

## Research Update -- March 7, 2019

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https://www.ptsd.va.gov/publications/rg\_docs/V30N1.pdf

## PTSD Research Quarterly Opioid Use Among Individuals with Posttraumatic Stress Disorder

National Center for PTSD Volume 30, Issue 1

We live in a time of increasing concerns among individuals, families and communities across our country regarding the consequences of opioid use. What began as a seemingly compassionate and efficient means to address pain – a prevalent, disabling, and costly condition that impacts 1 in 5 Americans – gradually became a nightmare that has devastated communities and claimed the lives of almost 400,000 people in an 18-year span (Hodge et al., 2018; Scholl, Seth, Kariisa, Wilson, & Baldwin, 2018). Liberal prescribing of opioid pain medication based on misinformation from pharmaceutical companies was a major factor in escalating rates of opioid use, misuse and opioid use disorder (OUD; Peltz & Südhof, 2018). A higher frequency of opioid prescribing coincided with the return of military members from the Iraq and Afghanistan conflicts, a group with high rates of pain and various mental health disorders. Providers attempting to relieve distress caused by these multiple morbidities often prescribed opioid pain medication and sedatives such as benzodiazepines, thus dangerously increasing overdose risk among returning Veterans (Bernardy, Lund, Alexander, & Friedman, 2014).

Prescribing opioids to treat chronic pain is not a simple issue and clinicians and institutions are working to update pain management practices and use opioid analgesics in a safer, more judicious manner. Overprescribing of opioids reflects in part the limited alternatives for treating chronic pain. There is a clear need for safer, more effective treatments. Any movement, however, to eliminate opioids as a treatment option is an overreaction because opioids have a legitimate role in the medical management of pain. There is a growing recognition in the management of chronic pain that in addition to opioid dose, co-morbid mental health illness plays a critical role in adverse effects from opioid use (Park et al., 2016). This guide to the literature focuses on current knowledge of opioid use among people with PTSD and concludes by citing references suggesting

that integration of care for both PTSD and painful medical conditions and OUD should be offered where possible.

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https://content.govdelivery.com/accounts/USVHA/bulletins/232e1c8

## PTSD Monthly Update - February 2019 How You Can Help Your Veteran With PTSD

National Center for PTSD

Imagine that your loved one has just returned from deployment overseas. Your Veteran is having a hard time getting adjusted to civilian life. You know that they're having nightmares. They're also getting angry over small things, and seem to be more anxious nowadays.

These reactions are normal after returning from deployment. But what if they last for more than a few months? Would you know how to help your Veteran?

Your Veteran might have PTSD if:

They are reliving or re-experiencing the event Avoiding things that remind them of the trauma Feeling more negative about the world Being on guard

According to Dr. Matthew Yoder, Psychologist with the National Center for PTSD's Consultation Program, "In the short term, after a traumatic event, most people will experience symptoms like these. But after a month – or especially after three months – left untreated, they probably won't get better on their own." Kinds of "Help" it's Best to Avoid

There's at least one kind of "help" you are better off steering clear of, though. It is best if family members don't enable their loved one's avoidance behaviors. For example, if your loved one gets anxious in crowds, you might want to let them stay home from public events. But when you shield them from crowds or reminders of their trauma, it will be harder for them to get better.

Dr. Yoder says, "Don't change the family structure around so that the person's symptoms are driving decisions." Point out to your loved one---gently---how their symptoms are affecting you and your family.

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https://www.sciencedirect.com/science/article/pii/S016383431830433X

## Discrepancies in diagnostic records of military service members with selfreported PTSD: Healthcare use and longitudinal symptom outcomes.

Maria A. Morgan, Marija S. Kelber, Kevin O'Gallagher, Xian Liu, ... Bradley E. Belsher

General Hospital Psychiatry Available online 26 February 2019 https://doi.org/10.1016/j.genhosppsych.2019.02.006

#### Objective

The study compared healthcare utilization and posttraumatic stress disorder (PTSD) symptom trajectories of active duty Service members (ADSM) with self-reported PTSD based on whether they had a PTSD diagnosis in the electronic health record (EHR).

