

Executive Summary: Health Impact Review of SB 5525

Concerning Veterans' Mental Health Services at Institutions of Higher Education

(2017-2018 Legislative Session)

Evidence indicates that SB 5525 has the potential to increase access to and use of mental health services at institutions of higher education for student, faculty, and staff veterans, as well as their spouses and dependents which in turn has the potential to improve mental health outcomes and decrease mental health disparities.

BILL INFORMATION

Sponsors: Senators Wilson, Palumbo, Cleveland, Baumgartner, Zeiger, O'Ban, Lias, Frockt, Schoesler, Hobbs, Kuderer, Conway, Bailey

Summary of Bill:

- Requires all four-year public institutions of higher education to hire at least one full-time mental health counselor who has experience working with active members of the military or military veterans to work with student, faculty, and staff veterans, as well as their spouses and dependents.

HEALTH IMPACT REVIEW

Summary of Findings:

This review assumes that if the four-year public institutions of higher education in Washington employ at least one full-time mental health counselor with experience working with active members of the military or military veterans that this would increase access to and use of mental health services for student, faculty, and staff veterans, as well as their spouses and dependents. This informed assumption is based on discussions with staff from the veterans resource centers at each of the potentially impacted schools and their knowledge of the current needs of their student, staff, and faculty veterans. The assumption is also based on evidence regarding current barriers to accessing services for veterans.

This Health Impact Review found the following evidence regarding the provisions in SB 5525:

- Very strong evidence that increased access to and utilization of mental health services would likely improve mental health outcomes for student, faculty, and staff veterans, as well as their spouses and dependents.
- Very strong evidence that improved mental health outcomes for student, faculty, and staff veterans as well as their spouses and dependents would likely decrease health disparities.

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Health Impact Review of SB 5525

**Concerning Veterans' Mental Health Services at Institutions of Higher Education
(2017-2018 Legislative Session)**

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Acknowledgement

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Introduction and Methods

A Health Impact Review is an analysis of how a proposed legislative or budgetary change will likely impact health and health disparities in Washington state ([RCW 43.20.285](#)). For the purpose of this review ‘health disparities’ have been defined as the differences in disease, death, and other adverse health conditions that exist between populations ([RCW 43.20.270](#)). This document provides summaries of the evidence analyzed by State Board of Health staff during the Health Impact Review of Senate Bill 5525 ([SB 5525](#)) from the 2017-2018 legislative session.

Staff analyzed the content of SB 5525 and created a logic model depicting possible pathways leading from the provisions of the bill to health outcomes. We consulted with experts and stakeholders to better understand the potential impact of this bill. State Board of Health staff can be contacted for more information on which stakeholders were consulted on this review We conducted objective reviews of the literature for each pathway using databases including PubMed and Google Scholar.

The following pages provide a detailed analysis of the bill including the logic model, summaries of evidence, and annotated references. The logic model is presented both in text and through a flowchart (Figure 1). The logic model includes information on the strength of the evidence for each relationship. The strength-of-evidence has been defined using the following criteria:

- **Not well researched:** the literature review yielded few if any studies or only yielded studies that were poorly designed or executed or had high risk of bias.
- **A fair amount of evidence:** the literature review yielded several studies supporting the association, but a large body of evidence was not established; or the review yielded a large body of evidence but findings were inconsistent with only a slightly larger percent of the studies supporting the association; or the research did not incorporate the most robust study designs or execution or had a higher than average risk of bias.
- **Strong evidence:** the literature review yielded a large body of evidence on the relationship (a vast majority of which supported the association) but the body of evidence did contain some contradictory findings or studies that did not incorporate the most robust study designs or execution or had a higher than average risk of bias; or there were too few studies to reach the rigor of ‘very strong evidence’; or some combination of these.
- **Very strong evidence:** the literature review yielded a very large body of robust evidence supporting the association with few if any contradictory findings. The evidence indicates that the scientific community largely accepts the existence of the association.

This review was subject to time constraints, which influenced the scope of work for this review. The annotated references are only a representation of the evidence and provide examples of current research. In some cases only a few review articles or meta-analyses are referenced. One article may cite or provide analysis of dozens of other articles. Therefore the number of references included in the bibliography does not necessarily reflect the strength-of-evidence. In addition, some articles provide evidence for more than one research question so they are referenced multiple times.

