Continuing Down the Road to Reintegration

Status and Ongoing Support of the U.S. Air Force's Wounded Warriors

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Preface

The United States has been at war for more than a decade. As is inevitable, war imposes costs on a nation, not least of which is the cost to the nation's servicemembers. Although, comparatively speaking, the U.S. Air Force has suffered fewer casualties than some other services have, many airmen were injured in hostile or combat-related incidents. The Air Force wanted to understand the well-being of its members who were injured in combat, including their quality of life and the challenges that will confront them in the long term following separation or retirement. It was also interested in gauging the quality of support given to its veterans. The Air Force turned to RAND Project AIR FORCE (PAF) for help in assessing these areas of concern and requested an approach that would provide a foundation for a longitudinal exploration of the reintegration of its wounded warriors, with the ultimate goal being an ability to conduct such a longitudinal exploration. This report briefly describes that baseline research effort (Sims et al., 2015), as well as the second wave. It should interest those concerned with the status of the Air Force's wounded warriors and the quality of support they are receiving.

The research reported here was commissioned by the Assistant Secretary of the Air Force for Manpower and Reserve Affairs, the director of the Air Force Directorate of Services, and the Air Force Surgeon General and conducted within the Manpower, Personnel, and Training Program of PAF as part of a fiscal year 2014 project "Tracking the Effectiveness of Warrior and Survivor Care."

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Contents

Figures

Tables

Summary

Background and Purpose

The long wars the United States has been fighting in Iraq and Afghanistan are, if not ending, winding down. But many wounded veterans still carry the effects of those conflicts with them. Some wounds are physical, others mental. Although it has experienced fewer casualties than the Army or the Marine Corps has, the U.S. Air Force (AF) still has more than 1,000 airmen with physical or mental trauma. Some remain on active duty, some move into the reserves, and others leave the service and seek civilian employment. However, all face a range of challenges, from reestablishing patterns of everyday interactions with their families to finding a job. Many must also cope with injuries and the treatment for those wounds, seeking mental health services in some cases or navigating the complex array of the programs and systems of care available to veterans.

AF wanted to gain greater insight into the well-being of its members who have sustained mental or physical injuries in combat or combat-related situations, with an eye toward improving services provided and enabling wounded airmen to become fully functioning members of society. It also wanted to take advantage of ongoing research into how best to do so. Areas of interest include quality of life and the challenges that will impede wounded veterans' reintegration following separation or retirement. To begin the process of gaining this insight, AF asked RAND Project AIR FORCE for assistance in gauging the current status of AF's wounded warriors, including their use of and satisfaction with AF programs designed to serve them. To help, RAND Project AIR FORCE surveyed AF wounded warriors (wave 1) and published the results in 2015 (Sims et al., 2015). This report presents the analysis of the second such survey, called wave 2.

How We Went About the Analysis

Informed by our purview, the literature documenting some of the challenges that veterans of the Vietnam War experienced, and known concerns about the current conflicts, we developed a notional model that drove a survey that assessed well-being on a range of critical indicators. These indicators included psychological health, social support, housing instability, and perceived financial security. We also included questions to assess AF services used, focusing on the AF Wounded Warrior (AFW2) program, the AF Recovery Care Coordinator program, and, new in wave 2, the Family Liaison Officer

(FLO) program.[1] Because the programs were established relatively recently, this longitudinal investigation represents an independent program evaluation to determine the array and extent of the needs of intended program recipients, assess how well the program meets these needs, and suggest ways to improve the programs.

We designed wave 2 of this ongoing study to follow up with the cohort of airmen who had completed the wave 1 survey and to provide a baseline assessment of a new cohort of combat-injured airmen who had not participated in the wave 1 survey. Similar to the wave 1 survey, the sample for the wave 2 survey was a subset of airmen enrolled in the AFW2 program as of December 2013 whose names, contact information, and administrative data we obtained from the AF Personnel Center. When we fielded the wave 1 survey in the fall of 2011, the AFW2 program served only those with combat injuries. Since then, AF has expanded its eligibility criteria for the AFW2 program to include all wounded, ill, or injured airmen, regardless of whether their conditions are combat-related.

Excluding study-ineligible airmen from the list of AFW2 enrollees resulted in a sample for the wave 2 survey that consisted of the 1,219 enrollees of the AFW2 program who were either medically retired or undergoing evaluation for medical retirement because of combat or related injuries and illness (out of a total 3,439 wounded, ill, and injured in the program at the time). Of these 1,219 airmen, 641 were in the original wave 1 sampling, and 578 had enrolled in the AFW2 program after we fielded the wave 1 survey. Of the 1,219 airmen, 527 completed the survey.

Results in Brief

Our results demonstrate that the airmen in our sample indeed are experiencing or continue to experience challenges in a variety of domains. A high proportion of airmen surveyed screened positive for posttraumatic stress disorder (roughly 75 percent) and major depressive disorder (roughly 72 percent), with 67 percent screening positive for both. We also found evidence of lower rates of perceived physical health within our sample than in the U.S. general population. Although our sample reported very high rates of mental health treatment within the past year for those who needed it (90 percent), within that same time frame, about half reported at least one instance in which they wanted but did not obtain mental health treatment. A one-year time frame is broad in the context of access to care; within that period, many impediments can arise and be

[1] The FLO is someone appointed to assist seriously wounded, ill, and injured airmen and their families. FLOs are responsible for logistical support to the member and his or her family, such as meeting family members at the airport and arranging lodging and transportation. They also serve as facilitators by helping airmen and their families navigate the various agencies involved in recovery, rehabilitation, and reintegration (Manpower, Personnel and Services, 2012).

resolved. However, given the identified need for mental health services among this population and the efforts that have been undertaken to deal with servicemembers' mental health needs more effectively, unmet need for mental health treatment remains a pertinent issue. The most–commonly reported barriers included the belief that available mental health treatments were not very good, concerns about the side effects of psychotropic medication, and the belief that airmen could handle the problem better on their own. Concerns about confidentiality and the potentially adverse effects of seeking treatment on one's career also manifested in a variety of ways.

We asked each airman to identify the nature of his or her relationship to the one person "who most often helps you deal with problems that come up" (i.e., the airman's "primary supporter"). More than one-half of respondents selected spouse or domestic partner, although about 20 percent said that no one played this role for them. About 10 percent of those surveyed fall below the U.S. Department of Health and Human Services' poverty guidelines.

Similarly, close to 15 percent of our sample would be considered unemployed based on the Bureau of Labor Statistics' U3 (official) measure of unemployment. Although many of the non–active duty survey respondents indicated that they were employed at least part time, the unemployment rate is somewhat elevated. Of those who indicated that they were unemployed and looking for work, unemployed and not looking, retired, or unemployed because of disability, we asked about perceived barriers to employment and found that more than half felt that they were not physically capable. Given that many who answered that question reported that they *were disabled* and not working, concerns about disability status are unsurprising. Self-efficacy and other types of training can benefit those who are having difficulties finding employment. Furthermore, airmen, both unemployed and employed, also reported anxiety about working in the civilian workforce.

Housing instability represents another potential area of concern, with about 10 percent of the new cohort (since fall of 2011) indicating that their first experience with housing instability occurred after they returned from most-recent deployment and about 8 percent of the longitudinal subset saying they had had housing instability since the previous survey.

We compared retirees and serving airmen; in many cases, these two groups did not differ significantly. However, relative to current airmen, significantly higher proportions of retirees screened positive for posttraumatic stress disorder, and we found a similar pattern for major depressive disorder. The two groups did not differ in terms of reporting that they received mental health treatment, although, for those who reported at least one instance in which they wanted but did not obtain mental health treatment, perceived barriers differed somewhat.

Despite the challenges observed in the overall wave 2 sample, some domains showed evidence of improvement. Specifically, in between waves 1 and 2, airmen's perceptions of their physical impairments improved, the proportion of airmen who reported the presence of a primary supporter increased, and the proportion of airmen who were unemployed and looking for work decreased. Moreover, high numbers of respondents eligible for and in receipt of services from the varying programs available to support them (the AFW2 program, the AF Recovery Care Coordinator program, and the FLO program) reported overall very high levels of satisfaction with these programs.

Recommendations

Our recommendations fall into two groups: mental health and nonmedical support.

Mental Health

To help airmen overcome barriers to mental health treatment, we recommend that AF (and other related systems of care) take the following actions:

- Continue to collect and publicize data on the quality of care provided, and evaluate new approaches to treating mental health problems.
- Discuss availability and quality of care with airmen.
- Evaluate, emphasize, and enhance confidential treatment options.
- Pilot-test the efficacy of empowering nonmedical case managers to help address scheduling difficulties.
- Explore and facilitate social support interventions.

Nonmedical Support

We recommend the following actions to mitigate challenges that non–active duty respondents reported regarding employment and other types of nonmedical support:

- Explore specific reasons for this anxiety, and consider efficacy interventions focused on employment issues.
- Focus employment support on individual skill sets and their translation to new contexts.
- Continue systemizing and resourcing services to integrate social support generally, including the FLOs.
- Systematically assess how often airmen want nonmedical case managers to contact them.

Conclusion

The process of recovery and reintegration for wounded airmen is likely to be a long one. Thus, a long-term approach is needed to gauge the effectiveness of the many interventions and conditions that affect this process. For this reason, we suggest ongoing

program evaluation, as well as continuous efforts to improve program offerings. AF, by means of this and other research, is starting to compile the necessary information and to mitigate potential issues before they become entrenched problems. Our data represent only two points in time, fall of 2011 and spring of 2014, but they do tell the ongoing story of wounded airmen's well-being based on a holistic set of indicators. Our findings reveal that those enrolled in the AFW2 program for combat-related reasons face a variety of reintegration challenges, and these are likely to remain for some time to come. AF and others must continue to provide support through this process. In a time of generally declining resources, research can help determine the most-effective and -efficient means to do so, thereby benefiting airmen, their families, and the nation.

Acknowledgments

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We also thank the reviewers who read our document carefully and offered many suggestions to make this a stronger and more readable work; Jerry M. Sollinger, who tried to keep us on track in terms of clarity of expression; and Jamie Greenberg, who provided administrative support.

Most of all, we thank the wounded warriors who took the time to answer our questions, some of them for the second time, and offer insight into their current status.

Abbreviations

AF	U.S. Air Force
AFI	Air Force instruction
AFPC	Air Force Personnel Center
AFRCC	Air Force Recovery Care Coordinator
AFSC	Air Force specialty code
AFW2	Air Force Wounded Warrior
AUDIT-C	Alcohol Use Disorders Identification Test, alcohol consumption items
BLS	Bureau of Labor Statistics
CBT	cognitive–behavioral therapy
CI	confidence interval
CPT	cognitive processing therapy
CRP	Comprehensive Recovery Plan
DES	Disability Evaluation System
DoD	U.S. Department of Defense
DSM-IV	*Diagnostic and Statistical Manual of Mental Disorders*, 4th ed.
EBT	evidence-based treatment
FLO	family liaison officer
HHS	U.S. Department of Health and Human Services
HUD	U.S. Department of Housing and Urban Development
IPT	interpersonal therapy
LL	lower limit
M	mean
MDD	major depressive disorder
MTF	military treatment facility
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OR	odds ratio
PAF	RAND Project AIR FORCE
PCL	PTSD Checklist
PDRL	Permanent Disability Retired List
PE	prolonged exposure
PEB	Physical Evaluation Board
PHQ-8	eight-item Patient Health Questionnaire
PTSD	posttraumatic stress disorder
RCC	recovery care coordinator

RCP	recovery care plan
SD	standard deviation
SF-36	36-Item Short-Form Health Survey
SSRI	selective serotonin reuptake inhibitor
TDRL	Temporary Disability Retired List
UL	upper limit
VA	U.S. Department of Veterans Affairs
VASH	U.S. Department of Veterans Affairs Supportive Housing
VHA	Veterans Health Administration

Chapter One. Introduction

The U.S. Air Force (AF) has suffered a few hundred deaths from hostile action in the Iraq and Afghanistan wars (DeBruyne and Leland, 2015), and many airmen were injured in hostile or combat-related incidents during the same conflicts. AF wanted to understand the well-being of these injured airmen and get a sense of their quality of life and the challenges that impede their reintegration into society in the long term. AF turned to RAND Project AIR FORCE for help in assessing these areas of concern and requested an ongoing, longitudinal study of the reintegration of its wounded warriors. RAND has published the findings and recommendations from the first wave of this ongoing study (Sims et al., 2015). This report describes the findings and recommendations from the second wave of this study. Although there is some notable overlap reflective of the longitudinal nature of the study, the data presented are new.

Overall Project Objectives and Background

When this project originated, its goals included seeking a broad and ongoing perspective on the numerous challenges that accompany reintegration. The enduring consequences of the Vietnam War suggest that the challenges that the nation and the servicemembers who took part in conflicts in the past decade currently face will likely continue. However, the differences in the nature of the conflict (see, e.g., Committee on the Initial Assessment of Readjustment Needs of Military Personnel, Veterans, and Their Families, 2010) suggest that the course of reintegration and healing might raise more or different issues as these veterans reintegrate into society. An all-volunteer force, servicemembers who deployed multiple times, and a larger number of servicemembers returning who experienced injuries that, in prior conflicts, might have resulted in death create a cohort with a variety of differences, some of which might enhance resilience, while others could pose new challenges to overcome.

Existing research on reintegration has been more generally focused on the needs of veterans across the spectrum of combat-related impairment. The current project, however, looks more specifically at the psychosocial needs of veterans with combat or related injuries and undertakes an in-depth, longitudinal, and holistic assessment of the needs of this particular subgroup of veterans. The initial desire for a comprehensive perspective drove a holistic orientation and opened the door to consideration of numerous domains. We present our notional model of the set of domains we considered and assessed and the findings from the second wave of the survey. Future work would consider both the baseline and this second wave and improve on them, driven by

questions that the first two waves of the survey, as well as the changing needs of AF and its wounded warriors, sparked.

Analytical Approach

At the request of AF, we focused on airmen enrolled in the AF Wounded Warrior (AFW2) program: airmen who had typically suffered injuries such that they either had medically separated or retired from the military or were seen as likely to do so and whose injuries were related to combat or hostile action. Given our population of interest, we expect greater prevalence and severity of psychosocial challenges documented in previous research in our sample than among those with less severe injuries and illnesses. Additionally, our sample is specifically restricted to airmen whose experiences might differ qualitatively from those of other servicemembers.

Within the broader context of psychosocial functioning, we consider four primary domains: mental health, unemployment, homelessness, and interpersonal relationships. The literature suggests that each domain is important. Moreover, each is a potential target for interventions and policies that AF could implement. Intervening in the areas of mental health, social support, and employment could prevent later negative spillover into other domains, although causality might ultimately be reciprocal.

Informed by our purview, the literature documenting some of the challenges that veterans of the Vietnam War experienced, and known concerns of the current conflicts, for our initial survey, we developed a notional model that drove a survey that assessed well-being on a range of critical indicators (Sims et al., 2015). These indicators included psychological health, social support, housing instability, and perceived financial security. We also included questions to assess AF services used, focusing on the AFW2 program; the Air Force Recovery Care Coordinator (AFRCC) program; and, new in wave 2, the Family Liaison Officer (FLO) program. Because the programs were established relatively recently, this longitudinal investigation represents an independent program evaluation to determine the array and extent of the needs of intended program recipients, assess how well the program meets these needs, and provide suggestions for program improvement.

As anticipated, our initial survey revealed that airmen were experiencing challenges in such domains as mental health and employment. The survey also revealed some bright spots, including satisfaction with AF nonmedical care. We also identified areas in which a deeper dive would be helpful. Some changes to the second wave of the survey include questions about other services that have been more clearly codified since the fielding of the baseline survey (e.g., the role of the FLO). We also included items to increase the breadth of the inquiry about initial program satisfaction and usage and to help interpret them. Specifically, we included items to assess whether reintegration services are helpful.

In addition to items that assess satisfaction, we included items that assess the desired call frequency of the AFW2 program.

Further, our baseline instrument was limited in that it did not assess where wounded veterans encountered barriers to mental health care. Thus, we modified the survey to include items directly asking each airman in which of the three systems of care he or she experienced the most-important barriers identified. Given the concerns regarding work skills and the educational benefits highlighted in the findings of the first wave, we were also able to include an additional item asking about educational pursuits.

Finally, we assessed employment barriers among a broader group of airmen in the second wave. The first wave assessed employment barriers that only unemployed airmen who were looking for work or disabled faced. In contrast, the second wave assessed barriers to obtaining employment among unemployed, disabled, or retired airmen, as well as barriers to maintaining or finding alternative employment among currently employed airmen. Given the length of the initial baseline survey, making these changes did require cuts to other content domains; however, the holistic intent and ultimate usefulness of the survey for policymakers have been retained.

Organization of This Report

In Chapter Two, we describe the model we developed and review the literature documenting challenges that reintegration is likely to entail, taking a holistic perspective that considers several domains of functioning as described above. In Chapter Three, we provide an overview of our survey procedure and content that the literature and our notional model drove. In Chapter Four, we detail the results of the second wave of the survey in the areas of mental health, mental health service utilization, and physical health. In Chapter Five, we report the key survey findings in the domains of social and occupational functioning and financial and housing stability. In Chapter Six, we describe airmen's utilization and perceptions of the key nonmedical AF programs that serve wounded airmen: the AFW2 program, the AFRCC program, and the AF FLO program. Finally, in Chapter Seven, we present the conclusions we drew from this investigation and provide recommendations for AF to consider.