#### Methods

ADSM meeting study criteria for self-reported PTSD (N = 470) were grouped according to EHR-PTSD diagnostic status. Participants completed PTSD symptom assessments over a 12 month period. We used log binomial regression and linear mixed model to examine predictors of receiving an EHR-PTSD diagnosis and to analyze healthcare utilization and symptom trajectories based on diagnostic status.

#### Results

Thirty percent of ADSM with study-identified PTSD had an EHR-PTSD diagnosis. Combat exposure and PTSD severity predicted EHR-PTSD diagnosis. ADSM without the diagnosis were more likely to have an adjustment disorder diagnosis. Participants with an EHR-PTSD diagnosis utilized more healthcare and reported worse PTSD symptoms over 12 months.

#### Conclusions

Findings suggest providers are more likely to record PTSD diagnoses for more severe, complex cases. While less severe cases may be less likely to receive a PTSD diagnosis, they may still access and benefit from care. Findings have implications for

use of EHRs to describe health patterns and inform practices and policy in the Military Health System.

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http://connect.springerpub.com/content/sgrvv/34/1/69

Context Matters: Posttraumatic Stress Disorder Symptom Associations With Military Sexual Trauma Event Characteristics and Dual Histories of Interpersonal Trauma.

Bennett, Diana C., PhD; Thomas, Edward J., LMSW; Porter, Katherine E., PhD; Broman, Rachel B., LMSW; Rauch, Sheila A. M., PhD; Sexton, Minden B., PhD

Violence and Victims Volume 34, Issue 1 DOI: 10.1891/0886-6708.34.1.69

Despite the high rates of military sexual trauma (MST) experienced by service members and veterans, little is known about how contextual features of the MST event or concurrent histories of other interpersonal traumas are associated with diverse clinical presentations. This study examined contextual factors of MST events (number of perpetrators, location of MST, relationship to perpetrator, location of MST) and dual history of interpersonal traumas (including sexual abuse or assault throughout the lifespan, repeated MST, and intimate partner violence) in relation to total symptoms and symptom clusters of Posttraumatic Stress Disorder (PTSD). MST involving multiple perpetrators was related to higher avoidance and hyperarousal. MST while combatdeployed was associated with higher hyperarousal. Veterans endorsing a history of partner violence presented with higher reexperiencing and avoidance. Recognition of phenotypic differences may assist providers in treatment planning and optimizing outcomes.

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https://www.cambridge.org/core/journals/the-british-journal-ofpsychiatry/article/effectiveness-of-psychoanalyticpsychodynamic-psychotherapy-forreducing-suicide-attempts-and-selfharm-systematic-review-andmetaanalysis/389C98850F875893D54996597DF6DF3A

## The effectiveness of psychoanalytic/psychodynamic psychotherapy for reducing suicide attempts and self-harm: systematic review and meta-analysis.

Briggs, S., Netuveli, G., Gould, N., Gkaravella, A., Gluckman, N., Kangogyere, P., . . . Lindner, R.

The British Journal of Psychiatry Published online: 28 February 2019 doi:10.1192/bjp.2019.33

#### Background

Preventing suicide and self-harm is a global health priority. Although there is a growing evidence base for the effectiveness of psychoanalytic and psychodynamic psychotherapies for a range of disorders, to date there has been no systematic review of its effectiveness in reducing suicidal and self-harming behaviours.

#### Aims

To systematically review randomised controlled trials of psychoanalytic and psychodynamic psychotherapies for suicidal attempts and self-harm.

## Method

We searched PubMed, PsycINFO, Psycharticles, CINAHL, EMBASE and the Cochrane Central Register of Controlled Trials for randomise controlled trials of psychoanalytic and psychodynamic psychotherapies for reducing suicide attempts and self-harm.

## Results

Twelve trials (17 articles) were included in the meta-analyses. Psychoanalytic and psychodynamic therapies were effective in reducing the number of patients attempting suicide (pooled odds ratio, 0.469; 95% CI 0.274–0.804). We found some evidence for significantly reduced repetition of self-harm at 6-month but not 12-month follow-up. Significant treatment effects were also found for improvements in psychosocial functioning and reduction in number of hospital admissions.

