

# CDP



## Research Update -- February 22, 2024

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- A Systematic Review of Evidence-Based Treatments for Adolescent and Adult Sexual Assault Victims.
- Links of Interest
- Resource of the Week: Department of Defense Strategy for Resilient and Healthy Defense Communities (DoD)

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<https://doi.org/10.1016/j.jad.2024.01.107>

**A dynamical systems analysis of change in PTSD symptoms, depression symptoms, and suicidal ideation among military personnel during treatment for PTSD.**

Bryan, C. J., Butner, J. E., Tabares, J. V., Brown, L. A., Young-McCaughan, S., Hale, W. J., Litz, B. T., Yarvis, J. S., Fina, B. A., Foa, E. B., Resick, P. A., Peterson, A. L., & STRONG STAR Consortium

Journal of Affective Disorders  
Volume 350, 1 April 2024, Pages 125-132

Highlights

- PTSD, depression, and suicidal ideation often co-occur.
- We examined coordinated change in PTSD, depression, and suicidal ideation.
- Change in suicidal ideation and depression influenced change in PTSD.
- Change in suicidal ideation was not influenced by change in depression or PTSD.
- Targeting suicidal ideation may be critical for recovery from PTSD.

Abstract

Objective

The connections among posttraumatic stress disorder (PTSD), depression, and suicidal ideation are elusive because of an overreliance on cross-sectional studies. In this secondary analysis of pooled data from three clinical trials of 742 military personnel, we examined the dynamic relationships among PTSD, depression, and suicidal ideation severity assessed repeatedly during and after outpatient treatment for PTSD.

Methods

We conducted dynamical systems analyses to explore the potential for coordinated change over time in psychotherapy for PTSD.

Results

Over the course of psychotherapy, PTSD, depression, and suicidal ideation severity changed in coordinated ways, consistent with an interdependent network. Results of eigenvalue decomposition analysis indicated the dominant change dynamic involved high stability and resistance to change but indicators of cycling were also observed,

indicating participants “switched” between states that resisted change and states that promoted change. Depression ( $B = 0.48$ ,  $SE = 0.11$ ) and suicidal desire ( $B = 0.15$ ,  $SE = 0.01$ ) at a given assessment were associated with greater change in PTSD symptom severity at the next assessment. Suicidal desire ( $B = 0.001$ ,  $SE < 0.001$ ) at a given assessment was associated with greater change in depression symptom severity at the next assessment. Neither PTSD ( $B = -0.004$ ,  $SE = 0.007$ ) nor depression symptom severity ( $B = 0.000$ ,  $SE = 0.001$ ) was associated with subsequent change in suicidal ideation severity.

### Conclusions

In a sample of treatment-seeking military personnel with PTSD, change in suicidal ideation and depression may precede change in PTSD symptoms but change in suicidal ideation was not preceded by change in PTSD or depression symptoms.

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<https://doi.org/10.1001/jamanetworkopen.2023.54588>

## **Traumatic Brain Injury and Subsequent Risk of Brain Cancer in US Veterans of the Iraq and Afghanistan Wars.**

Stewart, I. J., Howard, J. T., Poltavskiy, E., Dore, M., Amuan, M. E., Ocier, K., Walker, L. E., Alcover, K. C., & Pugh, M. J.

JAMA Network Open  
February 15, 2024

### Key Points

#### Question

Is traumatic brain injury (TBI) associated with the subsequent risk of brain cancer in Iraq and Afghanistan veterans?

#### Findings

In this cohort study of more than 1.9 million veterans, moderate or severe and penetrating TBI were associated with the subsequent development of brain cancer. However, mild TBI was not associated with later brain cancer diagnoses.

#### Meaning

The findings of this study suggest that moderate/severe and penetrating TBI are potentially novel risk factors for brain cancer in veterans.

## Abstract

### Importance

While brain cancer is rare, it has a very poor prognosis and few established risk factors. To date, epidemiologic work examining the potential association of traumatic brain injury (TBI) with the subsequent risk of brain cancer is conflicting. Further data may be useful.

### Objective

To examine whether a history of TBI exposure is associated with the subsequent development of brain cancer.

### Design, Setting, and Participants

A retrospective cohort study was conducted from October 1, 2004, to September 20, 2019, and data analysis was performed between January 1 and June 26, 2023. The median follow-up for the cohort was 7.2 (IQR, 4.1-10.1) years. Veterans Affairs (VA) and Department of Defense (DoD) administrative data on 1 919 740 veterans from the Long-Term Impact of Military-Relevant Brain Injury Consortium–Chronic Effects of Neurotrauma Consortium were included.

### Exposure

The main exposure of interest was TBI severity (categorized as mild, moderate or severe [moderate/severe], and penetrating).

### Main Outcomes and Measures

The outcome of interest was the development of brain cancer based on International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) or International Statistical Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnostic codes in either the DoD/VA medical records or from the National Death Index.

### Results

After 611 107 exclusions (predominately for no encounter during the study period), a cohort including 1 919 740 veterans was included, most of whom were male (80.25%) and non-Hispanic White (63.11%). Median age at index date was 31 (IQR, 25-42) years. The cohort included 449 880 individuals with TBI (mild, 385 848; moderate/severe, 46 859; and penetrating, 17 173). Brain cancer occurred in 318 individuals without TBI (0.02%), 80 with mild TBI (0.02%), 17 with moderate/severe TBI (0.04%), and 10 or fewer with penetrating TBI ( $\leq 0.06\%$ ). After adjustment, moderate/severe TBI (adjusted hazard ratio [AHR], 1.90; 95% CI, 1.16-3.12) and

penetrating TBI (AHR, 3.33; 95% CI, 1.71-6.49), but not mild TBI (AHR, 1.14; 95% CI, 0.88-1.47), were associated with the subsequent development of brain cancer.

#### Conclusions and Relevance

In this cohort study of veterans of the Iraq and Afghanistan wars, moderate/severe TBI and penetrating TBI, but not mild TBI, were associated with the subsequent development of brain cancer.