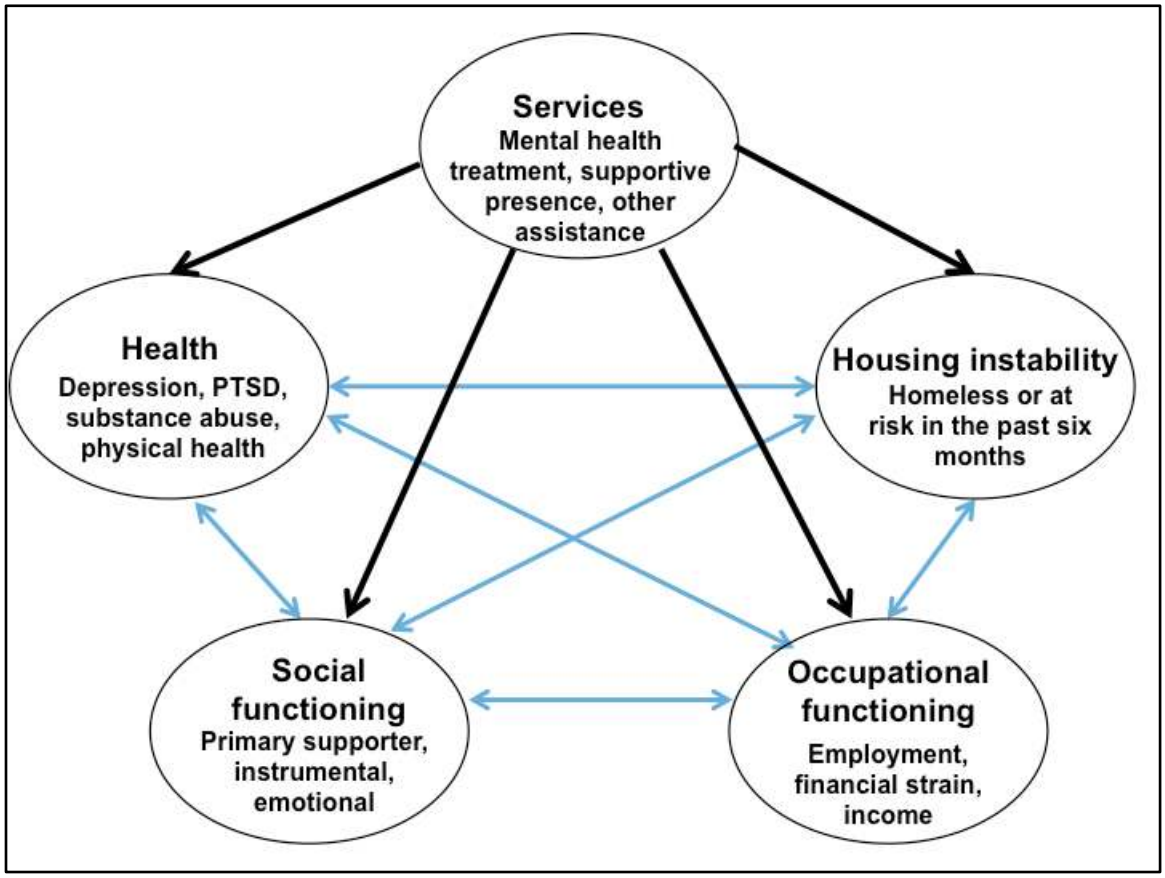
Chapter Two. Brief Literature Review: A Holistic Approach to Reintegration Is Necessary

In assessing people with reintegration challenges that their injuries are potentially exacerbating, several life domains warrant consideration. A holistic perspective suggests that the nature of the injury itself is important and that we should include in our examination social and work functioning and other stressors, such as housing instability (see, e.g., Berglass and Harrell, 2012; Committee on the Initial Assessment of Readjustment Needs of Military Personnel, Veterans, and Their Families, 2010). For this longitudinal effort, we first surveyed the literature with the goal of determining what functional domains we should include in this holistic perspective. We provide a brief overview of this literature review here (see Sims et al., 2015, for a more detailed review). We then developed a notional model based on the literature on reintegration that guided our selection of variables for a baseline survey, which we further refined for wave 2.

Figure 2.1 portrays our notional holistic model, which includes health, particularly posttraumatic stress disorder (PTSD) and depression;[2] social support; housing status; and job and financial status, all of which are expected to influence each other. As shown, we also include the provision of services, which are expected to influence each of these domains in ways that benefit the overall reintegration of wounded warriors. The bidirectionality of the arrows in the figure demonstrates the interplay among the domains.

[2] The notional holistic model also includes substance abuse. However, we do not focus on it in our literature review or in the body of the report for two reasons: (1) rates of alcohol misuse among our wave 2 respondents do not appear to be elevated compared with those in the U.S. general population and (2) because PTSD and major depressive disorder (MDD) are much higher in this population than in the U.S. general population, we wanted to focus more on literature and findings relevant to these conditions and mental health treatment. We do report findings on substance use in the appendix, and a brief literature review on substance use can be found in the report that describes findings from the wave 1 survey (Sims et al., 2015).

Figure 2.1. Holistic Model of Interrelationships and Intervention Opportunities



NOTE: The black arrows from "Services" indicate the effects of policy intervention.

Although we include social functioning and support as separate domains, reintegration programs, such as the AFW2, AFRCC, and FLO programs, might help mimic the natural support system (i.e., family, friends, community, and spiritual and religious leaders) during a time when the social supports are likely to be disrupted. Telephone calls and frequent contact with servicemembers allow these service providers—called nonmedical case managers—to advise, guide, and assist with formulating life and recovery goals, or just listen. These programs can also provide support at critical transition junctures, such as immediately upon leaving service; ensuring a so-called warm handoff to other support structures, such as the U.S. Department of Veterans Affairs (VA), or during geographic relocations.

We turn now to a brief overview of the literature. We summarize research that often focuses more generally on servicemembers, though rarely specifically on airmen. Some research examines care-seeking populations, but much focuses more generally on servicemembers who have deployed. The airmen in our population are a select and unique subset of the larger population of servicemembers who must chart the path of

reintegration.[3] Their injuries, of course, neither occur nor heal in isolation, and we consider each of the domains above briefly.

Mental Health

Past research has demonstrated that rates of current probable PTSD and MDD among servicemembers and veterans deployed in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) are notably elevated compared with those documented in the U.S. general population of adults (Hoge, Castro, et al., 2004; Kessler, Chiu, et al., 2005; Ramchand, Schell, et al., 2010; Schell and Marshall, 2008; Vaughan et al., 2011). The noted frequency of PTSD (in excess of 70 percent screened positive) among AFW2 program enrollees in wave 1 means that mental health problems represent a critical quality-of-life issue in the specific population of severely combat-wounded airmen enrolled. Although physical challenges are also of concern, we devoted our focus to the mental health challenges that were clearly a pressing issue for the population.

Posttraumatic Stress Disorder

According to the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed., text revision, definition (American Psychiatric Association, 2000),[4] PTSD is a constellation of symptoms that develop in response to a traumatic event. By this definition, a traumatic event is one in which someone experienced or observed an event that involved actual or threatened physical harm to oneself or others and prompted intense fear, helplessness, or horror. The constellation of symptoms fall into three clusters: reexperiencing of the event (e.g., repeated, disturbing memories of the event), avoidance of reminders of the event and numbing, and hyperarousal (e.g., hypervigilance, problems sleeping) (American Psychiatric Association, 2000).

Estimates of the prevalence of PTSD in servicemembers and veterans deployed to OEF and OIF vary widely across studies (Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2012; Ramchand, Schell, et al., 2010; Ramchand, Rudavsky, et al., 2015; Xue et al., 2015). The widest range of estimates reported in these reviews was 0 to 48 percent (Ramchand, Rudavsky, et al., 2015). The large amount of variability in estimates across studies is probably best explained by a

[3] Note that, although our study focuses on airmen, the general population and general veteran literature is relevant, particularly because relatively few studies focus exclusively on airmen.

[4] Note that the new *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed., definition of PTSD is slightly different (American Psychiatric Association, 2013). We fielded our baseline survey prior to the release of the *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed., and therefore based it on DSM-IV criteria. To allow for continuity of measurement over time, we used the same measure of PTSD in our follow-up survey.

combination of factors, including differences in samples (e.g., treatment-seeking versus non–treatment-seeking, degree of combat exposure) and measures of PTSD (Ramchand, Rudavsky, et al., 2015).

Airmen have been shown to have lower rates of PTSD than servicemembers in other branches. One of the few studies that focused on airmen, the Millennium Cohort Study, compared rates of new-onset PTSD across airmen who had deployed to Iraq or Afghanistan after 2001 and rates in those who had not deployed (T. Smith et al., 2008). Airmen who had deployed with combat exposure had rates of PTSD (3.5 percent) that were nearly three times as high as those who had not deployed during the same period (1.2 percent), after adjusting for several demographic and service history characteristics. Of note, these rates were roughly one-third of those that soldiers in the Millennium Cohort Study reported (9.3 percent of soldiers who deployed and had combat exposure had new-onset PTSD; 3 percent of soldiers who did not deploy had new-onset PTSD). Similarly, in another study of previously deployed OEF and OIF servicemembers, airmen had a lower risk of probable PTSD than soldiers in both unadjusted and adjusted models did (Schell and Marshall, 2008). Thus, rates of PTSD among airmen are lower than those of soldiers most likely because soldiers are more likely to be exposed to traumatic events.

The course of PTSD is, typically, one of declining symptom severity over time in studies of civilian samples (e.g., Blanchard et al., 1995; Schell, Marshall, and Jaycox, 2004), as well as of Vietnam veterans (Dohrenwend et al., 2006). However, studies of Gulf War veterans have reported contrasting findings (Southwick et al., 1995; Wolfe et al., 1999). Differences in study findings might be attributable to shorter follow-up periods after the war in studies of Gulf War veterans than in the study of Vietnam veterans.

Little is known about the course of PTSD symptoms among OEF and OIF veterans during reintegration into civilian society (Sundin et al., 2010). Some studies of OEF and OIF veterans suggest that PTSD symptoms might worsen in the first few months following deployment (Bliese et al., 2007; Milliken, Auchterlonie, and Hoge, 2007; Thomas et al., 2010) or hospitalization for a serious combat injury (Grieger et al., 2006). However, some evidence suggests that symptoms improve in a longer follow-up period after deployment (i.e., three years) (Rona et al., 2012).

Alternatively, the lack of anonymity of on-the-record mental health screenings in those studies might better explain some findings suggesting that symptoms worsen after deployment. Indeed, higher rates of mental health problems have been documented in anonymous assessments than in on-the-record assessments (Warner et al., 2011). A servicemember who reports symptoms in an on-the-record screening immediately after deployment might be inclined to underreport to avoid negative consequences of reporting, such as incurring a delay in reuniting with his or her family. Several months after deployment, these disincentives to report mental health problems are likely to have decreased. Thus, studies based on on-the-record screenings (e.g., Bliese et al., 2007;

Milliken, Auchterlonie, and Hoge, 2007) might underestimate the true rate of probable PTSD immediately after deployment and overestimate the degree of symptom increase during the first few months following deployment.

Major Depressive Disorder

MDD, also referred to here as *depression*, is a mood disorder that consists of several pervasive depressive symptoms that interfere with everyday life. More than a passing sadness that is common to everyone, depression is a persistent constellation of symptoms that occur most of the day or nearly every day for at least two weeks (American Psychiatric Association, 2013). Depression has been identified as a risk factor for suicide in current and former U.S. military personnel (LeardMann et al., 2013).

Rates of depression in previously deployed servicemembers vary widely across studies, most likely because of differences across studies in populations and methods (e.g., measures) (Ramchand, Rudavsky, et al., 2015). In one recent review, estimates of the prevalence of depression in OEF and OIF servicemembers and veterans ranged from 4 percent to 45 percent (Ramchand, Rudavsky, et al., 2015). Another recent meta-analysis estimated the prevalence of depression among previously deployed military servicemembers to be 13.1 percent (Gadermann et al., 2012).

Several risk factors for postdeployment depression have been documented. Characteristics that confer greater risk for postdeployment depression include being female, younger, or unmarried; having no more than high school education or some college education; being enlisted (rather than an officer); and being in the Army, Navy, or Marine Corps (rather than Air Force) (Gadermann et al., 2012). Combat exposure has been identified as the greatest risk factor for postdeployment depression in servicemembers who have deployed to Iraq or Afghanistan (Ramchand, Rudavsky, et al., 2015). However, one study that used simulation data to estimate lifetime depression prevalence in soldiers concluded that roughly 70 percent of soldiers might have experienced their first onset of depression before enlistment (Gadermann et al., 2012).

The scant research that has examined the postdeployment course of depression suggests that depression can worsen in the first year or two after deployment (Bliese et al., 2007; Erickson et al., 2001; Milliken, Auchterlonie, and Hoge, 2007; Thomas et al., 2010). Depression has also been shown to increase during the first few months after hospitalization for a serious combat injury (Grieger et al., 2006). The longer-term course of depression following deployment is even less understood. The civilian literature suggests that, for the great majority (80 percent) of people with depression, recovery from major depressive episodes occurs within a year of onset (Coryell et al., 1994; Spijker et al., 2002). However, the probability of recurrence is high: According to one review, 85 percent of patients with depression in specialty mental health care settings and 35 percent of respondents with depression in national epidemiological studies

experienced recurrence of depression over a 15-year follow-up (Hardeveld et al., 2010). Thus, it might be expected that a sizable proportion of servicemembers who have depression in the first few months after deployment will continue to experience depressive symptoms at various points during the years that follow. Moreover, the course of depression might be more persistent among servicemembers whose first onset of depression occurred before enlistment (Gadermann et al., 2012).

Other Relevant Domains of Functioning

Returning veterans who are struggling with reintegration challenges, such as PTSD and depression, might face decreased quality of life that extends far beyond the immediate issues of mental and physical health. Reintegration involves wellness on a range of interrelated fronts (Berglass and Harrell, 2012; Ramchand, Karney, et al., 2008). Here, we briefly discuss three of them: social functioning and interpersonal relationships, employment and financial issues, and housing instability.

Social Functioning

Social support has been shown to relieve the effects of various social stressors, such as unemployment or financial stress, and mitigate both negative physical and mental health outcomes (McGene, 2013). Generally speaking, social support is characterized by two or more people relating to each other with the intent of helping manage problems.[5] Social support can be conceptualized in several ways, including as perceived or received support and care from others of various types (emotional, instrumental, informational) (Cohen, 2004) or as what is often known as functional support (because it fulfills a functional purpose). It can also be indexed in various ways. It can be measured as perceived or received social support, but it can also be measured as social integration (e.g., participation in a social network, number of social ties—also known as structural support).

Support can be in the context of a marriage or a familial relationship or in the framework of a service provider and recipient, as might be the case for such programs as AFW2 and similar wounded-warrior support programs. Although it is not consistently a focus in this research domain, the source of support matters (Sarason and Sarason, 2006). Often, published interventions focus on support that strangers, such as in peer support groups, provide (Cohen, 2004). In some cases, such as when relationship quality is poor

[5] Even when the intent is positive, the effect might not be. Taylor, 2011, summarizes research that indicates that support efforts might not always be appreciated or might be inappropriate, even when well intentioned. Moreover, Lakey, 2011, summarizes some intervention research and notes that perceived support might have a weak relationship with objective support.

or the supporters' own distress impedes support provision, these can actually be more effective than support that close relationships (i.e., marital) provide (see, e.g., Sarason and Sarason, 2006; Taylor, 2011; and Uchino et al., 2011).

Social support and interpersonal relationships affect health through multiple means, including directly increasing well-being and buffering the effects of stress; that is, they enable people to cope with stress, including traumatic events (Cohen, 2004; Cohen, Gottlieb, and Underwood, 2000; Cohen and Wills, 1985; Taylor, 2011). The presence of social ties (i.e., social integration) has been linked to myriad health effects, including overall mortality (Taylor, 2011). Functional support has also been shown relevant to outcomes and, in some cases, more relevant than social ties, including cardiovascular disease prognoses (Tay et al., 2013).

However, findings vary by condition, among other issues, and certain conditions are more relevant to the population currently under consideration. In a meta-analysis of a wide array of risk factors for PTSD, including sociodemographic characteristics, trauma history and severity, psychiatric history, life stress, and lack of social support, the latter was the most strongly related risk factor for PTSD (Brewin, Andrews, and Valentine, 2000). Another meta-analysis that covered a somewhat different set of risk factors also identified social-support deficits as a risk factor for PTSD and found that lack of social support seemed to be a stronger predictor of PTSD as time passed since the traumatic event; the authors suggest that presence of social support might serve as secondary prevention and mitigate the consequences of the trauma (Ozer et al., 2003).

Insufficient social support and interaction might also be key in the development and maintenance of depression (Lara and Klein, 1999; Cacioppo et al., 2006). In addition, one study on veteran homelessness post-Vietnam found that the greatest risk factors for homelessness were related to social isolation (lack of social support and being unmarried after the first years of discharge) (Rosenheck and Fontana, 1994). These findings collectively suggest that the role of social support in reintegration warrants additional consideration.

Occupational Functioning

Work provides many benefits, both pecuniary and social, and is a major activity of adult life. For those with mental illness, employment aids recovery (Dunn, Wewiorski, and Rogers, 2008), facilitates reintegration into society, and has many other benefits (Corbiere and Lecomte, 2009). Unplanned job loss is most often seen as stressful and is an issue with continuing relevance in the present economic climate (Wanberg, 2012). As Nichols, Mitchell, and Linder, 2013, notes, past studies of unemployment suggest that layoffs for cause, perhaps including individual conditions that render someone unfit for work, as in our sample of airmen with combat-related injuries, might have greater negative sequelae than layoffs for external factors, such as factory closings, do.

A substantial literature exists on the consequences of unemployment, which include detriments to both psychological and physical well-being (McKee-Ryan et al., 2005). McKee-Ryan et al., 2005, analytically summarizes this literature; the authors found that mental health during unemployment was positively and significantly related to other variables, including social support and financial resources, and negatively and significantly related to perceived centrality of work to life and the length of unemployment. Generally speaking, the process of career transition (which can be loss of work, or unemployment, but can also include transition from one job or career to another) is one that necessitates renegotiation of one's self-identity and is hypothesized to include construction of self-narratives of loss, grief, and recovery in the work domain (Conroy and O'Leary-Kelly, 2014).

Further, *involuntary* transitions are often accompanied by barriers and risk that one must overcome (Fouad and Bynner, 2008). Some work suggests that construction of a narrative that includes positive connections between previous experience—including the developmental value of a traumatic event, such as combat injury—and the next career is helpful in successfully transitioning from military service to civilian employment (Haynie and Shepherd, 2011). Appropriate social support from family and friends can aid these transitions (Conroy and O'Leary-Kelly, 2014; Haynie and Shepherd, 2011), and positive transitions have wide-ranging implications for well-being on a variety of dimensions (Blustein, 2008; Liu, Huang, and Wang, 2014).

Unemployment among veterans has captured national attention (e.g., Hall et al., 2014; Hardeveld et al., 2010) and prompted discussions of challenges that both businesses (e.g., Harrell and Berglass, 2012) and veterans (e.g., Prudential, 2012) face. Recent empirical research confirms that veterans who have recently separated from the military face higher unemployment rates than their civilian peers do; however, this difference shrinks over time (Loughran, 2014). The Loughran study considered five hypotheses for why veterans face a higher unemployment rate (i.e., poor health, selection, employer discrimination, skill mismatch, and job search). The author ruled the first four out and concluded that the most probable explanation for the higher rate of unemployment among recently separated veterans is the time it takes to search for a job. Specifically, veterans are more likely to have recently separated from a job (their service in the military) than are their civilian counterparts, who often search for work before leaving their current job, so it ultimately takes veterans longer, on average, to find new employment. However, once veterans find civilian employment, they are no more likely than civilians to be subsequently unemployed.