## Conclusions

Psychoanalytic and psychodynamic psychotherapies are indicated to be effective in

reducing suicidal behaviour and to have short-term effectiveness in reducing self-harm. They can also be beneficial in improving psychosocial well-being. However, the small number of trials and moderate quality of the evidence means further high-quality trials are needed to confirm our findings and to identity which specific components of the psychotherapies are effective.

Declaration of interest None.

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https://jamanetwork.com/journals/jamapsychiatry/article-abstract/2726611

Severity and Variability of Depression Symptoms Predicting Suicide Attempt in High-Risk Individuals.

Melhem NM, Porta G, Oquendo MA, et al.

JAMA Psychiatry Published online February 27, 2019 doi:10.1001/jamapsychiatry.2018.4513

Key Points Question What are the most important clinical predictors of suicide attempt?

Findings

In this longitudinal study of 663 offspring of parents with mood disorders, the trajectory of depression symptoms showing the highest mean scores and variability over time predicted suicide attempt above and beyond psychiatric diagnoses. Additional predictors were younger age (≤30 years), mood disorders, childhood abuse, and personal and parental history of suicide attempt.

Meaning

Predictors were identified that clinicians already assess during routine psychiatric evaluation; clinicians should especially monitor and treat depression symptoms to reduce the risk for suicidal behavior.

#### Abstract

#### Importance

Predicting suicidal behavior continues to be among the most challenging tasks in psychiatry.

#### Objectives

To examine the trajectories of clinical predictors of suicide attempt (specifically, depression symptoms, hopelessness, impulsivity, aggression, impulsive aggression, and irritability) for their ability to predict suicide attempt and to compute a risk score for suicide attempts.

#### Design, Setting, and Participants

This is a longitudinal study of the offspring of parents (or probands) with mood disorders who were recruited from inpatient units at Western Psychiatric Institute and Clinic (Pittsburgh) and New York State Psychiatric Institute. Participants were recruited from July 15, 1997, to September 6, 2005, and were followed up through January 21, 2014. Probands and offspring (n = 663) were interviewed at baseline and at yearly follow-ups for 12 years. Lifetime and current psychiatric disorders were assessed, and self-reported questionnaires were administered. Model evaluation used 10-fold cross-validation, which split the entire data set into 10 equal parts, fit the model to 90% of the data (training set), and assessed it on the remaining 10% (test set) and repeated that process 10 times. Preliminary analyses were performed from July 20, 2015, to October 5, 2016. Additional analyses were conducted from July 26, 2017, to July 24, 2018.

#### Main Outcomes and Measures

The broad definition of suicide attempt included actual, interrupted, and aborted attempts as well as suicidal ideation that prompted emergency referrals during the study. The narrow definition referred to actual attempt only.

#### Results

The sample of offspring (n = 663) was almost equally distributed by sex (316 female [47.7%]) and had a mean (SD) age of 23.8 (8.5) years at the time of censored observations. Among the 663 offspring, 71 (10.7%) had suicide attempts over the course of the study. The trajectory of depression symptoms with the highest mean scores and variability over time was the only trajectory to predict suicide attempt (odds ratio [OR], 4.72; 95% CI, 1.47-15.21; P = .01). In addition, we identified the following predictors: younger age (OR, 0.82; 95% CI, 0.74-0.90; P < .001), lifetime history of unipolar disorder (OR, 4.71; 95% CI, 1.63-13.58; P = .004), lifetime history of bipolar disorder (OR, 3.4; 95% CI, 0.96-12.04; P = .06), history of childhood abuse (OR, 2.98; 95% CI, 1.40-6.38; P = .01), and proband actual attempt (OR, 2.24; 95% CI, 1.06-4.75;

P = .04). Endorsing a score of 3 or higher on the risk score tool resulted in high sensitivity (87.3%) and moderate specificity (63%; area under the curve = 0.80).

#### Conclusions and Relevance

The specific predictors of suicide attempt identified are those that clinicians already assess during routine psychiatric evaluations; monitoring and treating depression symptoms to reduce their severity and fluctuation may attenuate the risk for suicidal behavior.

