

Reducing Barriers to Post-9/11 Veterans' Use of Programs and Services as They Transition to Civilian Life

Nicole R. Morgan

Clearinghouse for Military Family Readiness at Penn State University

Keith R. Aronson (✉ kra105@psu.edu)

Pennsylvania State University University Park : Penn State <https://orcid.org/0000-0003-4113-2483>

Daniel F. Perkins

Clearinghouse for Military Family Readiness at Penn State University

Julia A. Bleser

Clearinghouse for Military Family Readiness at Penn State

Katie Davenport

Clearinghouse for Military Family Readiness at Penn State University

Dawne Vogt

VA Boston Healthcare System

Laurel A. Copeland

VA Central Western Massachusetts Healthcare System

Erin P. Finley

University of Texas Health Science Center at San Antonio

Cynthia L. Gilman

Henry M Jackson Foundation for the Advancement of Military Medicine Inc

Research article

Keywords: Veterans, Veteran Reintegration, Barrier Reduction, Help-Seeking Stigma, Mental Health Stigma, Program Reach, Program Sustainability

Posted Date: July 31st, 2019

DOI: <https://doi.org/10.21203/rs.2.12289/v1>

License:  This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Version of Record: A version of this preprint was published at BMC Health Services Research on June 10th, 2020. See the published version at <https://doi.org/10.1186/s12913-020-05320-4>.

Abstract

Background - Numerous programs exist to support veterans in their transitions to civilian life. Programs are offered by a host of governmental and non-governmental stakeholders. Veterans report encountering many barriers to program participation. This was the first study to identify barrier reduction strategies offered by programs that post-9/11 veterans report using, determine which strategies veterans use and value, and to examine veteran characteristics that impact their odds of using programs that offer barrier reduction strategies. **Method** - This study reflects findings from the first wave of data collection of The Veterans Metrics Initiative, a longitudinal study examining the military-to-civilian reintegration of post-9/11 veterans. Veterans were asked to indicate which programs they had used. The websites of these programs were coded for the barrier reduction components. Veterans also indicated which barrier reduction components they found most helpful in meeting their reintegration goals. **Results** - Of 9,566 veterans who participated in Wave 1 data collection, 84% reported using a program that offered at least one barrier reduction component. Barrier reduction components included tangible supports (e.g., scholarships, cash), increased access to programs, decreased stigma, and encouraged motivation to change. Although only 4% of programs that were used by veterans focused on helping them obtain Veterans Administration benefits, nearly 60% of veterans reported that this component was helpful in reaching their goals. Access assistance to other resources and supports was also reported as a helpful barrier reduction component. For instance, approximately 20% of veterans nominated programs that offered transportation. The study also found evidence of a misalignment between the kinds of barrier reduction components veterans valued and those which programs offered. Veterans from the most junior enlisted ranks, who are at most risk, were less likely than those from other ranks to use barrier reduction components. **Conclusions** – Despite the evidence that barrier reduction components enhance access to programs and contribute to program sustainability, many programs used by post-9/11 veterans do not offer them. There is also a misalignment between the barrier reduction strategies veterans value and the strategies offered by programs. Veteran serving organizations should increasingly implement barrier reduction strategies that veterans value.

Contributions To Literature

- Very little is known about how the transition from active duty service to civilian life unfolds among post-9/11 veterans. While a plethora of programs and supports are offered to veterans, many report difficulties accessing them.
- To increase the penetration and reach of programs and services targeted to veterans, barrier reduction efforts are needed, and they must align with what veterans report valuing in reaching their reintegration goals.
- This study demonstrated that barrier reduction efforts are recognized and needed by veterans, but they are somewhat misaligned with what veterans need, are generally under-used, and special efforts need to be made to target barrier reduction to veterans from the most junior enlisted ranks.

Background

Currently, there are 2.6 million post-9/11 military veterans in the United States. This population is projected to grow to 3.5 million by 2019 (1). The majority of these veterans do *not* experience ongoing adjustment or reintegration problems and make a successful transition back to their communities (2). However, a substantial minority report struggles with reintegration. Difficult transitions from the military to civilian life have the potential to place a tremendous burden on veterans and their families, communities, and healthcare systems. The reintegration experiences of post-9/11 veterans appear to be impacted by a variety of factors operating at different ecological levels (i.e., individual, interpersonal, community, and societal) and to vary from person to person (3).

Some of the most common challenges experienced by post-9/11 veterans appear within four domains of well-being: (1) vocational (i.e., employment and education); (2) legal, financial, and housing; (3) health; and (4) social relationships. In terms of vocational challenges, many post-9/11 veterans do not have a job when they leave the military (4-6). Young post-9/11 veterans appear to have the most employment problems (7). Moreover, veterans have reported challenges understanding and utilizing their Post-9/11 GI Bill benefit options (8). Furthermore, while veterans account for only 6% of the U.S. population, they comprise 10% of those without stable housing (9). Some veterans live with health problems such as brain or musculoskeletal injuries, burns, or limb loss (10), and 32% of post-9/11 veterans have a service-connected disability (11). Common mental health problems include post-traumatic stress disorder (PTSD), depression, and suicidality (12,13). In addition, veterans are vulnerable to social support deficiencies because of differences in cultural norms between military and civilian communities (14). Difficulties in making and sustaining family connections can also occur, including marital strain, role confusion, and re-connecting with children (15).

A Typology of Barriers to Programs and Services

Despite the well-documented needs of post-9/11 veterans and the plethora of programs available to them (16), many veterans do not seek or use veteran programs or services (17). There are a number of real and perceived barriers to accessing support programs. A recent study indicated there were four primary reasons new veterans reported not using programs during the early military to civilian transition period (17). These included the following: (a) not needing assistance, (b) not identifying a program or service that sufficiently met their needs, (c) not understanding the kinds of programs for which they qualified; and (d) not knowing where to obtain support and assistance. The reasons for program non-use reported were not surprising given that veterans frequently lack awareness of community-based supports/services (3,18), and they do not always understand their U.S. Department of Veterans Affairs (VA) benefits (19).

Currently, there are over 40,000 programs in the United States purporting to assist veterans with transitioning to civilian life (20). Veterans report having difficulty discerning which, if any, of these programs are relevant to them or whether they qualify to use these programs (21). Navigating the VA

system can also be daunting for veterans (22). Extended waiting times for appointments; lengthy paperwork; and difficulty navigating the healthcare system, whether in person or online, have been found to reduce the likelihood that service members will seek needed care (23,24). In order to address the prevalence of low utilization, programs and services are employing components that can help reduce barriers to care and services at VA, private, and community-based support programs.

Barrier Reduction Components

To be effective at implementation, a program or service may have four essential components in place: (1) relevant content, (2) a process for teaching the content, (3) approaches for sustaining the program over time, and (4) barrier reduction strategies (25,26). Barrier reduction components may assist veterans in accessing the support they need to make more successful transitions to civilian life (27). These components increase program participation by providing tangible supports, improving program access, and helping people make intra-individual changes to reduce help seeking stigma and increase motivation for change.

Tangible supports are the physical resources, assistance, and/or monetary supports provided to veterans to directly assist them in meeting their basic and higher-order needs (28,29). To reduce individual-level and family-level barriers to care, programs have helped address veterans' basic needs (e.g., provide food, shelter, and/or housing accessibility modifications). Programs have also addressed higher-order needs by providing direct financial support for education in the form of offering scholarships and money for books, providing legal advice, and giving veterans information regarding strategies about how to access benefits.

VA educational benefits, particularly the Post-9/11 GI Bill, and the VA Home Loan Program are important and widely used tangible supports because they address two common challenges experienced by veterans reintegrating into civilian life—education and housing (28,29). The Post-9/11 GI Bill of 2008 provides for tuition and fees, a housing allowance, books and supplies stipend, and a one-time rural benefit (relocation stipend of \$500). The VA assists veterans and eligible surviving spouses become homeowners by providing direct home loans and a VA-backed home loan guaranty, which typically loosens the requirements a number of lenders have and makes it easier for veterans to obtain mortgages.