Analysis of SB 5525 and the Scientific Evidence

Summary of SB 5525

- Requires all four-year public institutions of higher education to hire at least one full-time mental health counselor who has experience working with active members of the military or military veterans to work with student, faculty, and staff veterans, as well as their spouses and dependents.

Health impact of SB 5525

Evidence indicates that SB 5525 has the potential to increase access to and use of mental health services at institutions of higher education for student, faculty, and staff veterans, as well as their spouses and dependents which in turn has the potential to improve mental health outcomes and decrease mental health disparities.

Pathways to health impacts

The potential pathways leading from the provisions of SB 5525 to decreased health disparities are depicted in Figure 1. We have assumed that if the four-year public institutions of higher education in Washington employ at least one full-time mental health counselor with experience working with active members of the military or military veterans that this would increase access to and utilization of mental health services for student, faculty, and staff veterans, as well as their spouses and dependents. This assumption is based on discussions with staff from the veterans resource centers at each of the potentially impacted schools and their knowledge of the current needs of their student, staff, and faculty veterans. The assumption is also based on evidence regarding current barriers to accessing services for veterans. There is very strong evidence that increased access to and use of mental health services, such as treatment for major depressive disorder, would likely improve mental health outcomes for student, faculty, and staff veterans, as well as their spouses and dependents.^{1,2} Further, there is very strong evidence that improved mental health outcomes for student, faculty, and staff veterans as well as their spouses and dependents would likely decrease mental health disparities among these veteran populations and their dependents.³⁻¹⁵

Due to time limitations we only researched the most direct connections between the provisions of the bill and decreased health disparities and did not explore the evidence for all possible pathways. For example, potential pathways that were not researched include:

- Evidence for how access to mental health services for student veterans impacts academic performance.

Magnitude of impact

There are six institutions of higher education in Washington that would be impacted by this legislation: University of Washington, Washington State University, Eastern Washington University, Western Washington University, Central Washington University, and The Evergreen State College. Each of these institutions has an established veterans resource center and it is estimated that there are between 3246 and 3887 veteran students in total between these schools (personal communication, February 2017). There are another 3054 to 3,270 dependents of veterans that use the veterans resource centers across the six institutions. These dependents are

most likely students affiliated with one of the institutions that have self-reported as a dependent of a veteran, not necessarily a dependent of a student, faculty, or staff veteran. Given that the number of dependents reported is limited to the number of dependents who currently access services at the veterans resource center, it is likely an underestimate of the actual number of spouses and dependents that would likely be impacted by this bill. Further, faculty and staff are not required to disclose their veteran status so it is unclear how many faculty and staff veterans would be impacted.

