

# CDP



## Research Update -- September 7, 2023

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- Resource of the Week – Breaking Barriers: Women in Army Special Operations (US Army Special Operations Command)

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<https://doi.org/10.1093/ije/dyad088>

**Cohort Profile Update: The US Millennium Cohort Study—evaluating the impact of military experiences on service members and veteran health.**

Sheila F Castañeda, Jennifer N Belding, Claire A Kolaja, Cynthia A LeardMann, Isabel G Jacobson, Anna C Rivera, Felicia R Carey, Satbir Boparai, Jennifer L Walstrom, Beverly D Sheppard, Edward J Boyko, Margaret A K Ryan, Rudolph P Rull, the Millennium Cohort Study Team

International Journal of Epidemiology  
Volume 52, Issue 4, August 2023, Pages e222–e231

Key Features

- This paper provides an update to the original cohort profile paper published a decade ago. The Millennium Cohort Study is the largest, longest-running, prospective study of current and former United States (US) military personnel and is sponsored by the US Departments of Defense (DoD) and Veterans Affairs (VA).
- While the original study aim, evaluating the health impact of serving in the military, has remained consistent, the spectrum of research topics has expanded to include areas such as social determinants of health.
- 260 228 military personnel enrolled across 5 panels between 2001 and 2021 (baseline age range: 25-35 years); participants are surveyed every 3-5 years. The original 21-year follow-up period was extended through 2068 to examine health across the lifespan.
- Longitudinal survey data are linked to data from DoD, VA, and external sources (e.g. medical records, deployment histories, vital statistics, and geospatial data).

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<https://doi.org/10.1080/08995605.2023.2250709>

**Cognitive reappraisal moderates the effect of combat or other exposures on negative behavioral health symptoms.**

Jeffrey M. Osgood, Hunter K. Yates, Jayne B. Holzinger & Phillip J. Quartana

Understanding the individual differences that can buffer the impact of combat and other adverse exposures on deleterious behavioral health outcomes could lead to more targeted prevention and intervention efforts. Cognitive reappraisal, an antecedent-focused emotion regulation strategy, is linked to positive health outcomes such as lower levels of post-traumatic stress disorder, anxiety, and depression. This study examined the moderating effect of individual differences in cognitive reappraisal use on the association between combat exposure and behavioral health outcomes in active-duty U.S. Soldiers (N = 2,290). This study utilized survey data collected approximately 18 months following a combat deployment to Afghanistan in 2014. Results showed that individual differences in cognitive reappraisal use significantly moderated the effect of combat exposure on anxiety and post-traumatic stress symptoms but not depressive symptoms. Specifically, increasing combat exposures predicted a steeper increase in negative behavioral health symptoms for Soldiers reporting lesser (versus greater) cognitive reappraisal use. These findings highlight a role for cognitive reappraisal as a targetable factor that can mitigate the behavioral health consequences of exposure to combat stressors.

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<https://doi.org/10.1002/jts.22964>

### **Early predictors of chronic posttraumatic stress disorder symptom trajectories in U.S. Army soldiers deployed to the Iraq war zone.**

Jennifer J. Vasterling, Molly R. Franz, Lewina O. Lee, Anica Pless Kaiser, Susan P. Proctor, Brian P. Marx, Paula P. Schnurr, John Ko, John Concato, Mihaela Aslan

Journal of Traumatic Stress

First published: 22 August 2023

The course of posttraumatic stress disorder (PTSD) symptoms varies among veterans of war zones, but sources of variation in long-term symptom course remain poorly understood. Modeling of symptom growth trajectories facilitates the understanding of predictors of individual outcomes over time. Although growth mixture modeling (GMM) has been applied to military populations, few studies have incorporated both predeployment and follow-up measurements over an extended time. In this prospective study, 1,087 U.S. Army soldiers with varying military occupational specialties and

geographic locations were assessed before and after deployment to the Iraq war zone, with long-term follow-up assessment occurring at least 5 years after return from deployment. The primary outcome variable was the PTSD Checklist–Civilian Version summary score. GMM yielded four latent profiles, characterized as primarily asymptomatic (n = 194, 17.8%); postdeployment worsening symptoms (n = 84, 7.7%); mild symptoms (n = 320, 29.4%); and preexisting, with a chronic postdeployment elevation of symptoms (n = 489, 45.0%). Regression models comparing the primarily asymptomatic class to the symptomatic classes revealed that chronic symptom classes were associated with higher degrees of stress exposure, less predeployment social support, military reservist or veteran status at the most recent assessment, and poorer predeployment visual memory, ORs = 0.98–2.90. PTSD symptom course varies considerably over time after military deployment and is associated with potentially modifiable biopsychosocial factors that occur early in its course in addition to exposures and military status.

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<https://doi.org/10.1177/10748407231163588>

### **Identifying Mental Health Profiles Among Adolescents Who Experienced a Recent Parental Deployment or Military-Related Family Separation.**

Lucier-Greer, M., O'Neal, C. W., & Mancini, J. A.

Journal of Family Nursing  
2023 Aug; 29(3): 301-312

Assessing two independent samples of adolescents in military families in the United States who recently experienced parental separation (N = 573; N = 186), this study sought to identify adolescent mental health profiles indexed on multiple indicators. In other words, we asked how military adolescents fare after parental separation in terms of mental health indicators. Proximal family processes (family cohesion, conflict, and marital adjustment) were also examined in relation to mental health profiles as well as core adolescent outcomes, self-rated health, and school enjoyment. In both samples, three profiles emerged identifying similar structures of mental health profiles. Two-thirds of adolescents were in the lowest risk mental health group. Poor family cohesion and greater conflict were associated with the moderate and highest risk groups. The lowest risk group reported better health and greater school enjoyment. Family nurses and other health care professionals are encouraged to inquire about military connectedness,

structural changes occurring within the family system, and family processes in relation to adolescent well-being.

