion was "Supporting the Mental Well-Being of Military Families as they Face Uncertainty in Contemporary Life." Approximately 25 spouses of General Officer commanders were in attendance, as well as the spouse of the Secretary of Defense.

CSTS Scientists also focused on the needs of specific Services. For example, a CSTS Navy psychiatrist served as co-chair for the Operational Virtual Mental Health initiative. In this capacity, she assessed the status of the program for the United States, including cost-savings for the US Navy, developed courses of action (COAs) for advancing the program and presented findings and recommendations to the Surgeon General of the Navy.

A Center Scientist was selected to be a member of the joint VA/DoD Working Group for the Clinical Practice Guidelines (CPG) on Headache. In this capacity, she was assigned to specifically address the pharmaceutical treatment of headache, particularly in active-duty members and veterans with Traumatic Brain Injury (TBI). This Practice Guideline has been completed and is now available on the VA/DoD CPG website.

Another Center Scientist served as a work group member for the VA/DoD Clinical Practice Guideline on the Assessment and Management of PTSD and Acute Stress Disorder (ASD), released in the Summer of 2023. This CPG now represents the most contemporary global guidance on PTSD and ASD management.

A CSTS psychiatrist assumed responsibility as a board member on the Neuromusculoskeletal Sub-Community Board (US Navy) as the psychiatry/physical medicine and rehabilitation member. In this capacity, she has helped develop prospective policies for the Navy regarding eating disorders, weight standards, pregnancy and post-partum health, exercise modifications, and vitamin supplementation.

Military Mortuary Affairs (MA)

CSTS has maintained a long-standing relationship with DoD's MA communities, whose personnel are exposed to human remains. The Center has been a global leader in studying the psychological and behavioral responses to exposure to human remains, an area that is often overlooked in planning and responding to disasters and war. Since its beginning, CSTS has studied and collaborated on the special needs of military management of death and the dead. As a result, CSTS Scientists are considered experts by DoD and the global community in research, education and training and consultation regarding a wide range of events in which individuals are exposed to human remains, including pandemics, war, terrorism, climate-related and many other disasters.

The Center's work with MA has helped numerous organizations better understand the potential adverse effects of exposure to human remains. As a result, many partners turn to the Center for assistance in helping their personnel prepare and

respond to these exposures. CSTS Scientists conducted a consultation with researchers from the Walter Reed Army Institute of Research (WRAIR) on educational content that was under development for a training course on mental skills for handling human remains. The training was being developed for medics and military personnel who may be exposed to human remains during current or future military conflicts.

A CSTS Scientist conducted multiple consultations with the Joint MA Center (JMAC) in 2023. The JMAC requested the consultations to obtain information about: mental health and resilience aspects of work with human remains; potential consequences of extending MA Soldiers' Middle East rotations from six months to nine months; and changes in MA company structure, training and field activities.

A CSTS Scientist participated in monthly Defense Support of Civil Authorities (DSCA) MA Synchronization meetings throughout 2023. The meeting maintains a strategic partnership with organizations to prepare and synchronize the response when DoD MA assets are deployed for warfighting, humanitarian or disaster missions. CSTS provided ongoing consultation, guidance and recommendations on the stressors and resilience factors that affect Service members' operational readiness and health. Attendees included: the JMAC, North American Aerospace Defense Command and US Northern Command/US Army North/377th Theater Sustainment Command (TSC), CSTS, Army Reserve Engagement Cell, Headquarters, Department of the Army (HQDA) Assistant Secretary of the Army—Manpower and Reserve Affairs, HQDA G4, US Army South, 451st Expeditionary Sustainment Command (ESC), 311th ESC, US Central Command, Indo-Pacific Command/US Army Pacific/8th TSC, Joint Personnel Effect Depot, Office of the Under Secretary of Defense for Personnel & Readiness, **NGB/ ANG and ARNG MA Program**, US Army Forces Command, and US Army Europe and Africa Headquarters.

United States Coast Guard (USCG)

CSTS has been working with USCG behavioral health and medical leadership with efforts to prepare

USCG members for unique exposures when underway and how to support USCG personnel and their families following return from high stress operations. This year, the Center was asked to help address the challenges of working with migrants crossing the US border, including issues of violence toward women and children, creating unique exposures for USCG members. The Center provides direct consultations and recommends resources to help prepare USCG members, mental health professionals and leaders addressing a wide range of challenges related to homeland security.

Defense Institute of Medical Operations (DIMO)

A CSTS Scientist was selected for a mission to Mexico City to teach Mexican Army personnel about the fundamentals of military mental health. This mission involved close collaboration between US personnel and host nation military personnel to better understand cultural and contextual factors in which the host nation military operates, such as perceptions of trauma exposure, psychological and behavioral responses as well as available resources, military organizational structure and challenges to implementing interventions in support of the host nation's military.

Department of Health and Human Services (DHHS)

CSTS has a long and productive relationship with the Substance Abuse and Mental Health Services Administration (SAMHSA). 2023 saw an expansion and formalization of our relationship with SAMHSA. A CSTS Associate Director serves as a representative of the SAMHSA's Service Members, Veterans and their Families Technical Assistance Center and on the SAMHSA Military and Veterans Technical Assistance Group. In addition, he represents CSTS on the SAMHSA-led Interagency Group for Trauma Informed Care.

State Department

A senior CSTS leader made an invited presentation entitled, "Protecting the Workforce: Crisis Leadership Beyond COVID-19," at the Foreign

Service Institute Resilience Conference in Arlington, VA. Approximately 150 US Department of State Foreign Service Officers and representatives from various divisions within the State Department were in attendance.

Immigration and Customs Enforcement (ICE)

CSTS's ongoing consultation with ICE continued in 2023. CSTS consulted with ICE to examine the health impact of Child Exploitation Investigation (CEI) on ICE personnel. This consultative effort culminated at the end of 2023 with a five-year funded project to conduct health surveillance and develop actionable recommendations for leadership to inform management of occupational exposures and create education resources to aid the workforce and support personnel exposed to CEI work.

PROFESSIONAL ORGANIZATIONS

American Psychiatric Association (APA)

The relationship between CSTS and APA is strong and enduring. CSTS assisted in the initiation of APA's efforts in disaster psychiatry by establishing the Committee on the Psychiatric Dimensions of Disaster in 1992. During 2023, the Center continued to be actively involved in this and other APA activities to educate and train health professionals in disaster and preventive psychiatry. In addition, CSTS consulted with the Public Health Psychiatry sub-committee of the APA's Task Force on Social Determinants of Health to foster Public Health Psychiatry for training programs and professional practice. CSTS provided guidance to the APA Office of Legal Counsel to the Board of Trustees considering DSM-6 on the Conflict-of-Interest Guidelines used for the DSM-5 Task Force, Workgroups and Consultant members. CSTS Scientists provided the subject matter content and review, and co-developed the first interactive online training in Disaster and Preventive Psychiatry.

In 2023, CSTS supported disaster response with the APA to help communities impacted by the Maui wildfires through education, training and by providing just-in-time resources. The Center was asked to consult with the Hawaii Department of Health, the

University of Hawaii, and the Hawaii District Branch of the APA. Center Scientists also supported disaster psychiatrists working in Maui through “reach back” consultation to address challenging patient care, community partnership and professional practice issues, in addition to providing peer support.

