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Eleanor DiBiasio

Samantha R. Rosenthal

*Johnson & Wales University - Providence*, [Samantha.Rosenthal@jwu.edu](mailto:Samantha.Rosenthal@jwu.edu)

Melissa A. Clark

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# Correlates of Frequent Mental Distress among Active and Former Military Personnel

*Eleanor DiBiasio, Melissa A Clark and Samantha R Rosenthal*

## Abstract

**Background:** Millions of veterans living in the United States suffer from mental illness. Understanding the correlates of mental illness can help target treatment to individuals in need and prevent mental distress, leading to healthier veterans and lower healthcare costs.

**Objective:** To examine risk factors for mental illness among those who have served or currently serve in active duty military service in the U.S. armed forces.

**Methods:** Data were from the 2010 Behavioral Risk Factor Surveillance System (BRFSS). Multivariable logistic regression was used to examine the relationship between mental distress and age, race, gender, education, income, employment, time since service, marital status, number of dependent children, physical health, sleep, and emotional support among former or active duty military population.

**Results:** Almost 9% of respondents reported frequent mental distress (FMD). Those with FMD were more likely to be minorities, young, single and female. The unemployed and those in poor physical health also had greater odds of FMD.

**Conclusion:** Because individuals with physical ailments and lacking employment were most likely to report distress, physical therapy services and programs to address unemployment and poverty can have a positive impact on the mental health of veterans. Education and training programs and physical therapy offices may be excellent sites for FMD screening.

## Introduction

There are currently over 20 million veterans living in the United States<sup>1</sup> and nearly ten percent are receiving care for mental illness.<sup>2</sup> In 2007, the Department of Veteran's Affairs (VA) spent over \$3.5 billion dollars in mental health and substance abuse treatment for veterans<sup>3</sup>. That number is increasing as more veterans utilize VA mental health services.<sup>2,4</sup> Due to the wars in Iraq and Afghanistan, nearly 40% of veterans return home with mental health problems, the most common of which are post-traumatic stress disorder (PTSD) and depression<sup>5</sup>. These returning veterans add to the millions who served in the World Wars, the Korean War, Vietnam, and the Gulf War, each of which had a substantial mental health impact on its respective generation of soldiers.<sup>6</sup>

Despite the high prevalence of stress and mental illness, many veterans still battle their mental illness privately due to stigma of these conditions in the military and at home. Of veterans who meet the screening criteria for a mental health problem, only 38-45% express interest in receiving help and

only 23-40% actually obtain professional help.<sup>7</sup> Understanding the correlates of mental illness among veterans can help the Veterans Administration (VA) and other veteran support organizations target mental health treatment to individuals who need it, whether they report their needs or not.

This study examines the association between potential risk factors and mental distress among current and formerly active duty military personnel using a nationally representative sample of veterans of all ages, races, incomes and backgrounds. We define "active duty" according to the U.S. Census Bureau definition:

"Active duty military service includes full-time service, other than training, as a member of the U.S. Army, Navy, Air Force, Marine Corps, Coast Guard or as a commissioned officer of the Public Health Service or the National Oceanic and Atmospheric Administration... Active duty also applies to a person who is a cadet attending one of the five United States Military Service Academies.

Active duty applies to service in the military Reserves or National Guard only if the person has been called up for active duty, mobilized, or deployed.”<sup>8</sup>

The nationally representative sample provides a novel opportunity to determine the characteristics of veterans more likely to suffer from mental distress and to make recommendations to prevent and treat the condition.