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<https://doi.org/10.1080/00332747.2023.2188627>

### **Understanding a Time of High Risk for Suicide: Adversities Associated with Separation from Military Service among National Guard and Reserve Service Members.**

Wang, J., Ursano, R. J., Dinh, H., Thomas, J. L., Cohen, G. H., Sampson, L. A., Galea, S., & Fullerton, C. S.

Psychiatry

2023 Summer; 86(2): 124-136

#### Objective:

The purpose was to examine five types of adversity and their associations with separating from military service among a nationally representative sample of U.S. National Guard and Reserve (NGR) service members.

#### Methods:

Multivariate logistic regression analyses were conducted to examine the association between separating from the service and adversities, and demographic differences in adversities experienced among those who had separated from the service and those who stayed in the service.

#### Results:

Those who left the military were more likely to report financial (OR = 1.65, 95% CI = 1.01-2.70) and healthcare access problems (OR = 2.21, 95% CI = 1.10-4.46). Among those who left the military, female service members were more likely to experience interpersonal adversity (OR = 4.28, 95% CI = 1.15-15.87), and Army and Marine service members were more likely to experience job-employment adversity (OR = 4.92, 95% CI = 1.50-16.12) and financial adversity (OR = 6.46, 95% CI = 1.22-34.33).

#### Conclusion:

Separating service members experience financial adversity and challenges with healthcare access. Interpersonal difficulties are particularly experienced by female service members, and job/employment difficulties experienced by Army and Marine

veterans. Continued efforts are needed to facilitate service delivery for NGR separating service members who need them.

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<https://doi.org/10.1002/jts.22921>

**A daily diary study of the romantic partner relationship dynamics associated with anger and other posttraumatic stress disorder symptoms.**

Hyatt, C. S., Halvorson, M. A., & Campbell, S. B.

Journal of Traumatic Stress  
2023 Jun ;36(3): 484-495

Posttraumatic stress disorder (PTSD) is linked to negative relationship outcomes, but the relational processes that link specific PTSD symptoms to these outcomes over granular periods are not well understood. The current study used a daily diary methodology to investigate the associations between specific PTSD symptoms (i.e., anger, avoidance, reexperiencing, hyperarousal, and numbing) and proximal indices of relationship functioning (i.e., accommodation behaviors, disclosure, intimacy). Participants were members of 64 couples, each comprising a male service member (SM) and female romantic partner (RP), who completed daily assessments of PTSD symptoms and indices of relationship functioning for 2 weeks. The results suggest a somewhat unique role of anger on relationship dynamics: Although mean levels of PTSD symptom clusters were associated with negative relationship outcomes at the bivariate level, daily fluctuations in anger were uniquely related to accommodation behaviors and SM- and RP-reported intimacy in multilevel models,  $B_s = -0.08-0.50$ ). These findings highlight the importance of considering the differential role of specific PTSD symptoms, like anger, in dyadic interventions for PTSD; several strategies for doing so in the context of contemporary evidence-based treatments are discussed.

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<https://doi.org/10.1001/jamaneurol.2023.2893>

**Trends in Suicide Rates Among Post-9/11 US Military Veterans With and Without Traumatic Brain Injury From 2006-2020.**

Howard, J. T., Stewart, I. J., Amuan, M. E., Janak, J. C., Howard, K. J., & Pugh, M. J.

JAMA Neurology  
2023 Aug 28; e232893

In 2020, the suicide rate among US veterans was 31.7 per 100 000, 57.3% greater than nonveterans, and suicide was the second leading cause of death for veterans younger than 45 years. Between 2000 and 2020, over 460 000 US service members were diagnosed with traumatic brain injuries (TBIs). Veterans serving after 9/11 have higher suicide rates compared to the US population, which is exacerbated by TBI exposure. This study examined trends in suicide rates for veterans with and without TBI compared with the US adult population.

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<https://doi.org/10.1001/jamahealthforum.2023.2645>

### **Telehealth and In-Person Mental Health Service Utilization and Spending, 2019 to 2022.**

Cantor, J. H., McBain, R. K., Ho, P. C., Bravata, D. M., & Whaley, C.

JAMA Health Forum  
August 25, 2023

In this cohort study, utilization and spending rates for mental health care services among commercially insured adults increased by 38.8% and 53.7%, respectively, between 2019 and 2022. This disproportionate increase in spending will likely evolve now that the PHE has ended, with insurers either continuing or stopping coverage for telehealth visits for mental health services.

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<https://doi.org/10.1093/milmed/usac187>

### **Erectile Dysfunction in a U.S. National Sample of Male Military Veterans.**

Way, B. M., Griffin, K. R., Kraus, S. W., Tsai, J., & Pietrzak, R. H.

Military Medicine  
2023 Aug 29; 188(9-10): 2837-2843



### Introduction:

Erectile dysfunction (ED) is one of the most prevalent sexual dysfunctions in men and often co-occurs with physical and mental health issues. Military veterans are at elevated risk for many comorbid physical and mental health issues, including ED, although little research has examined the prevalence and health burden of ED in the general U.S. veteran population. The present study calculated the weighted lifetime prevalence of ED and its association with physical and mental health conditions in a nationally representative sample of U.S. veterans.

