



# TVMI

The Veterans Metrics Initiative



Identifying the Needs of Transitioning Veterans

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Nearly 250,000 service members per year are expected to leave military service over the next four to five years, most of whom have served in military operations since 9/11. Evidence suggests that this transition process can be extremely challenging for a subset of individuals, including those veterans with mental and physical injuries resulting from military service such as post-traumatic stress disorder (PTSD), traumatic brain injury (TBI) or extremity trauma, which impose an additional burden on their coping skills and daily functioning. Some service members find it difficult to transition from a highly structured environment in which basic living requirements are met (e.g., housing, employment, health care) into an environment in which they must independently navigate the challenges of securing and maintaining



employment, managing finances, accessing education, maintaining wellness and finding their place in the larger community. Many programs developed and/or funded by the U.S. Department of Defense (DoD), U.S. Department of Veterans Affairs (VA) and countless private and community-based entities seek to help ease transition for veterans. Some estimates put the number of programs available to veterans at over 40,000, but whether these transition and reintegration programs are objectively helpful is unknown. A barrier to knowing if these programs effectively assist the veterans they intend to serve is that there are no evidence-based metrics available to determine the programs' impacts—if any—on veterans' long-term well-being.

CONTENTS

- Introduction..... 1
- Contributions..... 3
- Recommendations..... 4
- Adverse Outcomes..... 7
- Interventions..... 8
- Dissemination..... 9
- Next Steps... 10
- Special Thanks.... 11
- Researchers... 12

# Introduction to The Veterans Metrics Initiative

The Veterans Metrics Initiative: Linking Program Components to Post-Military Well-Being Study (TVMI) was the first known research effort to longitudinally examine post-9/11 veterans' transition and reintegration experiences, while simultaneously assessing outcomes impacted by specific components of transition assistance programs used. TVMI was administratively directed by The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF), in collaboration with researchers at the Clearinghouse for Military Family Readiness at the Pennsylvania State University (Clearinghouse), three VA health care systems and a private survey research company. Knowledge generated from this study can inform efforts to better target aspects of well-being that are most challenging for veterans at different points along the transition continuum and develop and fund programs that are more likely to drive positive outcomes.

TVMI followed a population-based cohort of veterans identified from a census of all veterans who were within 0-90 days of separating from military service in the fall of 2016. Six comprehensive surveys were administered at six-month intervals (Waves 1-6) over the first three years of transition from military to civilian life. Each survey assessment recorded participant well-being across four domains: vocation (education and career), finances, health (mental and physical) and social relationships. Participants also identified transition assistance programs they used, if any. The study cohort of 9,566 veterans who completed the Wave 1 survey was highly representative of the entire recently transitioned population of all veterans in the fall of 2016, with over 1,500 veterans from each of the active components (Army, Navy, Air Force and Marine Corps), and over 1,200 reserve component members who recently transitioned from activated status. Included in the

cohort were 1,743 female and 2,704 junior enlisted (i.e., paygrade E1- E4) veterans, which allowed for a better understanding of these rarely studied individuals. The survey data collection instrument administered to the veterans participating in TVMI was composed of three elements: (1) an inventory of veteran well-being (Well-Being Inventory) which assessed veteran well-being across the domains of vocation, finances, health and social relationships; (2) Veteran-Utilized Program questions which helped identify what programs veterans used to assist them in their transition to civilian life, and how the

components of programs identified may have assisted them in their transition; and (3) pre-existing characteristic measures which assessed how predisposing, need-based and enabling factors may have influenced well-being outcomes and program use over time. Following each assessment, the research team identified changes in well-being across various demographic groups, analyzed transition assistance programs identified to distill them into their common components, and examined associations between common program components used and well-being outcomes. Information generated from TVMI is being used by a variety of stakeholders to: (1) learn about well-being domains that are most challenging for veterans at different points along the transition continuum to guide identification of and prompt engagement with at-risk veterans; (2) inform program providers and funders about program components that are associated with improving veterans' well-being outcomes; (3) guide decisions made by the DoD, VA and policy makers to implement, modify or cease transition assistance programs for service members and veterans; and (4) lead veterans and their families to programs comprised of components linked to positive outcomes.