Program access components typically provide logistical supports that make it easier for veterans to engage with programs. The VA healthcare system is offered at no cost for veterans, which is a critical program access barrier reduction component. Transportation is also sometimes provided by the VA to veterans who live far from a VA clinic, which makes it easier for them to attend appointments (30). In addition, the VA provides virtual services to increase access, such as telemedicine options (31)(32). Outside of the VA system, some veteran programs offer child care, so parents/guardians can fully participate in the program (e.g., Yellow Ribbon Reintegration Program). Other programs offer free healthcare or provide services on a sliding fee scale (e.g., Volunteers in Medicine).

Intra-individual change. The intra-individual change component involves (1) promoting intrinsic motivation to obtain assistance and/or (2) decreasing help-seeking stigma (Morgan et al., 2018). Intra-individual change components provide an opportunity to initiate the behavior with little costs (e.g., free month of a gym membership) thereby focused on promoting intrinsic motivation to change. Help-seeking stigma is common among veterans (33). Veterans report perceiving that people in society hold unfavorable beliefs towards those who have or seek treatment for mental health problems, which, in turn, deters help-seeking (34). Efforts to combat veteran help-seeking exist (e.g., Real Warrior Campaign, Buddy-to-Buddy). The Real Warrior Campaign is a multimedia public awareness effort. Buddy-to-Buddy uses peer educators (35) and contact strategies (36–38) to decrease help-seeking stigma.

Current Study

This is the first study to describe the barrier reduction components that veterans encounter in both VA and non-VA programs. Extant research has focused primarily on barrier reduction related to the use of VA mental healthcare. Many veterans use non-VA programs in support of employment, education, financial, health, and social goals (16). Recently discharged veterans were asked to report which programs or services they used. Then, they provide detail information on two of the programs they listed, they were asked which of the following types of support (i.e., barrier reduction components) they used to help them achieve their goals. First, we determined the percentage of barrier reduction components veterans used to achieve their goals. Second, through web-based coding, we determined the percentage of barrier reduction components offered to the veteran. Third, we determined, among the barrier reduction components offered, the proportion of veterans who used those components. Finally, we used exploratory analysis to investigate subgroup difference in the use of programs that contain barrier reduction.

Methods

Participants. Veterans who had separated from active duty service or de-activated from active duty status in the prior 3 months were identified from Veterans Affairs and Department of Defense Identity Repository (VADIR) and were invited to participate in the study. Detailed information on the sample, procedures, and participant demographics have been published elsewhere (39). Briefly, a total of 48,965 veterans were invited to participate in The Veteran's Metrics Initiative (TVMI) study. The response for complete data was 19.5% (n = 9,566). The majority of the veterans were male 82% (n = 6734), White, Non-Hispanic 64% (n = 5215), and from the enlisted ranks (77%).

Measures

Program Use. Veterans were asked 37 questions about programs they had used since separating from active duty service in each of four well-being domains: (1) vocational (employment and education); (2) legal, financial, and housing; (3) health (physical and mental); and (4) social/personal relationships. Additional questions were asked about their current use of educational benefits through the Post-9/11

and Montgomery GI Bills; the VA home loan program; and VA hospitals, clinics, and Vet Centers. Details on the measures have been previously published (39).

Procedures

Identification of Program Barrier Reduction Components. A list of barrier reduction components was derived from a review of the research literature using grounded theory. Rotheram-Borus et al. (2009) provided a framework specifically for barrier reduction components (25). Veterans were asked to provide the names of programs they had used since separating from the military. The websites of programs that were nominated by three or more veterans were examined to determine which barrier reduction components were offered (i.e., tangible supports, program access, intra-individual change). The websites were coded for the presence of barrier reduction components using a distilling process (26). Tangible support components included scholarships for education, monetary gifts, and discounted pricing on goods and services. Barrier reduction components related to access assistance included having program content available online, a sliding scale fee structure, and available child care. Intra-individual change components focused on increasing motivation to change and reducing help-seeking stigma.

Coding was conducted using qualitative software NVivo 12 (QSR International, 2016). Two independent raters coded programs by indicating whether each component was either present or absent for each program. Coders applied all relevant codes to a program; therefore, codes were not mutually exclusive. Reliability among coders was established by having a third *expert* coder check coding consistency, discussing discrepancies, and coming to agreement on the final codes and definitions of each component.

Veterans were also asked to provide greater detail, through self-report, on the barrier reduction components of up to two of the programs they had used. In particular, they were asked which of the following barrier reduction components offered helped them achieve their goals.

Data Analytic Approach. Weighted proportion estimates of the barrier reduction components were computed using STATA svy: proportion; or svy: logistic (StataCorp, 2013). Weighting was used to help ensure the representativeness of the sample based on three auxiliary variables: gender, rank (i.e., junior enlisted, senior enlisted, and officer), and Service branch (40). Logistic regression analyses were used to estimate the odds ratios of barrier reduction component use as a function of several specific subgroup classifications (e.g., gender, branch, pay grade, combat exposure).

Results

The Use of VA Programs as a Barrier Reduction Component

The vast majority of veterans (84%; n = 8,010) reported using at least one program or VA benefit. Approximately, three-quarters of the respondents nominated a VA benefit. Nearly half (43%) of post-9/11

veterans reported using educational benefits. Approximately 34% used the Post-9/11 GI Bill, while 9% used the Montgomery GI Bill, and 32% of veterans used the VA home loan program. Nearly 35% of veterans used VA hospitals, clinics, and/or Vet Centers.

Barrier Reduction Components Coded, Reported, and Alignment of Offered-Used Components

Program websites were coded for 91% of all the nominations (i.e., programs nominated by three or more veterans), which resulted in 656 unique programs being coded. In addition, 239 programs were identified by coders from nominations. However, these only included a program type (e.g., scholarship) not a specific program that was able to be identified via a web search.

Table 1 provides a summary of the weighted proportions of the following: (a) programs that were coded for barrier reduction components (n = 895); (b) veterans who self-reported using a barrier reduction component that helped them achieve their goals (n = 4,308); and (c) the alignment among programs that offered a program component and the proportion of veterans who self-reported using it.

Fifty-six percent of programs offered a tangible support component. The first column of Table 1 represents the proportion of programs that were coded for barrier reduction components. As can be seen, the most frequently coded barrier reduction component was content available online (94.4%, program access). The proportions of the other barrier reduction components coded were significantly lower and ranged from a high of 17.5% (other tuition discounts or scholarship, tangible) to a low of 2.7% (stigma reduction, intra-individual change). Indeed, 13 of the 21 components were coded as being present less than 10% the time. Lastly, no programs were coded as helping for obtaining VA benefits (e.g., Veterans of Foreign Wars volunteers).

The second column represents the self-report of veterans who nominated at least one program to describe in detail and who used a barrier reduction component and reported that the component helped them achieve their goals. The most commonly mentioned barrier reduction components that helped veterans reach their goals were assistance for obtaining VA benefits (23.7%, tangible), increasing motivation to change (17.5%, intra-individual change), provision of non-VA insurance or free medical care (15.6%, program access), and non-VA tuition discounts or scholarships (12.2%, tangible). The remainder of barrier reduction components were not or were rarely mentioned as being used and having helped veterans achieve their goals.

The final column in Table 1 reports that, among programs that provided a barrier reduction component, the proportion of veterans who reported using that component varied widely. The most frequently aligned components were other tuition discounts or scholarships (32.4%), increasing motivation to change (29.3%), and assistance for obtaining VA benefits (28%). The alignment of the other barrier reduction components with veteran use of those components ranged from 16.5% for legal advice to 1.3% for job placement services.