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<https://doi.org/10.1016/j.alcohol.2023.08.008>

#### **Healthcare utilization and readiness outcomes among soldiers with post-deployment at-risk drinking, by multimorbidity class.**

Gray, J. C., Larson, M. J., Moresco, N., Dufour, S., Ritter, G. A., DeLeon, P. D., Milliken, C. S., Vest, N., & Adams, R. S.

Alcohol

Volume 114, February 2024, Pages 31-39

#### Highlights

- We investigated multimorbidity classes among soldiers with at-risk alcohol use.
- Latent class analysis identified five clinical classes ranging in severity.
- Classes varied widely in hazards for healthcare utilization and readiness outcomes.
- Classes inclusive of mental health and heavy drinking exhibited the highest risks.
- Research is needed to evaluate tailored prevention and treatment by class.

#### Abstract

Although alcohol use disorder (AUD) regularly co-occurs with other conditions, there has not been investigation of specific multimorbidity classes among military members with at-risk alcohol use. We used latent class analysis (LCA) to cluster 138,929 soldiers with post-deployment at-risk drinking based on their co-occurring psychological and physical health conditions and indicators of alcohol severity. We examined the association of these multimorbidity classes with healthcare utilization and military readiness outcomes. Latent class analysis was conducted on 31 dichotomous indicators capturing alcohol use severity, mental health screens, psychological and physical health diagnoses, and tobacco use. Longitudinal survival analysis was used to examine the relative hazards of class membership regarding healthcare utilization (e.g., emergency

department visit, inpatient stay) and readiness outcomes (e.g., early separation for misconduct). Latent class analysis identified five classes: Class 1 –Relatively Healthy (51.6 %); Class 2 – Pain/Tobacco (17.3 %); Class 3 – Heavy Drinking/Pain/Tobacco (13.1 %); Class 4 – Mental Health/Pain/Tobacco (12.7 %); and Class 5 – Heavy Drinking/Mental Health/Pain/Tobacco (5.4 %). Musculoskeletal pain and tobacco use were prevalent in all classes, though highest in Classes 2, 4, and 5. Classes 4 and 5 had the highest hazards of all outcomes. Class 5 generally exhibited slightly higher hazards of all outcomes than Class 4, demonstrating the exacerbation of risk among those with heavy drinking/AUD in combination with mental health conditions and other multimorbidity. This study provides new information about the most common multimorbidity presentations of at-risk drinkers in the military so that targeted, individualized care may be employed. Future research is needed to determine whether tailored prevention and treatment approaches for soldiers in different multimorbidity classes is associated with improved outcomes.

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<https://doi.org/10.1016/j.jad.2024.01.125>

**Longitudinal associations between exposure to potentially morally injurious events and suicidal ideation among recently discharged veterans - The mediating roles of depression and loneliness.**

Zerach, G., Levinstein, Y., & Levi-Belz, Y.

Journal of Affective Disorders  
Volume 350, 1 April 2024, Pages 689-697

Highlights

- This study examines longitudinal associations between PMIEs and SI among combat veterans.
- PMIEs-‘betrayal’ predicted SI through the mediation of depression.
- PMIEs-‘betrayal’ and ‘self’ predicted SI through the mediation of loneliness.

Abstract

Background

Exposure to potentially morally injurious events (PMIEs) during military service is associated with heightened suicidal ideation (SI). However, no longitudinal study has established temporal associations between these variables and examined the possible mediating roles of depression and loneliness in this effect.

## Methods

Participants were 374 active-duty Israeli combatants who participated in a five-year longitudinal study with four measurement points: T1- one year before enlistment, T2- one month before discharge from army service, and then again six months and twelve months following their discharge (T3 and T4, respectively). Data were assessed through semi-structured interviews and validated self-report questionnaires.

## Results

Above and beyond pre-enlistment personal characteristics (T1) and combat exposure (T2), PMIEs-‘betrayal’ (T2) predicted more frequent SI over the past twelve months (T4) through the mediation of depression. Moreover, both PMIEs-‘betrayal’ and ‘self’ (T2) predicted more frequent SI over the past twelve months (T4) through the mediation of loneliness.

## Limitations

We used self-report measures to assess PMIEs and SI, which may suffer from various biases.

## Conclusions

Our findings are the first to provide evidence of longitudinal, temporal associations between exposure to PMIEs and SI. Notably, potential interventions might consider addressing the loneliness experienced following exposure to PMIEs during military service, among recently discharged traumatized veterans.

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<https://doi.org/10.1089/neu.2023.0381>

## **Phenotyping Depression After Mild Traumatic Brain Injury: Evaluating the Impact of Multiple Injury, Gender, and Injury Context.**

Eamonn Kennedy, Mustafa Ozmen, Erin D. Bouldin, Samin Panahi, Helal Mobasher, Maya Troyanskaya, Sarah L. Martindale, Victoria C. Merritt, Maya O'Neil, Scott R. Sponheim, Rosemay A. Remigio-Baker, Angela Presson, Alicia A. Swan, J. Kent Werner, Tom H. Greene, Elisabeth A. Wilde, David F. Tate, William C. Walker, and Mary Jo Pugh.

Journal of Neurotrauma

Published Online: 10 Jan 2024



The chronic mental health consequences of mild traumatic brain injury (TBI) are a leading cause of disability. This is surprising given the expectation of significant recovery after mild TBI, which suggests that other injury-related factors may contribute to long-term adverse outcomes. The objective of this study was to determine how number of prior injuries, gender, and environment/context of injury may contribute to depressive symptoms after mild TBI among deployed United States service members and veterans (SMVs). Data from the Long-term Impact of Military-Relevant Brain Injury Consortium Prospective Longitudinal Study was used to assess TBI injury characteristics and depression scores previously measured on the Patient Health Questionnaire-9 (PHQ-9) among a sample of 1456 deployed SMVs. Clinical diagnosis of mild TBI was defined via a multi-step process centered on a structured face-to-face interview. Logistical and linear regressions stratified by gender and environment of injury were used to model depressive symptoms controlling for sociodemographic and combat deployment covariates. Relative to controls with no history of mild TBI (n = 280), the odds ratios (OR) for moderate/severe depression (PHQ-9  $\geq$  10) were higher for SMVs with one mild TBI (n = 358) OR: 1.62 (95% confidence interval [CI] 1.09–2.40, p = 0.016) and two or more mild TBIs (n = 818) OR: 1.84 (95% CI 1.31–2.59, p < 0.001). Risk differences across groups were assessed in stratified linear models, which found that depression symptoms were elevated in those with a history of multiple mild TBIs compared with those who had a single mild TBI (p < 0.001). Combat deployment-related injuries were also associated with higher depression scores than injuries occurring in non-combat or civilian settings (p < 0.001). Increased rates of depression after mild TBI persisted in the absence of post-traumatic stress disorder. Both men and women SMVs separately exhibited significantly increased depressive symptom scores if they had had combat-related mild TBI. These results suggest that contextual information, gender, and prior injury history may influence long-term mental health outcomes among SMVs with mild TBI exposure.