Housing Instability

As U.S. servicemembers return from the conflicts in Iraq and Afghanistan and leave active duty, a concern for them is housing instability. Homelessness has been a persistent

concern within the veteran community, with veterans consistently overrepresented among homeless Americans (Perl, 2011). Increasing numbers of veterans with deployment-related risk factors (i.e., disabilities), a sluggish economy, and reduced budgets could collectively elevate the risk of homelessness among returning veterans. Thus, we examine housing stability and instability within the current context.

Defining *Homelessness*

Financial and other vulnerabilities can place people at risk for other negative sequelae, including housing instability (Koegel, 2004). However, the definition of *homelessness* is complex and varies by source. For example, Kennedy et al., 2013, defines *homelessness* as

> spending at least one night on the street, or in a shelter, mission, vehicle, public or abandoned building, or voucher hotel because they did not have a home of their own or of a family member or friend to stay in. (p. 1657)

As another example, government programs, such as the U.S. Department of Housing and Urban Development (HUD) and VA Supportive Housing (VASH), now apply definitions (for eligibility) that include imminent loss of housing in addition to actual loss of housing of a given duration, such as 30 days (Perl, 2013).

Two government agencies, VA and HUD, track veteran homelessness and coordinate to produce estimates. They agree that veteran homelessness is declining. In 2014, the Point-in-Time count estimated that 49,333 homeless veterans resided in the United States, down from 75,609 in 2009. As Perl, 2011, notes, though they are declining in numbers, veterans are still overrepresented in the homeless population; depending on their era of service and gender, veterans can be up to three times more likely to end up homeless than nonveterans are.

Research Findings

Risk factors for veteran homelessness stem from military service and life before and after the military and collectively paint a picture of general vulnerability. Postservice risk factors for veteran homelessness include substance abuse and psychiatric disorders (Rosenheck and Fontana, 1994). A lack of steady employment has also been consistently observed in homeless veterans seeking government assistance (Perl, 2011). However, the strongest individual factor affecting veteran homelessness seems to be a lack of social support. Veterans without strong connections to friends, family, or an intimate partner are often found to have the highest risk for homelessness (Rosenheck and Fontana, 1994). As Perl, 2013, notes, risk for homelessness can be persistent and manifest many years after military service.

Existing Avenues for Intervention

Thus far, we have reviewed the literature on risk factors for reintegration problems, which could shed light on potential avenues for intervention. In considering how identification of risk factors can inform policy decisions about interventions, it is important to distinguish between *modifiable* and *nonmodifiable* risk factors. Modifiable risk factors can be directly dealt with, whereas nonmodifiable risk factors are stable characteristics that are associated with higher rates of problems (e.g., sex, race and ethnicity, age) and can be used to identify people who most need intervention. The interrelated risk factors included in our model (mental health, particularly PTSD and depression; social functioning; housing status; and occupational functioning) are potentially modifiable and can function as interrelated avenues for intervention to ease the process of reintegration. AF's own provision of services ideally affects these risk factors, though changes to these services to make them more effective would also be considered an avenue for intervention. To the extent that the AFW2 and AFRCC programs, among others, seek to assist in a beneficial reintegration process, improvement in any of these domains could represent a positive programmatic outcome.

This section summarizes the evidence base for interventions designed to mitigate the risk factors in our model. Some of the interventions under consideration could have an evidence base best characterized as "in development"—e.g., consisting mostly of correlational studies—and hence have more-limited application to inform policy recommendations. Evidence-based treatments (EBTs), i.e., treatments whose efficacy has been demonstrated in randomized controlled trials, are available to alleviate some psychosocial challenges. The evidence base is particularly strong in the realm of mental health, in which a push toward interventions with demonstrable efficacy has been under way for some time. In general, the evidence base for other domains is less developed than for mental health, although, quite often, many programs are available to address needs in these domains.

Mental Health

In general, our population is eligible to receive mental health treatment within three different, but sometimes overlapping, systems of care: the military treatment facility (MTF) for the active-duty active component, civilian care for reservists and guard members, and the Veterans Health Administration (VHA) system for veterans and retirees. The health care system in which mental health treatment is received depends on individual circumstances and eligibility. Receiving mental health care is complicated for this population in that many are eligible to receive care in multiple systems, and

transitions between systems of care pose challenges for the continuity and ultimately the quality of care received.[6]

EBTs for PTSD and MDD are offered in VA and the U.S. Department of Defense (DoD) and have been institutionalized through shared sets of clinical practice guidelines on the management of these conditions (Management of Post-Traumatic Stress Working Group, 2010; Management of Major Depressive Disorder Working Group, 2008). In addition, the U.S. Air Force has integrated evidence-based treatment protocols into all of its mental health provider residency training programs (Travis, 2013).

There are several types of evidence-based treatments for PTSD and MDD. Psychotropic medications, such as selective serotonin reuptake inhibitors (SSRIs), are recommended for both conditions. Trauma-focused psychotherapies, such as prolonged exposure (PE), cognitive processing therapy (CPT), and eye-movement desensitization and reprocessing and stress inoculation, are recommended for PTSD. Other psychotherapeutic interventions for PTSD, such as interpersonal therapy (IPT) and couples' cognitive–behavioral therapy (CBT), have shown some promise in the little research that has been conducted (e.g., Krupnick et al., 2008; Monson, Fredman, Adair, et al., 2011; Monson, Fredman, Macdonald, et al., 2012) but have an insufficient evidence base to warrant recommendation as frontline treatments (Cukor, Olden, et al., 2010). Psychotherapeutic interventions recommended for MDD include CBT and IPT (e.g., Anderson, 2000; Butler et al., 2006; de Mello et al., 2005; van Hees et al., 2013).

Even though EBTs exist and VA and DoD formally advocate them, several barriers can prevent servicemembers or veterans with mental health concerns from obtaining high-quality care (Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2012; Tanielian and Jaycox, 2008). These include shortages of qualified mental health treatment providers in some geographic areas of the United States, which limits access to care (Burnam et al., 2008); institutional and cultural concerns about the adverse effects that receiving mental health treatment can have on one's career (Hoge, Castro, et al., 2004; Schell and Marshall, 2008; Vaughan et al., 2011; Vogt, 2011); concerns about the side effects of medication (Schell and Marshall, 2008; Vaughan et al., 2011); personal beliefs about mental health and mental health care (Vogt,

[6] Most active-duty personnel (and reservists and guard members on active duty) enroll in TRICARE Prime and use military treatment facilities, though some might see civilian providers. Active-duty personnel also use VHA facilities for certain types of care (e.g., spinal cord injuries) and can self-refer to vet centers for counseling. Reservists or guard members not on active-duty status might be eligible for VA health benefits, have private health insurance, or enroll in TRICARE Reserve Select. Retirees can be eligible for care at VHA facilities and might also be covered by their own or their spouses' employer-based health insurance. Retirees, including those on the Permanent Disability Retired List (PDRL) and Temporary Disability Retired List (TDRL), are eligible for TRICARE; those on the TDRL who are reevaluated at less than 30 percent disabled are separated from service and might qualify for transitional health care benefits.

2011); and difficulty scheduling an appointment (Hoge, Castro, et al., 2004; RAND Health, 2015). Moreover, we do not know how much providers in the VA and DoD systems consistently practice and implement EBTs with fidelity to the treatment protocol (i.e., the way the treatment was designed to be delivered) (Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2012, 2014). An additional unknown is how well EBT is translated from the research base to civilian, community practice, though indications are not promising (Tanielian et al., 2014).

Social Functioning

Multiple interventions attempt to improve social support. Hogan, Linden, and Najarian, 2002, summarizes the literature; the authors found significant heterogeneity in successful health outcomes among people involved in a similarly wide variety of group interventions. Although no specific practices could be categorized as evidence-based, the authors were able to suggest that some type of social-support intervention shows promise in a general sense, pending additional research. Supportive interpersonal relationships include service provider and recipient, as can be the case for the AF programs, such as AFW2. In some cases, as described briefly above, support from providers can be more effective than support from close relationships (e.g., Sarason and Sarason, 2006; Taylor, 2011; Uchino et al., 2011), although natural support networks can also be incorporated into treatment.

More directly relevant to our sample of combat-injured airmen is the fact that incorporation of the social-support network into therapy itself has also been suggested for veterans with depression and PTSD (e.g., Management of Major Depressive Disorder Working Group, 2008; Management of Post-Traumatic Stress Working Group, 2010; Sherman, Zanotti, and Jones, 2005). IPT, which is designed to increase social support and improve interpersonal functioning in the context of depression and PTSD, has been shown to improve social functioning (Robertson et al., 2007).

Occupational Functioning

Employment interventions are also available, and the evidence base for these interventions is the strongest we examined aside from those for various mental health interventions. In general, employment interventions are based in one of two literatures: the broader literature on unemployment or the psychiatric treatment and vocational rehabilitation literature. As Wanberg, 2012, summarizes, the broader literature on unemployment suggests that interventions to bolster self-efficacy can be helpful, along with interventions on interview self-presentation tactics and interventions developed to improve self-efficacy in the job search and goal-oriented behavior, such as documentation of job-search activities. A recent meta-analysis (Liu, Huang, and Wang, 2014) of job-search interventions found that several aspects of these interventions were

helpful for obtaining employment. Specifically, the interventions that improved the odds of a positive job-search outcome included teaching job-search skills and skills in self-presentation, boosting self-efficacy (i.e., in this case, increasing the sense that employment is obtainable), encouraging proactivity, promoting specific goal setting, and enlisting social support and interventions that had a dual focus on job-search skill improvement and motivation components (e.g., efficacy). Moreover, Liu, Huang, and Wang, 2014, notes that the effect of job interventions was stronger for participants who could be considered to have some potential job handicap or special needs and conditions, including mental illness and other chronic health problems or injuries. Further, the authors noted that, although much of the literature focused only on obtaining a job and transitioning from the unemployed to the employed state, the evidence available suggested that job-search interventions can have longer-term positive effects, including higher starting salaries and lower levels of depression and anxiety. Other relevant positive outcomes that could not be assessed include higher job satisfaction and longer employment spells, which can be considered signs of a good job match.

Evidence from the psychiatric intervention and vocational rehabilitation literature largely supports a model of supported employment. The model is characterized by consideration of individual job-seeker interests and abilities in the job-search process, preference for competitive community employment as opposed to employment in more-sheltered programs, rapid job search to alleviate waning interest in getting a job, integration of mental health and employment intervention efforts, and continued support once employed (Bond, 2004). Bond also summarized evidence supporting these principles, characterizing the support as ranging from strong (for rapid job search) to weak (for time-unlimited support). More recently, Cook, 2006, indicates that participants enrolled in variations of supported employment programs fared better than control subjects did when accounting for the local unemployment rate. Resnick, Rosenheck, and Drebing, 2006, indicates that the key ingredients of successful programs (and, hence, aspects that would be useful to incorporate more broadly) included competitive community employment and aggressive outreach to veterans. Supported employment (specifically, individual placement and support) has also been shown to be helpful in initial investigations of veterans with PTSD, specifically (Davis et al., 2012).

Several policies and programs are in place to help shorten the length of unemployment spells for veterans, both by way of stimulating employer demand for veterans (such as the 2011 Veterans Opportunity to Work to Hire Heroes Act [Pub. L. 112-56]) and to help veterans more effectively search for civilian employment (such as job fairs and the U.S. Department of Labor's CareerOneStop program). Loughran, 2014, summarizes the effects that have been found in the literature; the author concluded that only small gains accrue from existing programs in terms of shortening the length of the unemployment spell or by increasing the employment of targeted veteran groups.

Programs that insure against involuntary unemployment, such as Unemployment Compensation for Ex-Servicemembers, might actually have a detrimental effect. Previous studies have found that unemployment duration increases with unemployment benefits (Nicholson and Needels, 2006). Note, however, that rapid end of an unemployment spell can be considered only one positive outcome; others are also relevant, including good job match.

Housing Instability

Many avenues also exist to help veterans struggling with homelessness. VA and HUD have the most involvement with improving the housing situation of homeless veterans. VA has many programs to help homeless veterans obtain health care, find stable housing, gain employment, and get off the streets. In fact, VA stated in 2009 that it aimed to end veteran homelessness within five years (Perl, 2011). Some of its programs include Health Care for Homeless Veterans, Domiciliary Care for Homeless Veterans, and Compensated Work Therapy (Perl, 2011). One program that has shown particular promise in housing homeless veterans is the aforementioned HUD-VASH. In this collaboration between VA and HUD, veterans can receive vouchers for subsidized housing along with counseling and other services that will improve their chances of obtaining stable housing. Research has shown that veterans enrolled in HUD-VASH are more likely than homeless veterans receiving case management only or standard care to stay continuously housed longer (O'Connell, Kasprow, and Rosenheck, 2008) and are less likely to experience substance abuse (Perl, 2011).

Air Force Reintegration and Coordination Programs

Because our population is already identified, its members are already receiving services from AF. These programs deliver services designed to help with reintegration and can facilitate access to help in our other domains. Although this section is oriented somewhat differently from the other sections representing opportunities for intervention, because AF is interested in continuous improvement, these extant programs themselves represent opportunities for delivery of services.

AF has several programs that serve its wounded warriors: At the time of study inception, the main ones were the AFW2 program and the AFRCC program. The programs have become far more streamlined behind the scenes, but they continue to be identifiable separately on the customer side. We also examined the FLO program, which has become more formalized over time. Potentially, through repeated interactions with airmen and their families, these program personnel also provide both direct social support and facilitation of access to resources that engage social support through the airman's natural network.

During the study period, the AFW2 program[7] coordinated services other than medical care for airmen injured in combat or activities related to combat (this can include deployment-related training), and it maintained continuity in records from its centralized location. According to AF Instruction (AFI) 34-1101 (Manpower, Personnel and Services, 2012, 2015), which codified and updated many of the processes informally in place at the study inception, the program connects recovering airmen and families with resources and services to solve problems that are nonmedical in nature throughout the continuum of care, from identification of ailment through stabilization or resolution of ailment. However, the AFW2 case manager is not the official lead coordinator until the airman enters the Integrated Disability Evaluation System.

The AFRCC program employs recovery care coordinators (RCCs), whose purpose is to ensure that recovering airmen and families understand the likely recovery path, oversee the development and implementation of airmen's Comprehensive Recovery Plans (CRPs), work with medical-care case managers, and advocate for airmen. According to AFI 34-1101 (Manpower, Personnel and Services, 2012, 2015), RCCs are the lead coordinators of care once the airman is on outpatient status. The AFRCC program serves a more severely injured subset of the combat-injured airmen who are enrolled in the AFW2 program, as well as serving airmen whose injuries are not combat-related, and work with the other members of the care management team. Note that AFI 34-1101 describes some transitions of the lead coordinator role to help care managers and other stakeholders simplify the coordination of the care management process, but such designations are useful primarily in more-complex situations.

In addition, commanders determine the necessity of and appoint FLOs to help seriously wounded, ill, and injured airmen—and particularly their families—navigate the various agencies involved in recovery, rehabilitation, and reintegration for as long as the family needs assistance. The period of assistance is typically relatively brief, occurs immediately after injury, and can involve orienting the family members to the location where their airman is receiving medical care. Although FLOs are independent of the other programs, personnel at the Air Force Personnel Center (AFPC) assist in their training and preparation.

[7] This was initiated in 2005 and known as AF Palace Helping Airmen Recover Together; it was renamed in 2007 as the AFW2 program (Grill, 2012). Note that some changes in the conduct of programs for seriously ill and injured airmen, as well as those with combat-related injuries, have taken place through 2012, including expansion of eligibility criteria.

Summary

Reintegration is, by its nature, complicated, and a holistic model of reintegration is therefore required to examine the process. Hence, we have delineated the domains that should affect the process and describe some of the evidence for their inclusion. Mental health is a key issue for servicemember reintegration in general and for our sample of AF wounded warriors in particular because of the high prevalence of this injury in the sample, and it can have a cascading effect on several other outcomes. Other issues that merit consideration based on the literature include social functioning and interpersonal relationships, employment and financial issues, and housing instability. Although rigorous longitudinal research on these topics is relatively scarce, the evidence available suggests that these domains will affect each other over time and that relationships are likely to be complex. Moreover, to the extent that all are factors in a robust reintegration process, all provide outcome information regarding the success of such programs as AFW2, AFRCC, and VA's programs.

Some of these domains have a robust evidence base that supports specific interventions. For example, on the mental health side, the strong evidence base provides guidance including provision of psychotropic medications, such as SSRIs, for both MDD and PTSD, and trauma-focused psychotherapies, such as PE, and CPT for PTSD. Psychotherapies for MDD include CBT and IPT. On the employment front, the available evidence supports interventions to bolster job-seeking self-efficacy, goal-setting interventions during the job search, and preparation in self-presentation tactics. Supported employment is characterized in particular by competitive community employment, aggressive outreach to veterans, and a focus on the individual being helped. Other domains have a literature base that supports their importance but relatively few specific and, more important, evidence-based remedies (e.g., incorporation of social support into therapy itself for veterans with depression and PTSD, and enlistment of the social network in job-seeking efforts). However, even when a strong evidence base exists, as it does for mental health, having specific interventions and recommended courses of action might not be enough. Therefore, barriers to care warrant exploration as well to understand the process.

Chapter Three. Survey Administration, Method, and Measures

This chapter provides an overview of our wave 2 survey procedure and content. The chapter begins with a description of the wave 2 survey participants. Second, it recounts how we administered the survey. The third section summarizes the measures we employed for the outcomes or areas of interest as suggested by our literature review and holistic approach to reintegration.