### Materials and methods:

Using data from a nationally representative sample of 921 male U.S. veterans, self-report assessments assessed major depressive disorder (MDD), generalized anxiety disorder, probable post-traumatic stress disorder (PTSD), at-risk/problem gambling, and past two-week suicidal ideation and attempts, as well as 22 physical health conditions.

### Results:

The weighted lifetime prevalence of ED among veterans was 14.2% (95% CI = 12.0%-16.0%). Veterans with ED were more likely to be older than 60, unemployed, to have served less than four years in the military, and to have served in combat roles and in the Vietnam War. Relative to veterans without ED, veterans with ED had higher rates of sleep disorders (adjusted odds ratio [aOR] = 3.23), arthritis (aOR = 2.60), high cholesterol (aOR = 2.30), diabetes (aOR = 2.29), high blood pressure (aOR = 2.14), obesity (aOR = 2.12), heart disease (aOR = 2.10), cancer (aOR = 2.07), respiratory illness (aOR = 2.02), and chronic pain (aOR = 1.86). After adjusting for sociodemographic characteristics and physical health conditions, ED was associated with increased odds of MDD (aOR = 2.88), at-risk/problem gambling (aOR = 2.45), and suicidal ideation (aOR = 1.91) but not for generalized anxiety disorder (aOR = 1.69) or probable PTSD (aOR = 1.63). When considered in the context of all mental health variables, MDD was independently associated with ED (aOR = 3.39).

### Conclusion:

This study examined both mental and physical health conditions associated with ED in a U.S. nationally representative sample of veterans. ED is prevalent in veterans and associated with elevated physical and mental health burden. Results highlight the importance of considering ED in disease prevention and treatment efforts in this population. These findings may help inform prevention approaches as well as clinical targets for early screening and treatment in vulnerable subgroups of this population. Notably, data collected relied on self-report assessments; data on race and socioeconomic status were not collected.

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<https://doi.org/10.1093/milmed/usac264>

## **Cognitive Behavioral Therapy for Insomnia Among Active Duty Military Personnel Diagnosed With Obstructive Sleep Apnea.**

Hoyt, T., Lee, M. R. G., Stolee, J. D., Breitstein, J. A., Kwon, H. P., & Mysliwiec, V.

Military Medicine

2023 Aug 29;188(9-10):2856-2861

### Introduction:

Insomnia and obstructive sleep apnea are common conditions among military service members, with high rates of comorbidity. Although cognitive behavioral therapy for insomnia (CBT-I) has been established as an effective treatment for insomnia, it is unclear whether or not CBT-I is effective among service members with comorbid insomnia and obstructive sleep apnea.

### Materials and methods:

This retrospective, observational study examined insomnia outcomes among a group of service member patients (N = 73) with comorbid insomnia and obstructive sleep apnea. All patients received individual CBT-I in a specialty sleep clinic at a military treatment facility. Seven outcomes associated with insomnia were evaluated before and after treatment.

### Results:

On average, patients showed significant improvement in sleep onset latency, wake after sleep onset, sleep efficiency, number of awakenings, and symptoms reported on the Insomnia Severity Index. Twenty-six percent of patients showed clinically significant improvement in reported insomnia symptoms.

### Conclusions:

These results suggest that CBT-I may be effective in treating military service members with comorbid insomnia and obstructive sleep apnea. Despite the limitations of data collected in a clinical setting, consistent findings across five of the seven outcome measures provide good evidence that this treatment can be implemented in military settings.

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<https://doi.org/10.1177/10731911221143979>

### **Psychometric Properties of the Self-Injurious Thoughts and Behaviors Interview-Short Form Among U.S. Active Duty Military Service Members and Veterans.**

Stanley, I. H., Marx, B. P., Fina, B. A., Young-McCaughan, S., Tyler, H. C., Sloan, D. M., Blankenship, A. E., Dondanville, K. A., Walker, J. L., Boffa, J. W., Bryan, C. J., Brown, L. A., Straud, C. L., Mintz, J., Abdallah, C. G., Back, S. E., Blount, T. H., DeBeer, B. B., Flanagan, J., Foa, E. B., ... Peterson, A. L.

Assessment

2023 Oct; 30(7): 2332-2346

We assessed the interrater reliability, convergent validity, and discriminant validity of the Self-Injurious Thoughts and Behaviors Interview-Short Form (SITBI-SF) in a sample of 1,944 active duty service members and veterans seeking services for posttraumatic stress disorder (PTSD) and related conditions. The SITBI-SF demonstrated high interrater reliability and good convergent and discriminant validity. The measurement properties of the SITBI-SF were comparable across service members and veterans. Approximately 8% of participants who denied a history of suicidal ideation on the SITBI-SF reported suicidal ideation on a separate self-report questionnaire (i.e., discordant responders). Discordant responders reported significantly higher levels of PTSD symptoms than those who denied suicidal ideation on both response formats. Findings suggest that the SITBI-SF is a reliable and valid interview-based measure of suicide-related thoughts and behaviors for use with military service members and veterans. Suicide risk assessment might be optimized if the SITBI-SF interview is combined with a self-report measure of related constructs.

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<https://doi.org/10.1093/milmed/usac371>

### **Firearm Suicide Prevention in the U.S. Military: Recommendations From a National Summit.**

Betz, M. E., Stanley, I. H., Anestis, M. D., Bryan, C. J., Buck-Atkinson, J., Carey, N., Ghahramanlou-Holloway, M., Morrissey, B. H., Holloway, K., Houtsma, C., Kennedy, R., Paine, C. M., Ramchand, R., Simonetti, J., Walsh, A., & Wright-Kelly, E.