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<https://doi.org/10.1016/j.whi.2023.11.006>

## **Posttraumatic Stress Disorder, Military Sexual Trauma, and Birth Experiences at VA.**

KM Schafer, KF Wallace, A Kroll-Desrosiers, K Mattocks

Women's Health Issues

Available online 19 December 2023

## Background

Women are a growing portion of the U.S. veteran population, and every year the Veterans Health Administration (VHA) serves an increasing number of women seeking obstetrics services. Women veterans experience elevated rates of anxiety, depression, posttraumatic stress disorder (PTSD), and traumatic events, including military sexual trauma, as compared with women in the general population. It is possible that mental health disorders may be associated with birth experiences.

## Objectives

We investigated the link between anxiety, depression, PTSD, and military sexual trauma (MST; i.e., rape and sexual harassment) with perceived birth experience (i.e., Negative or Neutral vs. Positive).

## Methods

Participants included 1,005 veterans who had recently given birth and were enrolled in the multisite, mixed methods study known as the Center for Maternal and Infant Outcomes Research in Translation study (COMFORT). Using  $\chi^2$  tests, we investigated the relationship between mental health conditions including anxiety, depression, and PTSD and MST with birth experience (coded as Negative/Neutral vs. Positive).

## Results

Findings indicated that participants who endorsed PTSD (39.5%), MST-rape (32.1%), or MST-harassment (51.4%; all  $p < .05$ ) were significantly more likely to report a Negative/Neutral birth experience (14.7%) versus a Positive birth experience (85.3%). Anxiety and depression were not associated with birth experience.

## Conclusions

Veterans with PTSD and/or who experienced MST were more likely to report a negative or neutral birth experience. Thus, screening for PTSD and MST during obstetrics services as well as providing trauma-informed obstetrics care during pregnancy, labor, birth, and recovery may be important among veterans seeking obstetric services.

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<https://doi.org/10.1016/j.janxdis.2023.102824>

**Crisis response planning rapidly reduces suicidal ideation among U.S. military veterans receiving massed cognitive processing therapy for PTSD.**

Bryan, C. J., Bryan, A. O., Khazem, L. R., Aase, D. M., Moreno, J. L., Ammendola, E., Bauder, C. R., Hiser, J., Daruwala, S. E., & Baker, J. C.

Journal of Anxiety Disorders  
Volume 102, March 2024, 102824

### Highlights

- Evidence supporting the effectiveness of safety planning-type interventions is limited.
- Crisis response planning (CRP) has been shown to reduce suicidal ideation and attempts.
- Veterans with PTSD randomly received either CRP or a safety plan before treatment.
- Reductions in suicidal ideation were significantly larger in CRP.
- Fewer participants in CRP reported new-onset suicidal ideation and suicide attempts.

### Abstract

Posttraumatic stress disorder (PTSD) is common among U.S. military veterans and is associated with increased risk of suicidal thoughts and behaviors. Crisis response planning (CRP), a brief safety planning-type intervention, has been shown to rapidly reduce suicidal ideation and suicide attempts in emergency and acute care settings. CRP's effectiveness when combined with trauma-focused therapies remains unknown. In this randomized pragmatic clinical trial with one-year follow-up, 157 U.S. military personnel and veterans were randomly assigned to receive CRP or self-guided safety planning (SP) prior to beginning massed cognitive processing therapy (CPT) for PTSD. Among 51 (32.5 % of sample) participants endorsing suicidal ideation at baseline, reductions in the severity of suicidal ideation were significantly larger and faster in CRP ( $F(11,672)= 15.8, p < .001$ ). Among 106 participants denying suicidal ideation at baseline, 8.5 % of CRP participants versus 11.9 % of SP participants ( $OR=0.69, 95 \% CI=0.19-2.52$ ) reported new-onset suicidal ideation during any follow-up assessment. PTSD symptoms significantly reduced over time with no differences between groups. Results support the effectiveness of CRP for rapidly reducing suicidal ideation and managing suicide risk during outpatient treatment for PTSD.

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<https://doi.org/10.1016/j.addbeh.2023.107938>

## **Mixed method examination of alcohol and suicidality among actively suicidal adults who engage in heavy episodic drinking.**

AK Gilmore, CJ Moore, KE Nielsen, JR Prince, K Fortson, KN Mullican, A Hutchins, J Ellis, AM Leone, E Ward-Ciesielski

Addictive Behaviors

Volume 151, April 2024, 107938

### Highlights

- Alcohol is associated with suicidal ideation and behavior (SIB)
- The directionality of the association between alcohol and SIB is unknown.
- SIB was higher on days when participants drank alcohol.
- Association between alcohol and SIB was bidirectional.
- Targeted interventions needed to prevent SIB while drinking.

### Abstract

Suicide is a serious public health problem in the United States. Alcohol use has been substantially documented as a risk factors for suicide, yet it is unclear how alcohol is associated with suicidal ideation (SI) and behavior (SIB) at the event level. We examined the association between alcohol use and SI using a mixed methods approach that included daily assessments from 13 adults who engage in heavy episodic drinking with current SI and qualitative interviews among 12 of those adults. Participants were recruited on social media. Separate mixed effects logistic regression models indicated that individuals' alcohol use on a given day was associated with SI (OR = 1.37), and suicidal urges (OR = 1.41). Adjusting for repeated measures, the expected marginal mean for intensity of SI (EMM = 3.33) and urges (EMM = 2.94) were higher on days with reported drinking behavior than days without reported drinking (EMM = 2.68 and EMM = 2.62 respectively). Qualitative data indicated that the association between alcohol use and SIB is more complex than a single directionality. Instead, the association can be unidirectional, bidirectional, and/or dependent on factors including mental health and amount of alcohol consumed. Overall, these findings emphasize a need for integrated alcohol and SIB interventions while providing insight on possible daily, just-in-time adaptations.