### Methods

#### Sample

The data were from the 2010 Behavioral Risk Factor Surveillance System (BRFSS), a national telephone survey administered annually by the Centers for Disease Control and Prevention (CDC). Further information about the methods of data collection and survey administration used in the BRFSS can be found elsewhere.<sup>9</sup>

Eligibility for the study included those who had served or were currently serving in the active duty U.S. military, or in an activated unit of the Reserves or National Guard. All BRFSS respondents were asked, “Have you ever served on active duty in the United States Armed Forces, either in the regular military or in a National Guard or military reserve unit? Active duty does not include training for the Reserves or National Guard, but DOES include activation, for example, for the Persian Gulf War.” Possible responses were “yes, now on active duty;” “yes, on active duty during the past twelve months, but not now;” “yes, on active duty in the past, but not during the last 12 months;” “no, training for Reserves or National Guard only;” and “no, never served in the military.” Those who reported being currently active duty, active duty in the past year, or active duty over one year ago were included in the analytic sample. Those with invalid information (i.e., those who answered ‘don’t know/not sure,’ who refused to answer, or who had missing data) were excluded from the analytic sample, as were those who had never served in active duty forces. Also excluded was 1.9% of the eligible population with invalid information for the outcome of interest, days of poor mental health in the past month. The final analytic sample included 59,310 respondents. Henceforth the current and former active duty soldiers in the analytic sample will be referred to as “veterans.”

### Measures

#### Outcome

We used a validated Centers for Disease Control and Prevention (CDC) measure of frequent mental

distress (FMD), defined as having fourteen or more days of poor mental health in the past thirty days.<sup>10</sup> This two-week cut-off matches diagnostic tools used by clinicians to diagnose mental health problems such as anxiety and depression.<sup>11,12</sup>

Potential risk factors for FMD included demographic characteristics (age, gender, race/ethnicity, marital status, education level, income, number of dependent children, and employment), as well as risk factors identified in previous literature about veterans (time since service, physical health status, days without adequate sleep in past month, and emotional support<sup>13-16</sup>). Age was categorized into quartiles. Race/ethnicity was operationalized so that the ‘other’ group included American Indian, Alaskan Native, Pacific Islander, Asian and other small minority groups. Marital status was categorized into “never married,” “widowed,” “separated or divorced” and “married or the member of an unmarried couple.” Education was categorized as “did not finish high school,” “finished high school,” “some college,” and “finished college.” The income categories were chosen because they create four roughly equal income intervals. Because 11.0% of respondents in our analytic sample had missing information on income, we added a “missing” category to the analysis. We dichotomized respondents as employed or not employed. Homemakers, students and retirees were included as ‘employed’ because they are often voluntarily unemployed and involuntary unemployment has been shown to correlate more highly with mental illness than voluntary unemployment.<sup>17,18</sup> Finally, we categorized respondents as having either zero, one, or two or more dependent children under the age of 18 years.

Time since service, poor physical health, inadequate sleep, and lacking emotional support are all possible causes of emotional stress and psychological problems<sup>13-16</sup> and therefore were included as potential risk factors in the analysis. We created a three-category variable for time since service: currently active duty, active duty in the past twelve months, and active duty over twelve months ago.

Poor physical health was defined using the question, “for how many days during the past 30 days was your physical health not good?” Responses ranged from zero to thirty days. We then created two categories based on the validated CDC measure of frequent physical distress<sup>19</sup>: 1) no frequent physical distress (physical health not good 0-14 days) and 2) frequent physical distress (physical health not good 15 or more days).

To operationalize amount of inadequate sleep received, we used the question, “During the past 30 days, for about how many days have you felt you

did not get enough rest or sleep?" This variable was treated as continuous to compute point estimates of the average number of days without adequate sleep among those with and without frequent mental distress.

Finally, we operationalized availability of emotional support using the question, "How often do you get the social and emotional support you need?" with responses of Always, Usually, Sometimes, Rarely, or Never. We collapsed the possible responses into two categories: "Always or usually has adequate emotional support" and "sometimes, rarely or never has adequate emotional support."