Following the mass shootings in Lewiston, ME, CSTS was asked to provide consultation and resources to local and regional health care and law enforcement organizations responding to the event. The Center Deputy Director, in his role on the Disaster Committee, provided ongoing consultation to the Governor of Maine’s Task Force leadership to help with their exploration and understanding of various aspects of mass violence, military culture and regulations and challenges related to emergency protective orders and firearm restrictions.

National Association of State Mental Health Program Directors (NASMHPD)

NASMHPD represents the State and Territory Mental Health Authorities in all states and territories. For over two decades, CSTS has had a mutually beneficial relationship with NASMHPD. This partnership has grown through organizational, personnel, and sweeping changes and challenges in the public mental health system. Because of the closeness of this relationship, NASMHPD and its members can quickly and easily access CSTS consultation and materials. CSTS also benefits from this strong relationship, as it facilitates CSTS remaining current on issues facing the country’s public mental health system, including trends, innovations and challenges.

A CSTS Associate Director made a presentation as part of NASMHPD’s Transformation Transfer Initiative. The purpose was to acquaint participants with CSTS’s range of activities and products to assist states in expanding initiatives for trauma-informed care. Approximately 17 states and territories were represented.

Vibrant Emotional Health

CSTS provided ongoing consultation to a group headed by Vibrant Emotional Health and the Group for the Advancement of Psychiatry. This group

developed a revised version of the classic “phases of disaster” graphic model. This new model attempts to articulate the impact of repeated and colliding disasters more fully, and to account for underlying stresses within communities. The result has been the development of the “Chronic Cyclical Disaster Model,” which has been presented at numerous national and international meetings. The model is continuing to be refined as an important new resource to help disaster planners and community members more fully prepare for, respond to and recover from increasingly complex disaster events.

The Center Deputy Director was invited to serve as the Keynote Speaker at the Vibrant Emotional Health annual disaster conference and spoke on the topic of Crisis Leadership in Disasters to Protect Mental Health and Foster Sustainment. The conference was attended by nearly 100 leaders in regional, national and global disaster response.

Sesame Workshop

CSTS provided consultation to Sesame Workshop related to supporting socioemotional development in children. This meeting was attended by Dr. Jeanette Betancourt, Senior Vice President for US Social Impact at Sesame Workshop.

DISASTER CONSULTATIONS

CSTS has been active in disaster research, training and education and consultation since its inception, and during 2023 the Center remained active in disaster consultation. The Center provided remote “reach back” consultation to help protect communities and foster sustainment for leaders and responders actively working in disaster settings, by helping to address complex problems, assist leaders in anticipating and planning for future challenges and providing critical ongoing peer support. Examples of CSTS’s work in response to disasters during 2023 are listed below.

Maui Wildfires

In response to the devastating wildfires on Maui, CSTS developed a web page with information and resources for families, health care professionals,

responders and community leaders that provide actionable steps to protect mental health, enhance resilience and foster sustainment during this crisis event. The Center was sought out for assistance and provided these resources to the NG, National Guard Association of State Mental Health Program Directors, Hawaii Department of Health and the American Psychiatric Association.

At the request of senior leadership at the National Child Traumatic Stress Network (NCTSN), an Associate Director co-presented an internet-based course on Psychological First Aid (PFA) sponsored by the Hawaii Psychological Association. The course taught application and practice of PFA within the unique cultural and contextual factors relevant to the Maui community after the wildfires. The primary presenters were from the NCTSN and the National Center for PTSD, organizations with which CSTS has had long-standing relationships and partnerships. The Associate Director served as a commentator and discussant, and addressed questions from participants. Nearly 1,000 participants attended the half-day course, including behavioral health providers, local service providers and stakeholders primarily from Maui and other Hawaiian Islands, as well as the US mainland.

The CSTS Deputy Director and other members of the APA Committee on the Psychiatric Dimensions of Disaster met to discuss the pertinent resources for mental health clinicians involved in the response to the Maui wildfires. CSTS resources and knowledge products were included in a new blog posted to the American Psychiatric Association website, titled “Maui Wildfire Response: Resources for Mental Health Clinicians Who Are Helping.” The blog can be found using the following link: <https://www.psychiatry.org/News-room/APA-Blogs/Maui-Wildfire-Response-Clinician-Resources>.

Mass Shooting in Lewiston, Maine

A CSTS Associate Director provided consultation to leadership at the Office of the DHHS Assistant Secretary for Preparedness and Response (ASPR), prior to and during her deployment. Consultation topics included: responder well-being and exposure to human remains; needs of special

populations (e.g., people who are deaf and hearing impaired); preparing for grief rituals and memorials and optimizing opportunities to enhance state and local behavioral health disaster and emergency preparedness and response. CSTS materials were provided and used extensively.

Red Hill Water Contamination

The Deputy Director at CSTS was asked by the DHA’s Red Hill Task Force to provide subject matter expert review and recommendations for a resource being developed to provide education to Service members and families at Joint Base Pearl Harbor-Hickman exposed to JP-5 fuel during the Red Hill contamination event. This event occurred in 2021, displaced 4,100 Service members and their families and exposed over 90,000 individuals to contaminated water. This initial consultation began longer-term involvement of the Center in support of DoD’s response to this environmental and ecological disaster.

The Deputy Director served as a presenter for an online continuing education series designed to provide health care workers within and beyond the DoD with knowledge about environmental disasters, such as large-scale chemical spills and other exposure and contamination events. Topics included understanding unique psychological and behavioral responses following exposure and contamination and the importance of using risk and crisis communication principles to optimize community engagement in health behaviors.

The Center continues to be consulted by senior medical leadership on the Red Hill Task Force to review education materials and community-wide communication and messaging efforts and aid in furthering knowledge on important long-term actions to protect community mental health.

Kentucky Tornadoes

The Deputy Director was contacted by the Commander of Blanchfield Army Community Hospital at Ft. Campbell, KY, following tornadoes that rapidly and intensely moved across multiple states. The Commander requested CSTS consultation on their base-wide behavioral health response to the tornadoes that

adversely impacted many of the system employees and large portions of the surrounding communities. The tornadoes caused severe injury to multiple personnel and destruction of dozens of homes occupied by military personnel. The Deputy Director and an Associate Director provided CSTS materials and just-in-time consultation to the Commander and his Tiger Team who were leading response efforts. A wide range of topics were discussed, including preparation for exposure to human remains, educating families and DoD school personnel on distress responses in children and adolescents and how to care for them and the importance of honoring grief and loss through rituals and memorials.



GLOBAL HEALTH CONSULTATIONS

Since its beginning, CSTS has established, maintained and continued to expand relationships with a multitude of global partners. This priority focus continued to expand in 2023.

War in Ukraine

The extensive response by CSTS to the war in Ukraine began immediately following the February 24, 2022, invasion by Russia. As the war and its sequelae have continued to expand, so have the Center's involvement in efforts to protect mental health and sustainment of victims, families, service Members and those around the world who are caring for individuals impacted by the war.

CSTS provided a broad range of mental health and resilience education resources to support the

Defense Institute of Medical Operations in their work with the Ukrainian Army through direct engagement with military personnel to foster operational sustainment during the war. These resources were translated into Ukrainian and other languages to facilitate communication and learning.