Logic Model

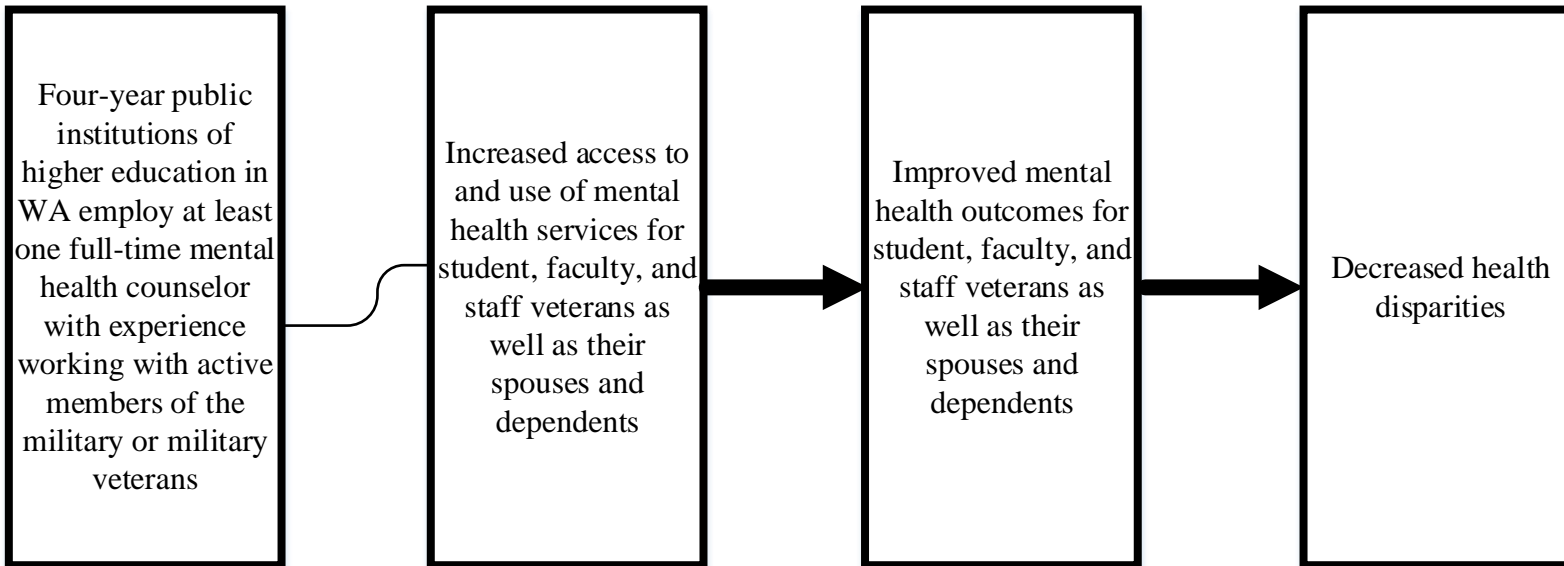
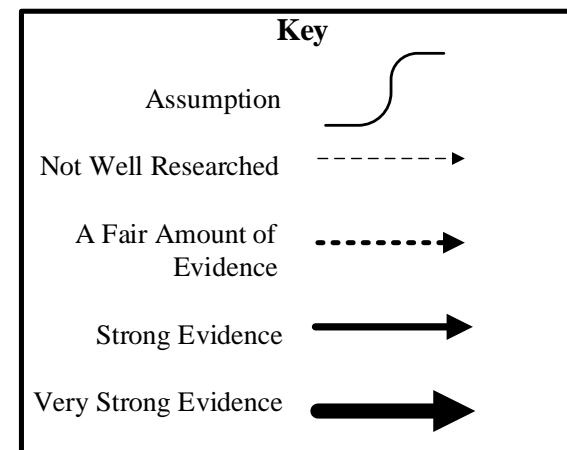


Figure 1
Relating to Veterans' Mental Health Services at Institutions of Higher Education
HB 5525



Summaries of Findings

Will employing at least one full-time mental health counselor with experience working with active members of the military or military veterans at all four-year public institutions of higher education in Washington increase access to and use of mental health services by student, faculty, and staff veterans, as well as their spouses and dependents?

We have made the assumption that if the four-year public institutions of higher education in Washington employ at least one full-time mental health counselor with experience working with active members of the military or military veterans that this will increase access to and use of mental health services for student, faculty, and staff veterans, as well as their spouses and dependents. It is not clear if other states have implemented this kind of model for increasing access to services for veterans and their families, therefore literature and data on this topic are not currently available. The assumption made here is based on discussions with staff from the veteran's resource centers at each of the potentially impacted schools and their knowledge of the current needs of their student, staff, and faculty veterans. Staff from the veterans center at each of the six four-year public institutions indicated that if there were a mental health counselor on campus, their counseling services would be greatly used (personal communication, February 2017). A number of staff mentioned that other services that are currently available are at full capacity and that the addition of a full-time mental health counselor would be beneficial. One study of student veterans in the United States found that a large majority of student veterans reported using on-campus services including the Veterans Affairs office (82%), office of financial aid (76%), and on-campus student health services (34%). However, only 14% of respondents reported using the counseling center but of those who did, the majority reported benefits and positive experiences from using this service.⁹ These findings indicate that students are already using their school's veterans resource center and the addition of a mental health counselor to these centers may improve access to and utilizations of services for this population.