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#### https://www.arcr.niaaa.nih.gov/arcr392/article05.htm

# Co-Occurring Post-Traumatic Stress Disorder and Alcohol Use Disorder in U.S. Military and Veteran Populations.

Emily R. Dworkin, Hannah E. Bergman, Thomas O. Walton, Denise D. Walker, and Debra L. Kaysen

Alcohol Research: Current Reviews Vol 39 No 2 | 2018

Co-occurring post-traumatic stress disorder (PTSD) and alcohol use disorder (AUD) are costly and consequential public health problems that negatively affect the health and well-being of U.S. military service members and veterans. The disproportionate burden of comorbid PTSD and AUD among U.S. military service members and veterans may be due to unique factors associated with military service, such as aspects of military culture, deployment, and trauma exposure. This review addresses the prevalence of co-occurring PTSD and AUD in military and veteran populations, population-specific factors that contribute to development of the comorbid conditions, and evidence-based treatments that have promise for addressing these conditions in military and veteran populations. Future directions for research and practice relevant to military and veteran populations are discussed.

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https://www.ncbi.nlm.nih.gov/pubmed/30816770

Psychol Trauma. 2019 Feb 28. doi: 10.1037/tra0000436. [Epub ahead of print]

Self-assessed sleep quality partially mediates the relationship between PTSD symptoms and functioning and quality of life in U.S. Veterans: Results from the National Health and Resilience in Veterans Study.

McCarthy E, DeViva JC, Norman SB, Southwick SM, Pietrzak RH

#### OBJECTIVE:

Sleep difficulties are among the most common symptoms reported by trauma survivors with posttraumatic stress disorder (PTSD). Problems with sleep have been associated with a wide range of physical, mental, cognitive difficulties, as well as reduced quality of life (QOL). The purpose of this study was to evaluate whether self-assessed sleep quality mediated the relationship between PTSD symptoms and functioning and QOL in a nationally representative sample of U.S. military veterans.

#### METHOD:

Data were analyzed from a population-based sample of 3,157 U.S. military veterans who participated in the National Health and Resilience in Veterans Study (NHRVS). Path analyses were conducted to assess whether sleep quality mediated the relationship between PTSD symptoms and measures of functioning and QOL.

#### **RESULTS**:

A total of 714 veterans (weighted 27.6%) reported poor sleep quality. The prevalence of poor sleep quality was significantly higher among veterans who screened positive for probable PTSD compared with those who did not (84.2% vs. 24.7%). Path analyses revealed significant associations between greater severity of PTSD symptoms and sleep quality,  $\beta = 0.42$ , as well as significant associations between greater severity of PTSD symptoms and scores on measures of cognitive functioning,  $\beta = -0.54$ , mental health functioning,  $\beta = -0.57$ , physical functioning,  $\beta = -0.19$ , and overall QOL,  $\beta = -0.40$ . Poorer sleep quality partially mediated these associations, with the strongest effects observed for physical functioning,  $\beta = -0.28$ , and QOL,  $\beta = -0.27$ .

#### CONCLUSIONS

Results of this study extend prior research on the relationship between PTSD symptoms, sleep, and functioning and QOL in a nationally representative sample of U.S. veterans. (PsycINFO Database Record (c) 2019 APA, all rights reserved).

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https://journal-veterans-studies.org/articles/abstract/67/

American Veterans and the Evolution of Mental Health: A Historical Review of Diagnoses and Depiction.

Erwin, S.K.

Journal of Veterans Studies 2019; 4(1), pp.47–57

This article reviews the interwoven history surrounding mental health diagnoses and military veteran depictions of the twentieth and twenty-first centuries. Including a detailed historical review focusing on three major time periods: WWI-Korean War (1915-1950s); Vietnam War (1960s-1980s); and the Gulf/Middle East conflicts (1981-Present). By noting prevailing connections throughout these time periods, including the continuity of stigma and the depictions of veterans as well as the evolution of changing interpretations in what images and depictions of veterans mean including their associated social and political usages. Finally, a number of implications, both positive and negative surrounding the interconnected nature of veterans and mental health (namely PTSD), are offered, with recommendations for future inquiry and policy.