Two long-standing weekly consultations by CSTS Scientists, WRAIR, and Harvard University to support Ukrainian mental health leaders continued in 2023. An ongoing consultative partnership with the President of the Association of Neuropsychologists of Ukraine involved addressing issues of TBI and related mental health challenges in Service members, civilians and family members. Discussions included use of evidence-based screening measures with cultural adaptation, monitoring for comorbid mental health conditions in individuals impacted by TBI, and discussion of challenging patients and care issues. A further consultation involved working with a senior mental health provider in the Ukrainian Armed Forces (UAF) to provide peer support and discussion of adapting Combat and Operational Stress Control principles to address cultural factors for use in the UAF. This resulted in the development of the "Combat Pathway" intervention and culminated in a joint publication, "The Combat Pathway," published in the Army War College journal, *Parameters*.

Members of the CSTS Children and Family Program met with a representative from the National Psychological Association (NPA) of Ukraine to discuss a series of training seminars being developed by Center scientists in collaboration with the National Child Traumatic Stress Network (NCTSN). The training seminars are intended to address the wartime training priorities identified by NPA for behavioral health providers working with Ukrainian children and families. They also conducted training on youth suicide prevention for Ukrainian psychologists in collaboration with the NPA of Ukraine and the NCTSN. In addition, the CSTS team met with the co-founder of Languages of Care to discuss the development of resources for supporting children and caregivers impacted by the war in Ukraine.

A CSTS Scientist met with HOME BASE (Veteran and Family Care), Harvard University experts

and representatives from Ukraine to discuss development of educational materials to assist Ukrainian physicians in the treatment of posttraumatic stress, pain and TBI. Materials being developed include validated scales to be used in acute combat situations. In addition, a CSTS Scientist provided consultation to the Warsaw for the Casualty Care Assessment of Russo-Ukraine War Rehabilitation Symposium to enhance their understanding of psychological and behavioral care of Soldiers injured in combat.

CSTS Scientists continued their support for the European College of Neuropsychopharmacology (ECNP) with their delivery of timely and topical education and training to support global mental health through fostering knowledge about ongoing and emerging issues related to the war in Ukraine, the Hamas terrorist attacks in Israel and subsequent war. In a webinar entitled “364 Days of Full-Scale War,” dedicated to reflections on a full year of war in Ukraine, the CSTS Director gave a talk and participated in a panel discussion as part of the ECNP *Traumatic Stress Network* “Hot Topics” series. Several seminars delivered in support of ECNP were selected for inclusion as part of an online continuing education series to help foster mental health education in disasters, terrorism and war.

A senior CSTS psychiatrist gave a virtual presentation entitled, “Combat Psychopharmacology: Return to Military Duty vs. Reintegration into Civilian Life” to the Behavioral Health Workshop held in Rzeszów, Poland. This was a workshop coordinated by a California NG Unit in response to a request from the Ukrainian Ambassador to the US. This CSTS psychiatrist was specifically invited to give the pharmacology presentation and anticipates participation in subsequent training missions.

Two Center Scientists were invited to participate in the development of a global health training event developed by Darnitsa Pharmaceutical, the largest pharmaceutical company in Ukraine, as a public service. The goal was to educate primary care providers and neurologists throughout Ukraine into enhance their ability to support Service members and families impacted by the war. The Scientists recorded lectures on “Fostering Resilience after Combat: Return to Duty vs Reintegration into Civilian Life” and

“Caring for Patients in War and Other Disasters” as part of this education series. They then attended the inaugural presentations to participate in a Q&A with nearly 3,000 registered attendees. The presentations are part of an online training series for which the Ukrainian Ministry of Defense will be sponsoring continuing education to increase understanding of the psychological and behavioral effects of war and other disasters in the care and treatment of affected community members.

Hamas Terrorist Attacks and War with Israel

Immediately following the attack on Israel, CSTS developed and disseminated a webpage with actionable resources to protect mental health for Service members, families, health care personnel, aid workers and leaders. The Center was consulted by senior active and former Israel Defense Forces personnel to help address issues related to psychological and behavioral issues in notifying surviving family following an unexpected death and protecting communities from the adverse effects of exposure to human remains. In addition, the Center’s expertise was sought out to help address the mental health issues of repatriating hostages and reintegrating prisoners of war.

An Associate Director participated in a virtual consultation, along with other members of the American Academy of Child and Adolescent Psychiatry Disaster and Trauma Committee, with child psychiatrists in Israel to discuss how to best support children’s health in the aftermath of the Hamas terrorist events and ongoing war. Important issues were discussed, including the ways in which children and adolescents may respond differently to distressing events and the importance of protecting the well-being of caregivers in ensuring child mental health. In addition, CSTS provided consultation, resources and educational material to Clexio Biosciences, a pharmaceutical company in Israel, to assist with their identification and broader public dissemination of resources in response to the Israel-Hamas war. These efforts support mental health and well-being through early identification of and promoting interventions that address posttraumatic stress symptoms in military and civilian communities.

International Ministerial Five Eyes Alliance

CSTS, in its ongoing collaboration with the Five Eyes Alliance Advisory Group on Mental Health (consisting of the US, United Kingdom, Australia, New Zealand and Canada), coauthored multiple publications on Service member and family well-being, including one that identified research priorities related to suicide, transition to veteran status, moral injury, problematic anger and optimizing pathways to mental health care. The publications included two commentaries highlighting key issues related to the mental health consequences of war to aid resilience among international and US forces in support of populations at risk during the war in Ukraine.

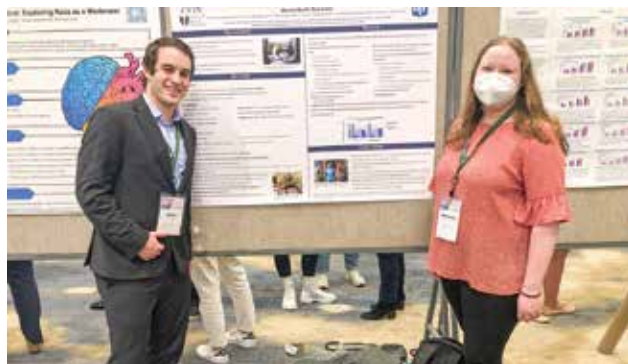
Disaster Psychiatry Canada

Center Scientists again were invited to serve as speakers at the global virtual annual conference sponsored by Disaster Psychiatry Canada and the Canadian Psychiatric Association. This annual event attracts over 1,000 attendees from dozens of countries around the world and features speakers across four different continents. This year, the Center delivered a session on approaches to fostering Disaster and Preventive Psychiatry education for medical students and residents.

The Chair of Disaster Psychiatry Canada is also a member of the APA's Disaster Committee, chaired by the Center's Deputy Director. This international collaboration helps to foster ongoing knowledge



Dr. Quinn Biggs, Behavioral Health Clinic Office, Walter Reed National Military Medical Center.



Aaron Weingrad and Alexandra Blumhorst, poster presentation, Anxiety and Depression Association of America annual conference.

sharing, information exchange and sharing of best practices across North America.

World Psychiatric Association (WPA)

The CSTS Deputy Director was co-author of the WPA position statement, “Mental Health in the Workplace,” to provide global guidance on actions recommended for governments, organizations, leaders and health care workers on the importance of protecting mental health in the workplace to enhance well-being of workers and global economic productivity.

Australia

The CSTS Director was invited to participate in a Think Tank for the proposed Australian Defense Force (ADF) Life Course Study (ADFLCS). The study is designed to measure and monitor the health and well-being of ADF Service members throughout their lives, including during and after service. It will support evidence-based changes to policy and programs aimed at protecting, preserving and enhancing the health, well-being and performance of the ADF. The series of Think Tanks will provide a mechanism for consultation and will capture a range of perspectives on the design of the ADFLCS. The Director also provided consultation to the lead consultant to the Hadassah Action Health Teams, Dr. David Forbes of the University of Melbourne, Australia, on sustaining teams and supporting health care leaders during the ongoing stress of war and terrorism.