Military Medicine

2023 Aug 29; 188(9-10): 231-235

The U.S. DoD has identified firearm suicide prevention as a key operational priority. One vital approach to addressing firearm suicides is through promoting lethal means safety, which involves the voluntary use of secure storage for personally owned firearms and/or temporarily moving firearms out of the home during risk periods. Despite promising approaches to lethal means safety, critical gaps remain in research, programming, and communication among and across scientists, DoD programmatic leaders, front-line commanders, and service members. To address these gaps, the first-ever national "Firearm Suicide Prevention in the Military: Messaging and Interventions Summit" was convened in June 2022, bringing together DoD personnel and researchers with expertise in firearm suicide prevention and lethal means safety. The Summit identified 10 recommendations to enhance firearm suicide prevention messaging and interventions in the U.S. military, including (1) repeal or amend prohibitions on questioning service members about personal firearms; (2) develop, examine, and use common language for firearm injury prevention; (3) implement a universal approach to training on comprehensive firearm injury prevention; (4) encourage leadership across disciplines and levels; (5) aim for broad culture change; (6) support innovative research; (7) consider various outcome measures; (8) promote "cultural competence" for better communication; (9) reduce territorialism; and (10) develop creative partnerships. Ultimately, these recommendations can facilitate productive partnerships with a shared goal: to develop, test, and implement strategies that standardize lethal means safety and reduce firearm suicides and other firearm injuries or harm among service members.

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<https://doi.org/10.1017/S0033291722002082>

**Social network size and personality traits independently and prospectively predict distress disorders and suicidal behavior in U.S. Army soldiers.**

Taylor, C. T., Campbell-Sills, L., Kessler, R. C., Sun, X., Nock, M. K., Ursano, R. J., Jain, S., & Stein, M. B.

Psychological Medicine

2023 Aug; 53(11): 5081-5090

#### Background:

Personality traits (e.g. neuroticism) and the social environment predict risk for internalizing disorders and suicidal behavior. Studying these characteristics together and prospectively within a population confronted with high stressor exposure (e.g. U.S. Army soldiers) has not been done, yet could uncover unique and interactive predictive effects that may inform prevention and early intervention efforts.

#### Methods:

Five broad personality traits and social network size were assessed via self-administered questionnaires among experienced soldiers preparing for deployment (N = 4645) and new soldiers reporting for basic training (N = 6216). Predictive models examined associations of baseline personality and social network variables with recent distress disorders or suicidal behaviors assessed 3- and 9-months post-deployment and approximately 5 years following enlistment.

#### Results:

Among the personality traits, elevated neuroticism was consistently associated with increased mental health risk following deployment. Small social networks were also associated with increased mental health risk following deployment, beyond the variance accounted for by personality. Limited support was found for social network size moderating the association between personality and mental health outcomes. Small social networks also predicted distress disorders and suicidal behavior 5 years following enlistment, whereas unique effects of personality traits on these more distal outcomes were rare.

#### Conclusions:

Heightened neuroticism and small social networks predict a greater risk for negative mental health sequelae, especially following deployment. Social ties may mitigate adverse impacts of personality traits on psychopathology in some contexts. Early identification and targeted intervention for these distinct, modifiable factors may decrease the risk of distress disorders and suicidal behavior.

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<https://doi.org/10.1093/milmed/usac119>

**United States Military Fatalities During Operation Inherent Resolve and Operation Freedom's Sentinel.**

Kotwal, R. S., Janak, J. C., Howard, J. T., Rohrer, A. J., Harcke, H. T., Holcomb, J. B., Eastridge, B. J., Gurney, J. M., Shackelford, S. A., & Mazuchowski, E. L.

Military Medicine

2023 Aug 29; 188(9-10): 3045-3056

Background:

Military operations provide a unified action and strategic approach to achieve national goals and objectives. Mortality reviews from military operations can guide injury prevention and casualty care efforts.

Methods:

A retrospective study was conducted on all U.S. military fatalities from Operation Inherent Resolve (OIR) in Iraq (2014-2021) and Operation Freedom's Sentinel (OFS) in Afghanistan (2015-2021). Data were obtained from autopsy reports and other existing records. Fatalities were evaluated for population characteristics; manner, cause, and location of death; and underlying atherosclerosis. Non-suicide trauma fatalities were also evaluated for injury severity, mechanism of death, injury survivability, death preventability, and opportunities for improvement.

Results:

Of 213 U.S. military fatalities (median age, 29 years; male, 93.0%; prehospital, 89.2%), 49.8% were from OIR, and 50.2% were from OFS. More OIR fatalities were Reserve and National Guard forces (OIR 22.6%; OFS 5.6%), conventional forces (OIR 82.1%; OFS 65.4%), and support personnel (OIR 61.3%; OFS 33.6%). More OIR fatalities also resulted from disease and non-battle injury (OIR 83.0%; OFS 28.0%). The leading cause of death was injury (OIR 81.1%; OFS 98.1%). Manner of death differed as more homicides (OIR 18.9%; OFS 72.9%) were seen in OFS, and more deaths from natural causes (OIR 18.9%; OFS 1.9%) and suicides (OIR 29.2%; OFS 6.5%) were seen in OIR. The prevalence of underlying atherosclerosis was 14.2% in OIR and 18.7% in OFS. Of 146 non-suicide trauma fatalities, most multiple/blunt force injury deaths (62.2%) occurred in OIR, and most blast injury deaths (77.8%) and gunshot wound deaths (76.6%) occurred in OFS. The leading mechanism of death was catastrophic tissue destruction (80.8%). Most fatalities had non-survivable injuries (80.8%) and non-preventable deaths (97.3%).