### Analysis

Data were weighted to adjust for non-response and non-coverage in order to obtain U.S. population estimates and to account for the complex survey design of the 2010 BRFSS. For all potential risk factors, missing and invalid observations were excluded. For all variables except income, the number of observations with invalid information was less than 10% of the total observations in the sample. Frequencies and weighted percentages were calculated for all variables (Table 1). Bivariate analyses were computed to compare the prevalence of frequent mental distress across demographic characteristics and potential risk factors. To determine if combat exposure was specifically related to frequent mental distress, we conducted a sub-analysis (N=2,556) on the relationship between combat exposure and frequent mental distress using bivariate analysis. The smaller sample size was a result of only having data on combat exposure from respondents in two states (Nebraska and Tennessee).

Multiple logistic regression was employed to characterize the relationship between potential risk factors and frequent mental distress. We obtained crude and adjusted odds ratios of frequent mental distress for all potential risk factors (Table 2). STATA version 12 was used for all analyses.<sup>20</sup>

### Results

Overall, only 25% of the study population was under age 45, and the largest age group was those over seventy years (29%). The study sample was predominately male (92%), non-Hispanic white (78%), and married (75%). The vast majority reported completing high school or a higher level of education (96%) and almost one-third had household incomes of more than \$75,000 (32%). Ninety-three percent reported being employed and 91% served more than 12 months ago, with only 5.0% active duty at the time

of survey administration. Most had no dependent children (74%), and 86% percent reported good physical health. Respondents reported an average of 7.1 days of inadequate sleep (95% CI 7.0-7.3) in the past month, and most respondents had at least adequate emotional support in their lives (81%). It is worthwhile to note that our sample of current and former active duty personnel in this study is significantly older than the general U.S. civilian population. Moreover, our sample consisted of a higher proportion of males, had on average a lower reported income, and had more physical distress than non-active duty personnel who answered the BRFSS 2010, indicating that those with active duty experience in the U.S. have different distributions of demographic and health variables than the general population.

Almost 10% of the study sample reported experiencing frequent mental distress (FMD). As shown in Table 1, those with FMD were more likely to be African American, Hispanic, and non-Hispanic multiracial respondents. Results of the multivariable analysis of risk factors for frequent mental distress (Table 2) showed that younger adults and females had increased odds of FMD. Those who were widowed, less educated, and had lower incomes had higher odds of FMD. Those who were unemployed had three times the odds of FMD compared to those who were employed, and individuals in poor physical health had much greater odds of FMD than individuals with better physical health. Those with less than adequate sleep also experienced slightly higher odds of FMD than those reporting adequate sleep. Individuals who reported always or usually having adequate emotional support had decreased odds of FMD compared to those who reported sometimes, rarely or never having adequate emotional support.

Because not every active duty individual in the U.S. military participates in combat, we conducted a sub-analysis to determine if participating in active duty combat was related to frequent mental distress. We found no significant results in this regard ( $p=0.36$ ).

### Discussion

This study characterizes frequent mental distress among current and former active duty U.S. military personnel. Using the CDC measure of frequent mental distress (FMD), we found that almost 10% of current and former active duty soldiers have FMD. This is higher than the prevalence of FMD estimated for the general population (7.1%).<sup>21</sup> This is one of the largest studies to date of a random sample of veterans, and as a result our findings are highly generalizable.

Table 1: Characteristics\* of 2010 U.S. population of individuals who were formerly or currently active duty military