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#### Links of Interest

White nationalism remains a problem for the military, poll suggests <u>https://www.militarytimes.com/news/pentagon-congress/2019/02/28/white-nationalism-remains-a-problem-for-the-military-poll-shows/</u>

Baby's death raises question: What happens when unauthorized daycare is reported on base?

https://www.militarytimes.com/pay-benefits/2019/02/28/babys-death-raises-questionwhat-happens-when-unauthorized-daycare-is-reported-on-base/

Is VA shortchanging women's health programs? https://www.militarytimes.com/news/pentagon-congress/2019/02/28/is-va-spendingenough-on-womens-health-programs/ DoD recognizes Brain Injury Awareness month, promotes warfighter brain health <u>https://health.mil/News/Articles/2019/03/01/DoD-recognizes-Brain-Injury-Awareness-month-promotes-warfighter-brain-health</u>

Bagram air wing gets poor reviews on sexual assault response https://www.stripes.com/news/bagram-air-wing-gets-poor-reviews-on-sexual-assaultresponse-1.570886

The new plan to prevent veteran suicides: new grants, better research, more community focus

https://www.militarytimes.com/news/pentagon-congress/2019/03/05/the-new-plan-toprevent-veteran-suicides-new-grants-better-research-more-community-focus/

5 Ways Bosses Can Reduce the Stigma of Mental Health at Work <a href="https://hbr.org/2019/02/5-ways-bosses-can-reduce-the-stigma-of-mental-health-at-work">https://hbr.org/2019/02/5-ways-bosses-can-reduce-the-stigma-of-mental-health-at-work</a>

Senator Martha McSally Says Superior Officer in the Air Force Raped Her <a href="https://www.nytimes.com/2019/03/06/us/politics/martha-mcsally-sexual-assault.html">https://www.nytimes.com/2019/03/06/us/politics/martha-mcsally-sexual-assault.html</a>

Advocates for sexual assault victims create one-stop support site <u>https://www.stripes.com/news/pacific/advocates-for-sexual-assault-victims-create-one-stop-support-site-1.571528</u>

The Healing Power of Telling Your Trauma Story https://www.psychologytoday.com/us/blog/think-act-be/201903/the-healing-powertelling-your-trauma-story

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## Resource of the Week: <u>Deployment Health Assessments -- U.S. Armed Forces</u> <u>February 2019</u> (Data through January 2019)

Since January 2003, pronounced fluctuations in the monthly numbers of pre- and post-deployment health assessment (PDHA) forms transmitted to the Armed Forces Health Surveillance Branch (AFHSB) generally have corresponded to times of departure and return of large numbers of service members who deployed. Between April 2006 and January 2019, the number of post-deployment health reassessment (PDHRA) forms per month ranged from 5,604 to 36,863 (Figure 1). The average monthly number of PDHRA forms (7,896) for the most recent 12 months (February 2018–January 2019) was the lowest 1-year average

since July 2006 (Table 1, data not shown). For the purposes of this report about service members' responses to the assessment questions, it is important to note that the denominator is the total number of service members who completed deployment-related assessments, not the total number of service members eligible for the assessments. During the past 12 months, the percentages of total returned deployers who rated their health as either "fair" or "poor" ranged from 6.9% to 9.1% on PDHA questionnaires and from 6.0% to 8.6% on PDHRA questionnaires (Figure 2). The percentages of total service members who rated their health as either "fair" or "poor" on pre-deployment questionnaires during this period varied between 3.2% and 4.8%.

In general, the percentages of "health concerns" and "exposure concerns" selfreported on PDHA and PDHRA forms were higher among reserve component members than among active component members (Table 2, Figure 3). Service members in the active component of the Navy and Marine Corps, respectively, were 1.8 times and 1.6 times as likely to report two or more PTSD symptoms 3–6 months after deployment, compared to the time of their return from deployment. Reserve component Marine Corps members were 2.2 times as likely to report two or more PTSD symptoms at the time of the PDHRA compared to the time of the PDHA (Table 2).