Conclusions:

Comprehensive mortality reviews should routinely be conducted for all military operation deaths. Understanding death from both injury and disease can guide preemptive and responsive efforts to reduce death among military forces.

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<https://doi.org/10.1093/milmed/usad141>

## **Development of Training to Prepare Army Medics to Address Behavioral Health Needs of Soldiers in Far-Forward Environments Utilizing Mobile App Technology.**

Mesias, G. A., Nugent, K. L., Wolfson, M., Clarke-Walper, K. M., Germain, A., Sampson, M. K., & Wilk, J. E.

Military Medicine

2023 Aug 29; 188(9-10): e3221-e3228

### Introduction:

Multi-domain operational combat environments will likely restrict key components of current behavioral health (BH) service delivery models. Combat teams in far-forward outposts or extended missions may need to rely on their own internal assets to manage combat and operational stress reactions for extended periods of time. As such, combat medics are expected to take on additional responsibilities as providers of BH support for isolated teams. As they receive limited BH training, medics require additional training to sufficiently respond to combat and operational stress reactions in their assigned teams. This study provided combat medics with a BH training and a mobile application-based support tool that would assist them in identifying and responding to BH concerns in their soldiers. The current analysis examines pre- to post-training changes in attitudes related to utilizing BH skills.

### Materials and methods:

We created a brief training aimed to increase medics' ability and confidence regarding managing BH issues. Its development was part of a study on the feasibility of the Soldier and Medic Autonomous Connectivity Independent System for Remote Environments (AIRE) apps (NOCTEM, LLC), a digital system designed for far-forward BH and sleep monitoring and management. Participants were combat medics from two Army combat brigades preparing for a training rotation through a combat training center (CTC). A total of 16 medics consented to participation with nine medics available at the follow-up after the field exercise. Medics were surveyed before the training and after their return from the CTC.

### Results:

In pre-training surveys, most medics indicated it was within their scope to assess for



stress/anxiety, suicidal risk, stress reaction, and sleep problems; assist soldiers with optimizing work performance; and provide interventions for BH concerns and sleep problems. Less than half believed it was within their scope to assess and address team communication issues or provide intervention for stress reactions. After the CTC rotation, more medics endorsed that it was in their scope to provide interventions for acute stress reactions to traumatic events. Before the CTC rotation, at most 60% of the group felt at least moderately confident in utilizing the BH skills of discussing problems, assessing for concerns, and providing interventions. After CTC, the confidence levels for each skill increased or remained the same for most medics. Intervention skills had the highest proportion of medics (66%) reporting increased confidence in using the skills.

#### Conclusions:

A larger proportion of medics believed it was within their scope of work and felt confident in assessing BH problems, and a smaller proportion believed it is within their scope of work and felt confident in applying interventions. The training increased most medics' confidence to administer interventions for BH and team communication issues. Similar training programs can help medics serve as support for a wide variety of circumstances when the brigade's mental health teams are inaccessible. Additionally, the Medic AIRE app expanded the ability to evaluate and provide interventions without extensive training in treatment modalities or BH conditions. This concept shows promise for providing medics with actionable tools when training time is limited such as during preparation for extended deployments.

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<https://doi.org/10.1093/milmed/usad339>

### **Opioid Prescription Clusters Associated With Early or Unplanned Military Separation.**

Nghiem, V. T., Larson, M. J., Adams, R. S., Moresco, N., & Highland, K. B.

Military Medicine

2023 Aug 29; usad339

#### Introduction:

Early/unplanned military separation in Active Component U.S. service members can result in reduced readiness during periods of high-tempo combat and increased demand for health care services within the Military Health System and Veterans



Administration. Although current assessment tools leverage prescription data to determine deployment-limiting medication receipt and the need for interventions or waivers, there is a lack of understanding regarding opioid prescription patterns and subsequent early/unplanned military separation after return from deployment. As such, understanding these relationships could support future tool development and strategic resourcing. Therefore, the goal of the present study was to identify unique 12-month opioid prescription patterns and evaluate their relationship with early/unplanned military separation in Active Component service members who returned from deployment.

#### Materials and methods:

This retrospective, IRB-approved cohort study included data from 137,654 Active Component Army service members who returned from deployment between 2007 and 2013, received a post-deployment (index) opioid prescription, and had at least 1 year of Active Component service post-opioid initiation. A k-means clustering analysis identified clusters using opioid prescription frequency, median dose, median days supply, and prescription breaks ( $\geq 30$  days) over the 12-month post-initiation (monitoring) period. A generalized additive model examined whether cluster membership and additional covariates were associated with early/unplanned separation.

#### Results:

In addition to the single opioid prescription (38%), the cluster analysis identified five clusters: brief/moderate dose (25%), recurrent breaks (16%), brief/high dose (11%), long/few prescriptions (8%), and high prescription frequency (2%). In the generalized additive model, the probability of early/unplanned military separation was higher for the high prescription frequency cluster (74%), followed by recurrent breaks (45%), long/few prescriptions (37%), brief/moderate dose (30%), and brief/high dose (29%) clusters, relative to the single prescription (21%) cluster. The probability of early/unplanned separation was significantly higher for service members with documented substance use disorders, mental health conditions, or traumatic brain injuries during the monitoring periods. Service members assigned male were more likely to have an early/unplanned separation relative to service members assigned female. Latinx service members and service members whose race was listed as Other were less likely to experience early/unplanned separation relative to white service members. Relative to Junior Officers, Junior Enlisted and Senior Enlisted service members were more likely to experience early/unplanned separation, but Senior Officers were less likely.