Currently, there are a number of barriers that prevent veterans from accessing mental health care including long wait times, shortage of health care providers, social barriers, and requirements from the Department of Veterans Affairs (VA).³ The VA requirements make up an eight level tiered priority system that is set up to, "...ration care because of limited budgets and capacity."³ The article goes on to explain that, "[t]hree of the eight tiers include an income eligibility requirement. Top priority goes to veterans with 50% or more disability or those who are unemployable as a result of their disability. The second tier includes those with 30% to 40% disability. Former prisoners of war and medal winners are grouped in the third tier. Veterans in lower priority tiers may not be able to access care or may face copays for many types of care services."³ According to a VA audit, the number one barrier to timely access to care for veterans is a lack of provider appointment slots, which may be attributed to a shortage of doctors in the VA and a growing veteran population.³ In addition, for students, faculty, and staff at a four-year institution, the nearest VA facility may not be close to the school thus making access even more difficult. Given these barriers, a community-based model of care, such as incorporating a full-time mental health counselor into a school's veteran resource center, may be a way to overcome issues of access to and use of mental health services for staff, student, and faculty veterans as well as their spouses and dependents.¹⁰

Will increased access to and use of mental health services improve mental health outcomes for student, faculty, and staff veterans, as well as their spouses and dependents?

There is very strong evidence that increased access to and use of mental health services would likely improve mental health outcomes for student, faculty, and staff veterans, as well as their spouses and dependents. There is a large body of evidence supporting the positive association between using health services for the early detection and treatment of mental health disorders² and improved health outcomes. There is strong consensus in the scientific literature supporting this association, therefore we are providing only one example here. A large systematic review published by the Agency for Healthcare Research and sponsored by the Department of Defense and the Department of Veterans Affairs, which included 1,042 full-length articles, provides a set of guidelines regarding major depressive disorder (MDD).¹ One of the recommendations in these guidelines under the treatment heading is, "[w]e recommend that patients with complex MDD (severe, chronic or recurrent) be offered specialty care by providers with mental health expertise in order to ensure better outcomes and effective delivery of evidence-based treatment strategies."¹ This recommendation is then discussed in further detail and the relevant literature is cited with the findings that patients who were referred to mental health care settings with behavioral health specialists had significantly better outcomes than those who remained in an integrated primary care setting.¹ Other guidelines put forth by the Department of Defense and the Department of Veterans Affairs can be found online and include, for example, guidelines for the management of concussion-mild traumatic brain injury and guidelines for the assessment and management of patients at risk for suicide. Note that this does not indicate that all treatments are effective, but rather than there is a very large body of evidence supporting that evidence-based treatments are available.

Will improved mental health outcomes for student, faculty, and staff veterans as well as their spouses and dependents decrease health disparities?

There is very strong evidence that improved mental health outcomes for student, faculty, and staff veterans as well as their spouses and dependents would likely decrease health disparities. A large body of evidence demonstrates a high burden of mental health issues among veterans in the United States. For example, one article summarizes the literature in stating that, "[v]eterans have disproportionate rates of mental illness, particularly posttraumatic stress disorder (PTSD), substance abuse disorders, depression, anxiety, and military sexual trauma. Nearly 50% of combat veterans from Iraq report that they have suffered from PTSD, and close to 40% of these same veterans report 'problem alcohol use'...Studies indicate that 56% to 87% of service members experiencing psychological distress after deployment report that they did not receive psychological help."³ Evidence also indicates that military families, including children, experience a number of stressors related to the demands of deployment. Studies have examined the impact of deployment on spouses and families of military members and have demonstrated an increased risk of negative health effects such as stress, anxiety, depression, and behavioral problems and suicidal ideation among children and adolescents.^{11,14} Further, one study found that veterans who lived in rural settings had significantly lower health-related quality-of-life scores compared to veterans who lived in urban or suburban settings.¹⁵ These differences persisted even after controlling for additional factors such as gender, employment status, age, comorbidities, priority level, and US census region.¹⁵

Looking specifically at outcomes among students, a number of studies noted a higher risk of self-harm, PTSD, and depression for student veterans compared to their civilian counterparts.^{4,7,12,13} One study also found that those student service members/veterans (SSM/V) who identify as lesbian, gay, or unsure exhibit significantly greater rates of outcomes such as feeling hopeless or exhausted, overwhelming anxiety, and personal stressors compared to nonmilitary students.⁴ Further, for SSM/V, binge drinking was positively correlated with symptoms such as depression, anxiety, and PTSD.^{5,6} This association was not seen among civilian students.⁵ Therefore, improving mental health outcomes for student, faculty, and staff veterans, as well as their spouses and dependents, would likely decrease mental health disparities among this population.