Looking across the columns of Table 1, several findings warrant highlighting. First, while having content available online (program access) was coded as being present in 94.4% of programs, it was not mentioned by veterans as being used or having helped them reach their goals. Second, assistance for obtaining VA benefits was not coded as being present for any nominated programs but was mentioned as being used by and helping to achieve the goals of 23.7% of veterans. Third, the majority of coded barrier reduction components were neither used nor viewed as being helpful by veterans. For example, while 16% of programs were coded as providing transportation, only 2.7% of veterans reported using or benefitting from this component. Similarly, while the provision of cash was coded for 14.5% of nominated programs, only 5.1% of veterans used or benefited from this component. Finally, for a number of components, there was little consistency among the coded components, their use and perceived helpfulness, and the alignment between a component's presence and its reported use. For example, 6.3% of programs were coded for increasing motivation, while 17.5% of veterans used and benefited from the component, and, of those programs that offered increasing motivation, 29.3% of veterans reported using that component.

Predictors of the Use of Programs with Barrier Reduction Components

VA-sponsored tangible supports included the Montgomery GI Bill or Post-9/11 GI Bill; VA home loan program; and use of VA hospitals, clinics, or Vet Centers. Veterans from the Air Force were less likely to utilize any GI Bill compared to Army veterans; however, veterans from the National Guard or Reserve were two times more likely to utilize the GI Bill than veterans from the Army (see Table 2). In addition, current National Guard and Reserve members were 40% more likely to utilize a GI Bill. Officers were less likely to utilize any GI Bill compared to veterans from the junior enlisted ranks (E1 to E4), while veterans from the senior enlisted ranks (E5 to E6) were 20% more likely to utilize any GI Bill compared to junior enlisted veterans.

Male veterans were 20% more likely to utilize the VA home loan program. All senior enlisted ranks and officer ranks were more likely than junior enlisted veterans to utilize the VA home loan program. Veterans exposed to combat were 50% more likely to utilize the VA home loan program. In general, minority veterans were less likely to utilize the VA home loan program compared to White, Non-Hispanic veterans. However, veterans from other racial groups were two times more likely to utilize the VA home loan program compared to White, Non-Hispanic veterans. Veterans who screened positive for probable alcohol abuse were less likely to utilize the VA home loan program. Veterans who had full-time employment were 66% more likely to utilize the VA home loan program.

Veterans from the Navy and Air Force and National Guard and Reserve members were less likely to utilize the VA healthcare system compared to veterans from the Army. Veterans who were exposed to combat, medically discharged, and had ongoing physical and mental health conditions were more likely to utilize the VA healthcare system. Veterans who were from ethnic minority groups (i.e., Black, Non-Hispanic;

Hispanic; and Asian, Non-Hispanic) were all more likely to utilize the VA healthcare system compared to White, Non-Hispanic veterans. Veterans working full-time were less likely to utilize the VA healthcare system.

Additional analysis was conducted on the sub-sample of veterans who reported using tangible support components outside of the VA (see Table 3). Veterans from the Marine Corps were 57% more likely than those from the Army, and male veterans were 58% more likely to use non-VA scholarships. Veterans from the Navy and Marine Corps were both 75% more likely to use cash allowances than their Army peers. Compared to veterans from the most junior enlisted ranks, those from most of the higher ranks were significantly less likely to obtain cash assistance.

Compared to Army veterans, those from the National Guard and Reserves were 57% more likely to use tangible supports related to housing (e.g., mortgage counseling). Relative to veterans from the most junior enlisted ranks, those from most of the higher ranks were significantly less likely to utilize programs that provided a housing benefit. Hispanic veterans and veterans who identified as Non-Hispanic multi-racial were two times more likely to report using programs that provided legal advice compared to White, Non-Hispanic veterans. Finally, veterans with a probable diagnosis of PTSD were 85% more likely to use programs that provided legal advice compared to those without PTSD.

Table 4 describes the characteristics of veterans who used barrier reduction components related to access assistance. Veterans from the Air Force were less likely to report utilizing a program with a transportation component compared to Army veterans. Veterans from the Marine Corps were less likely to utilize programs that provided access to medical care compared to veterans from the Army. Hispanic veterans were 44% more likely to utilize programs that provided access to medical care and aided with access to insurance compared to White, Non-Hispanic veterans. Veterans with probable PTSD symptoms were two times more likely to utilize programs that offered transportation compared to veterans without PTSD symptoms.

Table 5 describes the characteristics of veterans using barrier reduction components that focused on intra-individual change. Those from the senior enlisted ranks, warrant officers, and officers were 88% to 3 times, respectively, more likely to report using programs that reduced stigma compared to veterans from the junior enlisted ranks. Veterans with an ongoing mental health or emotional condition were two times more likely to utilize programs that reduced stigma than those without those symptoms. Veterans with a probable PTSD diagnosis were 44% more likely to use a program that increased motivation to utilize the program compared to veterans without PTSD.

Discussion

This was the first study to examine barrier reduction components present in programs that are designed to assist veterans as they transition from military to civilian life. Perhaps most striking was the finding that, of the vast majority of the programs that were coded, a low proportion offered any barrier reduction components. Research in program implementation science has consistently demonstrated that barrier

reduction is critical to bolster program participation and sustainability (25,26). Thus, while the results of this study indicate that a significant proportion of new post-9/11 veterans use VA programs, there is a need for non-VA sponsored programs to consider implementing barrier reduction components.

The study also revealed that a low proportion of new post-9/11 veterans report using and benefiting from barrier reduction components. The most commonly mentioned barrier reduction component that was reported as being used and helping veterans achieve their goals (i.e., assistance for obtaining VA benefits) was mentioned by less than 25% of the sample. Seven components coded from websites were not mentioned by veterans, and a sizeable number were mentioned by less than 10% of them. The most parsimonious explanation for this finding is that recently separated post-9/11 veterans do not need to use programs or take advantage of barrier reduction components. A number of studies have shown that most veterans make a healthy transition from military life to civilian life (2). It is important to note that the need for programs and the need for barrier reduction components may increase over time. Future studies should examine this question. Nonetheless, a sizeable number of recently separated post-9/11 veterans do not access programs often because they do not understand their eligibility, do not know what programs they qualify for, cannot find an appropriate program, or encounter other challenges to help seeking (17). Clearly a proportion of veterans could benefit from barrier reduction components, particularly related to accessing programs.

Given limited resources, efforts should be made to bolster the barrier reduction components that veterans use to help them reach their goals. For new post-9/11 veterans, the following supports are the most important aids they use in helping them reach their goals: assistance for obtaining VA benefits, increasing motivation to change, provision of non-VA insurance or free medical care, and non-VA tuition discounts/scholarships. Unfortunately, very few programs offer these barrier reduction components. For example, while only 6.3% of programs offered an increased motivation to change component, 17.5% of veterans report using and benefiting from this type of component. Perhaps more importantly, on the whole, a low proportion of veterans report using and benefiting from barrier reduction components. Thus, not only are barrier reduction components not offered enough, but the quality and/or impact of these components may be suspect. Indeed, research on the impact of barrier reduction components is lacking, and future research should address this gap.

The results of this study also demonstrate that there is often a misalignment among the barrier reduction components coded as being present in programs; the use and benefit of barrier reduction components; and, among programs offering these components, the proportion of veterans who report using them. For example, while increased motivation to change was coded in only 6.3% of programs, 17.5% of veterans reported using and benefiting from this component. In addition, among programs offering this component, 29.3% of veterans reported using it. While there is no research related to barrier reduction misalignment, it seems reasonable to think that lack of alignment is a problem. Alignment among what components are offered, used, and are helpful would be ideal in terms of meeting veteran needs. It is possible that alignment improves over time; however, this assertion has yet to be examined.