Publications

(Names in bold text are CSTS personnel)

JOURNAL ARTICLES

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- Campbell-Sills, L., Kautz, J. D., Ray, C., Lester, P. B., Choi, K. W., **Naifeh, J. A.**, **Aliaga, P. A.**, Kessler, R. C., Stein, M. B., **Ursano, R. J.**, & Bliese, P. D. (2023). Associations of active-duty mental health trajectories with post-military adjustment: Results from the STARRS Longitudinal Study. *Journal of Affective Disorders*, 340, 535–541.
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BOOKS

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BOOK CHAPTERS

Dempsey, C. L., Spangler, P. S., West, J. C., & Benedek, D. M. (2023) Firearm suicide risk and prevention among Service members. In Nicholas Thomson (Ed.), *Handbook of Gun Violence*. Elsevier, New York, NY.

Cozza, S. J. & Fisher, J. E. (2023). Bereavement. In C. F. Reynolds III, **S. J. Cozza**, P. K. Maciejewski, H. G. Prigerson, M. K. Shear, N. Simon, & S. Zisook (Eds.), *Grief and Prolonged Grief Disorder*. American Psychiatric Association Publishing, Washington, DC.

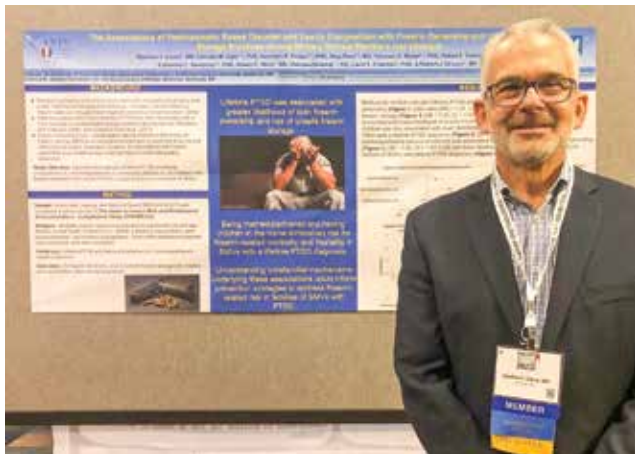
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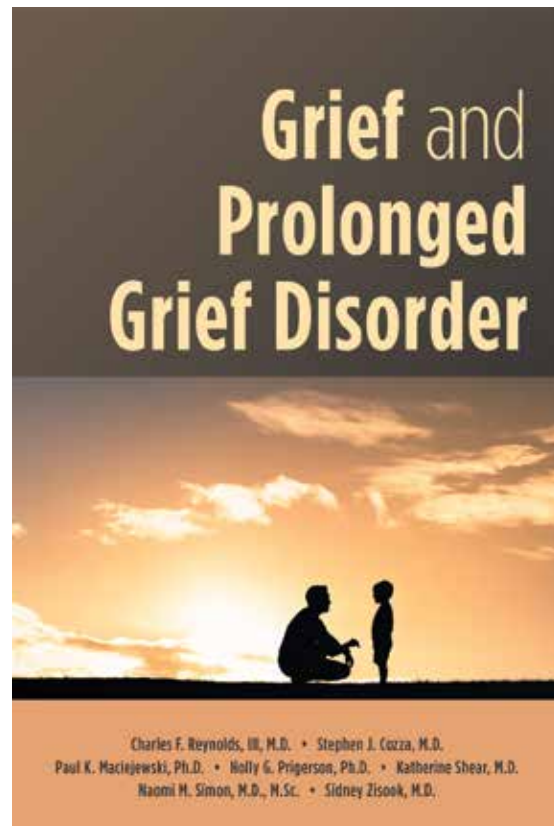
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West, J. C., Morganstein, J. C., Benedek, D., & Ursano, R. (2023). Managing psychological consequences in disaster populations. In Tasman, A., et al. (Eds.), *Tasman's Psychiatry* (5th edition), Springer, New York, NY.



Dr. Stephen Cozza, poster presentation, American Academy of Child and Adolescent Psychiatry annual meeting.



Presentations, Interviews and Briefings, Awards and Appointments

PRESENTATIONS

(Names in bold text are CSTS personnel)

- Baghdadi, S., Walsh, T. R., & McCarroll, J. E.** (2023, May 16-18). *A public health approach to child abuse and neglect in the military using the Haddon Matrix framework* [Poster presentation]. USU Research Days 2023, Bethesda, MD.
- Benedek, D. M.** (2022, June). *Self-care for front line health care providers* [Virtual presentation]. Cognitive Neuroscience and Clinical Neuropsychology: The Beginning of a New Path in Ukraine, Virtual Conference, Association of Neuropsychologists of Ukraine.
- Benedek, D. M.** (2023, July 15). *Combat psychopharmacology: Return to military duty vs. reintegration into civilian life*. Behavioral Health Workshop, Rzeszów, Poland.
- Benedek, D. M.** (2023, November 16). *Fostering resilience after combat: Return to duty vs reintegration into civilian life* [Virtual presentation]. Mental Health Education Series for National Healthcare Providers, Darnitsa Pharmaceutical, Ukraine.
- Blumhorst, A., Weingrad, A., Mash H. H., Fullerton, C. S., Morganstein, J. C., & Ursano, R. J.** (2023, April). *Association of COVID-19-related National Guard deployment stressors with mental health outcomes* [Poster presentation]. Anxiety and Depression Association of America (ADAA) Annual Conference, Washington, DC.
- Blumhorst, A., Weingrad, A., Mash, H. H., Fullerton, C.S., Morganstein, J.C., & Ursano, R.J.** (2023, August 3-5). *National Guard members' feelings of mattering and valuing COVID-19-related work: Association with anger and alcohol use* [Poster presentation]. Division 56, American Psychological Association (APA) Annual Convention, Washington, DC.
- Bossarte, R. M., Dempsey, C. L., Benedek, D. M., Spangler, P. T., West, J. C., Nock, M. K., Zuromski, K. L., Georg, M. W., Ao, J., Haller, K., Probe, D. M., & Ursano, R. J.** (2023). *Associations between individual and area level factors and firearm-related suicide among veterans* [Poster presentation]. National Research Conference for the Prevention of Firearm-Related Harms, Chicago, IL.
- Brenner, G. H., Koefman, S., Naturale, A., Clegg, K. A., & West, J. C.** (2023, May 24-26). *Chronic cyclical disaster model* [Symposium presentation]. Vibrant Disaster Behavioral Health Symposium, Washington, DC.
- Clegg, K. A., West, J. C., Brenner, G. H., & Koefman, S.** (2023, May 20-24). *Chronic cyclical disasters: A community context-sensitive approach to promoting adaptive disaster response* [Oral presentation]. American Psychiatric Association (APA) Annual Meeting, San Francisco, CA.
- Cobb, E., Lee-Tauler, S., Ghahramanlou-Holloway, M., & Walsh, A.** (2023, April 26-28). *A peer-delivered cognitive behavioral program for military life transitions (Mil-iTransition) following medical separation* [Symposium presentation]. Suicide Research Symposium 2023. Virtual attendance.
- Cozza, S. J.** (2023, October 23). *Fundamentals of disaster response with children* [Oral presentation]. American Academy of Child & Adolescent Psychiatry Annual Meeting, New York, NY.
- Cozza, S. J., & Ogle, C. M.** (2023, July 24-26). *Safe is strong: Enhancing safety in young military families* [Distinguished lecture presentation]. 2023 Military Child Education Coalition Global Training Summit, Washington, DC.
- Cozza, S. J., Ogle, C. M., Fisher, J. E., Zhou, J., Walsh, T. R., Zuleta, R. F., Dempsey, C. L., West, J. C., Dhanraj, N., Fullerton, C. S., & Ursano, R. J.** (2023, October 23-28). *The associations of posttraumatic stress disorder and family composition with firearm ownership and unsafe firearm storage practices among military Service members and veterans* [Poster presentation]. Annual Meeting of the American Academy of Child and Adolescent Psychiatry, New York, NY.
- Dempsey, C. L., Benedek, D. M., West, J. C., Nock, M. K., Zuromski, K., Ao, J., Georg, M. W., Probe,**