**A multidimensional assessment tool designed to measure military veterans' status, functioning and satisfaction within the four life domains of vocation, finances, health and social relationships.**

## Unique Contributions of TVMI

**T**VMI represents an innovative public-private research partnership that both advances understanding of veterans' most pressing needs throughout the military-to-civilian transition and informs efforts to support veterans throughout the reintegration process. The study achieved its aims through the development of two critical products that are both available on the HJF website: (1) the Well-Being Inventory (WBI); and (2) menus of common program components shown by the evidence to drive successful veteran outcomes in well-being domains. TVMI data was collected with the intention of being made publicly available, which will occur in April 2021 through the Inter-University Consortium for Political and Social Research (ICPSR), a globally recognized repository of social science datasets.

The WBI is a multidimensional assessment tool designed to measure military veterans' status, functioning and satisfaction within the four life domains of vocation, finances, health and social relationships. Status questions tell of the objective experience or role of the veteran (e.g., full- or part-time work, status as a parent). Functioning questions capture behaviors that reflect higher or lower well-being (e.g., regular exercising, smoking, risky drinking). Satisfaction questions collect information about the subjective experiences of a life domain (e.g., satisfaction with work environment, pay/benefits). Throughout the inventory, respondents are instructed to provide responses to categorical items (e.g., yes, no), or to endorse a single response from among statements using a 5-point Likert or other ordinal scale. The WBI includes both core items and contextual items – core items are administered within a given

measure to generate a score for that measure and contextual items are used for descriptive purposes. The WBI has been validated in multiple samples and is now in use with programs such as the Comparative Health Assessment Interview (CHAI) Study of Post-9/11 Veterans and the Millennium Cohort Study – VA Supplement.

TVMI used a modified Common Components Analysis (CCA) methodology, which summarizes the programs' effectiveness in improving their intended outcome(s) into the components shared across programs. Clearinghouse researchers adapted the CCA approach to (a) capture a variety of similar program characteristics to increase the quality of the comparison within components; (b) identify components from four primary areas (i.e., content, process, barrier reduction and sustainability) within specific programming domains (e.g., vocations, social); and (c) test the extent to which the common components are associated with changes in intended program outcomes (e.g., employment, job retention). Content components describe what skills are taught in the program, such as resume writing, how to access benefits, relaxation techniques or team communication. Process components capture the delivery method and mode of how the content is taught – in a self-paced method or via a mentor, with an in-person or online mode, for example. Barrier reduction components can take three forms: program access (e.g., transportation to the program), tangible supports (e.g., scholarship for education), or intrinsic factors (e.g., reduce stigma around program use). Lastly, sustainability components provide ongoing support to prolong a program's benefits, such as referrals or alumni groups.

# Recommendations for Addressing Veteran Well-Being

## Employment

### Challenge:

Veterans reported having jobs and being satisfied with their work early in the transition process, but experienced declines in work functioning over time. Many veterans reported being underemployed at three years post-separation.

### Solution:

Enact a multi-pronged approach to enable veterans to translate their military skills into the civilian workplace and promote awareness among employers about the skill sets and assets that veterans possess. Shorten the length of time it takes to secure a job after discharge and increase starting salaries by fostering early participation in programs using targeted employment components. Advocate for continued use of employment components as they are related to veterans finding better employment opportunities after the first two years post-separation.



## Education

### Challenge:

Nearly one-third of veterans reported seeking additional education within three-months after leaving military service, but many experienced declines in their educational functioning and satisfaction during the study period, from about 85% at Wave 1 to around 70% at Wave 6. Veterans who reported problematic financial risk (i.e., being late for bills or having no savings) were 24% less likely to complete their education if pursuing a bachelor's degree; veterans with PTSD symptoms were 80% more likely to discontinue educational pursuits for a bachelor's degree.