Sampling and Recruitment Procedures

This survey enabled us to capture a snapshot of the population that has interacted with the AFW2 program. We included variables that would enable us to look for statistically significant differences between retirees and airmen still in the service, as well as along other demographic and military service characteristics. We also designed wave 2 of this ongoing study to permit follow-up of the cohort of airmen who had completed the wave 1 survey and to provide a baseline assessment of a new cohort of combat-injured airmen who had not participated in the wave 1 survey. Similar to our sampling frame for the wave 1 survey, our sampling frame for the wave 2 survey was a subset of airmen enrolled in the AFW2 program as of December 2013 whose names, contact information, and administrative data we obtained from AFPC.[8]

When we fielded the wave 1 survey in the fall of 2011, the AFW2 program served only those with combat injuries. Since then, AF has expanded its eligibility criteria for the AFW2 program to include all wounded, ill, or injured airmen, regardless of whether their conditions are combat-related. At the time of the wave 2 survey, the eligibility requirements for enrolling in the AFW2 program were described as follows:

> An Air Force Wounded Warrior is any seriously or very seriously wounded, ill or injured Airman identified on a casualty report, or recommended by the medical community, as having highly complex medical conditions identified by the medical community. Also included are Airmen who have been referred to the Integrated Disability Evaluation System (IDES) for post-traumatic stress disorder, traumatic brain injury and/or other mental health conditions, or who have been retained for more than six months on medical Title 10 orders, or returned to Title 10 orders, for medical conditions related to deployment. (Air Force Wounded Warrior, undated [a])

[8] See Sims et al., 2015, for more details on wave 1 sampling.

There is no minimum disability rating for eligibility, and enrollment in the AFW2 program could occur through several channels as described above. When a name enters the AFW2 system from one of the referral sources, available record systems (including casualty and deployment records, the Disability Evaluation System [DES], and other personnel records) are accessed, and the information is integrated to form an initial intake packet. This information is supplemented by a telephone intake interview.

Because no minimum disability rating is required to obtain services from AFW2, its population of benefit recipients includes separatees. Each of these people has a disability rating of less than 30 percent and receive a lump-sum payment[9] upon separation. Because these separatees are not receiving substantial ongoing pecuniary benefits, they are considered members of the general population rather than current servicemembers or "actual" benefit recipients, and we excluded them from our sample.[10]

To preserve continuity of this ongoing study, we retained our original focus on airmen with combat-related injuries. We excluded from the wave 2 survey sampling frame any airmen who met any of the following criteria:

- not combat-injured
- separated[11] (i.e., neither active duty nor retired)
- deceased
- were in the original wave 1 cohort of airmen and refused to participate in the wave 1 survey
- participated in the wave 1 survey and declined to be contacted for future studies.

Excluding study-ineligible airmen from the list of AFW2 enrollees resulted in a sampling frame for the wave 2 survey that consisted of the 1,219 enrollees of the AFW2 program who were either medically retired or in the process of undergoing evaluation for medical retirement because of combat or related injuries and illness (out of a total of 3,439 wounded, ill, and injured in the program at the time). Of these 1,219 airmen, 641 were in the original wave 1 sampling frame ($N = 872$), and 578 had enrolled in the AFW2 program after we fielded the wave 1 survey. Of the 641 airmen from the wave 1 sampling frame, 346 had completed the wave 1 survey, 26 had begun but not completed the wave 1

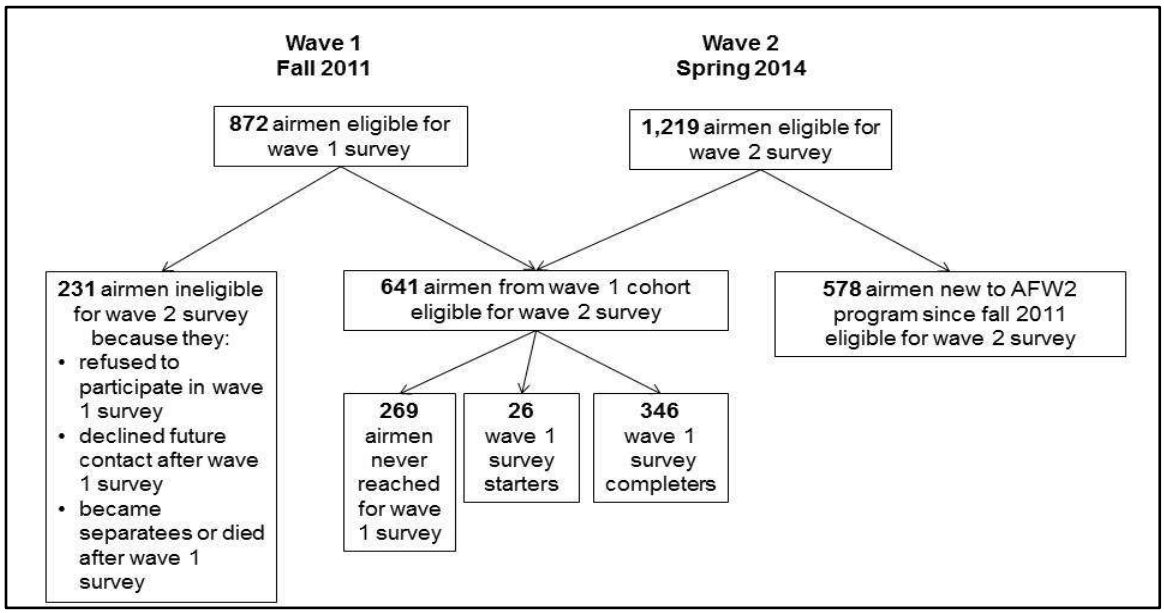
[9] The amount is determined by a formula and considers the disability rating and the servicemember's tenure and base pay.

[10] Note that VA might later give each of these separatees a rating for the sum total of his or her service-connected condition that is higher than what AF provided at the time of separation, which assesses only conditions that make them unfit for service.

[11] Because separatees are not receiving substantial ongoing pecuniary benefits, they are considered members of the general population rather than current servicemembers or actual benefit recipients. Including them in the study would have required review and approval of the Office of Management and Budget. Because of the lengthy nature of this review process, our study would have not been possible if Office of Management and Budget review had been required, so we opted to exclude separatees.

survey, and 269 had never been successfully contacted during wave 1 survey participant recruitment. Figure 3.1 illustrates the composition of the wave 1 and 2 sampling frames.

Figure 3.1. Composition of the Wave 1 and 2 Sampling Frames



Given the relatively small number of potential wave 2 survey participants, we chose to take a census rather than select a subsample from the sampling frame. We advertised the study to prospective participants by publishing a one-page summary of findings from our wave 1 survey in the AFW2 program's monthly e-newsletter. This appeared in October 2013 (see Appendix A). Before wave 2, AFW2 also publicized the survey's second administration in its newsletter, with a brief announcement in January 2014 (see Appendix B).

We mailed initial invitations to potential participants' home addresses. These invitations included instructions on how to complete the survey by web, if desired, through a unique survey login code. Throughout the invitation and consent procedures, we assured participants that AF would see their information only in the aggregate, that participation would not affect their benefits, and that a certificate of confidentiality from the U.S. Department of Health and Human Services (HHS) and memoranda of understanding with AF sponsor offices had been obtained to ensure confidentiality. We intended for these assurances to alleviate some of the known concerns regarding stigmatization of mental health problems both in the military and in the larger population, as well as to inform participants that their participation or lack thereof would not have an adverse effect. Ultimately, that assurance to participants is one of the strongest protections for our results in that it reduces motivation to attempt to skew results in either

direction: either to minimize or emphasize symptoms and other challenges being faced in participants' daily lives.

During our wave 1 survey administration, the majority of participants (65 percent) who assented to future participation indicated that they would prefer to take a second survey online, though the majority of wave 1 participants actually took the survey by phone (65 percent). We structured our data collection to facilitate web participation but with the recognition that phone participation was likely to predominate. Approximately a week and a half following the initial letter mailing, we contacted potential participants by email and again invited to take the survey online. After an additional two weeks, we contacted potential participants by phone and invited them to complete the survey by phone. During that contact, participants could indicate that they had already started the web survey or were planning to do so. Anyone who preferred to participate by phone could participate then or schedule a callback if the initial call was made at an inconvenient time. In circumstances in which someone was not interested in participating by phone, we gave information on how to participate over the web. Additional reminder emails went out every few weeks during the calling period.

We worded survey items identically across the web and telephone survey administration modes. However, we modified instructions as needed to accommodate differences in aural and visual presentation of survey items, e.g., for the measure of PTSD symptoms, instructions that interviewers read administering the phone survey began, "Now I am going to read you a list of reactions that airmen sometimes experience following deployment or in response to other stressful life experiences . . . ," whereas instructions given to web survey respondents began, "The following is a list of reactions . . . ." On average, we estimated the survey to take approximately 45 minutes to complete.

The survey was in the field from January 24, 2014, through May 23, 2014. Of the 1,219 airmen whom we invited to participate, 575 airmen began the survey. Of these airmen, 527 completed at least half of the survey items[12] intended to be shown to all participants and thus met our definition of survey completers; slightly more than half of respondents completed the survey by phone (57 percent; $N = 301$). Throughout the remainder of this report, we refer to this group of 527 airmen as the *overall wave 2 sample*. Of that group, 205 airmen completed both waves of the survey, and we refer to them hereafter as the *longitudinal subset*.

[12] Because many questions in the survey applied only to certain subsets of respondents (e.g., we asked questions about utilization and perceptions of the AFW2 program only of respondents who had had contact with nonmedical case managers from AFW2), we used skip patterns to minimize response burden. Thus, not all survey items were shown to all participants. In the wave 2 survey, 96 items were shown to all participants.

The response rate for the overall wave 2 sample was 43 percent (527 ÷ 1,219).[13] The response rate for the longitudinal subset was 59 percent (205 completers of both surveys divided by 346 airmen in the wave 1 sampling frame who had completed the wave 1 survey and were eligible to complete the wave 2 survey).

Measures Used in the Survey

As described in the report on the first wave of the study (Sims et al., 2015), the population at study inception included a majority of people whose primary injury was psychological rather than physical. Because our frame included airmen from this initial population, as well as the more-recent cohort, and to maintain continuity, we focused more on psychological than physical injuries in our selection of constructs to measure. To allow longitudinal analyses, we used many of the same items in wave 2 that we used in wave 1. We used well-validated measures of the constructs of interest when such measures were available. When well-validated measures were not available, e.g., to assess utilization and perceptions of the AFW2, AFRCC, and AF FLO programs, we created items to tap the construct of interest. Our points of contact in the AFW2 and AFRCC programs and the AF Directorate of Services reviewed early drafts of the survey and provided feedback on the overall approach and specific sections and items, which we incorporated into the final version. We had also employed limited cognitive interviewing with a few survey research experts at RAND to hone wave 1 of the survey. Table 3.1 summarizes the measures and their provenances. Appendix C provides detailed descriptions of the measures' psychometric properties and scoring instructions for variables derived from the measures. Appendix D contains the final survey.

Table 3.1. Survey-Measure Overview

Outcome or Area	Description	Measure and Supporting Citation
AF service history	AF component, time since separation or retirement, etc.	Some items created for this project, some adapted from Invisible Wounds survey (Schell and Marshall, 2008)

[13] Forty-three percent is comparable to other response rates (see, e.g., Baruch, 1999, which reports declines in average response rates over the years such that the average in 1995 was 48.4 percent; Newell et al., 2004, reports similar declines for military surveys; the Defense Manpower Data Center reported that, in 2008–2010, the response rates for its Status of Forces Surveys have ranged from 29 percent to 32 percent for active-duty personnel and from 25 percent to 29 percent for reserve-component personnel (DoD, 2010).

Outcome or Area	Description	Measure and Supporting Citation
Trauma history	History of traumatic stressors (criterion A of PTSD diagnosis)	Created for this project based on an item used in the Invisible Wounds study (Tanielian and Jaycox, 2008)
Posttraumatic symptom severity	Extent to which PTSD symptoms have bothered the respondent during the past month. The three primary groups of PTSD symptoms are intrusive thoughts, memories, and recollections of the traumatic event; avoidance of things that remind the respondent of the traumatic event; and emotional and physiological arousal when reminded of the event.	PCL (Weathers et al., 1993)
Depressive symptoms	Extent to which symptoms of depression have bothered the respondent during the past two weeks	PHQ-8 (Spitzer, Kroenke, and Williams, 1999)
Alcohol use	Frequency of alcohol consumption and problems related to alcohol use during the past six months	AUDIT-C (Bush et al., 1998)
Drug use	Use of prescription medication not prescribed by a doctor or in a way different from that prescribed	Adapted from Needs Assessment of New York State Veterans (Vaughan et al., 2011)
General health	Perception of overall health	SF-36 (Ware et al., 1993)
Role limitations due to physical health	Extent to which respondent is physically limited in his or her ability to perform different activities	SF-36 (Ware et al., 1993)
Mental health treatment history, barriers, and preferences	Mental health services received, barriers to obtaining mental health treatment, type and setting of treatment desired if respondent wanted treatment	Created for this project, some adapted from Invisible Wounds (Schell and Marshall, 2008). Modified for wave 2 to determine which barrier applied to which setting
Basic information about marital status and family	Marital status, number of dependents, family members living in the same household, family member who most often helps airman deal with problems, etc.	Created for this project with assistance from program personnel
Relationship satisfaction	Degree of satisfaction with relationship with significant other or primary supporter (if respondent does not have a significant other)	Johnson, 1995
Employment status	Whether respondent is currently working or not and how often	Needs Assessment of New York State Veterans (Vaughan et al., 2011); Invisible Wounds survey (Schell and Marshall, 2008)
Presenteeism/absenteeism	Productivity at work, number of days missed	World Health Organization Health and Work Performance Questionnaire (Kessler, Berglund, et al., 2003)

Outcome or Area	Description	Measure and Supporting Citation
Job satisfaction	Degree of satisfaction with job in general	Scarpello and Campbell, 1983; Weiss, Dawis, and England, 1967
Barriers to employment	Factors that make it difficult for respondent to obtain employment	Adapted from the Wounded Warriors Project survey (Franklin et al., 2010); variation relevant for employed participants developed for wave 2 based on wave 1 items
Income and disability compensation	Information about total household income	Invisible Wounds survey (Schell and Marshall, 2008)
Financial strain	Difficulty meeting one's financial obligations	Financial strain measure (Vinokur, Caplan, and Williams, 1987)
Housing situation	Current living situation (homeless, at risk of becoming homeless, or not homeless)	Wenzel, 2005; several 2010 studies
Evaluation of AFW2 program	Airman's contact with AFW2; help and services the airman has received from AFW2; perceptions of AFW2's effectiveness and helpfulness and overall satisfaction with AFW2; barriers to using AFW2	Created for this project with assistance from program personnel
Evaluation of AFRCC program	Airman's contact with AFRCC program; help and services received; perceptions of program effectiveness, helpfulness; overall satisfaction with program	Created for this project with assistance from program personnel
Evaluation of AF FLO program	Airman's contact with FLO program; help and services received; perceptions of program effectiveness, helpfulness; overall satisfaction with program	Created for this project with assistance from program personnel
Services and benefits received from other programs; services and benefits most desired	Services and benefits received from VA; area in which respondent would most like assistance (whether already receiving or not); whether respondent has health insurance	Needs Assessment of New York State Veterans (Vaughan et al., 2011)

NOTE: PCL = PTSD Checklist. PHQ-8 = eight-item Patient Health Questionnaire. AUDIT-C = Alcohol Use Disorders Identification Test, alcohol consumption items. SF-36 = 36-Item Short-Form Health Survey.

Sociodemographic and Service History Characteristics

To reduce respondent burden, we extracted sociodemographic and service history characteristics from administrative data that AFPC provided. These characteristics included gender, race and ethnicity, age, highest level of education, component during active service, retired or active status, AF specialty code (AFSC) grouping, grade, number of previous deployments, the operation that the respondent's most recent deployment supported, duration of the respondent's most recent deployment, years since the respondent's return from his or her most recent deployment, total active years in the

military, and years since the respondent retired from AF. This information was provided for the entire sample. Thus, Table 3.1 does include exemplars for the variables that we did include on the survey when needed, but our main source of this type of information was personnel records.

Survey Participants

Table 3.2 shows the characteristics of survey completers. In both the overall wave 2 sample and the longitudinal subset, our participants were largely white, married, and enlisted males and mostly from the active component. Most, though not all, had been deployed; this reflects AFW2 eligibility, which includes those injured through combat-related activities, such as training. The majority of our participants were classified as retired; overall, according to personnel records, 54 percent were on the PDRL, and a further 24 percent were on the TDRL or in the formal Physical Evaluation Board (PEB)[14] process. Of those who had disability ratings from AF, 37 percent had ratings between 40 and 60 percent.

[14] According to AFI 36-3212 (Directorate of Personnel Programs, 2006 [2009]), the TDRL lists airmen whose conditions are not stabilized enough to make final disability determinations. They are medically retired for up to five years but, by regulation, must still undergo reevaluation every 18 months. At reevaluation, if they are rated 30 percent or less disabled, they could lose their benefits. An airman is placed on the PDRL if the airman's condition has stabilized such that, within a reasonable period, the disability rating is not likely to change or the disability rating is 80 percent or more and not likely to fall below that. Airmen on the PDRL are not subject to reevaluation requirements. The PEB process is the process through which these determinations (as well as others) are made.

Table 3.2. Respondent Characteristics, as Percentages

Characteristic	Longitudinal Subset at Wave 1 (*N* = 205)		Overall Wave 2 (*N* = 527)	
Retired	68		82	
Male	88		86	
White	81		77	
Married	60		64	
College degree or higher	17		20	
Enlisted	87		88	
Component[a]				
Active	72		73	
Reserve	13		11	
Guard	15		16	
Number of deployments:				
0	9		7	
1	40		23	
2 or 3	41		38	
4 or more	10		31	
Separation pre-2008	19		12	
	Mean	**Standard Deviation**	**Mean**	**Standard Deviation**
Most recent deployment length, in months[b]	5.43	2.30	3.35	2.54
Years returned from recent deployment[b]	4.18	1.93	7.64	2.87
Total active years in military (active component only)[c]	12.31	6.44	13.18	6.22
Years since most recent AF separation[d]	2.79	2.26	3.78	2.41
Age, in years	36.28	9.04	36.99	8.61

NOTE: For the longitudinal subset, all point estimates are weighted, and values on variables that could have varied across waves 1 and 2 (e.g., total active years in military) are from wave 1. Because of rounding, percentages do not always sum to 100.
[a] Component reflects component while serving.
[b] We computed descriptive statistics for these variables only for the subset of respondents who had deployed at least once (overall wave 2: *N* = 488; longitudinal subset: *N* = 181).
[c] We computed descriptive statistics for this variable only for the subset of respondents who were in the active component (overall wave 2: *N* = 80; longitudinal subset: *N* = 44) because sufficiently complete administrative data were not available for respondents in the reserve and guard to compute it for them.
[d] We computed descriptive statistics for this variable only for the subset of retired respondents (overall wave 2: *N* = 432; longitudinal subset: *N* = 139).