Characteristic	Frequent Mental Distress † n=5,189 (8.8%)*	No Frequent Mental Distress † n=54,121 (91.3%)*	Total N=59,310*	p-values
Age (in quartiles)				<i>p</i> <0.0001
18-45 years	788 (34)	5,463 (24)	6,251 (25)	
46-58 years	1,368 (26)	8,244 (19)	9,612 (19)	
59-69 years	1,737 (25)	17,318 (26)	19,055 (26)	
70-99 years	1,263 (15)	22,725 (31)	23,988 (29)	
Gender				<i>p</i> <0.0001
Male	4,490 (86)	50,035 (92)	54,525 (92)	
Female	699 (14)	4,086 (7.6)	4,785 (8.1)	
Race/ethnicity				<i>p</i> =0.0001
Non-Hispanic white	4,011 (73)	45,516 (79)	49,527 (78)	
Non-Hispanic black	428 (11)	3,345 (9.9)	3,773 (10)	
Hispanic	239 (8.6)	1,787 (6.3)	2,026 (6.5)	
Non-Hispanic multiracial	176 (3.1)	999 (1.8)	1,175 (1.9)	
Other	226 (4.8)	1,550 (3.2)	1,776 (3.3)	
Education level				<i>p</i> <0.0001
Did not finish high school	483 (8.0)	2,976 (4.1)	3,459 (4.5)	
Finished high school	1,641 (29)	15,632 (28)	17,273 (28)	
Some college	1,822 (39)	15,560 (31)	17,382 (32)	
Finished college	1,228 (24)	19,804 (37)	21,032 (36)	
Income level				<i>p</i> <0.0001
<\$25,000	2,107 (36)	11,076 (17)	13,183 (18)	
\$25,000-\$50,000	1,372 (25)	15,535 (26)	16,907 (26)	
\$50,000-\$75,000	577 (13)	8,640 (17)	9,217 (16)	
≥\$75,000	597 (15)	12,864 (30)	13,461 (29)	
Don't know or refused	536 (9.9)	6,006 (10)	6,542 (10)	
Employment				<i>p</i> <0.0001
Employed (or homemaker, student, retiree)	3,343 (82)	49,715 (94)	53,058 (93)	
Unemployed	483 (18)	2,182 (5.6)	2,665 (6.5)	
Marital status				<i>p</i> <0.0001
Married or member of unmarried couple	2,645 (61)	35,645 (76)	38,290 (75)	
Divorced or separated	1,421 (11)	7,967 (22)	9,388 (12)	
Widowed	648 (6.9)	6,868 (6.7)	7,516 (6.7)	
Never married	446 (9.4)	3,469 (6.3)	3,915 (6.6)	
Number of children <18 years				<i>p</i> <0.0001
0	4,232 (67)	46,924 (75)	51,156 (74)	
1	400 (10)	3,016 (9.7)	3,416 (9.8)	
2+	531 (23)	4,061 (16)	4,592 (16)	
Time since service				<i>p</i> =0.2130
Currently active duty	101 (3.8)	1,297 (5.2)	1,398 (5.0)	
Active duty past 12 months	119 (4.0)	1,242 (3.6)	1,361 (3.6)	
Active duty over 12 months ago	4,969 (92)	51,582 (91)	56,551 (91)	
Physical health status †				<i>p</i> <0.0001
No frequent physical distress	2,453 (52)	46,632 (89)	49,085 (86)	
Frequent physical distress	2,617 (48)	6,426 (11)	9,043 (14)	
Days without enough sleep in Past month? (mean in days [95%CI])	17.4 [16.8-18.0]	6.1 [5.9-6.2]	7.1 [7.0-7.3]	<i>p</i> <0.0001
Emotional support				<i>p</i> <0.0001
Sometimes, rarely or never	2,261 (43)	9,539 (16)	11,800 (19)	
Usually or always	2,567 (57)	40,951 (84)	43,518 (81)	

\*unweighted totals (weighted percentages)

€ Within each covariate, the frequencies may not add up to the total number of respondents in that category (N) because of missing and/or invalid observations, which have been excluded from the table.