For new veterans, tangible support components were the most widely used, and this was particularly true for VA programs. Three-quarters of new veterans reported using at least one VA program. VA benefits are a unique tangible support component because they are offered at no cost and directly enable a person to obtain a desired outcome (i.e., higher education or home ownership). VA-sponsored education was used by 43% of the sample. This assistance enables veterans or their family members to achieve a higher level of education. Education is, of course, positively associated with a host of health and well-being outcomes (e.g., higher paying jobs, lower morbidity). The VA home loan benefit was used by 32% of veterans. Veterans whose military occupation was combat arms and combat support were more likely to utilize educational benefits because their military occupations may not translate directly to civilian occupations; thus, additional training could be needed to find employment within the civilian population.

Three additional commonly reported tangible support barrier reduction components were directly related to meeting a veteran's economic needs (i.e., cash, clothing and consumer goods, food, and discounted pricing on goods and services). A subset of post-9/11 veterans struggle financially, and this is particularly true for veterans who have health problems (41), live in poverty (42), and are female (43). More community-based organizations should consider focusing on providing for the basic needs of this subset of veterans and their families.

In comparison, very few veterans (16%) utilized the access barrier reduction components for non-VA benefits (e.g., Tricare, Medicare, Army Wounded Warrior Program). One potential reason may be that veterans may not be eligible for all barrier reduction components available within a program, or another cause may be veterans are unaware of the resources available to them when using a program. For example, income guidelines or minimum credit scores may need to be met before a veteran can access certain benefits.

The barrier reduction component of access assistance was also found to be a helpful tool that veterans used. For instance, approximately 33% of veterans report utilizing at least one VA healthcare service (i.e., hospital, clinic, or Vet Center). Moreover, as consistent with previous research, veterans with a medical discharge were 24% more likely to use VA healthcare services. In addition, veterans with ongoing physical health conditions were two times more likely to utilize VA healthcare, and those with mental health problems were 58% more likely to use VA healthcare compared to those without physical/ mental health conditions. Access to VA benefits is a primary concern for veterans as they transition to civilian life (17). Further research should explore which specific VA benefits are the most challenging to navigate, and strategies to help veterans overcome these challenges should be investigated.

The majority of programs were found to make access easier by making some of their materials available online (97% of programs). For example, the VA is widening its access to veterans by providing more administrative support and clinical care via the web. However, navigating the internet to find the specific program may still be troublesome for some veterans. In this ever advancing technological world, web access will play an increasingly important role in the lives of veterans; however, rural dwelling and older

veterans often have poor or no access to the internet (44). Thus, extending the reach of internet access to rural areas could close the gap in web access.

Transportation appears to be a key access assistance component particularly for veterans with serious injuries or disabilities that prevent them from getting around by themselves or for those who do not have the financial means to purchase and maintain their own transportation (45). However, while 20% of veterans nominated programs that offer transportation, only 2.7% reported using and benefiting from the component. Transportation for subsets of veterans may still be important, and these subsets should be identified. In this study, veterans who screened positive for PTSD symptoms were two times more likely to utilize programs with a transportation component. On the other hand, veterans with physical health conditions were not significantly more likely to utilize programs that provide transportation. As a result, to the extent possible, program developers should think strategically about which veterans will value and benefit from a transportation component and which veterans will be less likely to use this option. In so doing, developers will be able to incorporate the provision of transportation as part of their program's portfolio of support in a manner that matches veteran needs.

Access to child care can be an important barrier reduction component as it could give Service members free time to utilize programs or pursue employment or educational opportunities (46). However, child care was rarely mentioned by veterans as a barrier reduction component that programs offered. Prior research has shown that veterans report having limited access to child care services in the community (47). Moreover, male and female veterans report that the VA should offer child care services and, if these services were offered, they would use them (47). Several studies with civilian families demonstrate that the provisions of child care and meals are inducements to program participation, particularly for families who experience financial and other hardships (48–50). The provisions of child care and meals to enhance program participation, while primarily used in prevention research studies in university-community based partnerships, are barrier reduction components that may be transportable to other community-based organizations that offer programs to veterans and their families.

The barrier reduction components related to intra-individual change (i.e., focus on increasing motivation to change and stigma reduction) were present in a low proportion of coded programs. However, these components were used and viewed as helpful by 17.5% of veterans. Among those programs that offered this component, 29.3% of veterans reported using it. Military and veteran cultures foster norms that stigmatize help seeking, particularly for mental health problems (51). Active duty military and veterans also express a significant degree of distrust of institutions designed to support them (19). Senior enlisted and officers were more likely to utilize programs with a stigma reduction component compared to junior enlisted (E1 to E4). Veterans with a mental health condition were two times more likely to utilize programs with a stigma reduction component. Thus, the results of this study suggest that the intra-individual change components should be a focus of programming efforts. For example, approaches designed to reorient norms of military and veteran norms to be more open to help seeking and more accepting of people's health challenges (10). Several attempts at stigma reduction approaches have been developed

for the military and veteran contexts (35,36,52), however, they have yet to be evaluated for effectiveness. Veteran serving organizations should investigate the feasibility of adopting these approaches.

As with any study, there were some limitations with the current investigation. First, while the sample is large and represents the population of recent transitioning post-9/11 veterans, the sample is not designed to represent the veteran population overall, which includes many veterans from earlier military conflicts. Second, veterans were likely to use more programs than they described in detail because the survey limited in-depth self-report information to two programs.

Third, there may be differences between what the coding rules counted as components to a program and how a veteran perceives that program's components as helpful in achieving their goals. Future qualitative work is recommended to elucidate veteran perceptions of specific program components. Fourth, this study examined the first 3 months after separation from the military. Additional transition and reintegration program use continues to occur.

Conclusion

To expand the reach and penetration of programs and services to post-9/11 veterans, barrier reduction efforts should be robust and align with what veterans report valuing as they transition from active duty to civilian life. Currently, with the exception of tangible supports, the barrier reduction efforts that veterans appear to value (e.g., assistance in gaining access to support resources) are rarely offered and they are under-utilized by veterans. Veterans who are at most risk for poor civilian reintegration are also least likely to engage programs that offer barrier reduction components. Veteran serving organizations should consider bolstering their efforts at providing barrier reduction efforts, particularly with respect to better alignment with veterans' needs.

Abbreviations

PTSD: Posttraumatic Stress Disorder

TVMI: The Veterans Metrics Initiative

VA: U.S. Department of Veterans Administration

VADIR: Veterans Affairs and Department of Defense Identity Repository

VHA: Veterans Health Administration

Declarations

Acknowledgements

This research was managed by the Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF) and collaboratively sponsored by the Bob Woodruff Foundation, Health Net Federal Services, The Heinz Endowments, HJF, Lockheed Martin Corporation, May and Stanley Smith Charitable Trust National Endowment for the Humanities, Northrop Grumman, Philip and Marge Odeen, Prudential, Robert R. McCormick Foundation, Rumsfeld Foundation, Schultz Family Foundation: Onward Fund, Walmart Foundation, Wounded Warrior Project, Inc., and the Veterans Health Administration Health Services Research and Development Service.

The opinions and assertions contained herein are the private views of the authors. No endorsement by any sponsor listed above is intended nor should any such endorsement be inferred.

Availability of data and material

NRM had full access to all the data and takes responsibility for the integrity of the data and accuracy of the data analysis.

The datasets generated and/or analyzed during the current study are not currently publicly available due to the ongoing collection of data in The Veterans Metrics Initiative. However, the data will be publicly available in April of 2021. The data and will be hosted by and will be hosted by ICPSR which is a unit within the Institute for Social Research at the University of Michigan.