Analysis Plan

We conducted several descriptive and inferential statistical analyses on the overall wave 2 sample and the longitudinal subset. The primary aims of the substantive analyses were to do the following:

- Describe the status of the overall wave 2 sample on key outcomes.
- Examine variation in airmen's functioning, needs, and patterns of service utilization by retirement status.
- Characterize the direction, magnitude, and significance of change over time on key outcomes in the longitudinal subset.
- Identify the characteristics and factors that predict airmen's functioning on key outcomes of interest, including change in key outcomes of interest over time.

Before conducting substantive analyses, we conducted preliminary analyses to inform the plan for substantive analyses. In this section, we summarize the analysis plan. Appendix E provides a more detailed description of the preliminary analyses and their results. We conducted all analyses in SAS 9.3, Stata 13, or R.

Preliminary Analyses

Preliminary analyses included examination of nonresponse at the level of the sample and individual survey items and assessment of the effects of survey completion mode (web versus phone) on item responses. The overall wave 2 sample closely resembled the wave 2 sampling frame on a wide array of sociodemographic and service history characteristics recorded in administrative data.[15] The longitudinal subset resembled the wave 1 sampling frame on several sociodemographic and service history characteristics but differed sufficiently to warrant the creation of poststratification sampling weights to reduce the effect that nonresponse bias might have on parameter estimates generated from analyses conducted on the longitudinal subset. We included these sampling weights in all analyses conducted on the longitudinal subset. Missingness at the level of individual items and variables was generally 5 percent or less, with a few exceptions. Given the relatively low rates of missingness, we made no adjustments at the item or variable level. We found statistically significant mode effects for only four out of 68 items and variables, so we deemed adjustments for mode effects unnecessary.

[15] The only characteristic on which the survey completers differed significantly from the sampling frame was age, such that respondents who were at least 30 years old (74 percent; 95-percent confidence interval [CI] = 71–78) were slightly overrepresented in the sample of survey completers relative to the sampling frame (67 percent).

Substantive Analyses

Substantive analyses included computation of univariate descriptive statistics of key outcomes in the overall wave 2 sample. We report both point estimates and their 95-percent CIs[16] for all outcomes of interest. These numbers represent the current status of the airmen in the sample at a particular wave—that is, a "pulse" to determine how well airmen in the sample are doing as a whole.

Because VA and DoD benefit eligibility and resource utilization (e.g., setting in which mental health treatment is received) are likely to differ for airmen depending on retirement status, we also report key outcomes for the overall wave 2 sample by retirement status.[17] We used Fisher's exact test of significance to estimate bivariate associations between key outcomes and retirement status. We did not examine, nor do we report, every possible difference. Rather, we concentrated our efforts on key variables in each domain (e.g., PTSD and depression for mental health, as well as perceived treatment desired and not received; presence of primary supporter for social functioning; employment status for occupational functioning; receipt of AFW2 and AFRCC services for program evaluation). We do report significant differences where present.

For the longitudinal subset, we report weighted point estimates and their 95-percent CIs for outcomes at waves 1 and 2 to convey how the subset is changing over time as a group. We also conducted tests of significant change on key categorical outcomes between waves by estimating weighted logistic regression models with clustering of observations at the person level in which we regressed the outcome of interest on wave. Logistic regression models yield an odds ratio (OR) and an associated 95-percent CI for each predictor, for which a statistically significant influence on the outcome is indicated if the CI excludes one. To examine significant change on key continuous outcomes, we conducted weighted dependent *t*-tests.

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[16] CIs help convey the uncertainty that is found in any estimate. Their interpretation is as follows: For the 95-percent CIs that we report, if we measured the same variables in the same way from the same population, in 95 percent of those samples, our results would fall within the upper and lower bounds we report. In cases in which our analyses rest on small sample sizes, there is greater uncertainty in our estimates, and our CIs are wider. For analyses with larger samples, our estimates can be more precise, and our CIs might be quite narrow. When we report that groups are significantly different, the point estimates for the groups are sufficiently different that, even taking into account the estimates' uncertainty, the groups are different on that variable.

[17] We also examined outcomes by a duty-status variable that consisted of three groups: airmen who retired from the active component, airmen who retired from the reserve component (reservists and guard members), and airmen who are not retired (we would have divided the nonretired airmen into two groups of airmen from the active and reserve components, but only 15 nonretired airmen in the overall wave 2 sample were in the reserve component). However, differences between the two groups of retired airmen were nearly all nonsignificant, and the primary differences appeared to be between airmen who were retired and those who were not retired. Thus, to streamline the presentation of analyses, we present here only the comparisons between retired and nonretired airmen.

We also sought to identify the characteristics and factors that predict wave 2 outcomes in the overall wave 2 sample and factors that predict change over time in key outcomes of interest for the longitudinal subset. To this end, we estimated multivariate logistic regression models in which we controlled for several potentially confounding sociodemographic and service history characteristics and theoretically relevant predictors specific to each outcome to isolate each predictor's unique effects on the outcome at wave 2. In the longitudinal subset, we also included wave 1 levels of the outcome as a covariate to permit examination of change on the outcome. We included the following core set of sociodemographic and service history characteristics in all multivariate regression models:

- retiree status (retired versus not)
- component represented by two dummy codes for reserve and guard where active is the reference category
- officer (versus enlisted)
- number of deployments
- gender
- marital status (married versus not)
- race and ethnicity represented by three dummy codes (Hispanic, non-Hispanic black, and non-Hispanic other race and ethnicity) where white is the reference category
- age.

To facilitate interpretation of the ORs generated from the multivariate logistic regression models, we computed recycled predictions to translate the ORs for each of the statistically significant predictors into the predicted probabilities of having a particular value on the outcome at key values of the predictor while holding constant all other predictors at their average values.

Chapter Four. Mental Health, Mental Health Service Utilization, and Physical Health

This chapter provides an overview of the key findings on airmen's mental health, mental health service utilization, and physical health. Within each topic, we present a snapshot of the overall wave 2 sample on the outcome of interest, differences on the outcome by retirement status in the overall wave 2 sample, changes in the outcome over time in the longitudinal subset, and characteristics or factors that predict the outcome in the overall wave 2 sample and changes in the outcome over time in the longitudinal subset. Because of the high volume of analyses conducted, we limit our presentation of results in this chapter primarily to key findings and statistically significant findings. Appendix F provides detailed findings not presented here.

Mental Health

As noted in the previous chapter, many in our population were originally included in the AFW2 program because of mental health concerns. Thus, it is not surprising that, even for our overall wave 2 status report, almost three-quarters of respondents screened positive for current (past-month) PTSD on the PCL, and almost three-quarters of respondents screened positive for current (past–two weeks) depression on the PHQ-8. Table 4.1 displays these results in more detail.

Table 4.1. Positive Screens for Posttraumatic Stress Disorder and Major Depressive Disorder in Overall Wave 2 (*N* = 527)

		95% CI	
Condition	**Percentage**	**LL**	**UL**
PTSD	75	71	78
MDD	72	68	76
Both	67	63	71
Neither	19	15	22

NOTE: LL = lower limit. UL = upper limit.

We also examined the extent to which positive screens for PTSD and depression varied by duty status. We found significant differences between current and retired airmen for screening positive for PTSD ($p = 0.000$) and screening positive for depression ($p = 0.000$). Relative to current airmen, of whom 60 percent screened positive for PTSD,

significantly higher proportions of retired airmen (78 percent) screened positive for PTSD. We found a similar pattern of results for screening positive for depression, such that airmen who were currently not retired were less likely to screen positive (55 percent) than retirees (76 percent) were. Thus, airmen enrolled in the AFW2 program who were still active airmen at the time of our survey indicated experiencing fewer or less severe symptoms of PTSD or depression than airmen who were already retired did. Figure 4.1 shows the contrast clearly.

Figure 4.1. Positive Screens for Posttraumatic Stress Disorder and Depression, by Current Retiree Status in the Overall Wave 2 Sample (*N* = 527)

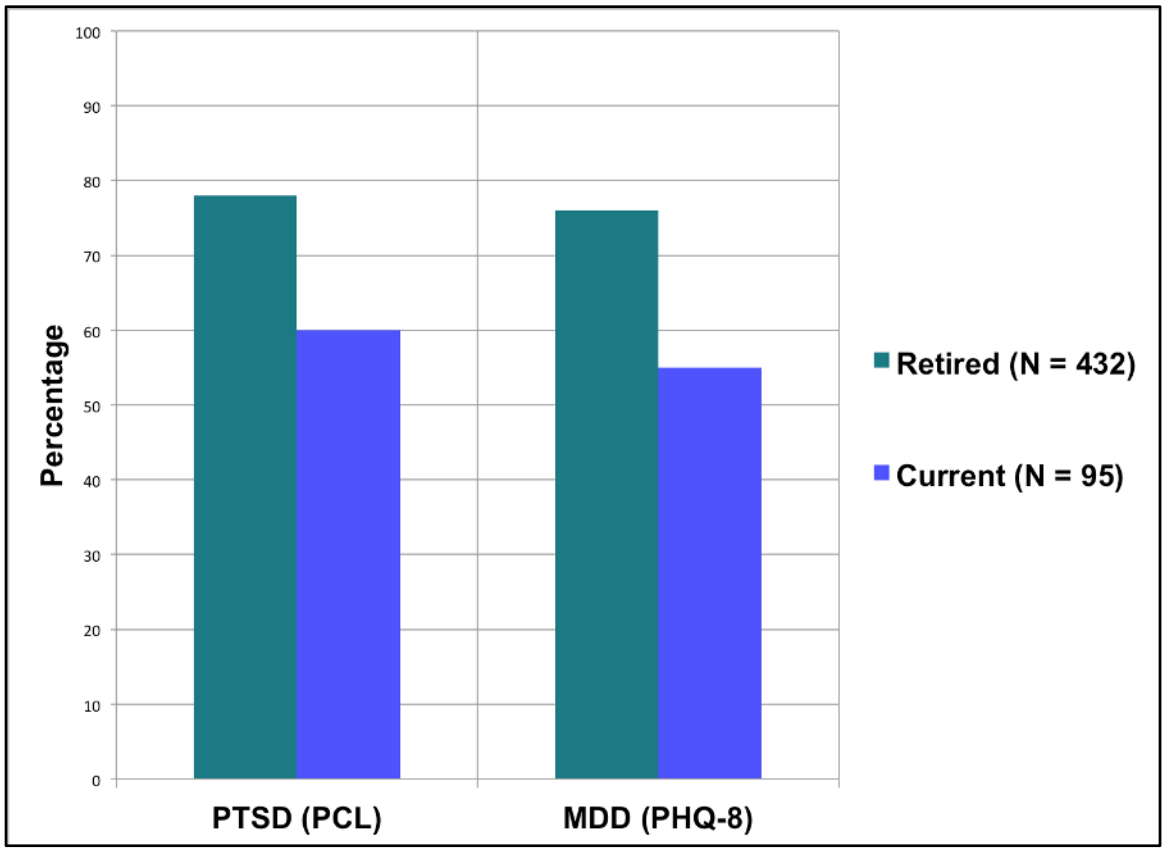


Table 4.2 shows the proportions of airmen in the longitudinal subset who screened positive for PTSD, depression, both, or neither at each wave. Although the proportions of airmen who screened positive for each disorder appear to show a decreasing trend from wave 1 to wave 2, tests of significance indicated that airmen did not experience a statistically significant decrease in the odds of screening positive for PTSD (OR = 0.68; 95-percent CI = 0.45–1.03) or depression (OR = 0.75; 95-percent CI = 0.52–1.06) over time.

Table 4.2. Positive Screens for Posttraumatic Stress Disorder and Depression in the Longitudinal Subset (*N* = 205)

	Wave 1			Wave 2		
		95% CI			95% CI	
Condition	Percentage	LL	UL	Percentage	LL	UL
PTSD	83	77	88	75	69	82
MDD	77	71	84	71	64	78
Both	74	67	81	66	59	73
Neither	14	9	19	19	13	25

Although there was no significant change overall in the odds of screening positive for PTSD or depression over time, we sought to determine whether any characteristics or factors predicted change in the odds of screening positive for PTSD or depression over time. To this end, we estimated weighted multivariate logistic regression models to predict change in PTSD and depression from the core set of sociodemographic and service history characteristics and theoretically important predictors assessed at wave 1, including social support, as indicated by the presence of a primary supporter and self-reported emotional support received from others; unemployment; and lifetime history of homelessness.

As shown in Table 4.3, for both PTSD and depression, airmen who screened positive for the condition at wave 1 and who were retired at wave 1 had significantly higher odds of screening positive for the condition at wave 2. Not shown in the table is the fact that the predicted probabilities of screening positive for PTSD and depression at wave 2 among airmen who were retired at wave 1 were 0.88 (95-percent CI = 0.79–0.93) and 0.87 (95-percent CI = 0.77–0.93), respectively. In contrast, among airmen who were not retired (i.e., still active) at wave 1, the predicted probabilities of screening positive for PTSD and depression at wave 2 were 0.69 (95-percent CI = 0.53–0.82) and 0.57 (95-percent CI = 0.41–0.71), respectively. One possible interpretation of this finding is that the airmen who were retired at wave 1 constituted a more severely injured subgroup than the airmen who were still active at wave 1 and still undergoing evaluation for the severity of their injuries and related fitness for duty. Thus, retirement status at wave 1 might simply have functioned as a proxy for injury severity in the prediction of mental health outcomes at wave 2.

Table 4.3. Multivariate Regression Models Predicting Change over Time on Positive Screens for Posttraumatic Stress Disorder and Depression from Individual Characteristics and Factors in the Longitudinal Subset (*N* = 205)

	Positive Screen for PTSD at Wave 2			Positive Screen for MDD at Wave 2		
		95% CI			95% CI	
Wave 1 Predictor	OR	LL	UL	OR	LL	UL
Positive screen for condition[a]	6.30*	1.98	20.0	12.26*	4.22	35.64
Retired (versus not)	3.23*	1.15	9.10	5.02*	1.81	13.95
Reserve (versus active component)	1.02	0.29	3.54	0.65	0.14	3.02
Guard (versus active component)	0.81	0.25	2.61	1.27	0.26	6.13
Officer (versus enlisted)	0.90	0.23	3.59	0.76	0.19	3.00
Number of deployments	1.21	0.79	1.84	1.58*	1.03	2.41
Male (versus female)	0.42	0.09	1.92	0.28	0.05	1.76
Married (versus not)	1.96	0.67	5.74	0.72	0.24	2.18
Hispanic (versus white)	0.89	0.25	3.17	1.59	0.23	10.92
Black (versus white)	1.26	0.15	10.80	6.81†	0.93	49.97
Age	1.02	0.95	1.10	1.03	0.97	1.11
Presence of primary supporter	0.24*	0.07	0.80	1.54	0.52	4.52
Emotional support	0.89	0.78	1.03	0.88†	0.75	1.02
Unemployment	0.83	0.20	3.39	0.54	0.12	2.47
Lifetime history of homelessness	1.04	0.33	3.23	1.39	0.41	4.74

NOTE: We assessed all predictors in the model at wave 1. * = $p < 0.05$. † = $p < 0.10$.
[a] To model change in the outcome variable, we predicted wave 2 levels of the outcome while controlling for wave 1 levels. The OR represents the estimated effect, and the CI conveys the amount of uncertainty around that estimate.

Social support emerged as a significant predictor of positive screens for PTSD but not depression. Having a primary supporter, defined as someone "who most often helps you deal with problems that come up," at wave 1 predicted significantly lower odds of screening positive for PTSD at wave 2 after controlling for all other characteristics and factors. Holding all other predictors in the model constant at their means, the predicted probability of screening positive for PTSD at wave 2 was 0.78 (95-percent CI = 0.69–0.85) among airmen who had a primary supporter at wave 1 and 0.94 (95-percent CI = 0.83–0.98) among those without a primary supporter at wave 1. However, the presence of a primary supporter did not predict the odds of screening positive for depression at wave 2.

Another factor that might contribute to screening positive for PTSD or depression at wave 2 is mental health status before combat injury. However, we do not have data on this and could not quantify the role of preinjury mental health status in postinjury mental health symptoms.

Mental Health Service Utilization, Barriers, and Preferences

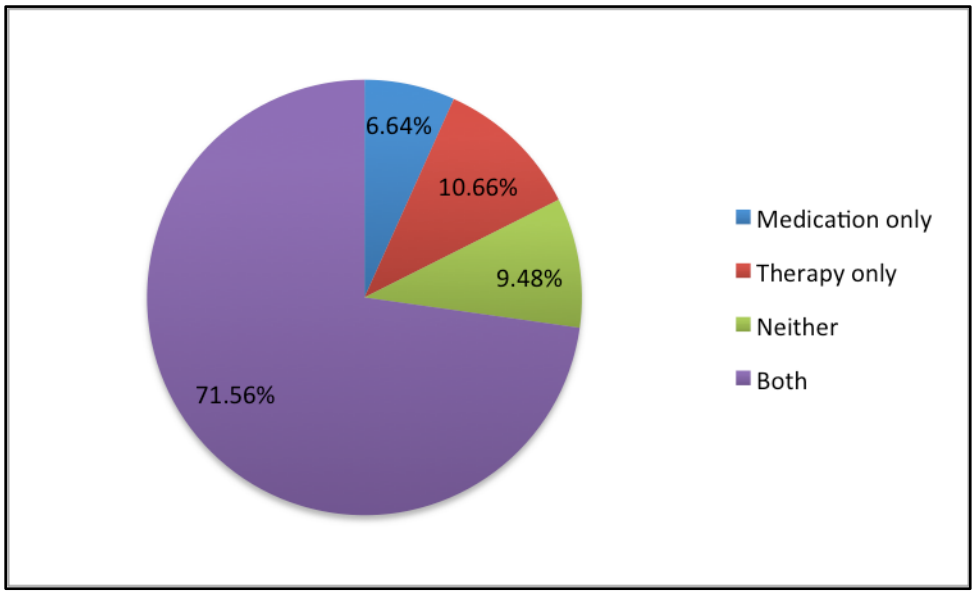
Given the known mental health concerns of the population, as well as the findings regarding current symptoms for mental health conditions, mental health service use is of vital concern for AF's wounded warriors. We asked respondents a series of questions about their use of mental health services *during the past year* or, for respondents who also participated in wave 1, *since the month and year of previous survey administration*. Of primary interest were those participants who screened positive for PTSD or depression or both; these participants made up roughly 80 percent of the sample, or 422 participants.