#### Conclusions:

Further evaluation to support the integration of longitudinal opioid prescription patterns into existing tools (e.g., a screening tool for deployment-limiting prescriptions) may

enable more timely intervention and support service delivery to mitigate the probability and impact of early/unplanned separation.

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<https://doi.org/10.1093/milmed/usac257>

### **Associations Between Sociodemographic, Mental Health, and Mild Traumatic Brain Injury Characteristics With Lifetime History of Criminal Justice Involvement in Combat Veterans and Service Members.**

Gius, B. K., Fournier, L. F., Reljic, T., Pogoda, T. K., Corrigan, J. D., Garcia, A., Troyanskaya, M., Hodges, C. B., & Miles, S. R.

Military Medicine

2023 Aug 29; 188(9-10): e3143-e3151

#### Introduction:

Veterans and service members (V/SM) may have more risk factors for arrest and felony incarceration (e.g., posttraumatic stress disorder and at-risk substance use) but also more protective factors (e.g., access to health care) to mitigate behaviors that may lead to arrest. As such, understanding which factors are associated with criminal justice involvement among V/SM could inform prevention and treatment efforts. The current study examined relationships between lifetime history of arrests and felony incarceration and sociodemographic, psychological, and brain injury characteristics factors among combat V/SM.

#### Materials and methods:

The current study was a secondary data analysis from the Chronic Effects of Neurotrauma Consortium multicenter cohort study, approved by local institutional review boards at each study site. Participants were V/SM (N = 1,540) with combat exposure (19% active duty at time of enrollment) who were recruited from eight Department of Veterans Affairs and DoD medical centers and completed a baseline assessment. Participants were predominantly male (87%) and white (72%), with a mean age of 40 years (SD = 9.7). Most (81%) reported a history of at least one mild traumatic brain injury, with one-third of those experiencing three or more mild traumatic brain injuries (33%). Participants completed a self-report measure of lifetime arrest and felony incarceration history, a structured interview for all potential concussive events, the post-traumatic stress disorder checklist for Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), and the Alcohol Use Disorders Identification Test-

Consumption. Three groups were compared on self-reported level of lifetime history of criminal justice system involvement: (1) no history of arrest or incarceration (65%); (2) history of arrest but no felony incarceration (32%); and (3) history of felony incarceration (3%).

#### Results:

Ordinal regression analyses revealed that hazardous alcohol consumption ( $\beta = .44$ ,  $P < .001$ ; odds ratio = 1.56) was positively associated with increased criminal justice involvement after adjusting for all other variables. Being married or partnered ( $\beta = -.44$ ,  $P < .001$ ; odds ratio = 0.64) was negatively associated with decreased criminal justice involvement.

#### Conclusions:

The rate of lifetime arrest (35%) in this V/SM sample was consistent with rates of arrests in the U.S. general population. One modifiable characteristic associated with lifetime arrest and felony incarceration was hazardous alcohol consumption. Alcohol use should be a top treatment target for V/SM at risk for arrest and those with history of criminal justice involvement.

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<https://doi.org/10.1016/j.psychres.2023.115321>

### **The association between lifetime trauma exposure typologies and mental health outcomes among veterans.**

Fernanda S. Rossi, Yael Nillni, Annie B. Fox, Tara E. Galovski

Psychiatry Research

Volume 326, August 2023, 115321

We know little about veterans' lifetime trauma exposure patterns and how such patterns are associated with mental health outcomes. This study sought to identify lifetime trauma exposure typologies among veterans and examine associations between these typologies and mental health outcomes. It used baseline data from a national longitudinal mail-based survey of 3,544 veterans and oversampled for women (51.6%) and veterans living in high crime areas (67.6%). Most veterans (94.2%) reported trauma exposure, and 80.1% reported exposure to two or more traumas. Prevalence of mental health outcomes was: 27.7% anxiety, 31.3% depression, 37.9% posttraumatic stress disorder, 44.4% alcohol use disorder, 10.4% suicide attempt, and 33.5% mental health

comorbidity. Latent class analysis was used to identify patterns of lifetime trauma exposure and logistic regression was used to examine the odds of mental health outcomes as a function of class membership. Five lifetime trauma exposure typologies emerged: (1) low trauma; (2) high combat and community violence; (3) intimate partner violence trauma; (4) high global physical assault; and (5) high trauma. Classes showed differential associations with mental health outcomes. Findings have implications for clinical practice including informing providers' mental health treatment plans to correspond to each veteran's trauma exposure typology.

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<https://doi.org/10.1007/s10488-023-01280-z>

## **Factors Associated with Engaging in Evidence-Based Psychotherapy During the First Year of Posttraumatic Stress Disorder Treatment Between 2017 and 2019.**

David Cameron, Brian Shiner, Allison O'Neill & Maya O'Neil

Administration and Policy in Mental Health and Mental Health Services Research  
Published: 20 June 2023