† Frequent physical distress defined as >14 days poor mental health in past 30 days

‡ Frequent mental distress was defined as >14 days poor mental health in past 30 days

Table 2 – Crude and Adjusted Odds Ratios for Frequent Mental Distress<sup>†</sup> among 2010 US Currently or Formerly Active Duty Adults (N=58,906)

Demographic characteristics and risk factors	Odds of frequent mental distress	
	Crude OR (95% CI <sup>‡</sup> )	Adjusted OR (95% CI <sup>‡</sup> )
Age (in quartiles)		
18-45 years	1.00 (ref)	1.00 (ref)
46-58 years	1.00 (0.84-1.18)	0.79 (0.62-1.02)
59-69 years	0.68 (0.58-0.80)	0.69 (0.53-0.91)
70-99 years	0.36 (0.31-0.43)	0.38 (0.27-0.52)
Gender		
Male	0.52 (0.44-0.62)	0.56 (0.44-0.71)
Female	1.00 (ref)	1.00 (ref)
Race/ethnicity		
Non-Hispanic white	1.00 (ref)	1.00 (ref)
Non-Hispanic black	1.21 (1.00-1.46)	0.76 (0.57-1.01)
Hispanic	1.48 (1.10-2.00)	0.99 (0.63-1.54)
Non-Hispanic multi	1.85 (1.40-2.45)	0.80 (0.53-1.20)
Other	1.63 (1.16-2.30)	0.81 (0.47-1.42)
Income level		
<\$25,000	4.41 (3.70-5.25)	1.83 (1.43-2.35)
<\$50,000	1.95 (1.63-2.34)	1.57 (1.24-1.99)
<\$75,000	1.56 (1.28-1.91)	1.42 (1.11-1.80)
≥\$75,000	1.00 (ref)	1.00 (ref)
Don't know or refused	1.93 (1.54-2.41)	1.53 (1.16-2.03)
Employment		
Employed (or homemaker, student, retiree)	1.00 (ref)	1.00 (ref)
Unemployed	3.68 (2.92-4.64)	2.19 (1.69-2.85)
Education level		
Did not finish high school	3.06 (2.43-3.85)	1.15 (0.87-1.51)
Finished high school	1.67 (1.43-1.95)	0.89 (0.73-1.09)
Some college	1.99 (1.73-2.29)	1.23 (1.02-1.48)
Finished college	1.00 (ref)	1.00 (ref)
Time since service		
Currently active duty	0.73 (0.51-1.04)	0.73 (0.45-1.19)
Active duty past 12 months	1.11 (0.75-1.64)	0.77 (0.51-1.19)
Active duty over 12 months ago	1.00 (ref)	1.00 (ref)
Marital status		
Married or member of unmarried couple	0.54 (0.44-0.66)	0.97 (0.72-1.33)
Divorced or separated	1.35 (1.06-1.73)	1.24 (0.87-1.78)
Widowed	0.68 (0.54-0.87)	1.51 (1.06-2.15)
Never married	1.00 (ref)	1.00 (ref)
Number of children <18 years		
0	1.00 (ref)	1.00 (ref)
1	1.14 (0.95-1.36)	0.86 (0.66-1.13)
2+	1.59 (1.32-1.92)	1.14 (0.86-1.52)
Physical health status <sup>†</sup>		
No frequent physical distress	1.00 (ref)	1.00 (ref)
Frequent physical distress	7.69 (6.81-8.68)	4.71 (3.95-5.62)
Days without enough sleep in Past month? (mean in days [95%CI])	1.09 [1.08-1.09]	1.07 [1.06-1.07]
Emotional support		
sometimes, rarely or never has adequate emotional support	1.00 (ref)	1.00 (ref)
always or usually has adequate emotional support	0.26 (0.23-0.30)	0.38 (0.32-0.45)

<sup>†</sup>Frequent mental distress defined as reporting poor mental health on 14 or more days out of the past 30 days

<sup>‡</sup>CI = confidence interval

<sup>§</sup>Frequent physical distress defined as reporting poor physical health on 14 or more days out of the past 30 days.