### Solution:

Educational institutions and other services can address PTSD and financial problems using programs/services that use effective common components to address these challenges. Potential veteran students could be screened for these issues and redirected to these programs prior to starting their education.



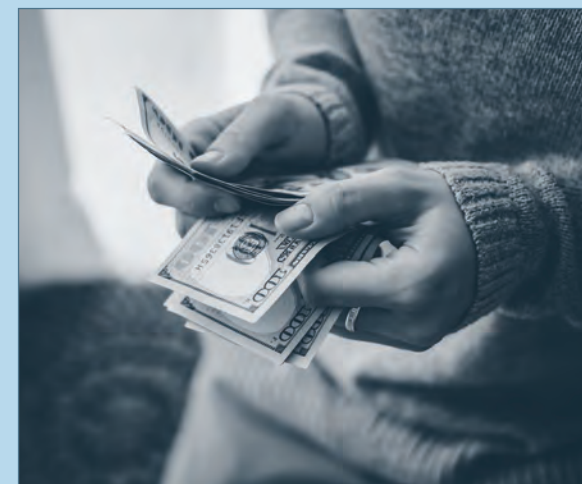
## Financial

### Challenge:

Veterans were more likely to report poor financial functioning than they were to report poor functioning in other aspects of their lives. Although veterans' financial status improved over the three years of the study, their financial functioning and satisfaction did not. Veterans who had a problematic financial status at discharge (23%) were 2.8 times more likely to experience difficulty adjusting during their transition to civilian life in Wave 2, and this difficulty remained high through two years post-military separation. Nearly half (45%) of veterans did not accrue three months of income set aside for unforeseen experiences, like the loss of a job.

### Solution:

Raise awareness and promote the utilization of informational resources, training and tools that can improve veterans' financial status, particularly for junior enlisted veterans (E1-E4) who were more likely to have problematic financial status. Veterans who had problematic financial status and participated in programs/services offering components improved their ability to pay for immediate financial needs (e.g., pay monthly expenses).



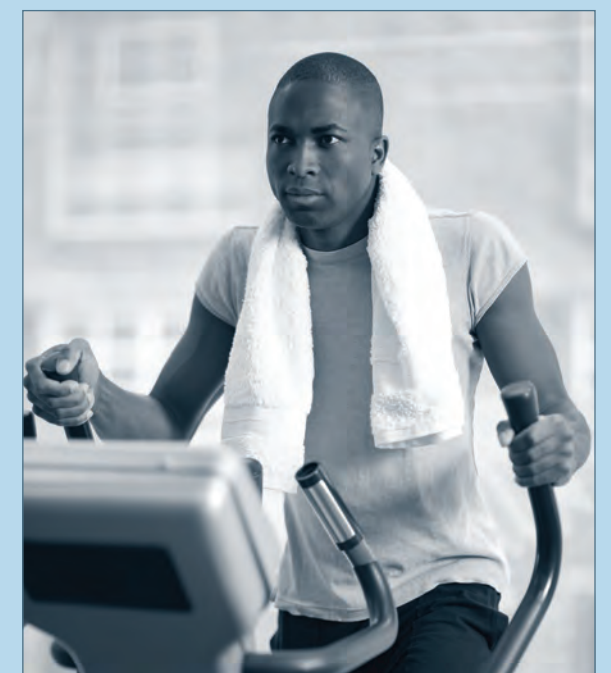
## Physical Health

### Challenge:

Nearly half (53%) of veterans reported having a physical health condition, with chronic pain (41%) and sleep problems (31%) as the most commonly endorsed conditions. Health functioning and satisfaction declined over the three years of the study.