Annotated References

1. **Agency for Healthcare Research and Quality: National Guideline Clearinghouse. Department of Veterans' Affairs/Department of Defense Clinical Practice Guideline for the Management of Major Depressive Disorder. 2016; <https://www.guideline.gov/summaries/summary/50325>. Accessed February 21 2017.**

The National Guideline Clearinghouse is a publicly available database produced by the Agency for Healthcare Research and Quality in partnership with the American Medical Association and the American Association of Health Plans Foundation. The database contains evidence-based clinical practice guidelines for a wide range of topics that all meet a specific set of criteria for inclusion. This particular guideline from the Department of Defense and the Department of Veterans Affairs includes a number of recommendations that are organized into five sections: identification, assessment and triage, treatment setting, management, and other treatment considerations. Each recommendation is given a strength rating based on the balance of potential desirable versus undesirable outcomes. The basis for this guideline regarding major depressive disorder (MDD) is based on a literature review that included 1,042 full-length articles. For example, one of the recommendations under treatment is, "We recommend that patients with complex MDD (severe, chronic or recurrent) be offered specialty care by providers with mental health expertise in order to ensure better outcomes and effective delivery of evidence-based treatment strategies." This recommendation is then discussed in further detail and the relevant literature is cited with the findings that patients who were referred to mental health care settings with behavioral health specialists had significantly better outcomes than those who remained in an integrated primary care setting.

2. **American Psychological Association. Evidence-Based Practice in Psychology: APA Presidential Task Force on Evidence-Based Practice. May-Jun 2006;61(4):271-285.**

The American Psychological Association (APA) created a policy indicating that the evidence-base for a psychological intervention should be evaluated using both efficacy and clinical utility as criteria. The Association President appointed the APA Presidential Task Force on Evidence-Based Practice and the task force published this document with the primary intent of describing psychology's commitment to evidence-based psychological practices. This document, though, also references many research articles providing evidence for the efficacy of a number of psychological treatments and interventions. The reference list for this document highlights the growing body of evidence of treatment efficacy from the 1970s through 2006. Note that this does not indicate that all treatments are effective, but rather than there is a very large body of evidence supporting that evidence-based treatments are available.

3. **American Public Health Association. Removing Barriers to Mental Health Services for Veterans (Policy Statement Number 201411). 2014; <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2015/01/28/14/51/removing-barriers-to-mental-health-services-for-veterans>.**

In this policy statement by the American Public Health Association (APHA), APHA presents an overview of the issue of mental illness among veterans in the United States and presents recommendations to improving access to mental health care in this population. The article begins by presenting a problem statement and evidence from the literature. For example, the authors

state that, "[v]eterans have disproportionate rates of mental illness, particularly posttraumatic stress disorder (PTSD), substance abuse disorders, depression, anxiety, and military sexual trauma. Nearly 50% of combat veterans from Iraq report that they have suffered from PTSD, and close to 40% of these same veterans report 'problem alcohol use'...Studies indicate that 56% to 87% of service members experiencing psychological distress after deployment report that they did not receive psychological help." There are a number of barriers that prevent veterans from accessing care including long wait times, shortage of health care providers, social barriers, and requirements from the Department of Veterans Affairs (VA). According to a VA audit, the number one barrier to timely access to care for veterans is a lack of provider appointment slots, which may be attributed to a shortage of doctors in the VA and a growing veteran population. A number of action steps are recommended at the end of the policy statement including one that is most relevant to this review: "In cases in which VA services are not able to meet demands for care, services should be made available through licensed mental health providers external to the agency..."

4. Barry A. E. Student service members/veterans participating in higher education: What we know to date. *Journal of American College Health*. 2015;63(7):415-417.

In this special issue, Barry presents an overview of what is known about student service members/veterans (SSM/V) participating in higher education. It is estimated that 1 out of every 3 persons deployed in support of Operation Enduring Freedom and Operation Iraqi Freedom will experience a traumatic brain injury, posttraumatic stress disorder, or a major depressive episode. These kinds of mental health issues, including generalized anxiety, have been shown to have a direct negative effect on the academic adjustment of these students. When comparing outcomes of SSM/V and their civilian counterparts, SSM/V exhibit a higher likelihood of self-harm and those SSM/V who identify as lesbian, gay, or unsure exhibit significantly greater rates of outcomes such as feeling hopeless or exhausted, overwhelming anxiety, and personal stressors. The author concludes that at a minimum, "...providers in the primary care setting and counseling centers on campus screen for the presence of mental health conditions among SSM/V and be trained and ready to employ best practices in the treatment of mental health conditions, such as depression, anxiety, and posttraumatic stress, and able to refer to and coordinate with other mental health professionals in Veterans Administration primary care settings."