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<https://doi.org/10.1080/14659891.2023.2293769>

## **Cannabis use among individuals with depression symptoms: differences among military-connected and civilian clients.**

David L. Albright, Kelli Lynch, Justin T. McDaniel, Harvey Henson & Shanna McIntosh

Journal of Substance Use

Published online: 19 Dec 2023

### Background

Despite the association between depression symptoms and cannabis use, it is unknown how military affiliation may modify this relationship.

### Methods

Patients reported frequency of cannabis use (past 30 days) and answered the Patient Health Questionnaire-2 (PHQ-2), as well as offered sociodemographic information ( $n = 484$ ). Data were retrieved from a medical records database linked to a screening, brief intervention, and referral to treatment (SBIRT) program from three clinics in Alabama. With incomplete data for 89% of the sample for education, employment status, and income, we used multiple imputation with chained equations (MICE) to estimate a linear regression model where frequency of cannabis use was regressed on the previously described variables, plus an interaction term for military family status and depression.

### Results

Frequency of cannabis use was greater among civilians with depression symptoms ( $M = 7.66$  days,  $SE = 0.60$ ) than individuals from military families with depression symptoms ( $M = 1.44$  days,  $SE = 1.75$ ). Cannabis use was similar among civilians and military-connected individuals without depression symptoms, respectively ( $M = 4.01$ ,  $SE = 0.18$  vs.  $M = 3.85$ ,  $SE = 0.48$ ). The interaction between term for military family status and depression was statistically significant ( $b = -5.99$ ,  $SE = 2.74$ ,  $p = .03$ ).

### Conclusion

A personal military connection may be a protective factor against cannabis use for those with depression symptoms. Future research should investigate other substances used for coping with depression symptoms among those military affiliated.

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<https://doi.org/10.1080/21635781.2023.2290483>

## **Insights of Infantry Soldiers: A Qualitative Exploration of Psychological Resilience and Stress.**

Laura Seidel, Elizabeth Irene Cawley & Céline Blanchard

Military Behavioral Health

Published online: 20 Dec 2023

The Canadian Armed Forces (CAF) is currently struggling with a retention crisis. Within the CAF, The Canadian Army (CA) experiences the greatest attrition rates. Staffing shortages lead to an increase in job demands subsequently leading to greater stress, burnout, and turnover intentions. Psychological resilience has been found to buffer the negative effects of workplace stressors. There is a need to understand resilience within specific occupations to better inform resilience building interventions. This study aims to enhance knowledge of how infantry soldiers in the CA define resilience and what challenges they experience within the workplace that contribute to stress and how they cope with such stressors. A qualitative approach was used, with 14 semi-structured interviews conducted with CA personnel employed as infantry soldiers. Data were analyzed using a deductive content-analysis. Four themes emerged from the interviews: the nature of resilience, challenges of the profession, resilience strategies (attitudes), and resilience strategies (protective practices). The study provides unique insights into the experiences of infantry soldier's and the mechanisms they employ to facilitate and maintain resilience.

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<https://doi.org/10.1080/15504263.2023.2290167>

## **Substance Use after Completion of an Intensive Treatment Program with Concurrent Treatment for Posttraumatic Stress Disorder and Substance Use among Veterans: Examining the Role of PTSD Symptoms.**

LE Watkins, SC Patton, T Wilcox, K Drexler, SAM Rauch, BO Rothbaum

Journal of Dual Diagnosis

Published online: 20 Dec 2023

## Objective

Substance use disorders (SUDs) and posttraumatic stress disorder (PTSD) are costly and highly co-occurring diagnoses, particularly among veterans, suggesting a need to understand this comorbidity and effectively treat both disorders among this population.

## Methods

The current study aimed to examine substance use outcomes among post-9/11 veterans and service members (N = 48) who completed a two-week intensive outpatient program with concurrent treatment for and PTSD using Prolonged Exposure and substance use. Substance use was assessed at two weeks and three months posttreatment.

## Results

The intensive program had high completion rates and demonstrated decreases in substance use at two weeks and three months posttreatment. Additionally, lower PTSD symptoms at treatment completion were related to less substance use posttreatment.

## Conclusions

Concurrent intensive treatment of PTSD and SUDs can lead to symptom improvement in a short period of time. Findings support the self-medication model, such that PTSD symptoms at treatment completion were related to substance use at follow-up.

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<https://doi.org/10.2147/NSS.S418532>

## **Sleep and Pain in Veterans with Chronic Pain: Effects of Psychological Pain Treatment and Temporal Associations.**

Marian Wilson, Lillian Skeiky, Rachael A Muck, Megan A Miller, Devon A Hansen, Rhonda M Williams, Mark P Jensen & Hans PA Van Dongen

Nature and Science of Sleep

Published online: 19 Dec 2023

## Introduction

Chronic pain is highly prevalent in US military Veterans. Non-opioid and non-pharmacologic treatments are recommended when clinically appropriate, but research on the mechanisms underlying benefits of these treatments is lacking. Here, we examined the role of sleep in the effects of three non-pharmacologic pain treatments in

Veterans. Specifically, we investigated whether treatment effects on sleep predicted treatment effects on pain occurring later, or vice versa.

## Methods

Veterans enrolled in a randomized controlled trial were invited to participate in this supplementary sleep study. A total of 174 Veterans were randomized to one of three 8-session, in-person, group-based pain treatments: hypnosis, mindfulness meditation, or education control. Measurements included self-reported sleep disturbance, pain intensity, and pain catastrophizing; sleep duration was assessed with actigraphy. Sleep and pain measurements were obtained at baseline, posttreatment, and 3-month posttreatment follow-up.