To address the burden of posttraumatic stress disorder (PTSD), the Veterans Health Administration (VHA) implemented evidence-based psychotherapies (EBPs) for PTSD at all VHA medical centers. Prior investigations show EBP utilization has increased following the initial nationwide implementation. However, most patients still do not engage in EBPs and those who do often have substantial delays between diagnosis and treatment which is associated with poorer treatment outcomes. The goal of the current study is to identify patient and clinical factors associated with initiating EBP and completing a minimally adequate dose of treatment within the first year of a new PTSD diagnosis. Overall, 263,018 patients started PTSD treatment between 2017 and 2019 and 11.6% (n = 30,462) initiated EBP during their first year of treatment. Of those who initiated EBP, 32.9% (n = 10,030) received a minimally adequate dose. Older patients were less likely to initiate EBP, but more likely to receive an adequate dose when they did initiate. Black, Hispanic/Latino/a, and Pacific Islander patients' likelihood of initiating EBP was not significantly different than White patients, but these patients were less likely to receive an adequate dose. Patients with comorbid depressive disorders, bipolar disorder, psychotic disorders, or substance use disorders were less likely to initiate EBP, while patients reporting MST were more likely to initiate EBP. This study identifies several patient-level disparities that could be prioritized to increase EBP utilization. In our evaluation, most patients did not engage in EBP during their first year of PTSD

treatment, which is consistent with previous evaluations of EBP utilization. Future research should focus on understanding the flow of patients from PTSD diagnosis to treatment to support effective PTSD care delivery.

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<https://doi.org/10.1891/VV-2021-0132>

### **Resources and Support for Sexual Assault Survivors Receiving Services From the U.S. Air Force: What Survivors Say They Need for Recovery.**

Spencer, C. M., King, E. L., Foster, R. E., Vennum, A., & Stith, S. M.

Violence and Victims

2023 Jun 1; 38(3): 414-434

Sexual assault (SA) is a serious challenge faced by the U.S. military. Participants in this study included men and women who volunteered in response to a call for survivors of SA. Participants included active duty and reserve U.S. Air Force (USAF) members, spouses of service members, or civilian employees for the USAF (beneficiaries). The primary research question was, “if you could design the perfect response system to support survivors, what would be included in this system?” The research team conducted in-depth interviews with nine survivors. Next, 82 survivors completed a survey agreeing or disagreeing with strategies identified by interview participants to improve services for survivors and offered additional suggestions. Analysis revealed survivor recommendations to improve SA services. Sexual assault (SA) is a serious challenge faced by the U.S. military. Participants in this study included men and women who volunteered in response to a call for survivors of SA. Participants included active duty and reserve U.S. Air Force (USAF) members, spouses of service members, or civilian employees for the USAF (beneficiaries). The primary research question was, “if you could design the perfect response system to support survivors, what would be included in this system?” The research team conducted in-depth interviews with nine survivors. Next, 82 survivors completed a survey agreeing or disagreeing with strategies identified by interview participants to improve services for survivors and offered additional suggestions. Analysis revealed survivor recommendations to improve SA services.

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<https://doi.org/10.1037/tra0001533>

## **The Moral Injury and Distress Scale: Psychometric evaluation and initial validation in three high-risk populations.**

Norman, S. B., Griffin, B. J., Pietrzak, R. H., McLean, C., Hamblen, J. L., & Maguen, S.

Psychological Trauma: Theory, Research, Practice, and Policy  
Advance online publication

### Objective:

The concept of moral injury resonates with impacted populations, but research has been limited by existing measures, which have primarily focused on war veterans and asked about exposure to potentially morally injurious events (PMIEs) rather than PMIE exposure outcomes. Our goal was to develop and examine the psychometric properties of the Moral Injury and Distress Scale (MIDS), a new measure of the possible emotional, cognitive, behavioral, social, and/or spiritual sequelae of PMIE exposure.

### Method:

The MIDS was validated by surveying three groups: military veterans, healthcare workers, and first responders (N = 1,232).

### Results:

Most respondents (75.0%; n = 924) reported PMIE exposure. Analyses yielded 18 items that contributed to a single latent factor representing moral distress with fully or partially invariant configurations, loadings, and intercepts across occupational groups. The MIDS full-scale score demonstrated excellent internal consistency ( $\alpha = .95$ ) and moderate 2-week stability ( $r = .68$ ,  $p < .001$ ,  $n = 155$ ). For convergent validity, associations between the MIDS and PMIE exposure measures, as well as putative indicators of moral injury (e.g., guilt, shame), were positive and large ( $r = .59$ – $.69$ ,  $p < .001$ ), as were correlations with posttraumatic stress, depressive, and insomnia symptoms ( $r = .51$ – $.67$ ,  $p < .001$ ). The MIDS was a stronger predictor of functioning than PMIE exposure measures, explaining seven times greater unique variance (9% vs. 1%–1.3%).

### Conclusions:

The MIDS is the first scale to assess moral injury symptoms indexed to a specific PMIE that is validated across several high-risk populations. (PsycInfo Database Record (c) 2023 APA, all rights reserved)

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<https://doi.org/10.1037/ser0000774>

## **Impact and efficiency of treatment across two PTSD clinical trials comparing in-person and telehealth service delivery formats.**

McGeary, C. A., Morland, L. A., Resick, P. A., Straud, C. L., Moring, J. C., Sohn, M. J., Mackintosh, M.-A., Young-McCaughan, S., Acierno, R., Rauch, S. A. M., Mintz, J., McGeary, D. D., Wells, S. Y., Grubbs, K., Nabity, P. S., McMahon, C. J., Litz, B. T., Velligan, D. I., Macdonald, A., . . . Peterson, A. L.