Current and former active duty soldiers with FMD are primarily of low income, limited education, and high unemployment. This is not a surprising finding, as it is well established that low socioeconomic status is associated with high psychiatric morbidity.<sup>22</sup> Improving education is one way to improve socioeconomic status because individuals who earn a post-secondary degree experience greater financial rewards than those who do not attend post-secondary school.<sup>23</sup> Studies of the post-World-War-II GI bills clearly established that lowering tuition costs for veterans substantially increased enrollment in post-secondary education.<sup>24-25</sup> Therefore, programs that increase veterans' education have the potential to reduce poverty, especially since young adults from economically disadvantaged families are more likely than others to enroll in the military.<sup>26</sup> We recommend an increase in programs to assist veterans in obtaining higher education, especially scholarship programs that reduce the cost of attending college for those who cannot afford it. This will have a positive impact on education, income and employment, which were three important risk factors for FMD in this study. For veterans who lack the qualifications or desire for post-secondary education, employment and economic security can still be promoted with workforce re-entry and job training programs.

Younger veterans were also more likely to have FMD, even after controlling for time since service. Seal and colleagues found similar results in their analyses of Iraq and Afghanistan veterans,<sup>5, 27</sup> and suggest that due to their lower military ranks, younger veterans may have greater combat exposure leading to poor mental health outcomes. Because there is evidence that stress, such as that of combat or more generally being of lower rank, can have lifelong effects on mental health,<sup>28</sup> screening and treating our youngest veterans for FMD early may help prevent chronic, lifelong mental health problems.

In our sample, females in active duty service were particularly likely to suffer from FMD. This finding is consistent with other military research.<sup>29-31</sup> Females may be particularly at risk due to the high prevalence of sexual assault against women in the U.S. military,<sup>32</sup> as well as marginalization by other service members.<sup>33</sup> Moreover, females have about twice the risk for depression and anxiety disorders compared to males, regardless of military service history.<sup>34</sup> Male underreporting of mental health symptoms due to a culture of stigma may also at least partially explain the gender differences we observed.<sup>35</sup> As with young veterans, timely screening and treatment can prevent long-term psychological problems for females in the military. In addition, efforts to increase reporting of mental health

symptoms among males may be helpful in reaching men who otherwise feel stigmatized. One way to increase reporting among men is to train primary care physicians to screen for symptoms that present more often in men than women--including irritability and risk-taking--when screening for depression.<sup>36</sup>

Systems to ensure emotional support for veterans returning home may also be a key method of mental illness reduction in this population. We found that having adequate emotional support was associated with lower odds of FMD. This confirms the already well-established connection between social support and mental health.<sup>37</sup> There are many evidence-based social support interventions to improve mental health,<sup>38-40</sup> including support groups, one-to-one interventions, and interventions to enhance natural networks. We recommend establishing strong support programs for service members, especially for those who are widowed.

Compared to those without FMD, rates of frequent physical distress and the number of days without sleep were higher among those with FMD. This finding is consistent with literature reporting a connection between physical health and mental wellbeing.<sup>41-45</sup> Physical therapy and pain management programs have been shown to improve depressive symptoms for individuals in chronic pain.<sup>46</sup> Physical distress was the risk factor most strongly associated with FMD in our results, therefore it is especially important that veterans have access to services addressing this issue. In addition to reducing FMD by alleviating disability and pain, these programs present a prime opportunity for mental health screenings and treatment referrals that may help veterans address other factors leading to their mental distress. Since our results show that those with frequent physical distress had over four times the odds of reporting frequent mental distress, screening for mental distress in physical therapy programs may be an effective way to identify veterans who may be experiencing FMD and refer them to appropriate services. Our finding that inadequate sleep and FMD are correlated is not particularly surprising, since FMD serves as a proxy for several mental disorders with symptoms that include sleep disturbance, including depression and PTSD.<sup>10, 47</sup> It is therefore difficult to determine if FMD is a cause of sleep disturbance or a result. Although our data did not allow us to examine cause-and-effect relationships, future studies should question whether, in some veterans, sleeping difficulties are resulting in preventable FMD.