## Results

At baseline, average pain intensity was moderate (mean  $\pm$  SD:  $5.7 \pm 1.7$  on the 0–10 Numeric Rating Scale), pain catastrophizing was just below the clinically relevant threshold (mean  $\pm$  SD:  $28.6 \pm 12.2$  on the Pain Catastrophizing Scale), and subjective sleep disturbance exceeded the US population average (mean  $\pm$  SD:  $58.5 \pm 8.1$  on the Patient Reported Outcomes Measurement Information System Sleep Disturbance – Short Form). By contrast, objective sleep duration was consistent with the recommended daily sleep amount of 7–8 h for adults (mean  $\pm$  SD:  $8.3 \pm 1.4$  h). Across treatment conditions, pain intensity, pain catastrophizing, and subjective sleep disturbance were significantly less at posttreatment and 3-month follow-up than at baseline ( $p < 0.001$ ). Actigraphic sleep duration did not differ significantly as a function of time. There was a high degree of covariation among the measures of pain intensity, pain catastrophizing, and sleep disturbance ( $p < 0.05$ ). However, self-reported sleep disturbance was not significantly correlated with actigraphic sleep duration ( $|r| \leq 0.13$ ,  $p > 0.05$ ). Sleep and pain variables observed at prior assessments predicted these same variables at subsequent assessments. There was no significant evidence that changes in pain preceded changes in sleep or that changes in sleep preceded changes in pain (all  $p > 0.05$ ).

## Discussion

For this study's Veterans, treatment-related changes in sleep and pain appeared to occur in parallel. The concomitant changes in sleep and pain suggest that therapies improving pain in Veterans may yield attendant benefits for the treatment of sleep, and possibly vice versa.

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<https://doi.org/10.1016/j.xjmad.2023.100045>

**Childhood unpredictability is associated with increased risk for long- and short-term depression and anhedonia symptoms following combat deployment.**

C Hunt, M Vinograd, LM Glynn, EP Davis, TZ Baram, H Stern, C Nievergelt, B Cuccarazzu, C Napan, D Delmar, DG Baker, VB Risbrough

Journal of Mood & Anxiety Disorders

Available online 23 December 2023, 100045

High unpredictability has emerged as a dimension of early-life adversity that may contribute to a host of deleterious consequences later in life. Early-life unpredictability affects development of limbic and reward circuits in both rodents and humans, with a potential to increase sensitivity to stressors and mood symptoms later in life. Here, we examined the extent to which unpredictability during childhood was associated with changes in mood symptoms (anhedonia and general depression) after two adult life stressors, combat deployment and civilian reintegration, which were assessed ten years apart. We also examined how perceived stress and social support mediated and /or moderated links between childhood unpredictability and mood symptoms. To test these hypotheses, we leveraged the Marine Resiliency Study, a prospective longitudinal study of the effects of combat deployment on mental health in Active-Duty Marines and Navy Corpsman. Participants (N = 273) were assessed for depression and anhedonia before (pre-deployment) and 3–6 months after (acute post-deployment) a combat deployment. Additional assessment of depression and childhood unpredictability were collected 10 years post-deployment (chronic post-deployment). Higher childhood unpredictability was associated with higher anhedonia and general depression at both acute and chronic post-deployment timepoints ( $\beta$ s > 0.16, ps <.007). The relationship between childhood unpredictability and subsequent depression at acute post-deployment was partially mediated by lower social support (b = 0.07, 95% CI [0.03, 0.15]) while depression at chronic post-deployment was fully mediated by a combination of lower social support (b = 0.14, 95% CI [0.07, 0.23]) and higher perceived stress (b = 0.09, 95% CI [0.05, 0.15]). These findings implicate childhood unpredictability as a potential risk factor for depression in adulthood and suggest that increasing the structure and predictability of childhood routines and developing social support interventions after life stressors could be helpful for preventing adult depression.

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<https://doi.org/10.1037/ser0000828>

**A prognostic index to predict symptom and functional outcomes of a coached, web-based intervention for trauma-exposed veterans.**

Hallenbeck, H. W., Wielgosz, J., Cohen, Z. D., Kuhn, E., & Cloitre, M.

Psychological Services  
Advance online publication

Researchers at the Department of Veterans Affairs (VA) have studied interventions for posttraumatic stress disorder and co-occurring conditions in both traditional and digital formats. One such empirically supported intervention is web skills training in affective and interpersonal regulation (webSTAIR), a coached, 10-module web program based on STAIR. To understand which patient characteristics were predictive of webSTAIR outcomes in a sample of trauma-exposed veterans (N = 189), we used machine learning (ML) to develop a prognostic index from among 18 baseline characteristics (i.e., demographic, military, trauma history, and clinical) to predict posttreatment posttraumatic stress disorder severity, depression severity, and psychosocial functioning impairment. We compared the ML models to a benchmark of linear regression models in which the only predictor was the baseline severity score of the outcome measure. The ML and “severity-only” models performed similarly, explaining 39%–45% of the variance in outcomes. This suggests that baseline symptom severity and functioning are strong indicators for webSTAIR outcomes in veterans, with higher severity indicating worse prognosis, and that the other variables examined did not contribute significant added predictive signal. Findings also highlight the importance of comparing ML models to an appropriate benchmark. Future research with larger samples could potentially detect smaller patient-level effects as well as effects driven by other types of variables (e.g., therapeutic process variables). As a transdiagnostic, digital intervention, webSTAIR can potentially serve a diverse veteran population with varying trauma histories and may be best conceptualized as a beneficial first step of a stepped care model for those with heightened symptoms or impairment. (PsychoInfo Database Record (c) 2023 APA, all rights reserved)

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<https://doi.org/10.1136/military-2023-002591>

**'Whether it's your weapon or not, it's your home': US military spouse perspectives on personal firearm storage.**

Betz, M. E., Meza, K., Friedman, K., Mocerri-Brooks, J., Johnson, M. L., Simonetti, J., Baker, J. C., Bryan, C. J., & Anestis, M. D.