### Solution:

Integrate a holistic perspective into programs/services to foster better veteran health; effective interventions can modify behaviors that influence well-being. The majority of programs were nominated in single domains of well-being; increase the availability and/or cross-utilization of siloed interventions to better focus on the holistic health of veterans. The VA provides a comprehensive health care system (e.g., behavioral health working collaboratively with primary care) and veterans who received health care through the VA in Wave 1 improved their health satisfaction across the six waves.



# Well-Being

## Mental Health

### Challenge:

A third (33%) of veterans reported having a mental health condition, with anxiety (22%) and depression (20%) as the most commonly endorsed conditions. An examination of veterans' endorsement of suicidality suggests that suicidal thoughts are not uncommon during transition, as approximately 10% reported at least some thoughts of suicide at each assessment. Veterans with ongoing mental health problems were nearly ten times more likely to have difficulty adjusting during their transition to civilian life. Higher levels of stress imparted a persistent risk of meeting criteria for PTSD.

### Solution:

Destigmatize mental health care, help veterans reflect on their mental health needs and encourage veterans to be receptive to connecting with needed mental health supports. Offer veterans who have experienced or witnessed combat additional support to address the mental and emotional impacts – veterans exposed to warfare (i.e., combat patrols) were the most likely group to experience negative mental and emotional impacts.



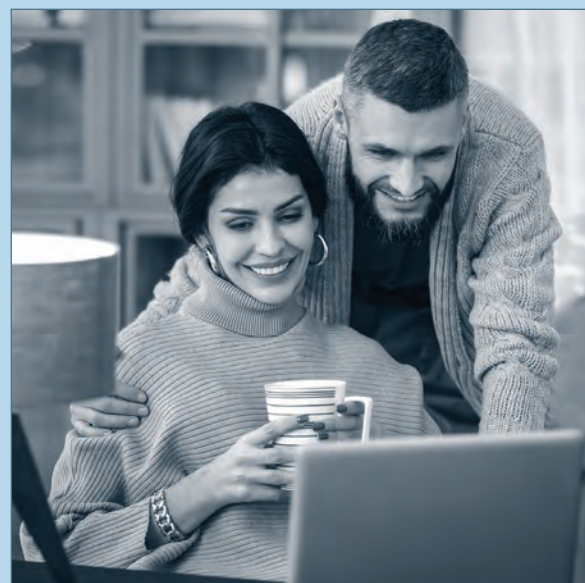
## Social Relationships

### Challenge:

Veterans' social well-being declined over the three years of the study, with 9.6% of the veterans starting off poorly with no/little social support at Wave 1 – an issue particularly for those with problematic financial status, TBI, PTSD symptoms or probable depression. Women experienced greater declines than men in their intimate relationship functioning over the three years; men experienced greater declines in their community involvement.

### Solution:

Promote utilization of programs/services that increase social support and decrease social isolation for veterans; these efforts will require rigorous evaluation. Support programs/services that reduce social isolation by offering structured opportunities for veterans to form meaningful connections, as participation in volunteering reduced social isolation from Wave 1 to Wave 6 and current level of social support is a buffer against meeting criteria for PTSD.



## Populations at Highest Risk for Adverse Outcomes Following Transition

Veterans who reported having been enlisted (as compared to officers) while in service were at particularly high risk for adverse post-military outcomes such as underemployment (63%), high rates of probable anxiety, PTSD, depression and/or self-harm (40%); alcohol misuse across waves (35% in Wave 1); problematic financial status (33%) or at-risk financial status (44%); and social isolation (11% in Wave 1). However, they reported using fewer programs and services across the various well-being domains and utilized less barrier reduction components. Enhanced transition supports should be provided to junior enlisted ranks (e.g., development of transition plans, access to mentors).

Veterans who reported high depression, low psychological resilience and low social support at the time of separation were at highest risk for poor post-military well-being one year later.

Veterans who reported PTSD, exposure to adverse childhood experiences (ACEs) and moral injury were also at risk for declines in post-military functioning.

Veterans with PTSD symptoms were more likely to discontinue educational pursuits: technical training (90% more likely), associate degree (60% more likely) and bachelor's degree (80% more likely).