At the time of return from deployment, 17.4% of active component and 15.2% of reserve component service members reported any depression symptoms. Service members in the active and reserve components were more than 4 and 6 times as likely, respectively, to receive a mental health referral at the time of the PDHRA, compared to the time of return from deployment. Moreover, at the time of the PDHRA, reservists were 1.6 times as likely to receive a mental health referral as members of the active component (Table 2).

| Table 2. Percentage of service members who endorsed selected questions or received referrals on health assessment forms, U.S. Armed Forces, |
|---|
| February 2018–January 2019  |

|   |                          | Army                      | ,                    | Navy                     |                           |                      | Air Force                |                           |                      | Marine Corps             |                           |                      | All active component                     |                           |                     |
|---|--------------------------|---------------------------|----------------------|--------------------------|---------------------------|----------------------|--------------------------|---------------------------|----------------------|--------------------------|---------------------------|----------------------|--|---------------------------|---------------------|
|   | Army                     |                           |                      |                          |                           |                      |                          |                           |                      |                          |                           |                      | service members                          |                           |                     |
|   | Pre-<br>deploy<br>DD2795 | Post-<br>deploy<br>DD2796 | Reassessmt<br>DD2900 | Pre-<br>deploy<br>DD2795                 | Post-<br>deploy<br>DD2796 | Reassess<br>DD2900  |
| Active component  | n=<br>123,242<br>%       | n=<br>59,754<br>%         | n=<br>31,613<br>%    | n=<br>5,922<br>%         | n=<br>4,339<br>%          | n=<br>3,926<br>%     | n=<br>37,606<br>%        | n=<br>32,589<br>%         | n=<br>29,688<br>%    | n=<br>19,836<br>%        | n=<br>11,141<br>%         | n=<br>8,609<br>%     | n=<br>186,606<br>%                       | n=<br>107,823<br>%        | n=<br>73,836<br>%   |
| General health "fair" or "poor"   | 6.1                      | 9.7                       | 10.9                 | 2.2                      | 5.6                       | 6.7                  | 1.4                      | 3.6                       | 3.7                  | 2.8                      | 6.5                       | 8.4                  | 4.7                                      | 7.4                       | 7.5                 |
| Health concerns, not wound or injury  | 6.3                      | 16.9                      | 12.6                 | 5.3                      | 15.0                      | 11.6                 | 3.0                      | 10.2                      | 7.6                  | 4.1                      | 11.6                      | 8.9                  | 5.4                                      | 14.3                      | 10.1                |
| Health worse now than before deployed   | na                       | 72.1                      | 74.7                 | na                       | 70.4                      | 73.4                 | na                       | 62.7                      | 70.4                 | na                       | 70.9                      | 76.9                 | na                                       | 69.1                      | 73.2                |
| Exposure concerns   | na                       | 11.4                      | 12.2                 | na                       | 23.1                      | 22.3                 | na                       | 13.9                      | 8.8                  | na                       | 11.8                      | 14.5                 | na                                       | 12.7                      | 11.7                |
| PTSD symptoms (two or more)   | na                       | 6.1                       | 7.5                  | na                       | 4.9                       | 8.8                  | na                       | 2.3                       | 2.7                  | na                       | 3.0                       | 4.9                  | na                                       | 4.6                       | 5.3                 |
| Depression symptoms (any)   | na                       | 22.0                      | 21.8                 | na                       | 17.4                      | 21.0                 | na                       | 9.3                       | 9.2                  | na                       | 16.8                      | 18.2                 | na                                       | 17.4                      | 16.3                |
| Referral indicated by provider (any)  | 6.3                      | 16.1                      | 13.6                 | 6.4                      | 29.9                      | 21.1                 | 7.2                      | 14.5                      | 9.3                  | 4.7                      | 22.2                      | 16.8                 | 6.3                                      | 16.8                      | 12.6                |
| Mental health referral indicated <sup>a</sup>   | 1.9                      | 2.8                       | 11.5                 | 1.3                      | 4.7                       | 17.6                 | 1.0                      | 1.9                       | 8.3                  | 0.8                      | 2.4                       | 14.8                 | 1.6                                      | 2.6                       | 10.9                |