- D. M., Haller, K., Blumhorst, A., Griffith, L.M., Dhanraj, N., Bossarte, R. M., & Ursano, R. J.** (2023, March 9-11). *Firearm behavioral practices and suicidal behaviors among U.S. Army soldiers and veterans: Implications for suicide intervention and prevention* [Poster presentation]. International Convention of Psychological Science (ICPS), Brussels, Belgium.
- Dempsey, C. L., Benedek, D. M., West, J. C., Nock, M. K., Zuromski, K., Georg, M. W., Ao, J., Probe, D. M., Haller, K., Griffith, L. M., Dhanraj, N., Bossarte, R. M., & Ursano, R. J.** (2023, August 14-17). *Firearm behavioral practices and suicidal behaviors in U.S. Army Service members: Implications for suicide prevention* [Poster presentation]. 2023 Military Health System Research Symposium (MHSRS), Kissimmee, FL.
- Dempsey, C. L., Benedek, D. M., West, J. C., Nock, M. K., Zuromski, K., Ao, J., Georg, M. W., Probe, D. M., Haller, K., Blumhorst, A., Griffith, L. M., Dhanraj, N., Bossarte, R. M., & Ursano, R. J.** (2023, April 13-16). *Firearm storage and carrying practices and suicide attempt and ideation among US Army Service members: Implications for suicide prevention* [Poster presentation]. 2023 Conference of the Anxiety and Depression Association of America (ADAA), Washington, DC.
- Dempsey, C. L., Benedek, D. M., Spangler, P. T., West, J. C., Nock, M. K., Zuromski, K. L., Georg, M. W., Ao, J., Haller, K., Probe, D. M., Bossarte, R. M., & Ursano, R. J.** (2023, November 1-3). *Perception of safety, reasons for firearm ownership and unsafe storage practices: Opportunities for suicide prevention in US Army Service members* [Poster presentation]. National Research Conference for the Prevention of Firearm-Related Harms, Chicago, IL.
- Dempsey, C. L., West, J. C., Bossarte, R. M., Benedek, D. M., Spangler, P. T., Nock, M. K., Zuromski, K., Georg, M. W., Ao, J., Haller, K.H., Probe, D. M., & Ursano, R. J.** (2023, November 1-3). *Firearm behavioral practices and suicidal behaviors in U.S. Army servicemembers and veterans: Opportunities for suicide intervention and prevention* [Poster presentation]. National Research for the Prevention of Firearm-Related Harms, Chicago, IL.
- Dhanraj, N., Griffith, L. M., Dempsey, C. L., Benedek, D. M., Nock, M. K., Zuromski, K., Ao, J., Georg, M. W., Haller, K., Aliaga, P. A., Brent, D., Heeringa, S. G., Kessler, R. C., Stein, M. B., & Ursano, R. J.** (2023, May 16-18). *Bullying from military peers, superiors, subordinates, friends or family members in the month prior to suicide: Results from the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS)* [Poster presentation]. USU Research Days 2023, Bethesda, MD.
- Fisher, J. E. Cozza, S. J., Zhou, J., Skritskaya, N., Mauro, C., Ogle, C. M., Bloom, C., Zuleta, R., Fullerton, C. S., Ursano, R. J., & Shear, M. K.** (2023, May 25-28). *Utilization, acceptability, and grief-related outcomes following an online selective intervention in bereaved family members: Proof of concept* [Poster presentation]. Annual meeting of the Association for Psychological Science (APS), Washington, DC.
- Fisher, J. E., Ogle, C. M., Zhou, J., Walsh, T. R., Zuleta, R. F., & Cozza, S. J.** (2023, November 1-4). *Avoidant coping and supportive coping differentiate patterns of comorbidity in groups in 9/11-bereaved fifteen years after 9/11* [Poster presentation]. International Society for Traumatic Stress Studies (ISTSS) 39th Annual Meeting, Los Angeles, CA.
- Fisher, J. E., Ogle, C. M., Zhou, J., Zuleta, R. F., Walsh, T. R., & Cozza, S. J.** (2023, August 14-17). *Influence of adverse childhood experiences on grief adaptation in bereaved military family members* [Poster presentation]. 2023 Military Health System Research Symposium (MHSRS), Kissimmee, FL.
- Friedman, S.K. Foley, E. Kelly, Buck-Atkinson, J., Walsh, A.K., Heintz Morrissey, B. A., Baker, J.C., Bryan, C.J. Anestis, M.D., & Betz, M.E.** (2023, August 14-17). *Evaluating a lethal means safety intervention to reduce suicide in the National Guard* [Oral Presentation]. 2023 Military Health System Research Symposium, Kissimmee, FL.
- Gabbay, F. H., Kessler, R. C., Sampson, N. A., Collen, J. F., Williams, S. G., Robertson, B. D., Ao, J., Georg, M. W., & Capaldi, V. F.** (2023, May). *Predicting response to insomnia treatment in individual patients: The role of PTSD*. In J. C. West (Chair), *The fragmented life: Examining relationships between PTSD, nightmares, and sleep* [Paper presentation]. American Psychiatric Association (APA) Annual Meeting, San Francisco, CA.

Gabbay, F. H., Spangler, P., Colvonen, P., & West, J. C. (2023, May 20-24). *The fragmented life: Examining relationships between PTSD, nightmares, and sleep moving towards integrated and personalized care* [Symposium presentation]. American Psychiatric Association (APA) Annual Meeting, San Francisco, CA.

Gabbay, F. H., Wynn, G. H., Georg, M. W., Gildea, S. M., Kennedy, C. J., King, A. J., Sampson, N. A., Ursano, R. J., Stein, M. B., Wagner, J. R., Kessler, R. C., & Capaldi V. F., II. (2023, August 14-17). *Toward personalized medicine in the US Army: Using machine learning to predict response to insomnia treatment. In Precision medicine research: optimizing warfighter healthcare, readiness, and return to duty* [Poster presentation]. 2023 Military Health System Research Symposium (MHSRS), Kissimmee, FL.