Female veterans experienced greater declines than men in well-being over the three years of the study. Female veterans were less likely to use VA home loans, non-VA scholarships and housing programs.

Outcomes varied based on race/ethnicity. Non-Hispanic Black and Hispanic veterans had lower utilization of VA home loans (39% at Wave 6) than their White, non-Hispanic peers (49%), and 70% of minority veterans reported unemployment. At the same time, veterans from racial or ethnic minority groups (e.g., Black non-Hispanic, Asian) were more likely to utilize a variety of employment programs and VA health care services than their White non-Hispanic peers.

Veterans who had a problematic financial status at discharge were 2.8 times more likely to experience difficulty adjusting during their transition to civilian life in Wave 2, and this difficulty remained high through two years post-military separation.

# Potential High Value Interventions Based on TVMI Data

Almost all veterans used transition resources in the first two years after military separation. Beyond two years, those in high-risk categories (e.g., problematic financial status, PTSD and cumulative trauma experiences) needed continued supports.

The following general recommendations are put forth:

1. Establish a universal screener and link it to a navigation infrastructure thereby identifying risk factors early and providing targeted supports, interventions and components.
 

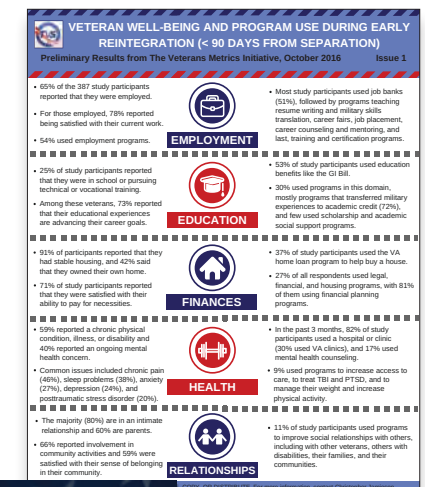
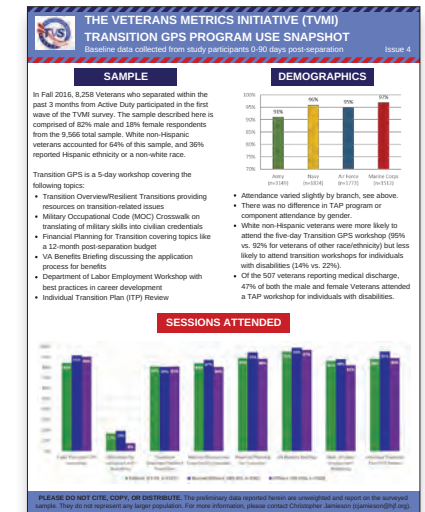
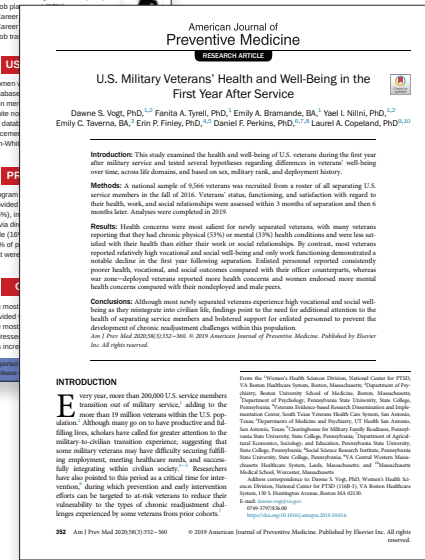
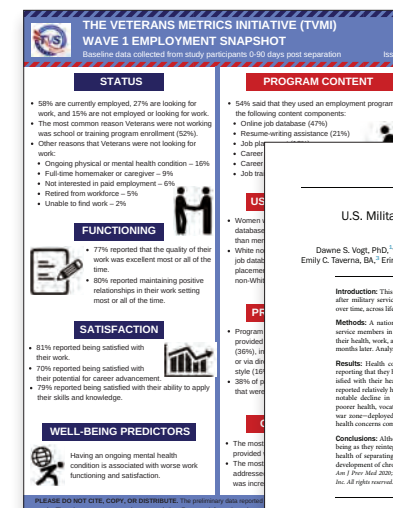
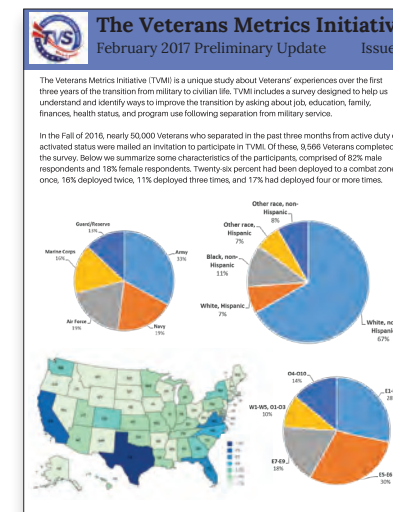
More holistic assessments of veterans' well-being will enhance knowledge of particular areas in which they would benefit most from additional support and guide the provision of transition support. This could be accomplished by a measure like the WBI to identify areas in which veterans would benefit from support and provide targeted referrals to relevant programs, services and supports based on these results.
2. Increase health-related screening and treatment referrals within programs that provide transition support to separating service members.
 