| Medical visit following referral <sup>b</sup>   | 94.1                     | 99.0                      | 91.6                 | 89.8                     | 92.4                      | 87.4                 | 94.8                     | 97.6                      | 97.1                 | 90.5                     | 88.8                      | 89.0                 | 94.0                                     | 97.1                      | 92.3                |
|   | Army                     |                           |                      | Navy                     |                           |                      | Air Force                |                           |                      | Marine Corps             |                           |                      | All reserve component<br>service members |                           |                     |
|   | Pre-<br>deploy<br>DD2795 | Post-<br>deploy<br>DD2796 | Reassessmt<br>DD2900 | Pre-<br>deploy<br>DD2795                 | Post-<br>deploy<br>DD2796 | Reassessn<br>DD2900 |
| Reserve component   | n=<br>42,505             | n=<br>24,581              | n=<br>5,173          | n=<br>2,679              | n=<br>2,519               | n=<br>2,414          | n=<br>14,691             | n=<br>13,903              | n=<br>12,158         | n=<br>2,240              | n=<br>1,019               | n=<br>426            | n=<br>62,115                             | n=<br>42,022              | n=<br>20,171        |
|   | %                        | %                         | %                    | %                        | %                         | %                    | %                        | %                         | %                    | %                        | %                         | %                    | %  | %                         | %                   |
| General health "fair" or "poor"   | 2.5                      | 10.4                      | 11.4                 | 0.3                      | 10.1                      | 9.1                  | 1.0                      | 4.8                       | 3.9                  | 1.6                      | 7.6                       | 8.5                  | 2.0                                      | 8.5                       | 6.5                 |
| Health concerns, not wound or injury  | 4.0                      | 20.2                      | 12.8                 | 1.9                      | 35.2                      | 10.9                 | 1.8                      | 10.5                      | 4.5                  | 2.8                      | 16.6                      | 8.5                  | 3.4                                      | 17.8                      | 7.4                 |
| Health worse now than before<br>deployed  | na                       | 70.5                      | 74.7                 | na                       | 70.9                      | 75.2                 | na                       | 66.6                      | 71.7                 | na                       | 74.6                      | 79.6                 | na                                       | 69.3                      | 73.0                |
| Exposure concerns   | na                       | 18.5                      | 19.7                 | na                       | 39.1                      | 34.9                 | na                       | 16.2                      | 9.3                  | na                       | 13.9                      | 21.4                 | na                                       | 18.9                      | 15.3                |
| PTSD symptoms (two or more)   | na                       | 6.5                       | 8.9                  | na                       | 5.9                       | 9.0                  | na                       | 2.0                       | 2.0                  | na                       | 4.8                       | 10.6                 | na                                       | 5.0                       | 4.8                 |
| Depression symptoms (any)   | na                       | 18.7                      | 19.5                 | na                       | 19.3                      | 22.1                 | na                       | 8.1                       | 6.7                  | na                       | 18.2                      | 20.0                 | na                                       | 15.2                      | 12.1                |
| Referral indicated by provider (any)  | 4.2                      | 24.1                      | 17.5                 | 4.3                      | 26.4                      | 33.7                 | 4.2                      | 15.5                      | 17.2                 | 8.6                      | 41.1                      | 31.0                 | 4.4                                      | 21.8                      | 19.5                |
| Mental health referral indicated <sup>a</sup>   | 1.0                      | 3.3                       | 12.8                 | 0.4                      | 2.5                       | 33.2                 | 0.6                      | 1.5                       | 16.7                 | 1.5                      | 2.8                       | 29.8                 | 0.9                                      | 2.6                       | 17.9                |
| Medical visit following referral <sup>b</sup><br>PTSD, post-traumatic stress disorder | 79.4                     | 98.5                      | 59.6                 | 97.2                     | 94.5                      | 56.4                 | 77.8                     | 79.9                      | 76.3                 | 98.1                     | 92.9                      | 60.3                 | 81.2                                     | 93.4                      | 68.1                |

PTSD, post-traumatic stress disorder <sup>a</sup>Includes behavioral health, combat stress and substance abuse referrals. <sup>b</sup>Record of inpatient or outpatient visit within 6 months after referral.

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