Funding

This study was funded by a grant from the Henry M. Jackson Foundation for the Advancement of Military Medicine (Award # 2957).

Authors' contributions

DFP is the principal investigator and thus takes responsibility for study design, data collection, and the integrity of the data. He designed the study with his VA colleagues. He designed the study and approved all changes. NRM conceptualized and conducted the analyses. NRM, KRA, and DFP were the primary writers of the manuscript. The following authors (JAB, KD, DV, LAC, EPF, CLG) were involved in the design and execution of the study. All authors reviewed and provided feedback for this manuscript. The final version of this manuscript was vetted and approved by all authors.

Ethics approval and consent to participate

The Institutional Review Board of ICF of Rockville, MD approved this study. The ICF IRB serves as the IRB of record. The Institutional Review Board of Pennsylvania State University reviewed the study and determined it to be exempt. Written informed consent was obtained from all study participants.

Consent for publication

Not applicable.

Competing interests

The authors declare there are no competing interests.

References

1. National Center for Veterans Analysis and Statistics. Profile of post-9/11 veterans: 2014 [Internet]. Washington, DC: U.S. Department of Veterans Affairs; 2016. Available from: https://www.va.gov/vetdata/docs/SpecialReports/Post_911_Veterans_Profile_2014.pdf
2. Tsai J, El-Gabalawy R, Sledge WH, Southwick SM, Pietrzak RH. Post-traumatic growth among veterans in the USA: Results from the National Health and Resilience in Veterans Study. *Psychol Med* [Internet]. 2015;45(1):165–79. Available from: http://www.scopus.com/inward/record.url?eid = 2-s2.0-84927698619&partnerID = 40&md5 = d7d09a0586ee3e6b0cc3027751395f92%5Cnhttp://journals.cambridge.org/download.php?file = %2FPSM%2FPSM45_01%2FS0033291714001202a.pdf&code = 42ac7c44b101ce5101f7ea49a2a202a6
3. Elnitsky CA, Blevins CL, Fisher MP, Magruder K. Military service member and veteran reintegration: A critical review and adapted ecological model. *Am J Orthopsychiatry* [Internet]. 2017;87(2):114–28. Available from: <http://doi.apa.org/getdoi.cfm?doi = 10.1037/ort0000244>
4. Burnett-Zeigler I, Valenstein M, Ilgen M, Blow AJ, Gorman L a, Zivin K. Civilian employment among recently returning Afghanistan and Iraq National Guard veterans. *Mil Med* [Internet]. 2011;176(6):639–46. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/21702380>
5. Castro CA, Kintzle S, Hassan A. The state of the American veteran: The Los Angeles County veterans study. Los Angeles: University of Southern California; 2014.
6. Kintzle S, Keeling M, Xintarianos E, Taylor-Diggs K, Munch C, Hassan AM, et al. Exploring the economic and employment challenges facing U.S. veterans: A qualitative study of Volunteers of America service providers & veteran clients. Los Angeles: University of Southern California; 2015.
7. Bureau of Labor Statistics. Employment situation veterans 2017 [Internet]. Washington, DC: U.S. Department of Labor; 2018. Available from: <https://www.bls.gov/news.release/pdf/vet.pdf>

8. Steele JL, Salecedo N, Coley J. Service members in school: Military veterans' experiences using the post-9/11 GI Bill and pursuing postsecondary education. Santa Monica, CA: RAND Corporation; 2010.
9. Henry M, Cortes A, Shivji A, Buck K. The 2014 annual homeless assessment report (AHAR) [Internet]. Washington, DC: U.S. Department of Housing and Urban Development; 2014. Available from: <https://www.hudexchange.info/resources/documents/2014-AHAR-Part1.pdf>
10. Institute of Medicine. Returning home from Iraq and Afghanistan: Preliminary assessment of readjustment needs of veterans, service members, and their families. Washington, DC: National Academies Press; 2010.
11. Ainspan ND, Penk W, Kearney LK. Psychosocial approaches to improving the military-to-civilian transition process. *Psychol Serv* [Internet]. 2018 May;15(2):129–34. Available from: [http://ezaccess.libraries.psu.edu/login?url = https://search.proquest.com/docview/2034045460?accountid = 13158](http://ezaccess.libraries.psu.edu/login?url=https://search.proquest.com/docview/2034045460?accountid=13158)
12. Rossiter AG, Smith S. The invisible wounds of war: Caring for women veterans who have experienced military sexual trauma. *J Am Assoc Nurse Pract*. 2014;26(7):364–9.
13. Tanielian T, Jaycox LH, Adamson DM, Burnam MA, Burns RM, Caldarone LB, et al. Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery. Santa Monica, CA: RAND Corporation. 2008. 273–273 p.
14. Drebing CE, Reilly E, Henze KT, Kelly M, Russo A, Smolinsky J, et al. Using peer support groups to enhance community integration of veterans in transition. *Psychol Serv* [Internet]. 2018 May;15(2):135–45. Available from: [http://ezaccess.libraries.psu.edu/login?url = https://search.proquest.com/docview/2034045419?accountid = 13158](http://ezaccess.libraries.psu.edu/login?url=https://search.proquest.com/docview/2034045419?accountid=13158)
15. Sayers SL, Farrow VA, Ross J, Oslin DW. Family problems among recently returned military veterans referred for a mental health evaluation. *J Clin Psychiatry*. 2009;70(2):163–70.
16. Perkins DF, Aronson KR, Morgan NR, Bleser JA, Vogt D, Copeland LA, et al. Veterans' use of programs and services as they transition to civilian life: Baseline assessment for the Veteran Metrics Initiative. *J Soc Serv Res* [Internet]. 2019 Jan 10;1–15. Available from: <https://doi.org/10.1080/01488376.2018.1546259>
17. Aronson KR, Perkins DF, Morgan N, Bleser J, Davenport K, Vogt D, et al. Going it alone: Post-9/11 veteran non-use of healthcare and social service programs during their early transition to civilian life. *J Soc Serv Res* [Internet]. 2019; Available from: [https://www.tandfonline.com/doi/abs/10.1080/01488376.2018.1493410?journalCode = wssr20](https://www.tandfonline.com/doi/abs/10.1080/01488376.2018.1493410?journalCode=wssr20)
18. Demers A. When veterans return: The role of community in reintegration. *J Loss Trauma*. 2011;16:160–79. Available from: <https://psycnet.apa.org/record/2011-06220-005>
19. Randall MJ. Gap analysis: Transition of health care from Department of Defense to Department of Veterans Affairs. *Mil Med*. 2012;177(1):11–6.
20. Carter P. Expanding the net: Building mental health capacity for veterans. Washington, DC: Center for a New American Security; 2013.