These efforts should focus on addressing the unique needs of enlisted personnel and female veterans, and intervene with veterans who report high depression, low psychological resilience and low social support at the time of separation, as well as those who screen positive for PTSD and/or report experiencing moral injuries during military service.
3. Utilize proven engagement and marketing strategies to increase program/service use by veterans, and especially target those who are high risk or less likely to utilize programs/services (e.g., financial management for junior enlisted paygrades).
 

Stress reduction and social skills development programs could improve mental health status and resilience; improving resilience per se could help stave off exacerbation of psychological distress.
4. Incorporate the identified evidence-based components into program/services to promote effectiveness.

# Dissemination Activities to Date

TVMI findings are being disseminated through appropriate channels within the scientific and veteran communities. Ten scientific manuscripts have been published and five are currently submitted to journals and are under review. More than a dozen oral presentations were given at national conferences, and presentations were given to staff from the House Armed Services Committee and the House Committee on Veteran Affairs. Additionally, multiple webinars for interested organizations that serve veterans have been given, including the Australasian Webinar and Working Roundtable Program on Military, Veterans and Families Well-Being. The research team has produced 15 infographics on various topics and 10 handouts discussing preliminary findings on the effect of program use on veteran well-being. The final menus of common components showing content and process components that affected employment, education, financial, health and social well-being were released in July 2020, and the Well-Being Inventory is being disseminated for broader use in the field. The posters, infographics, handouts and menus are available on the HJF website.



## Next Steps for TVMI Team

TVMI researchers are continuing to explore the well-being and demographic data and identify impacts of program use on well-being. Additionally, by making the TVMI dataset available in the ICPSR repository, others in the military and veteran research community will be able to answer questions based on the collected data. The TVMI team is continuing to present findings in manuscripts, posters, presentations and webinars. Both VA and Penn State researchers have secured funding for additional waves of data collection, and nearly 4,000 participants in the TVMI cohort consented to be contacted about future research studies. This provides a rich opportunity to add follow-on studies that could

include, without limitation: (1) joining family members/caregivers of study participants to learn about the transition experience of the entire veteran family/caregiver unit; (2) adding objective administrative data to the self-report information provided by TVMI participants; and (3) assessing the well-being outcomes of veterans who participate in specific programs as against those who do not. In addition to collecting TVMI measures at four years after separation, Clearinghouse researchers are asking respondents about the impact of finances and student loan burden on their educational attainment. VA researchers are also implementing additional surveys to assess the impact of COVID-19 on veterans' lives.



Henry M. Jackson Foundation

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