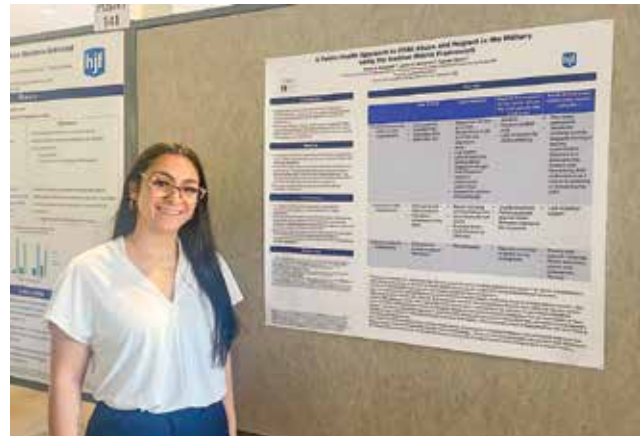
Gentry, M. T., Villanueva, R., & **West, J. C.** (2023, June 22-24). *Race and other patient identifiers in the clinical learning environment: "What's the harm?"* [Poster presentation]. Association of Directors of Medical Student Education in Psychiatry Annual Meeting, San Diego, CA.

Ghahramanlou-Holloway, M., Stivers, M., Winters, A.M., & **Heintz Morrissey, B.** (2023, April 26-28). *Essentials of ethical research with human subjects at risk for suicide* [Symposium]. Suicide Research Symposium 2023. Virtual attendance.

Gregory, J., Akadri, S., & **Cleaves, E.** (2023, May 20-24). *Difficulties in evaluating and managing sedative, hypnotic, and anxiolytic use disorder and withdrawal in a patient with tardive dyskinesia.* [Poster presentation]. American Psychiatric Association (APA) Annual Meeting, San Francisco, CA.

Griffith, L. M., Udayakumar, P. S., Hooke, J. A., Blumhorst, A., Weingrad, A. B., Mash, H. H., & Fullerton, C. S. (2023, May 16-18). *Perceived work importance, COVID-19 activation stress, and probable PTSD in National Guard members* [Poster presentation]. USU Research Days, Bethesda, MD.

Gutierrez, P. M., **Walsh, A. K., Heintz Morrissey, B. A., Hanson, J., & Morganstein, J. C.** (2023, October 15-18). *Impact of trainer mentoring on suicide prevention gatekeeper training outcomes* [Poster presentation]. 2023 International Academy for Suicide Research/American Foundation for



Ms. Sasha Baghdadi, poster presentation, USU Research Days.

Suicide Prevention (IASR/AFSP) International Summit on Suicide Research, Barcelona, Spain.

Gutierrez, P. M., **Walsh, A. K., Heintz Morrissey, B. A., Hanson, J., & Morganstein, J. C.** (2023, September 19-23). *Increasing the fidelity of suicide prevention gatekeeper training* [Oral presentation]. International Association for Suicide Prevention 32nd World Congress, Piran, Slovenia.

Heintz Morrissey, B. A. (2023, March 23). *Project Safeguard: Peer-to-peer lethal means safety evaluation project* [Symposium presentation]. First National Guard Primary Prevention Symposium at the National Guard Professional Education Center, Little Rock, AR.

Heintz Morrissey, B. A., Walsh, A. K., Weingrad, A. B., Meyer, M. C., Godin, S., & Morganstein, J. C. (2023, October 12-14). *Safety belts and suicide: Conceptualizing and addressing suicide from a pragmatic safety perspective.* [Poster presentation]. The Mental Health Services Conference, American Psychiatric Association (APA), Washington, DC.

Hillman, K., Spangler, P., Phares, A., Bolis, M., West, J. C., Mochari-Greenberger, H., Cao, L., Haase, E., Koyfman, S., Brenner, G., & Vance, M., & McLean, A. (2023, August 3-5). *Coping and outcomes pandemic effects study (COPEs) on healthcare workers: Qualitative results* [Poster presentation]. 2023 American Psychological Association Annual Convention, Division 56, Washington, DC.

Kotlyar, B., Ping Tsao, C., Russo, R. **Cleaves, E.** Gluzman, E., **West, J. C.,** Schilling, D., Schatte,

- D., & Song, X. (2023, June 22-24). *Finding needles in the haystacks: Results of a scoping review of methods of evaluating medical student performance* [Poster presentation]. Association of Directors of Medical Student Education in Psychiatry Annual Meeting, San Diego, CA.
- Kumer, K., Cleaves, E. West, J. C., Hamaoka, D., & Capaldi, V.** (2023, June 22-24). *Mass casualty response teaching for medical students using large scale simulation* [Poster presentation]. Association of Directors of Medical Student Education in Psychiatry Annual Meeting, San Diego, CA.
- La Croix, C.** (2023, October). *Psychiatrically treating the war wounded* [Virtual lecture]. Ukraine Rehabilitation Seminar: Rehabilitation Insights: Translating Success and Addressing the Unique Challenges in the Ukrainian Health System, Warsaw, Poland.
- Morganstein, J. C.** (2023, January). *Caring for patients in war and other disasters* [Virtual presentation]. Mental Health Education Series for National Healthcare Providers, Darnitsa Pharmaceutical, Ukraine.
- Morganstein, J. C.** (2023, April). *Finding structure in chaos: Protecting mental health and fostering resilience in pandemics, tornadoes, war, and other disasters* [Virtual presentation]. Grand Rounds for Carillion Care and Virginia Tech School of Medicine.
- Morganstein, J. C.** (2023, May 24-26). *Disasters and community mental health: Crisis leadership behaviors to foster action, sustainment, and recovery* [Keynote presentation]. 3rd Annual Disaster Behavioral Health Symposium, Crisis Emotional Care Team, Vibrant Emotional Health, Washington, DC.
- Morganstein, J. C.** (2023, May). *Psychological and behavioral effects of CBRN and other disasters: Impacts, risks, and interventions to foster resilience and readiness.* [Oral presentation]. Medical Management of Bio/Chem Casualties Course, U.S. Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD.
- Nicholson, R., Garfinkle, T., **Benedek, D. B.**, Greene, E., **Kumer, K.**, Williams, J., Best, N., Moret, N., & Paruchabutr, K. (2023, June 4-7). *High anxiety: Intense emotion simulation and safety for participants* [Conference presentation]. Association of Standardized Patient Educators (ASPE) Annual Conference, Portland, OR.
- Ogle, C. M., Fisher, J. E., Zhou, J., Walsh, T., Nemcek, S., Zuleta, R., Fullerton, C. S., Ursano, R. J., & Cozza, S. J.** (2023, May 25-28). *Child protective actions in response to specific types of child neglect* [Poster presentation]. Annual meeting of the Association for Psychological Science (APS), Washington, DC.
- Santiago, N., **Shor, R.**, Arditte Hall, K. A., Smith, B. N., Davison, E. H., & Pineles, S. L. (2023, November 1-4). *Examining the relationship between history of interpersonal trauma and lifetime suicide attempt among treatment-seeking women veterans* [Poster presentation]. International Society for Traumatic Stress Studies (ISTSS) 39th Annual Meeting, Los Angeles, CA.
- Sheth, N. K., Wilson, A., Schilling, D., Rhee, S., **West, J. C.**, & Napier, T. C. (2023, June 22-24). *Words can hurt: How language impacts trainees' attitudes and actions in treating substance use disorders* [Poster presentation]. Meeting of Association of Directors of Medical Student Education in Psychiatry, San Diego, CA.
- Spangler, P.** (2023, May 24). *Results of a pilot of a novel treatment for trauma-related nightmares and insomnia.* In: *The Fragmented Life: Examining Relationships Between PTSD, Nightmares, and Sleep Moving Towards Integrated Personalized Care.* [Paper in a Panel]. American Psychiatric Association (APA) Annual Meeting, San Francisco, CA.
- Spangler, P. T., Benedek, D. M., Dempsey, C. L., Gill, J., Kwasinski, R., Mills, E., Probe, D., West, J. C., & Winslow, B.** (2023, August 15). *How biomarkers of stress relate to exposure to nightmares during treatment visits: Results from a pilot trial of nightmare deconstruction of reprocessing* [Poster presentation]. Military Health Systems Research Symposium (MHSRS), Kissimmee, FL.
- Spangler, P., Benedek, D., Dempsey, C. L., Hilmi, A., Kwasinski, R., Mills, E., Probe, D., West, J. C., & Winslow, B.** (2023, August 3-5). *Pilot results of a novel treatment for posttraumatic nightmares in a military and veteran sample* [Poster presentation]. American Psychological Association Annual Convention, Division 56, Washington, D.C.
- Udayakumar, P. S., Hooke, J. A., Griffith, L. M., Blumhorst, A., Weingrad, A. B., Mash, H. H., & Fullerton, C. S.** (2023, May 16-18). *Stress*