5. Barry Adam E., Whiteman Shawn, Wadsworth Shelley Macdermid, et al. The alcohol use and associated mental health problems of student service members/veterans in higher education. *Drugs: Education, Prevention and Policy*. 2012;19(5):415-425.

Using a sample of student service members/veterans (SSM/V) and civilian students attending institutions of higher education in the Midwest, Barry et al. examined whether SSM/V drink more frequently or in higher quantities than their non-service peers and whether the links between drinking and health-related outcomes are different for these two populations. The total study sample included 145 SSM/V and 136 civilian students. The results from the analysis demonstrated that there was no difference between students in terms of their frequency of drinking in the past year or binge drinking. For SSM/V, binge drinking was positively correlated with symptoms such as depression, anxiety, and posttraumatic stress disorder. This association was not seen among civilian students. The authors conclude that given these results, it is important for colleges and universities to undertake deliberate and significant efforts to assess the health of

SSM/V on campus and provide services that will allow them to effectively transition from military life to college life.

6. Barry Adam E., Whiteman Shawn D., MacDermid Wadsworth Shelley. Student service members/veterans in higher education: A systematic review. *Journal of Student Affairs Research and Practice*. 2014;51(1).

This systematic review by Barry et al. includes 13 empirical investigations that examined outcomes among student service members/veterans (SSM/V) in institutions of higher education. Looking at only the most relevant findings, a number of studies looked at the association between alcohol use and mental health-related outcomes and found that compared to civilian students, binge drinking among SSM/V was positively associated with problem drinking, psycho-somatic symptoms, and posttraumatic stress disorder (PTSD). One study also noted that symptoms of PTSD among student service members was predicted by documented combat exposure but social support predicted fewer symptoms. Further research has examined health-risk behaviors among SSM/V compared to their civilian peers and has shown that SSM/V are more likely to behave in ways that are risky to their health. For example, "...when compared to civilian peers and non-Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) veterans, OEF/OIF veterans (n = 406) were more likely to use smokeless tobacco, have been in a physical fight, ridden a motorcycle, and carried a weapon within the past year." Given these differences, the authors conclude that institutions of higher education need to be prepared to meet the unique health needs of their SSM/V population and the data presented within should serve as a call to action for policy makers and practitioners alike.

7. Blossnich J. R., Kopacz M. S., McCarten J., et al. Mental health and self-directed violence among student service members/veterans in postsecondary education. *Journal of American College Health*. 2015;63(7):418-426.

This study used the Fall 2011 National College Health Assessment to examine the prevalence of psychiatric diagnoses and suicide-related outcomes among a sample of student service members/veterans (SSM/V). The study sample included 27,774 respondents from 44 institutions of higher education and of these, 706 (or 2.6%) identified as service members/veterans. Compared to their civilian counterparts, a significantly higher proportion of SSM/V reported a psychiatric diagnosis (20.4% vs. 27.0%) but these two populations did not significantly differ in terms of crude prevalence of suicidal ideation, suicide attempt, or self-harm. However, after adjusting for covariates and demographic characteristics, there was no difference between SSM/V and students without military service in terms of psychiatric diagnosis, suicidal ideation, or suicide attempt. There was a significantly increased odds of self-harm among SSM/V compared to other students after adjusting. The authors recommend that college campuses need to focus outreach initiatives on the mental health needs of SSM/V and help them to identify appropriate services.

8. Bonar E. E., Bohnert K. M., Walters H. M., et al. Student and nonstudent national guard service members/veterans and their use of services for mental health symptoms. *Journal of American College Health*. 2015;63(7):437-446.