These are the participants whom we have reason to believe have mental health care needs, based on the screeners included in our survey.[18] Of those people ($N = 422$), 90 percent received mental health services (i.e., medication, talk therapy, other) for stress, emotional, alcohol, drug, or family problems during the past year, which is quite high. Of those who screened positive for PTSD or depression and received care ($N = 381$), 79 percent received both medication and therapy. However, of those who screened positive for PTSD or depression and received some type of mental health treatment at some point during the past year, approximately half (53 percent) indicated that they had desired professional help at some point in the same time period but had not received it. Thus, despite the high mental health service usage rates observed overall, it appears that the experience of not receiving mental health services at a particular point in time was relatively common in the wave 2 survey and did not differ by retiree status ($p = 0.172$).

There are several things to consider when thinking about this finding. It could include both people who sought care and could not get it, as well as those who considered seeking care but did not because of an *anticipated* barrier. A year is also a broad time span, and those who reported that they desired care but did not receive it ultimately *might have gotten* care, just not when they wanted it. The item we used speaks to the perception of lack of access from the airman's perspective. Appendix D provides more detail on the items themselves. As shown in Figure 4.2, the majority (72 percent) of airmen who had a diagnosis of PTSD or depression or both received both medication and therapy in the past year.

[18] Note that airmen might also be experiencing mental health symptoms and disorders for which we did not screen. Fewer than ten airmen were missing the information on depression and PTSD; we excluded them from the analyses reported below because we had no information on their mental health needs.

Figure 4.2. Treatment Modality for Those Who Screened Positive for Posttraumatic Stress Disorder or Depression, Overall Wave 2 Sample



NOTE: The denominator includes airmen in the overall wave 2 sample who screened positive for PTSD or depression or both.

We examined differences in the receipt of any mental health services during the past year and receipt of both medication and therapy compared with only medication, only therapy, or neither medication nor therapy, by duty status. There were no differences between current and retired airmen in receipt of mental health services during the past year ($p = 0.14$); nor were there significant differences between current and retired airmen in the receipt of both medication and therapy during the past year compared with the receipt of only medication, only therapy, or neither medication nor therapy ($p = 0.17$). Thus, although retirees generally report higher levels of symptoms such that they are more likely to screen positive for both PTSD and depression than current airmen are, they do not differ in terms of reporting that they received mental health treatment. This might not be surprising, considering how high treatment prevalence is in our overall sample.

Mental Health Treatment Settings

In general, active component airmen, reservists and guard members, and retirees fall under the umbrellas of different though overlapping systems of care:[19] the MTF for active-duty active component, civilian care for reservists and guard members, and VHA for our population of veterans with combat-related injuries (note that this includes active-

[19] These systems of care overlap differently over the course of time, with most of the overlap occurring early in the period after combat injury.

duty airmen, as well as reservists and guard members, because our sample by definition consists of those with combat-related injuries).

However, as in the prior wave, our analyses show that, for airmen in our study, strict differentiation by these systems of care did not occur, and there was, in fact, a lot of overlap. Roughly comparable proportions of respondents reported having received mental health treatment in an MTF, VHA facility, or civilian facility, as shown in Table 4.4. Although we phrased our questions very broadly and asked about mental health care for many reasons (including general stress and family problems), we do have a known proportion who screened positive for the two conditions on which we focus and who had received treatment. Restricting to those who got care ($N = 440$), roughly half of the respondents had been seen in MTFs or civilian settings, with almost three-quarters treated in VHA facilities. In fact, more than half of the respondents (59 percent; 95-percent CI = 54–63) reported having received mental health treatment in two or more types of settings during the past year.

Table 4.4. Settings in Which Mental Health Services Were Received in the Past 12 Months or Since the Wave 1 Survey, Overall Wave 2 (*N* = 440)

		95% CI	
Mental Health Service Setting	**Percentage**	**LL**	**UL**
MTF	53	49	58
VHA facility	71	67	75
Civilian facility	55	50	60

NOTE: We asked participants who had not completed the wave 1 survey about mental health service utilization during the past 12 months. We asked participants who had completed the wave 1 survey to report on mental health service utilization since the date of the previous survey administration, or over a roughly 2.5-year period. The denominator for this table is limited to airmen who received mental health services in any setting.

We also asked those who reported receiving the same form of mental health treatment (medication, therapy, or other) at more than one type of facility (e.g., received medication at both an MTF and in a civilian facility) why they did so; Table 4.5 presents their answers. Each respondent could select more than one answer. Among airmen who reported having received the same form of mental health treatment at multiple types of facilities, the most common reason for doing so was transitioning from one status to another (e.g., transitioning from active duty to retired). Other reasons that were fairly commonly endorsed were difficulty scheduling appointments, moving from one location to another, seeking a different type of mental health provider, and believing that the mental health treatments available were not very good. In addition, nearly half of the sample endorsed the "other reason not mentioned" category.

Table 4.5. Receipt of Mental Health Services at More Than One Type of Facility (*N* = 255)

Reason Selected	Percentage	95% CI	
		LL	UL
Transitioned from one status to another (for example, left active duty)	48	42	54
Other reason not mentioned	48	42	54
Difficulty scheduling appointments at convenient times	40	34	46
Moved from one location to another	39	33	45
Seeking a different type of mental health provider	39	33	45
Believing that the mental health treatments available to you were not very good	37	31	43
Concerns about your treatment not being kept confidential	22	17	28
Difficulty paying for mental health treatment	15	11	20
Difficulty arranging transportation to treatment	15	10	19
Changed civilian health insurance	10	6	14

NOTE: We asked participants who had not completed the wave 1 survey about mental health service utilization during the past 12 months. We asked participants who had completed the wave 1 survey to report on mental health service utilization since the date of the previous survey administration, or over a roughly 2.5-year period. We limit the denominator for this table to airmen who received the same type of mental health treatment (medication, therapy, other) in two or more locations (e.g., received medication in both a civilian facility and a VA facility).

Barriers to Treatment

We considered barriers to be potentially relevant for anyone thinking about seeking care and asked about several possible barriers to mental health service use. Because our interests cover not only those who might have a diagnosis from a care provider of PTSD or depression but also anyone who might have been engaged in treatment for reasons ranging from general stress to substance abuse to family problems, mental health barrier questions are potentially relevant for all. We asked respondents who indicated that there had been a time in the past year or since the previous survey administration when they desired but did not receive mental health services[20] which concerns had prevented them from obtaining professional help. Table 4.6 shows the responses for that subset from overall wave 2. We asked respondents who indicated that there had *not* been a time in the past year or since previous survey administration when they desired but did not receive mental health services which concerns would prevent them from seeking professional

[20] The actual survey question used to determine whether there had been a time in the past year when respondents desired but did not receive mental health services was this: "In the last 12 months, was there ever a time when you wanted to get professional help for stress, emotional, alcohol, drug, or family problems but did not?" If this was not the respondent's first time completing the survey, "in the last 12 months" was replaced with "Since [month and year of previous survey administration] . . . ."

help if they desired it in the future (Appendix F presents these results because our primary interest for intervention is in those who did indeed experience barriers to care).

Table 4.6. Barriers to Mental Health Service Utilization Among Airmen Who Desired Help but Did Not Receive It, in Overall Wave 2

	Desired Help but Did Not Receive It			Of Airmen Who Endorsed in Top 3		
		95% CI			95% CI	
Type of Barrier	Percentage	LL	UL	Percentage	LL	UL
Logistical						
Difficulty scheduling an appointment	43	36	49	25	20	31
Not knowing where to get help or whom to see	32	27	38	13	9	17
Difficulty getting childcare or time off of work	27	21	32	14	10	19
Difficulty paying for mental health treatment	16	11	21	9	5	12
Difficulty arranging transportation to treatment	12	7	16	4	1	6
Institutional and cultural						
Professional help could harm airman's career	43	36	49	25	20	31
Concerns that friends, family, or coworkers would respect airman less	41	35	47	15	10	19
Concerns about being denied a security clearance in the future[a]	40	34	46	15	10	19
Concerns about confidentiality of treatment	38	32	44	15	10	19
Concerns that commander or supervisor would respect airman less[a]	30	24	35	9	5	13
Potential loss of contact or custody of children	16	11	20	7	4	10
Beliefs about and preferences for treatment						
Belief in ability to handle problem independently[a]	64	58	70	33	27	39
Medications have too many side effects	48	42	55	30	24	35
Perceived ineffectiveness of mental health treatments available to airman	46	40	53	33	27	39
Other						
Other reason not mentioned	42	36	49	23	17	28

[a] New item.

Barriers generally fall into three major categories: logistical, which concerns challenges associated with getting to treatment; institutional and cultural, which refers to

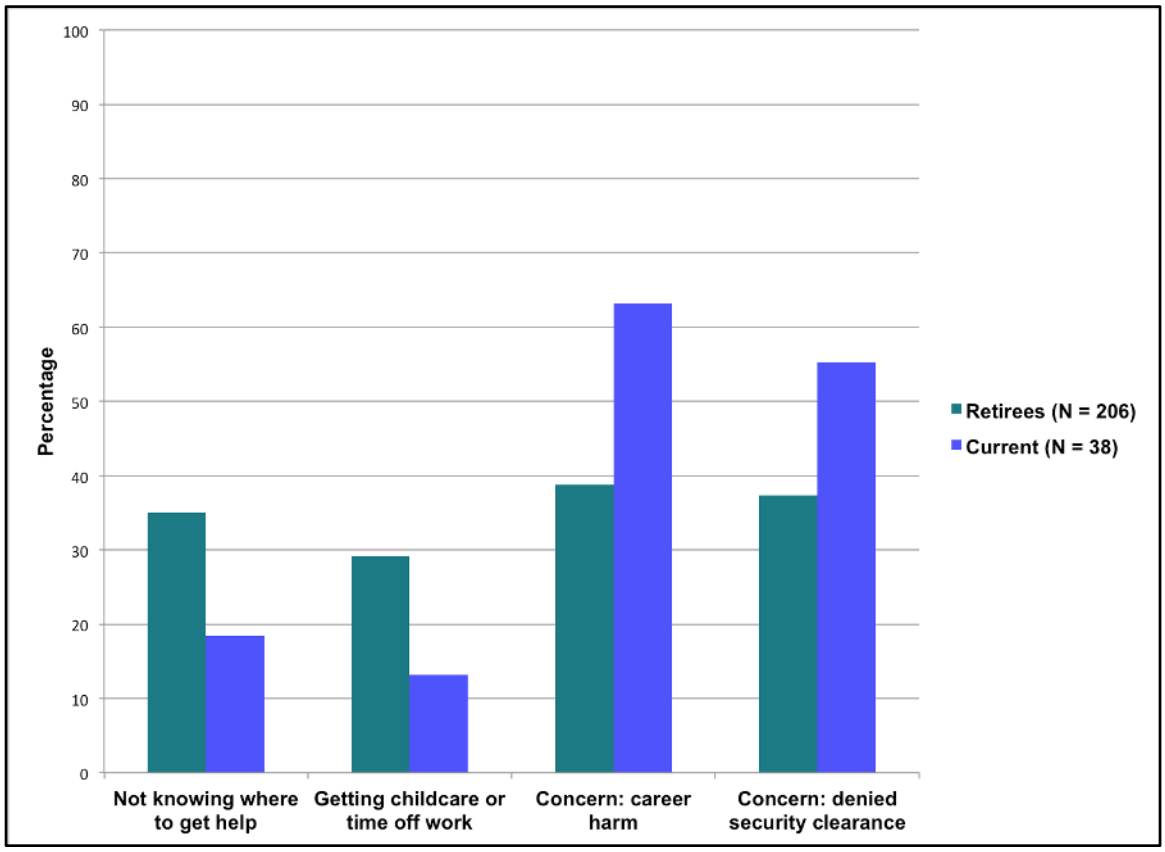
concerns about how knowledge of receipt of mental health services could adversely affect one's career or relationships with friends, family, and coworkers if others found out that the airman had received or was currently receiving services; and beliefs about and preferences for treatment. The items in Table 4.6 include three items that we did not use in the wave 1 survey but included as options in wave 2 because of the many responses to "other barrier not described" in the prior survey. Also new in this wave of the survey was asking airmen who had experienced barriers to treatment what barriers, out of those they endorsed, ranked among their top three concerns; the proportions saying so for each barrier are shown in Table 4.7.

Difficulty scheduling an appointment was the most commonly endorsed logistical barrier, at 43 percent, and about one-quarter considered it to be one of their top three challenges. Among institutional and cultural barriers, concerns that one's friends, family, and coworkers would respect the airman less; concerns about trouble getting a future security clearance; and concerns that help could harm one's career were endorsed most frequently (all over 40 percent), and about one-quarter of the airmen also considered the latter concern a top three challenge. By far the most–frequently endorsed barriers, however, related to beliefs about and preferences for treatment. About 64 percent of airmen indicated that they believed they could handle the problem independently, and this was a top-three challenge for about one-third. More than 45 percent noted that medications' side effects and negative perceptions of treatment efficacy were of concern for them being able to get help. About one-third indicated that these negative perceptions of treatment efficacy were one of their top three challenges, and just short of 30 percent indicated the same for concerns about side effects.

We also probed further among overall wave 2 respondents who had reported barriers, examining whether current airmen differed from retired airmen in their endorsement of barriers to mental health treatment.[21] Although doing so does not isolate the system of care in which the problem occurred, given the numbers of airmen who experienced care in multiple systems, it can help point to the direction of concern. For four barriers, we found significant differences by retiree status: not knowing where to get help ($p = 0.040$), difficulty getting childcare or time off work ($p = 0.045$), concerns about harm to one's career ($p = 0.007$), and concerns about future denial of a security clearance ($p = 0.049$). Figure 4.3 shows the percentages of airmen by retiree status who endorsed these four barriers. No significant differences appeared by retiree status for any of the other barriers to mental health treatment (all $p > 0.05$).

[21] Among airmen who had desired but not received treatment at some point during the past year ($N = 244$), the cell sizes for current duty status are as follows: retired airmen ($N = 206$), current airmen ($N = 38$).

Figure 4.3. Differences in Mental Health Treatment Barriers by Retiree Status, Overall Wave 2 (*N* = 244)



NOTE: No other mental health treatment barriers were significantly different by retiree status.

For not knowing where to get help, retirees (35 percent) were more likely to indicate uncertainty than current airmen (18 percent) were. Retirees were more likely to indicate that they were concerned about getting childcare or time off work (29 percent) than current airmen (13 percent) were. For concern about harm to career, retirees (39 percent) were less likely to indicate that this was a concern than current airmen (63 percent) were. For concern about denial of future security clearances, retirees (37 percent) were less likely to indicate that this was a concern than current airmen (55 percent) were. Retirees' responses might reflect being less "plugged in" to the system and issues with integrating postservice employment with their treatment needs, while current airmen were more concerned about issues affecting their military career.

We also looked at the change in barriers to mental health treatment over time in the longitudinal subset of airmen, which we subdivide further by whether the airmen had indicated at either wave 1 or wave 2 that, at some point, they had an unmet desire for mental health treatment. (Table F.7 in Appendix F shows the proportions of airmen who endorsed each mental health treatment barrier at waves 1 and 2.) In general, similar

proportions of airmen endorsed each barrier at waves 1 and 2, indicating an overall pattern of stability of barriers over time. However, in one barrier, the change in proportions was of notable magnitude: Concerns about side effects of medication were endorsed by 49 percent of airmen at wave 1 and 57 percent of that same group of airmen at wave 2.

We examined the significance of change over time on this barrier and found no significant difference across waves. However, because of the small number of cases in this analysis ($N = 135$), we opted to conduct a more powerful test of change over time by running this analysis in the entire longitudinal subset of 205 (and not just those who had experienced an unmet mental health care need). The magnitudes of the ORs were similar across these models, but there was significant change over time in the entire longitudinal subset (OR = 1.43, 95-percent CI = 1.01–2.02). Thus, over time, it appears that concerns about this particular consequence of medication were increasing.

Consideration of barriers also invokes the question of *where* airmen encountered these barriers. The analysis looking at retiree status hints at this, but, for airmen's top three barriers, we also asked the question directly. Although the samples are small, the results are interesting. Respondents reported logistical challenges, such as challenges scheduling appointments, and concerns about treatment and its efficacy quite prevalently for VA, whereas concerns regarding institutional and cultural barriers were very highly endorsed for the MTF, with 80 percent indicating having encountered the top-three concern of harm to career there (see Table 4.7).

Table 4.7. Locations Where Top-Three Mental Health Treatment Barriers Were Experienced by Airmen Who Desired Help but Did Not Receive It and Who Rated the Barrier in Their Top Three, Overall Wave 2

Barrier	Barrier Reported in Top 3, *N*	Location Where Barrier in Top 3 Was Experienced, Percentage		
		MTF	VA	Civilian
Logistical				
Difficulty scheduling an appointment	61	28	79	8
Difficulty getting childcare or time off work	35	26	63	17
Not knowing where to get help or whom to see	32	41	53	25
Institutional and cultural				
Professional help could harm airman's career	61	80	16	16
Concerns about being denied a security clearance in the future	36	72	25	17
Concerns about confidentiality of treatment	36	64	39	25
Concerns that friends, family, or coworkers would respect airman less	36	56	44	11
Beliefs about and preferences for treatment				
Perceived ineffectiveness of mental health treatments available to airman	80	43.8	67.5	13.8
Medications have too many side effects	72	45.8	54.2	20.8
Other reason not mentioned	55	20	38.2	9.1

NOTE: Regardless of retirement status, people cross systems of care in some situations, such as proximity or facility specialization. Because of infrequent overall endorsement of the barrier in respondents' top three barriers (i.e., $N < 31$), we do not report the following items here: difficulty arranging transportation to treatment ($N = 9$), difficulty paying for treatment ($N = 21$), concerns that your commander or supervisor might respect you less ($N = 22$), and concerns about loss of custody or contact with children ($N = 17$). We also omitted the item "believing you can handle the problem on your own," because it is not inherently location-bound.

Preferred Setting

In addition to asking general questions regarding where airmen received care, we asked each respondent what his or her *preferred* setting for mental health treatment would be if cost were not an issue. Given the choice of receiving treatment from a private, civilian provider; a VA facility; an MTF; or none of these options, slightly more than half of the respondents expressed a preference for receiving treatment from a private, civilian provider, as displayed in Table 4.8. Just under one-third of the respondents indicated a preference to receive mental health treatment in a VA facility. An

MTF was the least commonly chosen setting, selected by just more than one-tenth of respondents.