Psychological Services

Advance online publication

The intent of this study is to examine treatment impact and efficiency observed when cognitive behavioral treatments for posttraumatic stress disorder (PTSD) are delivered in-person or using telehealth. This study pooled data from 268 veterans enrolled in two PTSD clinical trials. In both trials, treatment was delivered using in-home telehealth (telehealth arm), in-home in-person (in-home arm), and in-office care, where patients traveled to the Department of Veterans Affairs for either office-based telehealth or office-based in-person care (office arm). Average age was 44 (SD = 12.57); 80.9% were males. The PTSD Checklist for DSM-5 (PCL-5) was used to assess symptom severity. Treatment impact was measured by (a) the proportion of participants who completed at least eight treatment sessions and (b) the proportion with a reliable change of  $\geq 10$  points on the PCL-5. Treatment efficiency was measured by the number of days required to reach the end point. The proportion of participants who attended at least eight sessions and achieved reliable change on the PCL-5 differed across treatment formats ( $ps < .05$ ). Participants in the in-home (75.4%) format were most likely to attend at least eight treatment sessions, followed by those in the telehealth (58.3%) and office (44.0%) formats, the latter of which required patients to travel. Participants in the in-home (68.3%,  $p < .001$ ) format were also more likely to achieve reliable change, followed by those in the telehealth (50.9%) and office (44.2%) formats. There were no significant differences in the amount of time to complete at least eight sessions. Delivery of therapy in-home results in a significantly greater likelihood of achieving both an adequate dose of therapy and a reliable decrease in PTSD symptoms compared to telehealth and office formats. (PsycInfo Database Record (c) 2023 APA, all rights reserved)

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## Links of Interest

How the New 988 Lifeline Is Helping Millions in Mental Health Crisis

<https://jamanetwork.com/journals/jama/fullarticle/2809124>

Staff Perspective: Moral Injury Related to the US Withdrawal from Afghanistan and a Large-Scale VA Study

<https://deploymentpsych.org/blog/staff-perspective-moral-injury-related-us-withdrawal-afghanistan-and-large-scale-va-study>

Staff Perspective: The Rate of Mental Health Diagnoses Among Deployed Soldiers

<https://deploymentpsych.org/blog/staff-perspective-rate-mental-health-diagnoses-among-deployed-soldiers>

Army implements Brandon Act mental health policy amid pressure from suicide prevention advocates

<https://www.stripes.com/branches/army/2023-09-01/army-brandon-act-mental-health-suicides-11236510.html>

Binge Drinking, Other Substance Use Up in Midlife Adults

<https://jamanetwork.com/journals/jama/fullarticle/2809126>

Government report finds diversity growing in ROTC programs

<https://www.stripes.com/theaters/us/2023-08-29/gao-diversity-report-among-rotc-colleges-11203171.html>

Fort Cavazos opens military's 1st breast milk drop-off site

<https://www.stripes.com/branches/army/2023-08-30/breast-milk-depot-fort-cavazos-military-11217649.html>

Suicide prevention campaign urges vets to 'be the one' who reaches out

<https://www.militarytimes.com/veterans/2023/08/30/suicide-prevention-campaign-urges-vets-to-be-the-one-who-reaches-out/>

Air Force eyes more mental health initiatives as suicides continue

<https://www.airforcetimes.com/news/your-air-force/2023/08/31/air-force-eyes-more-mental-health-initiatives-as-suicides-continue/>



Move soldiers less: A divisional system in the US Army

<https://warontherocks.com/2023/08/move-soldiers-less-a-divisional-system-in-the-u-s-army/>

New tool helps military parents with firearm storage, safety issues

<https://www.militarytimes.com/news/your-military/2023/09/05/new-tool-helps-military-parents-with-firearm-storage-safety-issues/>

Stress as a Risk Factor for Mental Disorders in a Gendered Environment (Viewpoint)

<https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2809160>


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### **Resource of the Week – [Breaking Barriers: Women in Army Special Operations](#)**

New, from the US Army Special Operations Command (Jonathan P. Braga, Lieutenant General, USA Commanding):

1. In 2021, USASOC completed a comprehensive study of women in Army Special Operations Forces with the intent to identify and break down barriers to serving in USASOC units. We chose to conduct this study, devoid of outside influence, to see ourselves and identify how we can take better care of our people. The results provided valuable insight into the attitudes, experience, and challenges of all USASOC Soldiers.
2. The staff conducted a critical analysis of the findings, and we are directly addressing the 42 recommendations outlined in the study. The implementation, assessment, and analysis of these action items is an iterative process. Our goal is to become an ever more inclusive organization through critical self-examination and pragmatic action.
3. Although disappointed by some of the findings and comments in the study, we are committed to addressing these issues with candor and transparency. I'm encouraged by the report stating that 72% of women would support their daughters serving in an ARSOF formation. I'm confident the incredible men and women in this formation are making USASOC a better place to work every day for our sons and daughters alike.

4. It is an honor to lead the 36,000 Men and Women on USASOC. You are truly America's finest Warriors. Your unique talents and attributes allow the command to defend the Nation without fear, without fail, without equal. Together we will continue to provide the Nation's premier Special Operations element by attracting and retaining America's top Soldiers.

 <p><b>BREAKING BARRIERS: Women in Army Special Operations</b></p> <p>Updated August 18, 2023</p>	<p>The Commanding General commissioned this study to identify barriers female Soldiers encounter in Army Special Operations Forces (ARSOF) units and establish lessons learned and best practices in order to recruit, maximize comprehensive integration, and retain extraordinary Soldiers.</p> <p><b>United States Army Special Operations Command</b></p> <p><i>Disclaimer: The views and opinions expressed in this document are those of the authors and study participants, and do not necessarily reflect the official position of the United States Army or the United States Army Special Operations Command.</i></p> <p>Distribution. Distribution A: Approved for public release; distribution unlimited.</p>
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