This study by Bonar et al. utilized data from 1,449 National Guard service members/veterans (SM/V) who were attending a university in the midwestern United States with the objective of

comparing mental health symptoms and utilization of services among student and nonstudent SM/Vs. Surveys were administered approximately 6 months after individuals returned from deployment between October 2011 and July 2013. Participants completed a number of surveys that assessed student status, patient health, mental health service utilization, perceived stigma and barriers to accessing care and screening for generalized anxiety disorder, posttraumatic stress disorder (PTSD), and alcohol use disorder. Among those SM/Vs who screened positive for any of the mental health symptoms, both students and nonstudents had low levels of mental health service utilization (not statistically significantly different). Particularly among students, perceived barriers to care included concerns about treatment being documented in their military records (43%), embarrassment (31%), difficulty scheduling appointments (26.8%), and fear that it would harm their career (29%).

9. Cate Chris. *Student Veterans' College Experiences: Demographic Comparisons, Differences in Academic Experiences, and On Campus Service Utilization, University of California, Santa Barbara; 2011.*

Cate compared student veterans with similar populations to determine the effects of student veterans' experience on academic performance, college experience, and use of on-site services. Data was collected through surveys that were sent out to members of Student Veterans for America (SVA). Included in the survey data were measures for PTSD (using the Los Angeles Symptom Checklist), measures for deployment-related health factors (using the Deployment Risk and Reliance Inventory), and measures for health and well-being (using the Patient Health Questionnaire). The author compared student veterans' age, marital status, and race/ethnicity with those of traditional college students and with those currently in the military. Results confirm that student veterans' demographics more likely represent the average college student than demographics of those receiving benefits from the Department of Veterans Affairs (DVA); this included a greater proportion of Hispanic veterans attending college than are listed as receiving benefits from the DVA, 11.4% and 5.9%, respectively, and a smaller proportion of African American veterans attending college than are listed as receiving benefits from the DVA, 3.8% and 11.4%, respectively. The results from the academic demographics of the sample show that the majority of student veterans transferred from a 2-year college (57.5%); the main reason for this being relocation for personal reasons and relocation due to military assignment. Nearly three quarters (72.6%) of the sample were undergraduate students. Nearly 86% of the sample reported that their overall health was good to excellent; however, nearly 36% reported being diagnosed with at least one mental health diagnosis. A large majority of student veterans reported using on-campus services including the Veteran's Affairs Office (82%), Financial Aid (76%), and on-campus student health services (34%). Only 14% of respondents reported using the counseling center; however, a majority of those student veterans' reported benefits and positive experiences from using this service. This present study provides evidence that student veterans significantly differ from traditional students and the author suggests that post-secondary schools should be cautious about combining all students into the same category when considering on-campus services.

10. Currier J. M., McDermott R. C., Sims B. M. *Patterns of help-seeking in a national sample of student veterans: a matched control group investigation. General hospital psychiatry. Nov - Dec 2016;43:58-62.*

Currier, McDermott, and Sims investigated the methods that student veterans seek-help for mental health-related concerns. They matched 945 veterans to 2835 nonveterans students from 57 institutions of higher education using data from the Health Mind Study (HMS) out of the University of Michigan School of Public Health between 2011 and 2015. The authors selected veterans who had completed assessments of help-seeking and then matched them by gender, age, and race to nonveteran students. After analysis, researchers found that both groups seek professional help from clinicians at comparable rates; however, veteran students were more likely to seek help from a religious counselor than their nonveterans counterparts. Both groups were more likely to seek help from nontraditional sources. While about 21% of veteran students expressed moderately severe levels of depression, there was a 1:2 ratio of help-seekers to help-rejecters. The authors conclude that these findings represent a real need for community-based models of mental healthcare for student veterans.

11. Green S., Nurius P. S., Lester P. Spouse psychological well-being: A keystone to military family health. *Journal Of Human Behavior In The Social Environment*. Jan 01 2013;23(6).

In this article by Green et al. the authors aimed to understand the predictors of military spouse psychosocial vulnerability in a sample of female civilian spouses. The sample population consisted of 171 families with an active duty Army and Marine Corps parent from two West Coast, United States military bases. Study interviewers obtained information about deployment factors, socioeconomic resources, social support, psychological health, and family strain, stressors, and environment. The authors found that military spouses who were at greatest risk for psychological distress were more likely to report low levels of social support. Further, family stressors, strain, and resources were all predictive of psychological health even after controlling for deployment and socioeconomic factors. The authors also point to the pressure that is felt by overburdened spouses and the potential benefit of problem solving and goal setting in order to not only break down larger goals, but also to manage the stress that prohibits them from utilizing services.