21. Meyer T. *Serving those who served: A wise givers guide to assisting veterans and military families.* Washington, DC: Philanthropy Roundtable; 2013.
22. Ouimette P, Vogt D, Wade M, Tirone V, Greenbaum MA, Kimerling R, et al. Perceived barriers to care among Veterans Health Administration patients With posttraumatic stress disorder. *Psychol Serv.* 2011;8(3):212–23.
23. Dickstein BD, Vogt DS, Handa S, Litz BT. Targeting self-stigma in returning military personnel and veterans: A review of intervention strategies. *Mil Psychol.* 2010;22(2):224–36.
24. Vogt D. Mental health-related beliefs as a barrier to service use for military personnel and veterans: a review. *Psychiatr Serv.* 2011;62(2):135–42.
25. Rotheram-Borus MJ, Swendeman D, Flannery D, Rice E, Adamson DM, Ingram B. Common factors in effective HIV prevention programs. *AIDS Behav.* 2009;13(3):399–408.
26. Morgan NR, Davis KD, Richardson C, Perkins DF. Common components analysis: An adapted approach for evaluating programs. *Eval Program Plann [Internet].* 2018;67:1–9. Available from: <http://www.sciencedirect.com/science/article/pii/S0149718916301392>
27. Hamblen JL, Grubaugh AL, Davidson TM, Borkman AL, Bunnell BE, Ruggiero KJ. An online peer educational campaign to reduce stigma and improve help seeking in veterans with posttraumatic stress disorder. *Telemed e-Health [Internet].* 2018 May 10;25(1):41–7. Available from: <https://doi.org/10.1089/tmj.2017.0305>
28. Zhang L. Veterans going to college: Evaluating the impact of the Post–9/11 GI Bill on college enrollment. *Educ Eval Policy Anal [Internet].* 2017 Aug 4;40(1):82–102. Available from: <https://doi.org/10.3102/0162373717724002>
29. Faurer J, Bailie P. Managing the re-employment of military veterans through the Transition Assistance Program (TAP). *J Bus Econ Res—First Quart.* 2014;12(1):55–60.
30. National Academies of Sciences, Engineering, and Medicine. *Improving mobility for veterans.* Wahington, DC; The National Academies Press; 2011. <https://doi.org/10.17226/14507>.
31. Pietrzak R, Johnson D, Goldstein M, Malley J, Southwick S. Perceived stigma and barriers to mental health care utilization among OEF-OIF veterans. *Psychiatr Serv [Internet].* 2009;60(8):1118–22. Available from: <http://ovidsp.ovid.com/ovidweb.cgi?T = JS&PAGE = reference&D = ovftk&NEWS = N&AN = 00042727–200908000–00019>
32. Institute of Medicine. *Returning home from Iraq and Afghanistan: Assessment of readjustment needs of veterans, service members, and their families.* Washington, DC: The National Academies Press; 2013.
33. Coleman JA, Davis WJ. Leadership perspectives of stigma-related barriers to mental health care in the military. *Mil Behav Heal [Internet].* 2017 Jan 2;5(1):81–90. Available from: <https://doi.org/10.1080/21635781.2016.1257964>
34. Corrigan PW, Druss BG, Perlick DA. The impact of mental illness stigma on seeking and participating in mental health care. *Psychol Sci Public Interes [Internet].* 2014 Sep 3;15(2):37–70. Available from: <https://doi.org/10.1177/1529100614531398>

35. Conner KO, McKinnon SA, Ward CJ, Reynolds III CF, Brown C. Peer education as a strategy for reducing internalized stigma among depressed older adults. *Psych Rehab J* [Internet]. 2015; 38;186–93. Available from: <https://psycnet.apa.org/record/2015-18462-001>
36. Corrigan PW, Rowan D, Green A, Lundin R, River P, Uphoff-Wasowski K, et al. Challenging two mental illness stigmas: Personal responsibility and dangerousness. *Schizophr Bull* [Internet]. 2002;28(2):293–309. Available from: <http://ezaccess.libraries.psu.edu/login?url=https://search.proquest.com/docview/614418217?accountid=13158>
37. Corrigan PW, P River L, K Lundin R, L Penn D, Uphoff-Wasowski K, Campion J, et al. Three strategies for changing attributions about severe mental illness. Vol. 27, *Schizophrenia Bulletin*. 2001. 187–195 p.
38. Alexander L, Link B. The impact of contact on stigmatizing attitudes toward people with mental illness. *J Ment Heal* [Internet]. 2003 Jun;12(3):271. Available from: <http://10.0.4.56/0963823031000118267>
39. Vogt D, Perkins DF, Copeland LA, Finley EP, Jamieson CS, Booth B, et al. The Veterans Metrics Initiative study of US veterans' experiences during their transition from military service. *BMJ Open* [Internet]. 2018 Jun 11;8(6):e020734–e020734. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29895650>
40. Johnson DR, Elliott LA. Sampling design effects: Do they affect the analyses of data from the National Survey of Families and Households? *J Marriage Fam* [Internet]. 1998;60(4):993–1001. Available from: <http://www.jstor.org/stable/353640>
41. Elbogen E, Johnson SC, Wagner HR, Newton VM, Beckham JC. Financial well-being and postdeployment adjustment among Iraq and Afghanistan war veterans. *Mil Med*. 2012;177(6):669–75.
42. National Center for Veterans Analysis and Statistics. Profile of veterans: 2017. Washington, DC: U.S. Department of Veterans Affairs; 2019.
43. Mankowski M, Everett JE. Women service members, veterans, and their families: What we know now. *Nurse Educ Today*. 2016;47:23–8.
44. McInnes K, Gifford A, Kazis L, Wagner T. Disparities in health-related internet use by US veterans: results from a national survey. *J Innov Heal Informatics*. 2010;18(1):59–68.
45. Peterson D. Improving veteran mobility in small urban and rural areas. Fargo, ND; 2014.
46. Glynn SM. Family-centered care to promote successful community reintegration after war: It takes a nation. *Clinical Child and Family Psychology Review* [Internet]. 2013; 16:410–4. Available from: <https://link.springer.com/article/10.1007%2Fs10567-013-0153-z>
47. Tsai J, David DH, Edens EL, Crutchfield A. Considering child care and parenting needs in Veterans Affairs mental health services. *Eval Program Plann* [Internet]. 2013;39:19–22. Available from: <http://www.sciencedirect.com/science/article/pii/S0149718913000293>
48. Gross D, Julion W, Fogg L. What motivates participation and dropout among low-income urban families of color in a prevention intervention? *Fam Relat* [Internet]. 2001 Jul;50(3):246–54. Available

from: <http://ezaccess.libraries.psu.edu/login?url = https://search.proquest.com/docview/213934017?accountid = 13158>

49. Dumas JE, Nissley-Tsiopinis J, Moreland AD. From intent to enrollment, Attendance, and participation in preventive parenting groups. *J Child Fam Stud* [Internet]. 2007;16(1):1–26. Available from: <https://doi.org/10.1007/s10826-006-9042-0>
50. Spoth RL, Redmond C. Project Family prevention trials based in community-university partnerships: Toward scaled-up preventive interventions. *Prev Sci* [Internet]. 2002 Sep;3(3):203–21. Available from: <http://ezaccess.libraries.psu.edu/login?url = https://search.proquest.com/docview/222774938?accountid = 13158>
51. Acosta J, Becker A, Cerully JL, Fisher MP, Martin LT, Vardavas R, et al. Mental health stigma in the military [Internet]. *Research Reports*. Santa Monica, CA: RAND Corporation; 2014. 330 p. Available from: http://www.rand.org/pubs/research_reports/RR426.html
52. Greden JF, Valenstein M, Spinner J, Blow A, Gorman LA, Dalack GW, et al. Buddy-to-Buddy, a citizen soldier peer support program to counteract stigma, PTSD, depression, and suicide. *Ann N Y Acad Sci*. 2010;1208(1):90–7.