- management and psychological responses in National Guard Service members activated during COVID-19* [Poster presentation]. USU Research Days 2023, Bethesda, MD.
- Ursano, R. J.** (2023, February 23). *364 days of full-scale war: A reflection on a year of full-scale war in Ukraine* [Presentation and panel discussion]. Traumatic Stress Network, European College of Neuropsychopharmacology.
- Walsh, A. K., Meyer, M. C., Heintz Morrissey, B. A., & Morganstein, J. C.** (2023, April 26-28). *Drop the pen and pick up the mic: The creation of a podcast series that delivers expert and holistic information about suicide prevention to the public* [Virtual Presentation]. Suicide Research Symposium 2023.
- Walsh, A. K., Morganstein, J. C., Stanley, I., Betz, E., Heintz Morrissey, B. A., Fullerton, C. S., & Ursano, R. J.** (2023, April 26-28). *Take the lead: The development of a leader driven approach to firearm safety and suicide prevention* [Virtual Presentation]. Suicide Research Symposium 2023.
- Walsh, A. K., Weingrad, A. B., Meyer, M. C., Morganstein, J. C., Heintz Morrissey, B. A., Fullerton, C. S., & Ursano, R. J.** (2023, April 26-28). *Partnering, implementing and evaluating: A how to process of developing suicide prevention tools for the public* [Virtual Presentation]. Suicide Research Symposium 2023.
- Walsh, A. K., Gutierrez, P., Heintz Morrissey, B. A., & Morganstein, J. C.** (2023, August 14-17). *A novel mentoring model to increase fidelity of suicide prevention gatekeeper training: A pilot evaluation study of SafeTALK in the United States Coast Guard.* [Poster presentation]. 2023 Military Health System Research Symposium (MHSRS), Kissimmee, FL.
- Walsh, A. K., Morganstein, J. C., Betz, E., Heintz Morrissey, B. A., Bryan, C. J., & Anestis, M. D.** (2023, August 14-17). *Peer adaptation of an evidence-based approach to firearm safe storage: A formative evaluation of four training sites in the national guard.* [Poster presentation]. 2023 Military Health System Research Symposium (MHSRS), Kissimmee, FL.
- Wang, J., Ursano, R. J., Dinh, H., Thomas, J. L., Cohen, G. H., Sampson, L., Galea, S., & Fullerton, C. S.** (2023, August 3-5). *Suicide ideation and adversities in separating US National Guard and Reserve Service members* [Poster presentation]. American Psychological Association Annual Meeting, Washington, DC.
- Wang, J., Biggs, Q. M., Baghdadi, S., Dhanraj, N., Hooke, J., Thomas, A., Fullerton, C. S., Amin, R., & Ursano, R. J.** (2023, August 14-17). *Time of day variation in posttraumatic stress symptoms in Service members: Results from an ecological momentary assessment study* [Poster presentation]. 2023 Military Health System Research Symposium (MHSRS), Kissimmee, FL.
- Weingrad, A. B., Blumhorst, A., Mash, H. H., Udayakumar, P., Griffith, L. M., Fullerton, C. S., Morganstein, J. C., & Ursano, R. J.** (2023, August 14-17). *Personal experience of COVID-19, training related stress, and PTSD in National Guard members* [Poster presentation]. Military Health System Research Symposium (MHSRS), Kissimmee, FL.
- West, J. C., & Morganstein, J. C.** (2023, June 9). *Growing the tent: Disaster psychiatry education across the professional spectrum to enhance global mental health* [Oral presentation]. Disaster Psychiatry Canada Conference, Toronto, Canada.
- West, J. C., Dempsey, C. L., Benedek, D. M., Spangler, P. T., Nock, M. K., Zuromski, K. L., Georg, M. W., Ao, J., Haller, K., Probe, D. M., Bossarte, R. M., & Ursano, R. J.** (2023, November 1-3). *Relationships between firearm behaviors and suicide risk in a longitudinal sample* [Poster presentation]. National Research Conference for the Prevention of Firearm-Related Harms, Chicago, IL.
- Zuleta, R. F., Udayakumar, P. S., Ogle, C. M., Fisher, J. E., Zhou, J., & Cozza, S. J.** (2023, May 16-18). *Opinions about Gold Star criteria among children of fathers who died or went missing during the Vietnam War* [Poster presentation]. USU Research Days 2023, Bethesda, MD.

INTERVIEWS AND BRIEFINGS

Dr. Morganstein was featured in “Mental Health 101,” a multi-video series on health.mil, the official website for the Military Health System (MHS) and DHA. Topics of discussion included help-seeking adjusting to post-deployment and difficult conversations, among others. The video series was also listed under the Mental Health is Health section of the website. This is a campaign from the MHS to make resources available to help Service members, families and veterans who are struggling with mental health challenges.

Dr. Gabbay was interviewed to mark the end of her six-year tenure as Member-at-Large on the Board of Directors of the Federation of Associations in Behavioral and Brain Sciences (FABBS). Featured in FABBS News Highlights, which is distributed to FABBS member organizations and affiliates, the interview focused on the role of scientists in the effort to ensure that science has a voice at the policymaking table.

Mental Health News Radio Network, a network of

podcasts focused on mental health, issued a press release highlighting CSTS SPP podcast “Brain Hijack.” Additionally, Dr. Heintz Morrissey and Dr. A. Walsh were invited to be on the Mental Health News Radio podcast to discuss the show, how they got into the field of suicide prevention and the importance of having open discussions about suicide prevention with your loved ones.

Dr. S. Cozza was invited and participated in an in-person meeting of the Senior Spouse Leader Conference, which was held at the Pentagon and hosted by Mrs. Brown, spouse of the Chairman of the Joint Chiefs of Staff. The topic of discussion was “Supporting the mental well-being of military families as they face uncertainty in contemporary life.” In addition to Mrs. Brown, approximately 25 other spouses of General Officer commanders were in attendance, as well as Mrs. Austin, spouse of the Secretary of Defense.

A series of meetings took place throughout the year between CSTS and multiple partners, focused on increasing capabilities in predictive analytics. To finish out the year, COL Capaldi and Dr. Ursano participated in an in-person meeting at the Defense Health Headquarters (DHHQ) with the Assistant Secretary of Defense for Health Affairs, Dr. Martínez López. Dr. Martínez López assembled the group to discuss new ideas to improve the Defense Behavioral Health Program. The CSTS SPP team participated in USCG Leadership Brief to RADM Dana Thomas, Director of Health, Safety and Work-life. The team discussed progress updates for “Supporting Our Shipmates: Gatekeeper Training Project,” a featured CSTS SPP project to evaluate USCG trainer support for LivingWorks Applied Suicide Intervention Skills Training and safeTALK programs.