12. Kazis Lewis, Miller Donald, Clark Jack, et al. Health-related quality of life in patients served by the Department of Veterans Affairs. *Archives of Internal Medicine*. 1998;158:626-632.

Kazis, Miller, Clark, et al. used data from the Veterans Health Study, a 2-year prospective survey of the VA patient population receiving ambulatory care in the great Boston, Mass area, to determine an association between veteran status and health-related quality of life (HRQoL). The authors also compared HRQoL to medical history, depression, sociodemographic information (age, educational attainment, race, marital status, and income), and military experience. A total sample of 1667 VA ambulatory patients were selected, of which 18% were aged 22-49, 29% were aged 50-64, and 52% were aged 65-90 years. Depression was most common in the youngest group (51%) compared to the other age groups. This was also true for chronic low-back pain and alcohol-related disorders. Seven out of the eight measures for HRQoL, with exception to physical health, were lowest (worse health) among the youngest age group; however, all age groups scored lower than their nonveteran counterparts. While education and income added relatively little power to the overall model, other demographic data such as age and income explained almost half of the variance in mental health.

13. **Schonfeld L., Braue L. A., Stire S., et al. Behavioral health and adjustment to college life for student service members/veterans. *Journal of American College Health*. 2015;63(7):428-436.**

Schonfeld, Braue, Stire et al. conducted a cross-sectional study using surveys to explore whether student service members/veterans experience behavioral mental health problems and whether such problems may have an effect on self-reported adjustment problems to civilian life. A total of 173 student service members/veterans from a large southwestern university responded. Demographic and military information were compared to behavioral health status data from several measurement tools including the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST), the Posttraumatic Stress Disorder Checklist Civilian Version (PCL-C), the Patient Health Questionnaire-9 (PHQ-9), and the Veterans RAND 12 Item Health Survey (VR-12). The authors found while the majority of student service members/veterans appear to be well-adjusted, there was still a significant percentage who experience mental and emotion problems, with PTSD and depression being the most prevalent. Overall, 28.3% of participants reported having a challenging time adjusting to college life after the military.

14. **Trautmann J., Alhusen J., Gross D. Impact of deployment on military families with young children: A systematic review. *Nursing outlook*. Nov-Dec 2015;63(6):656-679.**

In this systematic review, Trautmann et al. aimed to describe the impact of deployment on the mental health of military families with young children post September 11th. The authors searched for literature published between 2001 and 2014 and found 26 studies that fit within their inclusion criteria. Evidence indicates that frequent and lengthier deployments are associated with increased stress and depressive symptoms among parents, poorer general well-being, and particularly high rates of mental health problems among military spouses raising young children alone during deployments. Among children the authors found that kids who are separated from a deployed parent experience higher rates of emotional and behavioral problems. The literature also suggests that deployment is associated with increased health care utilization and child maltreatment and neglect. The authors conclude by indicating that more research is necessary to better understand the mental health needs of military families, particularly those with infants and young children, so that evidence-based interventions can be tailored to best suit their needs.

15. **Weeks William, Kazis Lewis, Shen Yujing, et al. Differences in health-related quality of life in rural and urban veterans. *American Journal of Public Health*. 2004;94(10):1762-1767.**

Weeks et al. aimed to determine if there are disparities in the health-related quality of life between veterans who live in rural settings versus those who live in urban or suburban settings. Using a cross-sectional study design, the authors used data from the 1999 Large Health Survey of Veteran Enrollees that was administered to veterans who were enrolled in the Veterans Health Administration (VHA) system. The total sample included 767,109 veterans who had used VHA services within the past 3 years. Data collected included information about demographics, VHA priority level (assigned based on service-related disabilities, special status, income level, etc.), comorbidities, degree of rurality, geographic setting, and census region. Results indicate that veterans who lived in rural settings had significantly lower health-related quality-of-life scores compared to veterans who lived in urban or suburban settings. These differences persisted even

after controlling for additional factors such as gender, employment status, age, comorbidities, priority level, and US census region. However, compared to their suburban counterparts, veterans living in rural areas had more physical health comorbidities but less mental health comorbidities.