Tables

Table 1. Barrier Reduction Components Coded, Self-Reported Helped Achieve Goals, Alignment of Coding and Self-Report

	% of Programs Coded	Used to Achieve Goals (n = 4,308)		Alignment of Programs Offered and Used	
	(n = 895)	% (SE)	DE	% (SE)	DE
Tangible Support Components	48.6%	48.2% (0.8%)	1.17	51.6% (1.0%)	1.17
Assistance in obtaining VA benefits	NC	23.7% (0.7%)	1.17	–	–
Non-VA tuition discounts/scholarships	17.5%	12.2% (0.6%)	1.31	32.4% (1.7%)	1.24
Cash	14.5%	5.1% (0.4%)	1.33	10.7% (1.3%)	1.25
Clothing & other consumer goods	11.1%	2.3% (0.3%)	1.24	5.9% (1.1%)	1.32
Discounted pricing on goods/services	10.4%	Not Mentioned		Not applicable	
Legal advice	10.1%	6.5% (0.4%)	1.19	16.5% (2.3%)	1.38
Housing or accessibility modifications	6.9%	5.4% (0.4%)	1.25	12.0% (1.4%)	1.18
Job placement services	5.6%	0.2% (0.1%)	1.02	1.3% (1.3%)	1.69
Licensing Assistance	5.4%	0.6% (0.1%)	1.11	9.2% (2.8%)	1.21
Food	5.0%	3.1% (0.3%)	1.25	16.1% (2.4%)	1.29
Veterans Representative	4.6%	Not Mentioned		Not applicable	
“Other” Veteran benefits	3.4%	Not Mentioned		Not applicable	
Free admission to arts/entertainment	2.9%	Not Mentioned		Not applicable	
Program Access Components ^a	30.6%	21.5% (0.7%)	1.16	21.3% (1.3%)	1.15
Content available online ^b	94.4%	Not Mentioned		Not applicable	
Provided transportation/close proximity	16.0%	2.7% (0.3%)	1.22	4.3% (0.8%)	1.31
Payed fees	5.0%	Not Mentioned		Not applicable	
Non-VA insurance/free medical care	5.0%	15.6% (0.06)	1.17	12.6% (2.2%)	1.21
Offered lodging	5.3%	Not Mentioned		Not applicable	
Provided child care	3.2%	0.9% (0.1%)	1.12	5.1% (2.3%)	1.05
Intrinsic Components	9.0%	19.0% (0.6%)	1.18	32.6% (2.7%)	1.16
Increased motivation to change	6.3%	17.5% (0.6%)	1.18	29.3% (3.7%)	1.17
Reduced stigma	2.7%	4.9% (0.3%)	1.10	14.1% (2.9%)	1.12

Note: Weighted Estimates; SE = Standard Error; DE = Design Effect; ^a = excluding content available online ^b
=Among programs with a URL website

Table 2: Who Is More Likely to Use VA Tangible Support Components?

	GI Bill	VA home loan	VA hospital, clinic, or Vet Center
	Odds Ratio [CI]	Odds Ratio [CI]	Odds Ratio [CI]
Constant			
Army (ref)			
Navy	0.94 [0.82, 1.07]	0.94 [0.81, 1.09]	0.81 [0.70, 0.93]***
Air Force	0.86 [0.75, 0.99]*	1.24 [1.07, 1.44]***	0.77 [0.66, 0.89]***
Marine Corps	0.99 [0.86, 1.13]	0.60 [0.51, 0.70]***	1.03 [0.89, 1.20]
National Guard or Reserve	2.19 [1.25, 3.83]*	0.51 [0.26, 1.00]	1.20 [0.67, 2.14]
Male	1.01 [0.89, 1.14]	1.19 [1.03, 1.37]*	1.13 [0.98, 1.30]
E1 to E4 (ref)			
E5 to E6	1.21 [1.08, 1.36]***	3.06 [2.65, 3.53]***	1.18 [1.04, 1.34]*
E7 to E9	0.95 [0.82, 1.10]	7.14 [6.02, 8.46]***	1.11 [0.94, 1.30]
W1 to W5	1.04 [0.70, 1.54]	8.87 [5.89, 13.35]***	1.49 [1.00, 2.21]
O1 to O3	0.69 [0.57, 0.82]***	4.23 [3.49, 5.14]***	0.91 [0.74, 1.13]
O4 to O7	0.65 [0.54, 0.77]***	7.08 [5.88, 8.51]***	0.91 [0.75, 1.09]
Currently NGR after AD	1.39 [1.22, 1.59]***	0.84 [0.73, 0.97]*	0.77 [0.66, 0.90]***
Currently serving NGR	0.86 [0.49, 1.53]	1.37 [0.70, 2.70]	0.44 [0.24, 0.80]*
Service support occupation (ref)			
Combat arms occupation	1.18 [1.04, 1.35]*	0.84 [0.73, 0.96]*	0.97 [0.84, 1.11]
Combat support occupation	1.19 [1.07, 1.32]***	0.98 [0.88, 1.11]	1.05 [0.94, 1.18]
Warfare exposure	1.07 [0.96, 1.19]	1.47 [1.31, 1.65]***	1.42 [1.26, 1.60]***
Medical discharge	0.99 [0.90, 1.08]	1.06 [0.96, 1.18]	1.24 [1.11, 1.38]***
White, Non-Hispanic (ref)			
Black NH	1.16 [0.99, 1.35]	0.69 [0.58, 0.81]***	1.33 [1.13, 1.57]***
Hispanic	0.98 [0.85, 1.11]	0.84 [0.72, 0.98]*	1.34 [1.16, 1.55]***
Asian, HPI NH	1.02 [0.82, 1.28]	1.21 [0.93, 1.58]	1.62 [1.27, 2.06]***
More than one race NH	1.09 [0.88, 1.34]	0.91 [0.71, 1.15]	0.85 [0.67, 1.08]
Other race not listed NH	0.73 [0.49, 1.09]	2.18 [1.25, 3.82]*	1.58 [0.96, 2.60]
Ongoing physical health condition	1.02 [0.92, 1.14]	1.18 [1.05, 1.33]*	2.33 [2.07, 2.63]***
Ongoing mental health condition	1.02 [0.90, 1.17]	1.13 [0.97, 1.31]	1.58 [1.38, 1.81]***
Screened positive PTSD symptoms	1.00 [0.88, 1.14]	1.02 [0.88, 1.17]	1.12 [0.97, 1.28]
Probable alcohol abuse	0.94 [0.86, 1.04]	0.83 [0.75, 0.93]***	0.97 [0.87, 1.08]
Probable depression	0.67 [0.57, 0.78]***	0.86 [0.73, 1.02]	1.15 [0.98, 1.34]
Probable anxiety	1.08 [0.94, 1.25]	0.99 [0.84, 1.16]	1.05 [0.91, 1.23]
Full-time employment	0.47 [0.43, 0.52]***	1.66 [1.49, 1.84]***	0.63 [0.56, 0.70]***

* p < .05; ** p < .01; *** p < .001; (n=9,466; population size = 48,427); ref=reference group; AD=Active Duty; NGR= National Guard/ Reserve; HPI=Hawaiian Pacific Islander; NH=Non-Hispanic; CI = confidence interval

Table 3: Who Is More Likely to Use Non-VA Tangible Supports?