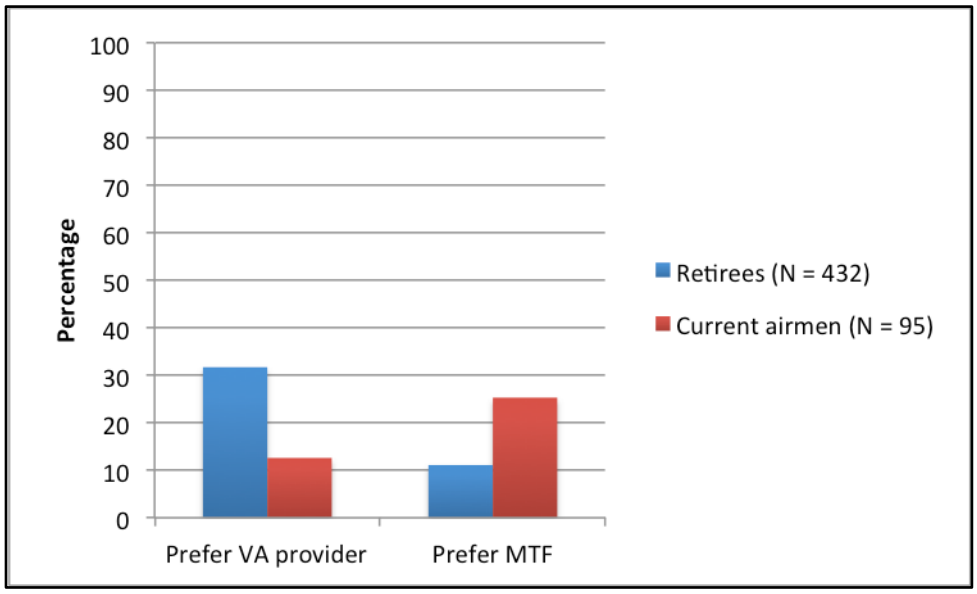
Table 4.8. Mental Health Service Preferences, Overall Wave 2 (*N* = 527)

		95% CI	
Preference	**Percentage**	**LL**	**UL**
Preferred mental health services setting			
Private, civilian provider	51	47	55
VA facility	28	24	32
MTF	14	11	17
None of these	4	2	6
Preferred type of mental health service			
Some type of counseling or talk therapy provided by a mental health specialist	63	59	67
Medication prescribed by a health care provider	17	14	20
Neither medication nor therapy	14	11	17

We also asked each respondent what his or her preferred *type* of mental health treatment would be if cost were not an issue. Nearly four times as many respondents chose some type of counseling or talk therapy than chose medication prescribed by a health care provider. Note that this might also echo the concerns that many stated in the barrier section regarding concerns about medication side effects. Fewer than 15 percent of respondents indicated that they would want neither medication nor therapy.

We also examined variation by duty status in preferences for different settings. Current airmen were more likely (25 percent) than retirees (11 percent) to say that they preferred the MTF ($p < 0.01$). However, current airmen were less likely (13 percent) than retirees (32 percent) to indicate that they preferred VHA facilities ($p = 0.00$). Their preferences align with the reality that they might not even be allowed to go to VHA while active. There were no differences in preferences for civilian providers ($p > 0.05$), the strongest preference generally speaking. Figure 4.4 presents provider preferences by duty status.

Figure 4.4. Preferred Settings for Mental Health Treatment by Retiree Status, Overall Wave 2 (*N* = 527)

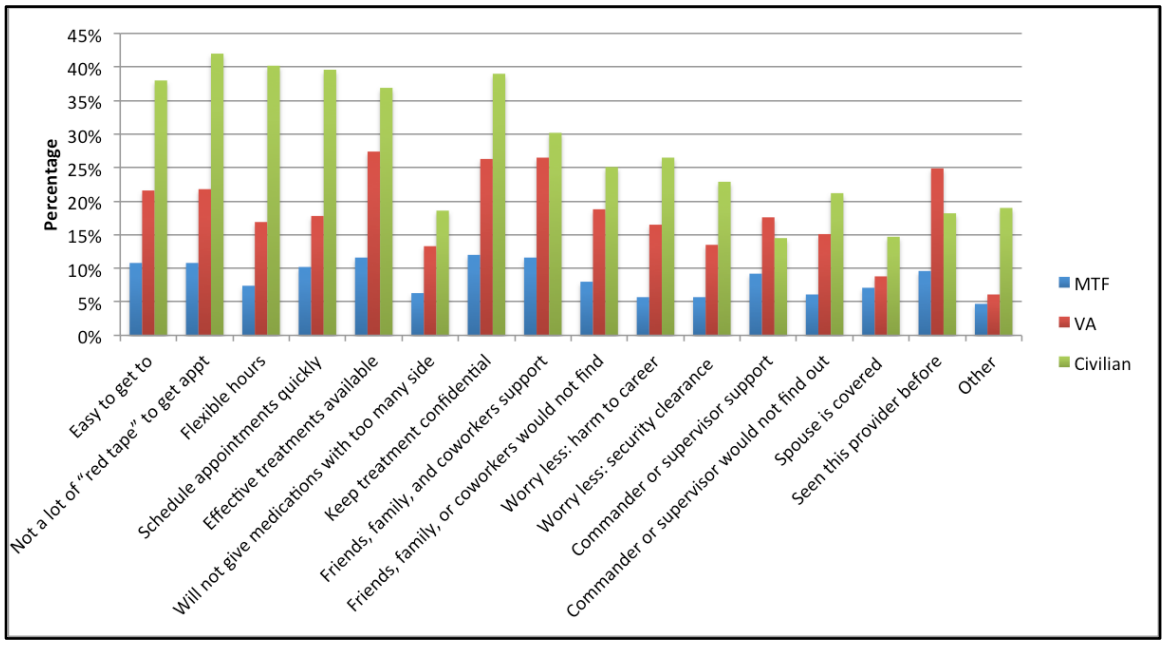


NOTE: We do not show preferences for civilian providers, which we also assessed, because they did not differ significantly by duty status.

Preferences for the longitudinal subset conformed to a pattern similar to that of the overall wave 2 sample, with a general preference for civilian care and for talk therapy or other type of counseling (see Appendix F).

In wave 2, in addition to asking about general provider preferences, we asked *why* airmen would prefer to see that type of provider. Figure 4.5 shows reported reasons for provider preference (Table F.9 in Appendix F shows these numbers and CIs). The most–frequently reported reasons for civilian provider preference pertain to logistical issues—a perception that there is not a lot of red tape (42 percent), hours are convenient (40 percent), and appointments can be scheduled quickly (39 percent). Perhaps surprisingly, (relatively) frequently endorsed reasons for both the MTF and VA included the perception that effective treatments are available (MTF 12 percent; VA 27 percent); that treatment would be kept confidential (MTF 12 percent; VA 26 percent); and that friends, coworkers, and family would support getting treatment at those locations (MTF 12 percent; VA 27 percent). For those who prefer these settings, maybe their own experiences with the quality of care at those locations has shaped those preferences.

Figure 4.5. Reported Reasons for Preference by Percentage Preferring Setting, Overall Wave 2



NOTE: *N* = 490 who had setting preferences; some people did not answer, and others said "none of these."

Respondents also frequently endorsed the desire for confidential treatment with regard to preference for a civilian provider (39 percent), which affirms the commonly advanced rationale that preference for civilian providers relates to the responsibility of providers in the MTF to inform a commander if someone in that commander's unit might not be able to fulfill mission requirements. That said, we also wanted to determine how these *expressed* reasons for treatment preference compared with an *empirical* examination. Thus, we sought to understand empirically the characteristics of airmen who said they preferred civilian providers. To this end, we examined predictors of civilian provider preferences in a multivariate logistic regression model. The model adjusted simultaneously for the core set of sociodemographic and service history characteristics and all perceived barriers to mental health treatment assessed at wave 2. Table 4.9 displays the results of the multivariate regression model. As shown, airmen who endorsed concerns about the confidentiality of treatment and "other reason not mentioned" had significantly greater odds of preferring civilian providers.[22]

[22] We also examined the same set of predictors of preferences for civilian providers in the subset of 244 airmen who reported having desired but not received mental health treatment at some point during the past year or since the previous survey. The only predictors that were significant at $p < 0.05$ in this subset of airmen were not knowing where to get treatment or whom to see (OR = 3.21; 95-percent CI = 1.43–7.20) and concerns about confidentiality of treatment (OR = 3.88; 95-percent CI = 1.55–9.69).

Table 4.9. Multivariate Regression Model Predicting Civilian Provider Preferences in the Overall Wave 2 Sample (*N* = 527)

		95% CI	
Predictors	**OR**	**LL**	**UL**
Retired (versus active)	0.59†	0.34	1.03
Reserve (versus active component)	1.08	0.52	2.27
Guard (versus active component)	0.74	0.40	1.36
Officer (versus enlisted)	1.48	0.77	2.86
Number of deployments	0.94	0.80	1.10
Male	1.53	0.85	2.76
Married	1.41	0.90	2.20
Hispanic (versus white)	0.86	0.42	1.75
Black (versus white)	1.09	0.49	2.42
Other race or ethnicity (versus white)	0.79	0.27	2.31
Age	0.98	0.95	1.01
Not knowing where to go or whom to see	1.61†	0.96	2.71
Difficulty arranging transportation to treatment	0.81	0.37	1.78
Difficulty getting childcare or time off work	1.45	0.85	2.46
Difficulty scheduling an appointment	0.98	0.60	1.59
Difficulty paying for mental health treatment	0.80	0.43	1.49
Concerns that available treatments are not effective	1.59†	0.98	2.57
Medications having too many side effects	1.49†	0.96	2.31
Concerns about confidentiality of treatment	2.79*	1.54	5.06
Concerns that friends, family, or coworkers would respect airman less	0.85	0.47	1.55
Concerns about losing contact with or custody of your children	1.08	0.54	2.18
Concerns about harm to professional career	0.57	0.29	1.12
Concerns about being denied a security clearance in the future	1.12	0.61	2.06
Concerns that your commander or supervisor might respect you less	0.74	0.37	1.46
Believing you can handle the problem on your own	1.26	0.81	1.95
Other reason not mentioned	1.86*	1.16	2.99

NOTE: In some cases, skewed predictor variable proportions could limit the analyses' power to detect significant relationships (e.g., males are far more frequent in our population than females). The ORs for each predictor are adjusted for all other predictors listed in the table. * = $p < 0.05$. † = $p < 0.10$.

To facilitate interpretation of the model results, we computed recycled predictions to translate the ORs for each of the statistically significant mental health treatment barriers into the predicted probability of preferring civilian providers among airmen who did and did not endorse the barrier while we held all other predictors in the model constant at their average values. Among airmen who reported concerns about the confidentiality of treatment, the predicted probability of preferring civilian providers was 0.70 (95-percent

CI = 0.59–0.79); among those who did not endorse this concern, the predicted probability of preferring civilian providers was 0.45 (95-percent CI = 0.39–0.52). Among airmen who endorsed "other reason not mentioned," the predicted probability of preferring civilian providers was 0.64 (95-percent CI = 0.54–0.72); among those who did not endorse this concern, the predicted probability of preferring civilian providers was 0.49 (95-percent CI = 0.43–0.54). These results suggest ongoing concerns regarding the stigma associated with seeking treatment, which could drive some of the reported preference for civilian providers.

Physical Health and Medical Care

We also assessed respondents' physical health using the SF-36 subscales for general health and for role limitations due to physical health. The SF-36 is a well-validated and widely used measure of physical health and functioning (Hays, Sherbourne, and Mazel, 1993; Ware et al., 1993). As context for interpretation of scores on these subscales, average (mean) scores were 57.0 (standard deviation [SD] = 21.1) on the general health subscale and 53.0 (SD = 40.8) on the role limitation subscale in a sample of U.S. adult patients with chronic illnesses (hypertension, diabetes, coronary heart disease, and depression) (Hays, Sherbourne, and Mazel, 1993). As shown in Table 4.10, on average, respondents in the overall wave 2 sample had relatively low scores on both subscales, suggesting that they perceive themselves to be in relatively poor health and to have significant role limitations because of physical functioning. However, it is worth noting that respondents' scores on both subscales were variable. Despite relatively low *average* scores on the general health and role limitation subscales, several respondents did report more positive perceptions of their physical health and fewer role limitations because of physical functioning.

Table 4.10. Current Physical Health in the Overall Wave 2 Sample (*N* = 527)

			95% CI	
Subscale	**Mean**	**SD**	**LL**	**UL**
General health	34	23.6	32	36
Role limitations due to physical health	25	34.6	22	28

NOTE: General health and role limitations due to physical health are subscales of the SF-36 that were scored according to the RAND method (Hays, Sherbourne, and Mazel, 1993). For both subscales, possible scores range from 0 to 100, with higher scores on general health indicating better overall health and higher scores on role limitations due to physical health indicating fewer role limitations due to physical health.

We also compared perceptions of general health and role limitations due to physical health across waves. As shown in Table 4.11, respondents' mean scores on the general health subscale were very consistent across waves, and a weighted dependent *t*-test

indicated no significant change over time on average in these subscale scores ($t = –0.10$; $p = 0.92$). However, subscale scores on role limitations due to physical health did increase significantly over time ($t = 2.57$; $p = 0.01$), indicating that respondents perceived themselves as less physically impaired at wave 2 than at wave 1.

Table 4.11. Current Physical Health in Longitudinal Subset (*N* = 205)

	Wave 1				Wave 2			
			95% CI				95% CI	
Subscale	Mean	SD	LL	UL	Mean	SD	LL	UL
General health	36	23.1	32	39.3	35	24.4	31	39
Role limitations due to physical health	21	30.8	16	25.2	28	33.8	23	33

Summary

Our results demonstrate that the airmen in our sample indeed are experiencing or continue to experience challenges in the domains of mental and physical health. A high proportion of airmen screened positive on the survey for PTSD (roughly 75 percent) and MDD (roughly 72 percent), with 67 percent screening positive for both. We also found evidence of lower rates of perceived physical health within our sample than in the U.S. general population. Although our sample reported very high rates of mental health treatment within the past year for those who needed it (90 percent), within that same time frame, about half reported at least one instance in which they wanted but did not obtain mental health treatment. A one-year time frame is broad. However, given the evident and identified need for mental health services among this population and the efforts that have been undertaken to deal with servicemembers' mental health needs more effectively, unmet need for mental health treatment remains a pertinent issue. In the domain of physical health, there was evidence of improvement in the longitudinal subset. Specifically, in between waves 1 and 2, airmen's perceptions of their physical impairments improved.

However, no significant change occurred overall in the odds of screening positive for PTSD or depression over time. Given the importance of these variables, we nonetheless sought to determine whether any characteristics or factors predict change in the odds of screening positive for PTSD or depression over time. Social support emerged as a significant predictor of positive screens for PTSD but not depression. Having a primary supporter, defined as someone "who most often helps you deal with problems that come up," at wave 1 predicted significantly lower odds of screening positive for PTSD at wave 2 after controlling for all other characteristics and factors included in the models.

Chapter Five. Social and Occupational Functioning and Financial and Housing Stability

In this chapter, we describe airmen's social and occupational functioning, as well as their financial and housing stability. Like we did in Chapter Four, we provide a snapshot of these outcomes for the overall wave 2 sample, examine variation in these outcomes by duty status, describe changes over time on outcomes in the longitudinal subset, and identify characteristics and factors that explain variation in levels of outcomes or changes in outcomes over time. To streamline presentation of key findings, we provide detailed results of less critical findings (e.g., nonsignificant findings) in Appendix F.

Social Functioning

As shown in Table 5.1, the majority of respondents in the overall wave 2 sample were married. Fifteen percent of respondents reported that they had no current exclusive relationship.[23] Less than one-tenth of respondents were married and living separately by choice, cohabiting, or dating exclusively. In the longitudinal subset, relationship statuses remained fairly stable across waves (see Table F.11 in Appendix F).

Table 5.1. Current Relationship Status of Overall Wave 2 (*N* = 527)

		95% CI	
Relationship Status	**Percentage**	**LL**	**UL**
Married and living together or living separately because of separate military assignments	64	60	68
Married and living separately by choice	7	5	10
Cohabiting	3	2	5
Dating exclusively	7	4	9
No current exclusive relationship	15	12	18

[23] Although, to some extent, information on marital status, number of dependents, and other family matters represents demographic information and might, as such, be included in personnel records, these factors vary more than some of the other demographic information we obtained (i.e., rank at time of separation is unlikely to change, but marital and parental status can change). Given the large proportion of retirees whose personnel records are not updated, we elected to ask questions regarding these factors in the survey itself.

Not shown in the table is the fact that approximately one-third (33 percent; 95-percent CI = 29–37) reported having no children who depend on them for more than half of their financial support; only 13 percent reported living alone (95-percent CI = 10–16). See Appendix F for other information regarding dependent children (Tables F.13 and F.14) and household structure (Tables F.15 and F.16).

When asked what types of resources airmen taking the survey would find helpful, the majority of airmen in the overall wave 2 sample reported that help connecting with others on a personal level would be appreciated (66 percent; 95-percent CI = 61–69). We wondered whether this need for interpersonal support might vary depending on psychological vulnerabilities; indeed, the desire for help connecting with others on a personal level was significantly more pronounced among airmen who screened positive for PTSD or depression (70 percent; 95-percent CI = 66–74) than those who screened negative for both disorders (47 percent; 95-percent CI = 37–57; $p = 0.00$).

To determine whom the airmen consider their key source of social support, we asked each to identify the one person "who most often helps you deal with problems that come up." We asked each airman to select this person's relationship to him or her from a list of response options that included spouse or domestic partner, boyfriend or girlfriend, child, parent or parent-in-law, sibling or sibling-in-law, other relative, a friend, or not applicable (do not share problems with anyone). As shown in Table 5.2, slightly more than half of respondents selected a spouse or domestic partner as the primary supporter. Just under one-fifth of respondents indicated that they do not have a primary supporter (i.e., they do not share their problems with anyone). Minorities of respondents (i.e., less than 10 percent) named friends, parents or parents-in-law, other relatives, or boyfriends or girlfriends as their primary supporters. Not having an identified primary supporter might be because of a dearth of social support resources or a personal choice not to share problems. Hence the proportion of respondents reporting this status might or might not consider it a problem that they do not have anyone with whom to share. Nonetheless, it can be considered an indicator of potential risk in terms of availability of social-support resources, particularly in light of our findings regarding the predictive power of absence of a primary supporter in screening positive for PTSD at wave 2 for the longitudinal subset.