BMJ Military Health

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## Introduction

In the USA, an estimated 45% of veterans personally own firearms. Firearm access increases the risk of suicide, so suicide prevention efforts in the US Department of Defense (DoD) focus on lethal means safety, including reducing firearm access. Spouse input may enhance effective messaging and intervention delivery of lethal means safety. This study used qualitative methods to explore the perspectives of military spouses or partners on personal firearm storage, including at-home decisions, on-base storage and existing messaging from the DoD.

## Materials and methods

Qualitative data were obtained using 1:1 interviews and focus groups with spouses/partners of US military service members (active duty, Reserve, National Guard, recently separated from the military) and representatives from military support organisations. Sessions focused on personal firearm storage (at home or on military installations) and military messaging around secure firearm storage and firearm suicide prevention. Data were analysed using a team-based, mixed deductive–inductive approach.

## Results

Across 56 participants (August 2022–March 2023), the themes were variability in current home firearm storage and spousal participation in decision-making; uncertainty about firearm storage protocols on military installations; mixed awareness of secure firearm storage messaging from the military; and uncertainty about procedures or protocols for removing firearm access for an at-risk person.

## Conclusion

US military spouses are important messengers for firearm safety and suicide prevention, but they are currently underutilised. Tailored prevention campaigns should consider spousal dynamics and incorporate education about installation procedures.

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<https://doi.org/10.1001/jamanetworkopen.2023.49098>

## **Retention in Individual Trauma-Focused Treatment Following Family-Based Treatment Among US Veterans.**

Dodge, J., Sullivan, K., Grau, P. P., Chen, C., Sripada, R., & Pfeiffer, P. N.

JAMA Network Open

December 21, 2023

### Key Points

#### Question

Is participation in family therapy associated with completion of individual therapy among US veterans with posttraumatic stress disorder (PTSD)?

#### Findings

In this national cohort study of 1 516 887 US veterans diagnosed with PTSD, approximately 4% received any family therapy. Among those who attended at least 1 individual trauma therapy session, those who received trauma-informed or undefined family therapy during their individual trauma-focused treatment were associated with higher odds of completing a minimally adequate dose of individual treatment.

#### Meaning

These results suggest that integration of trauma-informed family therapy into care for PTSD could help with retention in individual trauma-focused treatment.

### Abstract

#### Importance

Despite the availability of several empirically supported trauma-focused interventions, retention in posttraumatic stress disorder (PTSD) psychotherapy is poor. Preliminary efficacy data shows that brief, family-based interventions may improve treatment retention in a veteran's individual PTSD treatment, although whether this occurs in routine clinical practice is not established.

#### Objective

To characterize receipt of family therapy among veterans diagnosed with PTSD and evaluate whether participation in family therapy is associated with an increased likelihood of completing individual trauma-focused treatment.

## Design, Setting, and Participants

This retrospective cohort study used the Veterans Health Administration (VHA) Informatics and Computing Infrastructure to extract electronic health record data of participants. All participants were US veterans diagnosed with PTSD between October 1, 2015, and December 31, 2019, who attended at least 1 individual trauma-focused treatment session. Statistical analysis was performed from May to August 2023.

## Exposures

Receipt of any family psychotherapy and subtype of family-based psychotherapy.

## Main Outcomes and Measures

Minimally adequate individual trauma-focused treatment completion (ie, 8 or more sessions of trauma-focused treatment in a 6-month period).

## Results

Among a total of 1 516 887 US veterans with VHA patient data included in the study, 58 653 (3.9%) received any family therapy; 334 645 (23.5%) were Black, 1 006 168 (70.5%) were White, and 86 176 (6.0%) were other race; 1 322 592 (87.2%) were male; 1 201 902 (79.9%) lived in urban areas; and the mean (SD) age at first individual psychotherapy appointment was 52.7 (15.9) years. Among the 58 653 veterans (3.9%) who received any family therapy, 36 913 (62.9%) received undefined family therapy only, 15 528 (26.5%) received trauma-informed cognitive-behavioral conjoint therapy (CBCT) only, 5210 (8.9%) received integrative behavioral couples therapy (IBCT) only, and 282 (0.5%) received behavioral family therapy (BFT) only. Compared with receiving no family therapy, the odds of completing individual PTSD treatment were 7% higher for veterans who also received CBCT (OR, 1.07 [95% CI, 1.01-1.13]) and 68% higher for veterans received undefined family therapy (OR, 1.68 [95% CI, 1.63-1.74]). However, compared with receiving no family therapy care, veterans had 26% lower odds of completing individual PTSD treatment if they were also receiving IBCT (OR, 0.74 [95% CI, 0.66-0.82]).

## Conclusions and Relevance

In this cohort study of US veterans, family-based psychotherapies were found to differ substantially in their associations with individual PTSD psychotherapy retention. These findings highlight potential benefits of concurrently providing family-based therapy with individual PTSD treatment but also the need for careful clinical attention to the balance between family-based therapies and individual PTSD treatment.

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<https://doi.org/10.1007/s40675-023-00270-9>

## **Barriers in Access to and Delivery of Behavioral Sleep Treatments.**

Sydneyjane Roberts & Christi S. Ulmer

Current Sleep Medicine Reports

Published: 22 December 2023

### Purpose of Review

Sleep disorders are prevalent among the U.S. population. Despite the increasing recognition of evidence-based behavioral sleep interventions as an essential component of sleep disorders treatment, many patients do not receive this care. This paper aims to review the specific barriers in access to and delivery of behavioral sleep treatments and explores promising avenues for overcoming these barriers.

### Recent Findings

A review of the available literature on behavioral sleep interventions—heavily skewed toward treatment of insomnia—reveals significant provider-, patient-, and system-level barriers. Current efforts to expand access include increasing public awareness and provider knowledge of sleep disorders, implementation of innovative care models and tele-health delivery formats and increasing the number of specially-trained behavioral sleep providers.

### Summary

Expansion of access to evidence-based behavioral treatment for the full spectrum of sleep disorders is crucial to addressing the growing sleep health crisis.