In sum, education and training programs, job fairs, and physical therapy offices would be excellent sites to screen for mental distress in veteran populations,

provide information on mental health services, and refer individuals who may be suffering to appropriate services. Our results show that individuals who are likely to take advantage of employment training and physical therapy are also the individuals at highest risk for FMD. The staff that is performing the screenings should be trained to pay special attention to younger veterans and females, as they have higher odds of FMD. Another group with higher likelihood of mental distress is those who lack emotional support. These individuals may be harder to reach because they are less likely to be involved in programs and services for veterans, but are still likely to utilize basic services such as primary care or physical therapy. Future research should determine how best to reach veterans who may be socially isolated.

Our study has several limitations. First, our analyses are based on self-report data. Studies have shown that military personnel are less likely to report mental illness than the non-military population due to a culture of stigma.<sup>48</sup> The anonymous nature of the BRFSS may have somewhat mitigated the effect of stigma, but the true prevalence of mental distress in this population may be underestimated by our study. The self-reported nature of the BRFSS also limited our ability to study the physical health status of participants. There are clear limitations to the variable used to measure frequent physical distress because “good physical health” is a subjective term. However, we dichotomized this variable in a way that has been validated by CDC. Next, our data were cross-sectional. We cannot assume that any covariates in the final model have a causal relationship with frequent mental distress in the current and former active duty population. For example, poor physical health is likely to be highly correlated with poor mental health, so the relationships observed could be due to reverse causation or residual confounding. In addition, the BRFSS is inherently limited by low response rates, which is an indicator of potential bias in the data collected. For the 2010 BRFSS, the median response rate was between 35.8% (if unknown records are assumed eligible) and 54.60% (49). However, these rates are slightly higher than other years of the BRFSS,<sup>50-52</sup> and regardless of its low response rate the BRFSS is considered one of few available large, nationally representative surveys (53). Our analysis was also limited by the variables available for analysis in the BRFSS. There may be other risk factors for FMD among active and former service members that we did not include, such as housing insecurity or living with an income below the federal poverty level. Moreover, time since

service and age are highly related ( $p < 0.001$  in chi squared), so there is likely some collinearity in our model. Therefore it is difficult to determine if younger age is a risk factor for FMD or if age acts as a proxy for time since active duty service. Further studies should determine if the association we observed between age and FMD is due primarily to vulnerability of youth or recency of combat. Next, the sampling methods of the BRFSS are limited to those with telephones. Therefore, those who are homeless, institutionalized, or who have fragile living situations are more likely to have been excluded from our sample. Finally, our sub-analysis results found that exposure to combat was not significantly related to FMD, however we were not able to analyze this relationship in our entire sample. Our sub-analysis sample size ( $n=2,556$ ) was limited by the fact that only two states, Nebraska and Tennessee reported information about combat exposure in the 2010 BRFSS. This finding is supported by recent literature, which finds that suicide rates among U.S. military personnel are independent of combat exposure.<sup>54</sup> However, there is potential of residual confounding by combat exposure in the final adjusted model of the full sample.

### Conclusion

Active duty military experience increases the risk that individuals will experience psychiatric distress.<sup>55-56</sup> Thus, we have a responsibility to give the best standard of care for these individuals. Our findings show that poor physical health, unemployment, low income/education, and a lack of emotional support are all associated with frequent mental distress in this population. Based on these results, we recommend that mental health resources in the Department of Veterans Affairs (VA) system be primarily targeted toward early and accurate mental health screenings, physical therapy and pain management, emotional support structures, and programs to address unemployment and poverty. It may be particularly important that younger veterans and female veterans receive these services. Future studies should examine these relationships to determine causality.

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*Author: Eleanor DiBiasio\*, Samantha R Rosenthal\*\*, Melissa A Clark, PhD\*\**

*\*School of Public Health, Brown University, Providence, Rhode Island. \*\*Center for Population Health and Clinical Epidemiology, Department of Epidemiology, School of Public Health, Brown University, Providence, Rhode Island.  
Sole and Corresponding author: Eleanor DiBiasio email: eleanor\_lyn\_dibiasio@brown.edu*



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