CSTS presented two briefings at the Pentagon this year to provide updates on the Army STARRS research program. Dr. Ursano, Dr. Thomas, Dr. Naifeh and Mr. Hurwitz met with Senior Leaders from the DoD, the Army and the VA in June and November to brief them on the status and future of the Army STARRS research. Each briefing included approximately 25 participants, including the Assistant Secretary of Defense for Health Affairs, the Assistant Secretary of the Army for Manpower and Reserve Affairs, the Executive Director of Health Readiness Policy and Oversight



Mr. Paul Hurwitz attending a STARRS research briefing to Senior DoD & Army Leadership at the Pentagon.

for the Office of the Assistant Secretary of Defense for Health Affairs and the Deputy Chief of Research and Development for the VA.

AWARDS AND APPOINTMENTS

The following Center Scientists were granted USU faculty promotions:

- Dr. Hamaoka to Professor
- Dr. Glickman to Associate Professor with Tenure
- Dr. Dempsey to Research Associate Professor
- Dr. Meyer to Professor
- Dr. Giordano to Adjunct Professor
- Dr. West to Associate Professor with Tenure

CSTS podcast, “Let’s Talk About Your Guns,” was honored with the Bronze Telly Award. The annual Telly Awards showcase the best work created by some of the most respected advertising agencies, television stations, production companies and publishers around the world. There were more than 12,000 entries from 50 states and five continents, with this year having a decade-high number of entries. CSTS podcast, produced by Podville, was honored with the Bronze Telly Award in the General-Branded Content category. The podcast features eight episodes and is available on CSTS’s website as well as YouTube, Apple Podcasts, Spotify and Stitcher. Each episode focuses on various aspects of gun safety.

‘Brain Hijack’ was ranked by FeedSpot.com as one of the top ten suicide prevention podcasts out of forty-five selected podcasts. FeedSpot, a podcast database with over four million registered members and 100,000 podcasts from over 150 countries, received a listener review describing ‘Brain Hijack’ as “a captivating podcast... with engaging hosts and expert guests [that] unveils hidden truths about the brain, consciousness and human behavior.” ‘Brain Hijack’ currently has a rating of 5 out of 5 stars on Apple Podcasts.

Dr. Fisher won a 2023 American Graphic Design Award for the *Bereavement Adaptation: Learning and Navigating Coping Essentials (BALANCE)* website. This website is an interactive tool based on research studies that was created for bereaved individuals to practice healthy coping strategies.

Dr. Ogle was awarded a 2023 American Graphic



COL Vincent Capaldi presenting shadow box to CAPT Joshua Morganstein at his retirement ceremony.

Design Award for the *Safe Is Strong* website. The website provides resources to strengthen the health and safety of military-connected families with young children.

Dr. Ogle was selected to serve on the National Academies Forum for Children’s Well-being as a representative of the American Psychological Association (APA), Division for Child and Family Policy and Practice (Division 37).

Two CSTS articles were showcased in separate Military REACH newsletters. *Recent Stressful Experiences and Suicide Risk: Implications for Suicide Intervention and Prevention* (Dempsey et al., 2023) and *Understanding a Time of High Risk for Suicide: Adversities Associated with Separation from Military Service Among National Guard and Reserve Service members* (Wang et al., 2023) were showcased in February 2023 and August 2023, respectively. The goal of Military REACH is to put important research into the hands of individuals to whom it would be useful. The newsletter summarizes newly published studies related to the well-being of military families, and distributes them to researchers, helping professionals and others interested in military family research, including the DoD Office of Military Community and Family Policy.

The Suicide Research & Program Evaluation (RPE) team honored 20 “Top Picks” from suicide prevention publications in peer-reviewed journals. The publication authored by CSTS Scientist Dr. Shor (Shor et al., 2022), was titled *The Transition to Civilian Life: Impact of Comorbid PTSD, Chronic Pain, and Sleep Disturbance on Veterans’ Social Functioning and Suicidal Ideation*. Its selection as a 2023 “Top Pick” was out of nearly 800 publications disseminated by the RPE team in 2022.

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AWARDS (Jan-Dec 2023)	FUNDING INSTITUTION
Pilot Trial Comparing Exposure and Non-Exposure Treatments for Post-trauma Nightmares and Insomnia: Nightmare Deconstruction and Reprocessing vs. NightWare Wristband	DHP
Brain Bank Project: Consortium for the Translational Neuroscience and Treatment of Stress and PTSD (VA Biorepository Brain Bank: PTSD Brain Bank Protocol)	VA
Study to Assess Risk and Resilience in Servicemembers – Longitudinal Study (STARRS-LS)	DHP
Family Violence and Trauma Project	IMCOM
Central Nervous System Correlates Study	MOMRP
Army National Guard Behavioral Health Project	ARNG
National Guard Bureau Joint Staff Prevention Workforce Project	NGB
Identifying Predictors of Treatment Response in Service Members with Posttraumatic Stress Disorder Related Sleep Disturbances: Use of Large Datasets to Improve Treatment Selection over the Military Lifecycle	USAMRMC
Center for the Study of Traumatic Stress (CSTS) Program	DHP
Grief and Health-Related Quality of Life in World Trade Center (WTC) Survivors: Associations with Bereavement, Trauma Exposures, and Mental and Physical Health Conditions	CDC
Identifying Motivations for Service Members and Veterans Owning Firearms, Storing Them in Unsafe Conditions and Using Them to Hurt Others or Themselves	CDC
Suicide Prevention Program (SPP)	DHP
Targeting Family Risk Associated with Unsafe Firearm Storage Practices	MOMRP
A Phase 2, Multi-center, Multi-Arm, Randomized, Placebo-Controlled, Double-Blind, Adaptive Platform Trial to Evaluate the Safety, Tolerability and Efficacy of Potential Therapeutic Interventions in Active-Duty Service Members and Veterans with PTSD	USAMRMC
Emotion Regulation and Cognitive Flexibility Program (ERCFP): Targets for Improving Psychological Health and Enhancing Performance	DARPA
Pre-Deployment and Deployment-Related Risk and Resilience Factors for Insomnia in Military Personnel	MOMRP

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American Academy of Child and Adolescent Psychiatry	European College of Neuropsychopharmacology	National Association of State Mental Health Program Directors (NASMHPD)
American Association for the Advancement of Science	Federal Bureau of Investigation (FBI)	National Center for Post-Traumatic Stress Disorder of the VA
American Gold Star Mothers	Florida Department of Health Ft. Bragg, NC (renamed Ft. Liberty)	National Child Traumatic Stress Network (NCTSN)
American Psychiatric Association (APA)	Ft. Hood, TX (renamed Ft. Cavazos)	National Committee for Employer Support of the Guard and Reserve
American Psychological Association (APA)	Ft. Lee, VA (renamed Ft. Gregg Adams)	National Fallen Firefighters Foundation
Architect of the Capitol	Ft. Stewart, GA	National Institute for Occupational Safety and Health
Armed Forces Retirement Home	George C. Marshall Center for European Security	National Institute of Mental Health
Broad Institute	Gold Star Wives of America	National Institutes of Health (NIH)
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