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<https://doi.org/10.1111/sltb.13033>

## **Do stigma and efficacy mediate the association between training and suicide prevention behavior among Army noncommissioned officers?**

Stephanie Brooks Holliday PhD, Lynsay Ayer PhD, Robin Beckman MPH, Lisa H. Jaycox PhD, Denis Agniel PhD, Daniel Elinoff MA, Rajeev Ramchand PhD, Emily Hoch MSc, Lisa Wagner MS, MA

## Suicide and Life-Threatening Behavior

First published: 20 December 2023

### Introduction

Rates of suicide in the Active Component of the military have significantly increased since 2010, with particularly high rates among Army service members. One element of the Army's approach to suicide prevention relies on noncommissioned officers (NCOs) as gatekeepers who have regular contact with soldiers. NCOs receive suicide prevention training, but there is limited evidence that such training leads to behavior change.

### Methods

We surveyed 2468 Army NCOs participating in leadership development courses to determine (a) if training on suicide prevention and soft skills (e.g., active listening) was associated with gatekeeper behavior and use of soft skills; and (b) whether that association was explained by two potential barriers, stigma and perceptions of efficacy.

### Results

Both the number of suicide prevention training topics and soft skills trained were associated with increased gatekeeper behavior; these relationships were explained in part by lower stigma and higher efficacy for use of soft skills. The use of interactive training methods and receiving coaching after training were not associated with stigma or efficacy, though both methods were associated with more frequent use of soft skills.

### Conclusion

Results suggest that the content and format of training is important to preparing NCOs to fulfill a gatekeeper role.

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<https://doi.org/10.1080/15504263.2023.2294985>

## **Examining the Temporal Relation between Posttraumatic Stress Symptoms and Heavy Drinking among Veterans Receiving Mental Health Treatment in Primary Care.**

Christina Balderrama-Durbin, Eileen P. Barden, Melissa V. Gates, Jessica Hill, Nadine R. Mastroleo, Kyle Possemato, Paul R. King & Sheila A. M. Rauch

### Objective

Evidence for the use of integrated treatments targeting co-occurring posttraumatic stress disorder (PTSD) and alcohol use disorders is steadily growing. However, limited work has evaluated the temporal association between posttraumatic stress symptoms (PTSS) and alcohol misuse over the course of integrated treatment, with no studies examining such interventions in primary care (PC). The current study examined temporal changes in PTSS and heavy drinking among individuals who received a brief treatment for co-occurring PTSD and alcohol misuse in PC (Primary Care Treatment Integrating Motivation and Exposure; PC-TIME) compared with those who received PC treatment as usual (PC-TAU).

### Method

A total of 63 veterans (33 randomized to PC-TIME and 30 randomized to PC-TAU) presenting to PC with co-occurring PTSD and alcohol misuse were included in this study. PTSS and heavy drinking were examined at each treatment session for those in PC-TIME. Veterans in both conditions provided reports of PTSS and heavy drinking at baseline, 8-weeks (post-treatment), 14-weeks, and 20-week follow-ups.

### Results

Session-by-session findings for PC-TIME demonstrated that PTSS at Session 1 predicted a greater decrease in heavy drinking from Session 1 to Session 2. Moreover, heavy drinking at baseline predicted greater decreases in PTSS at 8-weeks for those in PC-TIME, whereas the reverse association was found for those randomized to PC-TAU. Additionally, heavy drinking at 8-weeks predicted decreased PTSS at 14-weeks for those randomized to PC-TAU.

### Conclusions

The current study evidenced mixed support for the temporal precedence of PTSS and alcohol misuse. Relations between PTSS and heavy drinking appeared to be linked to treatment targets within PC-TIME and varied between treatment condition (PC-TIME versus PC-TAU). Notably, those with greater than average heavy drinking at the initiation of integrated treatment appeared to have greater reductions in PTSS at post-treatment. Results suggest a mutual maintenance model may best characterize the association between co-occurring PTSS and heavy drinking among treatment-seeking individuals.



<https://doi.org/10.1093/geroni/igad104.3170>

## **Age-stratified investigation of sleep disorders and PTSD prevalence among Vietnam veterans.**

Thomas Chacko, Sara Mithani, Melissa Bunker, Charity Breneman, Gordon Broderick

Innovation in Aging

Volume 7, Issue Supplement\_1, December 2023, Pages 986–987

Military Veterans often experience a range of sleep disorders that significantly impact their physical and psychological wellbeing. Current study describes prevalence and age differences ( $\geq 65$  to  $\leq 74$  yrs;  $n = 193$ ) vs. ( $\geq 75$  to  $\leq 90$  yrs;  $n = 157$ ) across insomnia, obstructive sleep apnea (OSA), nightmare disorder (ND), and posttraumatic stress disorder (PTSD). Vietnam Veterans ( $N = 350$ ; AgeMean = 74.4 [SD = 3.6]) completed a survey (online or paper) of their sleep experiences and PTSD as part of a cross-sectional study. Veterans were mostly White (95%), male (97.7%), from the Army (55%), with some or two-year college (43%), and currently married (76%). Insomnia was screened positive in 27.7% of the Veterans, OSA in 58.6%, ND in 5.7%, and PTSD in 18.6%. There were significant mean differences in insomnia and PTSD across age groups ( $t(348) = 2.43$ ,  $p = .016$ ) and ( $t(348) = 2.06$ ,  $p = .04$ ), respectively, with younger age group showing higher insomnia, and PTSD. There were no significant mean differences in OSA and ND. Pearson correlation analyses yielded important associations. Insomnia was significantly positively correlated with PTSD ( $r = .60$ ), OSA ( $r = .33$ ), and ND ( $r = .51$ ). PTSD was significantly positively correlated with OSA ( $r = .30$ ) and ND ( $r = .67$ ). ND was significantly positively correlated with OSA ( $r = .22$ ). There were no significant differences in the associations across the two age groups. Recognizing and addressing various sleep disorders and comorbid PTSD are crucial to improving the quality of life of Veterans. Results emphasize need for comprehensive assessment of sleep disorders and PTSD among Veterans.

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<https://doi.org/10.1016/j.cpr.2023.102377>

## **Measuring moral distress and moral injury: A systematic review and content analysis of existing scales.**

Stephanie A. Houle, Natalie Ein, Julia Gervasio, Rachel A. Plouffe, ... Anthony Nazarov

## Highlights

- Important measurement issues exist for scales of moral distress and moral injury.
- Many scales conflate measurement of exposure and expression/outcomes.
- Most scales of “moral distress” should only be used to assess exposure.
- The Moral Injury Outcome Scale is currently the most robust measure of moral injury.
- Better delineation of potential moral stressors and outcomes is sorely needed.