	Other Scholarship	Cash (non-tuition support)	Housing	Legal advice
	Odds Ratio [CI]	Odds Ratio [CI]	Odds Ratio [CI]	Odds Ratio [CI]
Constant Army (ref)				
Navy	1.28 [0.92, 1.77]	1.75 [1.13, 2.72] *	1.09 [0.69, 1.70]	1.30 [0.89, 1.91]
Air Force	1.07 [0.76, 1.51]	0.85 [0.49, 1.49]	1.17 [0.75, 1.83]	1.44 [0.99, 2.09]
Marine Corps	1.57 [1.14, 2.16]*	1.75 [1.09, 2.81] *	1.32 [0.84, 2.06]	1.02 [0.66, 1.58]
National Guard or Reserve	1.14 [0.26, 4.91]	1.37 [0.16, 12.01]	2.13 [0.49, 9.14]	0.88 [0.11, 7.12]
Male	1.58 [1.16, 2.15]***	0.97 [0.64, 1.47]	1.57 [1.03, 2.41] *	1.03 [0.72, 1.49]
E1 to E4 (ref)				
E5 to E6	0.71 [0.54, 0.93]*	0.55 [0.37, 0.82] ***	0.63 [0.41, 0.95] *	0.69 [0.47, 1.01]
E7 to E9	0.57 [0.40, 0.81]***	0.43 [0.26, 0.71] ***	0.40 [0.24, 0.67] ***	0.72 [0.46, 1.14]
W1 to W5	0.32 [0.10, 1.10]	0.34 [0.10, 1.20]	0.30 [0.09, 1.05] *	0.59 [0.22, 1.60]
O1 to O3	0.48 [0.32, 0.73]***	0.36 [0.18, 0.70] ***	0.92 [0.52, 1.61]	0.48 [0.25, 0.90]*
O4 to O7	0.30 [0.19, 0.46]***	0.28 [0.15, 0.54] ***	0.51 [0.30, 0.87] *	0.93 [0.58, 1.46]
Currently NGR after AD	1.40 [1.03, 1.89]*	1.27 [0.81, 2.01]	0.71 [0.45, 1.11]	0.93 [0.62, 1.39]
Warfare exposure	1.01 [0.78, 1.31]	1.44 [1.01, 2.05]	1.35 [0.93, 1.96]	1.20 [0.87, 1.66]
White, Non-Hispanic (ref)				
Black NH	0.81 [0.56, 1.19]	1.05 [0.63, 1.76]	1.25 [0.77, 2.03]	1.00 [0.62, 1.61]
Hispanic	0.89 [0.65, 1.22]	1.45 [0.94, 2.23]	1.01 [0.64, 1.59]	1.59 [1.08, 2.33]*
Asian, HPI NH	0.89 [0.52, 1.52]	1.52 [0.75, 3.11]	1.60 [0.82, 3.10]	1.00 [0.47, 2.13]
More than one race, NH	1.34 [0.86, 2.10]	1.38 [0.73, 2.63]	1.54 [0.84, 2.82]	2.28 [1.40, 3.69]***
Medical discharge	0.98 [0.79, 1.22]	0.86 [0.60, 1.23]	1.09 [0.78, 1.53]	1.17 [0.85, 1.62]
Ongoing physical health condition	0.98 [0.76, 1.25]	1.00 [0.67, 1.49]	0.98 [0.67, 1.44]	1.10 [0.77, 1.58]
Ongoing mental health or emotional condition	1.05 [0.78, 1.42]	1.42 [0.94, 2.12]	1.10 [0.73, 1.65]	1.16 [0.80, 1.70]
Screened positive PTSD symptoms	0.88 [0.66, 1.18]	0.98 [0.67, 1.44]	1.23 [0.84, 1.77]	1.85 [1.25, 2.75]***
Full-time employment	0.53 [0.41, 0.67]*	0.91 [0.65, 1.29]	0.86 [0.62, 1.19]	0.90 [0.67, 1.21]

* p < .05; ** p < .01; *** p < .001; (n=4,267; population size = 19,599); ref=reference group; AD=Active Duty; NGR= National Guard/ Reserve; HPI=Hawaiian Pacific Islander; NH=Non-Hispanic; CI = confidence interval

Table 4: Who Is More Likely to Use Access Components?

	Provided Transportation	Provided Insurance or Free Medical Care
	Odds Ratio [CI]	Odds Ratio [CI]
Constant		
Army (ref)		
Navy	0.56 [0.28, 1.10]	1.10 [0.84, 1.44]
Air Force	0.38 [0.20, 0.72]***	1.21 [0.94, 1.56]
Marine Corps	0.77 [0.42, 1.43]	0.70 [0.51, 0.96] *
National Guard or Reserve	2.87 [0.62, 13.32]	2.06 [0.72, 5.86]
Male	0.76 [0.45, 1.29]	0.99 [0.77, 1.27]
E1 to E4 (ref)		
E5 to E6	0.90 [0.50, 1.62]	1.06 [0.81, 1.39]
E7 to E9	1.11 [0.59, 2.08]	0.91 [0.66, 1.25]
W1 to W5	1.84 [0.56, 6.02]	1.22 [0.60, 2.46]
O1 to O3	0.47 [0.20, 1.15]	1.18 [0.83, 1.67]
O4 to O7	0.81 [0.40, 1.67]	1.24 [0.90, 1.71]
Currently NGR after AD	1.59 [0.92, 2.77]	1.04 [0.80, 1.35]
Warfare exposure	0.86 [0.52, 1.41]	1.07 [0.86, 1.32]
White, Non-Hispanic (ref)		
Black NH	1.40 [0.76, 2.59]	0.77 [0.55, 1.09]
Hispanic	0.66 [0.35, 1.27]	1.44 [1.10, 1.87] *
Asian, HPI NH	0.84 [0.29, 2.44]	0.91 [0.56, 1.49]
More than one race, NH	0.93 [0.39, 2.22]	0.98 [0.65, 1.48]
Medical discharge	1.34 [0.88, 2.03]	0.98 [0.81, 1.20]
Ongoing physical health condition	0.93 [0.52, 1.66]	0.93 [0.75, 1.15]
Ongoing mental health or emotional condition	0.77 [0.42, 1.40]	1.06 [0.81, 1.38]
Screened positive PTSD symptoms	2.08 [1.19, 3.63] *	1.18 [0.90, 1.55]
Full-time employment	0.77 [0.48, 1.23]	1.25 [1.03, 1.52] *

* p < .05; ** p < .01; *** p < .001; (n=4,267; population size = 19,599); ref=reference group; AD=Active Duty; NGR= National Guard/ Reserve; HPI=Hawaiian Pacific Islander; NH=Non-Hispanic; CI = confidence interval

Table 5: Who Is More Likely to Use Intrinsic Components?

	Reduced Stigma	Increased Motivation to Change
	Odds Ratio [CI]	Odds Ratio [CI]
Constant		
Army (ref)		
Navy	0.97 [0.65, 1.46]	1.19 [0.93, 1.51]
Air Force	0.85 [0.54, 1.34]	1.03 [0.80, 1.33]
Marine Corps	1.24 [0.80, 1.94]	1.11 [0.85, 1.47]
National Guard or Reserve	1.13 [0.15, 8.29]	0.56 [0.12, 2.54]
Male	0.96 [0.65, 1.42]	1.05 [0.83, 1.33]
E1 to E4 (ref)		
E5 to E6	1.88 [1.17, 3.01] *	0.87 [0.68, 1.11]
E7 to E9	1.93 [1.13, 3.29] *	0.79 [0.59, 1.07]
W1 to W5	3.07 [1.18, 7.98] *	1.10 [0.59, 2.04]
O1 to O3	2.39 [1.28, 4.46] *	0.91 [0.65, 1.28]
O4 to O7	2.25 [1.25, 4.07] *	0.84 [0.61, 1.16]
Currently NGR after AD	0.94 [0.57, 1.55]	1.08 [0.84, 1.40]
Warfare exposure	1.11 [0.76, 1.62]	1.11 [0.90, 1.38]
White, Non-Hispanic (ref)		
Black NH	1.21 [0.79, 1.87]	1.19 [0.90, 1.58]
Hispanic	1.10 [0.70, 1.72]	1.23 [0.95, 1.58]
Asian, HPI NH	1.17 [0.51, 2.68]	1.23 [0.80, 1.90]
More than one race, NH	0.75 [0.38, 1.46]	1.43 [0.99, 2.07]
Medical discharge	1.16 [0.85, 1.59]	0.95 [0.77, 1.18]
Ongoing physical health condition	1.26 [0.85, 1.86]	1.00 [0.81, 1.24]
Ongoing mental health or emotional condition	2.05 [1.32, 3.17] ***	1.04 [0.81, 1.33]
Screened positive PTSD symptoms	1.29 [0.87, 1.92]	1.44 [1.13, 1.82] *
Full-time employment	0.79 [0.56, 1.10]	0.83 [0.68, 1.00]

* p < .05; ** p < .01; *** p < .001; (n=4,267; population size = 19,599); ref=reference group; AD=Active Duty; NGR= National Guard/ Reserve; HPI=Hawaiian Pacific Islander; NH=Non-Hispanic; CI = confidence interval