## Abstract

### Background

Moral distress (MD) and moral injury (MI) are related constructs describing the negative consequences of morally challenging stressors. Despite growing support for the clinical relevance of these constructs, ongoing challenges regarding measurement quality risk limiting research and clinical advances. This study summarizes the nature, quality, and utility of existing MD and MI scales, and provides recommendations for future use.

### Method

We identified psychometric studies describing the development or validation of MD or MI scales and extracted information on methodological and psychometric qualities. Content analyses identified specific outcomes measured by each scale.

### Results

We reviewed 77 studies representing 42 unique scales. The quality of psychometric approaches varied greatly across studies, and most failed to examine convergent and divergent validity. Content analyses indicated most scales measure exposures to potential moral stressors and outcomes together, with relatively few measuring only exposures ( $n = 3$ ) or outcomes ( $n = 7$ ). Scales using the term MD typically assess general distress. Scales using the term MI typically assess several specific outcomes.

### Conclusions

Results show how the terms MD and MI are applied in research. Several scales were identified as appropriate for research and clinical use. Recommendations for the application, development, and validation of MD and MI scales are provided.

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<https://doi.org/10.1177/10783903231216138>

## **A Systematic Review of Evidence-Based Treatments for Adolescent and Adult Sexual Assault Victims.**

Miles, L. W., Valentine, J. L., Mabey, L. J., Hopkins, E. S., Stodtmeister, P. J., Rockwood, R. B., & Moxley, A. N. H.

Journal of the American Psychiatric Nurses Association  
First published online December 26, 2023

### **Background:**

Sexual assault (SA) is a serious crime that is a prevalent mental and public health problem.

### **Aims:**

Addressing the needs of SA victims and providing appropriate treatment are essential to reduce potential adverse short- and long-term outcomes.

### **Methods:**

Our team undertook an extensive systematic literature review (published between January 2006 and July 2021) to provide evidence-based mental health intervention recommendations for adolescent and adult victims of SA. Where SA-specific research was limited, the literature and clinical practice guidelines on treatments for trauma-induced post-traumatic stress disorder (PTSD) were reviewed to provide additional information to formulate recommendations.

### **Results:**

Findings strongly support several primary psychotherapy treatments: cognitive behavioral therapy, cognitive processing therapy, eye movement desensitization and reprocessing, narrative exposure therapy, and prolonged exposure therapy. Complementary (aerobic exercise, art, drama, and music therapy) and pharmacological treatments were explored.

### **Conclusions:**

Mental health nurses who provide services for victims of SA can utilize this overview to guide recommendations for treatment of SA trauma and related PTSD symptoms to mitigate the short- and long-term negative impacts after a traumatic event. When victims of SA receive optimal mental health treatments, our communities benefit as victims heal and recover.

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## Links of Interest

Finally, sailors can put hands in their pockets under policy update

<https://www.navytimes.com/news/your-navy/2024/02/14/finally-sailors-can-put-their-hands-in-their-pockets/>

'Home is where the Army sends us': Military families share challenges of living and thriving in Alaska

<https://www.stripes.com/branches/army/2024-02-14/alaska-military-families-army-soldiers-13002527.html>

Stress levels rising among Navy's sailors even as overall well-being ticks up, survey finds

<https://www.stripes.com/branches/navy/2024-02-16/navy-sailor-stress-levels-survey-13020447.html>

- [United State Department of the Navy: Health of the Force, Calendar Year 2023](#)

Student vets seek mental health care more often than military peers

<https://www.militarytimes.com/veterans/2024/02/20/student-vets-seek-mental-health-care-more-often-than-military-peers/>

- [VA Health Care: Opportunities Exist to Further Meet Student Veterans' Mental Health Needs](#)

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## Resource of the Week: [Department of Defense Strategy for Resilient and Healthy Defense Communities](#)

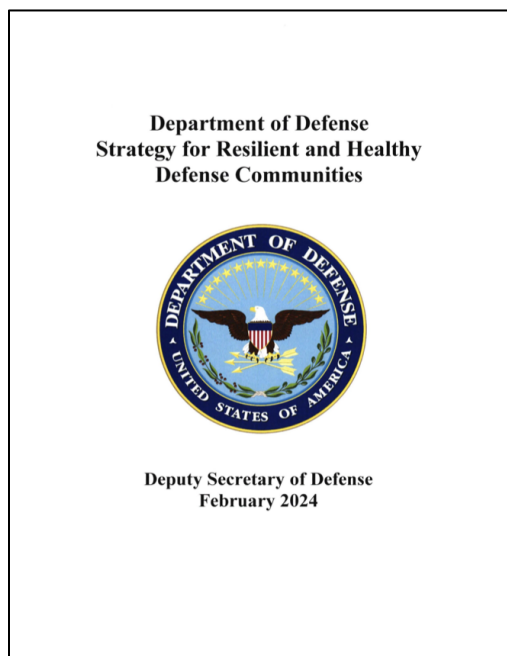
From [press release](#):

The DOD Strategy for Resilient and Healthy Defense Communities sets forth the department's commitment to fulfilling what defense leaders say is a national security imperative and moral obligation to provide the total force with healthy, safe, functional and resilient environments in which to live and work.

...

The strategy puts forward an end state focused on quality of life and readiness for the total force where:

- People living and working on DOD installations thrive as part of happy, healthy, productive and resilient communities.
- The built and natural environment around them meets operational needs and improves their quality of life.
- Installation managers and senior DOD leadership have a common operating picture of the quality of infrastructure to guide timely decisions and resource allocations.
- Installations are integrated with surrounding communities, providing public services and lifestyle-oriented features that build the readiness and resiliency of the Total Force.



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Shirl Kennedy  
Research Editor, HJF  
In Support of the Center for Deployment Psychology  
Email: [shirley.kennedy.ctr@usuhs.edu](mailto:shirley.kennedy.ctr@usuhs.edu)



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