Table 5.2. Relationship of Primary Supporters to Airmen in Overall Wave 2 (*N* = 527)

		95% CI	
Relationship	**Percentage**	**LL**	**UL**
Spouse or domestic partner	54	50	59
Not applicable (do not share problems with anyone)	20	16	23
Friend	9	6	11
Parent or parent-in-law	7	5	9
Other relative	2	1	3
Boyfriend or girlfriend	5	3	7

We also assessed whether the absence of a primary supporter (i.e., answering "not applicable [do not share problems with anyone]") in response to the question about the person to whom one most often turns for help with problems that come up varied by duty status in the overall wave 2 sample. The difference was not significant ($p = 0.20$).

We took advantage of our longitudinal data to examine whether the absence of a primary supporter changed in between survey waves. As shown in Table 5.3, the percentage of airmen in the longitudinal subset who reported not having a primary supporter decreased from 27 percent at wave 1 to 19 percent at wave 2. This decrease was statistically significant[24] (OR = 1.51; 95-percent CI = 1.05–2.19).

Table 5.3. Relationship of Primary Supporters to Airmen in the Longitudinal Subset (*N* = 205)

	Wave 1			Wave 2		
		95% CI			95% CI	
Relationship	**Percentage**	**LL**	**UL**	**Percentage**	**LL**	**UL**
Spouse or domestic partner	46	39	54	51	44	59
Not applicable (do not share problems with anyone)	27	21	34	19	14	25
Friend	10	6	15	11	6	16
Parent or parent-in-law	8	4	12	9	5	13
Other relative	5	1	8	0	0	1
Boyfriend or girlfriend	3	0	6	6	2	10

[24] We tested significant change by regressing a binary outcome variable representing the presence of a primary supporter (primary supporter present = 1; primary supporter absent = 0) on wave in a weighted binary logistic regression model with clustering of observations at the person level.

We asked each respondent to report his or her level of relationship satisfaction with the person to whom he or she was married or, if not married, with the person identified as their primary supporter. Respondents rated levels of relationship satisfaction on a scale with response options that ranged from 1 (very dissatisfied) to 5 (very satisfied). Table 5.4 shows respondents' average levels of relationship satisfaction by relationship type. In general, respondents tended to endorse high levels of satisfaction with their marriages or primary supporters. Respondents who were married and living together or living separately as a result of military assignments or who rated their levels of satisfaction with their primary supporters had average relationship satisfaction scores that were between 4 and 5. Not surprisingly, the one exception to this was respondents who were separated from their spouses; this group's average level of relationship satisfaction was just under 3, indicating a rating of satisfaction between "somewhat dissatisfied" and "neutral."

Table 5.4. Average Levels of Relationship Satisfaction with Marriage or Relationship with Primary Supporters in Overall Wave 2 (*N* = 527)

			95% CI	
Relationship	***M***	**SD**	**LL**	**UL**
Spouse				
Married and living together or living separately because of military assignments	4.2	1.2	4.0	4.3
Married and living separately by choice	2.8	1.8	2.2	3.4
Primary Supporter				
Live-in domestic partner or boyfriend or girlfriend	4.3	1.1	3.9	4.7
Parent or parent-in-law	4.5	0.9	4.1	4.9
Other relative	4.2	1.0	3.1	5.2
Friend	4	0.8	3.7	4.3

NOTE: *M* = mean. Respondents who were not married and did not identify primary supporters were skipped out of this question.

Occupational Functioning

Employment

We examined employment *excluding* airmen who are currently serving in the active component because, by definition, they are considered employed and their inclusion might obscure the employment situation of the overall wave 2 sample. Table 5.5 shows that the unemployment rate when we exclude these people is about 15 percent. This

compares unfavorably to an age- and gender-adjusted national unemployment rate of 6.1 percent for March 2014 (Bureau of Labor Statistics [BLS], 2016b).[25]

Table 5.5. Current Employment Status, Excluding Current Active Duty and Active Component, in Overall Wave 2 (*N* = 447)

		95% CI	
Current Employment Status	**Percentage**	**LL**	**UL**
Working full time	33	28	37
Disabled and not working	28	23	32
Not working and not looking for work (retired, homemaker, or unemployed and not looking for work)[a]	15	12	19
Student (full or part time)	10	8	13
Unemployed and looking for work	7	4	9
Working part time	4	2	5
Unemployment rate based on BLS U3 (official) measure of unemployment[b]	15	10	20

[a] Includes airmen who selected retired, homemaker, or unemployed and not looking for work as their current employment statuses.
[b] Calculated as the number of people who are unemployed and looking for work divided by the workforce, which includes everyone who is working full time, working part time, or unemployed and looking for work.

We did have disability percentage ratings from the AF personnel records and compared them to airmen's self-identification of whether they were disabled and not working. Out of the overall wave 2 sample (for whom we had the AF disability rating variable), among those who had received this rating, those who identified as disabled and not working had somewhat higher mean AF disability ratings ($M = 58.2$; SD = 20.85) than those who had answered differently did ($M = 52.1$; SD = 19; $t[393] = -2.78$; $p < 0.01$). This conforms with expectations: Those who were given a rating indicating that AF considered them less able to do their AF jobs were more likely to say that they were disabled.

We also asked everyone *except* those who identified as full- or part-time students whether they were currently pursuing any college or graduate educational opportunities (see Table 5.6). Overall, combining those who indicated that their current work status was full- or part-time student with those who were pursuing any educational opportunities showed that about 30 percent were pursuing some type of schooling (31 percent; 95-percent CI = 27–35).

[25] Note that we did not assess educational status in the survey and did not consider that personnel data were updated enough to facilitate adjusting for this variable. However, it undoubtedly has an impact on the unemployment rate. Note also that all or nearly all airmen would have at least high school diplomas or the equivalent and some work experience.

Table 5.6. Current Educational Status in Overall Wave 2 (*N* = 455)

		95% CI	
Response	**Percentage**	**LL**	**UL**
Yes, full time	11	9	14
Yes, part time	14	11	17
No	75	71	79

A caveat to consider with regard to higher unemployment rates is that, when servicemembers leave the service, higher rates of unemployment are anticipated as a matter of course. Again, by definition, these people have lost their employment. Further, as noted by Loughran, 2014, the nature of military service means that many servicemembers find it difficult to secure another job before leaving service, unlike some civilian job seekers; and many of the airmen who responded to our survey had relatively recent separation dates. Excluding current airmen, about 40 percent of airmen responding separated after January 2012. That said, veterans have many resources available to help them secure employment upon separation.

We also examined change in employment status over time within the longitudinal subset, as shown in Table 5.7. For this analysis, we included those who were active duty, active component at wave 1, and active duty at wave 2 because, given the elapsed time span between wave 1 and wave 2, their status and its change are relevant information. The odds of being unemployed and looking for work decreased significantly from wave 1 to wave 2 (OR = 0.29; 95-percent CI = 0.13–0.64).[26]

[26] In an effort to identify individual characteristics and factors that predict change in employment status across waves, we estimated a multivariate logistic regression model to predict wave 2 employment status (unemployed and looking for work versus all other employment statuses) from wave 1 employment status; the core set of sociodemographic and service history characteristics; and theoretical predictors measured at wave 1, including instrumental social support, screening positive for PTSD, general health, role limitations due to physical health, and lifetime history of homelessness. However, the cell for employment status was too small to generate stable parameter estimates in a multivariate model, so we did not pursue this model further.

Table 5.7. Current Employment Status in Longitudinal Subset (*N* = 205)

	Wave 1			Wave 2		
		95% CI			95% CI	
Response	Percentage	LL	UL	Percentage	LL	UL
Working full time	39	32	47	41	34	49
Disabled and not working	26	19	32	28	21	34
Not working and not looking for work (retired, homemaker, or unemployed and not looking for work)[a]	12	8	17	15	9	20
Student (full or part time)	8	4	12	9	5	14
Unemployed and looking for work	9	5	13	3	0	5
Working part time	4	2	7	2	0	4
Unemployment rate based on BLS U3 measure of unemployment[b]	17	10	25	6	1	11

[a] Includes airmen who selected retired, homemaker, or unemployed and not looking for work as their current employment status.
[b] Calculated as the number of people who are unemployed and looking for work divided by the workforce, which includes everyone who is working full time, working part time, or unemployed and looking for work.

Further information regarding financial aid for education and job training appears in Appendix F.

If an airman indicated being unemployed (whether looking for work or not), disabled and not working, or retired, we asked him or her what barriers he or she perceived to employment.[27] For ease of presentation, in Table 5.8, we have grouped these notionally into disability-related barriers, concerns about qualifications or skills, disincentives to employment, and "other." The most–frequently endorsed barriers were feeling uncomfortable or anxious when thinking about working, feeling not physically capable, and feeling that employers were reluctant to hire them because of disability, respectively. Only the top two were endorsed by more than half of respondents; less than half of those who had self-identified into these categories felt that employers were reluctant to hire them because of disability. Given that the majority of respondents whom we asked these questions reported that they were disabled and not working, concerns regarding disability status are reasonable. Other reported barriers are potentially more-tractable avenues for intervention. For example, many felt concern regarding their qualifications; in particular, they reported feeling a general lack of confidence (40 percent) or that their deployments put them behind in their careers compared with their civilian counterparts (36 percent), as

[27] The groups that received the questions in wave 2 differed slightly such that the questions about work barriers were posed at wave 1 *only* among those who had indicated that they were unemployed and looking for work or disabled and not working, rather than including unemployed and not looking or retired.

well as feelings of anxiety when thinking about working in a civilian environment. These concerns could benefit from skills or efficacy interventions.

Table 5.8. Perceived Barriers to Employment in Overall Wave 2 Among Those Who Were Unemployed and Looking or Not Looking for Work, Disabled and Not Working, or Retired (*N* = 225)

		95% CI	
Barrier	**Percentage**	**LL**	**UL**
Disability-related barriers			
Not physically capable	56	50	63
No one will hire me because of my injury or disability	47	40	53
Concerns about qualifications, skills, or abilities needed for civilian labor market			
I feel uncomfortable or get anxious when thinking about working in the civilian workplace	64	58	70
I lack confidence in myself and my abilities	40	34	47
Because of my long or multiple deployments, I feel behind compared to my peer civilian counterparts	36	29	42
I do not have the tools or knowledge to translate my military skills to the civilian workforce	23	18	29
Not qualified or lack education	20	15	25
Not qualified or lack work history	13	9	18
Disincentives to obtain employment			
Do not need a job because of benefit payments[a]	31	25	37
Would lose financial benefits (e.g., disability benefits)	27	21	33
Available jobs do not pay enough	22	17	28
Would lose medical benefits	12	7	16
Other			
Family prefers I stay at home	23	17	28
Do not know about available jobs	20	15	26
Pursuing an education	19	14	24
Do not have good transportation	7	4	11

NOTE: Barriers to employment were assessed only among those who indicated that they were unemployed and looking for work, unemployed and not looking, disabled and not working, or retired.
[a] New item.

One persistent cultural perception of the disabled as a population, particularly veterans, is that they might exaggerate their condition to get benefits (e.g., McNally, 2003; but see also Ruffing, 2013). That would suggest that a desire to keep benefits might dissuade these disabled airmen from working. Our findings showed that, although some were concerned that employment would cause them to lose benefits, only about 27 percent indicated that loss of financial benefits was a concern. However, a similar

proportion (31 percent) did indicate that they did not need work because of the financial benefits they already received. It should also be noted that, of those who endorsed one or more barriers, none indicated that loss of financial benefits was their *only* concern. The majority endorsed multiple barriers. Of respondents, 50 percent indicated that they perceived between two and five barriers to employment, while 24 percent perceived six to ten, and an additional 5 percent perceived more, indicating that these airmen perceive numerous challenges to employment.

Similar concerns are reflected in the longitudinal subsample, reported in depth in Appendix F. In general, similar proportions of airmen endorsed each barrier at waves 1 and 2. However, in some cases, there were relatively large point estimate differences, and we did investigate whether people who received these questions at wave 1 and at wave 2 evidenced significant change over time. Of the seemingly large differences—feelings of discomfort or anxiety, fearing loss of financial benefits, sufficiency of pay for available jobs, and family preferences—only one, worry about the loss of financial benefits, was significant. The percentage of airmen in the longitudinal subset who reported that fearing the loss of financial benefits was a barrier to employment increased from 30 percent at wave 1 to 41 percent at wave 2; this increase was statistically significant (OR = 1.76; 95-percent CI = 1.02–3.06). Note also the relative persistence of the approximately 20 percent who say that they do not know about available jobs (see Appendix F).

Those who are disabled, unemployed, or both and looking for work might not be the only ones who perceive barriers to employment, however. We asked a similar set of questions of those who were working full and part time to see what their concerns might be about keeping their job or getting another, shown in Table 5.9. Although these people are less likely to be concerned that they are not physically capable of working, a majority do worry that disability puts them at a hiring disadvantage (55 percent); this is the most frequently endorsed barrier among these respondents. Relatively speaking, discomfort and anxiety at the thought of working in a civilian workplace are also frequently endorsed, as are concerns about adequacy of pay. However, these were both endorsed by less than half of respondents. These airmen are also more likely to say that they do not know about available jobs (39 percent); however, it is entirely possible that those who are currently employed are also less likely to seek such information.

Table 5.9. Perceived Barriers to Employment in Overall Wave 2 Among Those Who Were Working Full or Part Time (*N* = 227)

Barrier	Percentage	95% CI LL	95% CI UL
Disability-related barriers			
No one will hire me because of my injury or disability	55	48	61
Not physically capable	35	29	41
Concerns about qualifications, skills, or abilities needed for civilian labor market			
I feel uncomfortable or get anxious when thinking about working in the civilian workplace	47	40	53
Because of my long or multiple deployments, I feel behind compared to my peer civilian counterparts	43	37	50
I lack confidence in myself and my abilities	36	29	42
Not qualified or lack education	34	28	41
I do not have the tools or knowledge to translate my military skills to the civilian workforce	22	17	28
Not qualified or lack work history	19	14	24
Disincentives to obtain employment			
Available jobs do not pay enough	44	38	51
Would lose medical benefits	18	13	23
Would lose financial benefits (e.g., disability benefits)	17	12	22
Other			
Do not have good transportation	4	2	7
Do not know about available jobs	39	33	46

NOTE: Barriers for whom there were fewer than ten respondents in a cell were not reported.

Financial Instability

We asked several questions to assess respondents' financial situations. These questions are about household income, the number of household members the income supports, and questions to assess perceived financial strain. As with employment, it makes sense to consider estimates for some of these variables that exclude active-duty, active-component airmen, who might skew the data because, by definition, they are receiving employment income. We provide both total numbers and numbers with that exclusion, which show relatively little difference, as shown in Table 5.10.

Table 5.10. Financial Resources and Responsibilities in Overall Wave 2

	Total Sample (*N* = 527)			Excluding Active Duty, Active Component (*N* = 447)		
		95% CI			95% CI	
Financial Indicator	**Percentage**	**LL**	**UL**	**Percentage**	**LL**	**UL**
Household income before taxes in 2012, in thousands of dollars[a]						
Less than 30	16	13	19	18	15	22
30 to less than 50	24	20	27	23	19	27
50 to less than 75	24	20	28	23	19	27
75 to less than 100	12	9	15	11	8	14
100 or more	14	11	17	14	11	17
Number of people in household that the total household income supports, including the respondent[a]						
1	17	14	20	17	14	21
2 or 3	42	38	46	42	37	46
4 or more	36	32	40	36	31	40
Below the 2012 HHS federal poverty guidelines[b]	10	7	12	11	8	14

NOTE: We also calculated financial strain means, standard deviations, and confidence intervals for the total sample and the sample excluding active-duty, active-component airmen. For the total sample, *M* = 2.3, SD = 1.2, and 95-percent CI = 2.2–2.4. For the sample excluding active-duty, active-component airmen, *M* = 2.3, SD = 1.2, and 95-percent CI = 2.2–2.4.

[a] These numbers do not sum to 100 percent because a few people marked other responses.

[b] The 2012 HHS federal poverty guidelines are defined only for U.S. residents, so we could calculate the percentages of airmen living below the 2012 HHS federal poverty guidelines only for airmen who reside in the United States (total sample, *N* = 515; sample excluding active-duty, active-component airmen, *N* = 442).

The U.S. Census Bureau reported that median household income in the United States in 2012, the year for which our respondents reported income, was $51,017. About 48 percent of the respondents indicated that their household income fell between $30,000 and $74,999. About one-quarter, 26 percent (excluding active duty, 25 percent), indicated that their income was at least $75,000. Approximately 10 percent of respondents *might be* at risk of falling below HHS poverty guidelines, based on the number of people their 2012 household incomes supported. HHS poverty guidelines determine eligibility for certain federal aid programs and are not the same as the poverty thresholds that the Census Bureau reports.[28] Note that medically retired people might not face the same health care cost burden that otherwise might be anticipated; however, although there are other ways of looking at poverty, we provide an apples-to-apples comparison based on income. Moreover, this is a rough categorization based on the categorical nature of how

[28] An age- and gender-adjusted rate would suggest that 12.3 percent would fall below that 2012 poverty threshold of the Census Bureau. Again, this is a rough categorization based on the way we asked the question.

household income was reported in our survey. For example, the guideline for a household of two people in the contiguous United States is $15,130 in household income; however, we coded someone as "at risk" if anything less than $20,000 supported a household of two people. Thus, our at-risk categorization is more inclusive than the poverty guidelines. Results excluding the active-duty, active-component airmen were similar.

Although a comparatively low proportion of airmen responded in a manner consistent with falling below HHS's poverty guidelines, the question of what level indicates a need for intervention remains. This is a matter for policymakers to decide, but the nature of our population might suggest that even a comparatively low rate is potentially a matter for concern and intervention.

We asked respondents three questions to assess perceived financial strain; respondents rated each item on a 1-to-5 scale, with higher scores indicative of greater perceived strain. These questions explored difficulty living on the income; whether the respondent perceived a need to cut expenses to the minimum; and whether the respondent perceived a risk of going without food, shelter, or other necessities. On average, the distribution of respondents fell toward the middle of the range (see Table 5.10), suggesting that they perceived a moderate amount of financial strain. However, the full distribution was used, which indicates that some airmen did perceive higher levels of strain.

Housing Instability

Risk factors for homelessness include a history of housing instability (Koegel, 2004). Thus, we asked each airman whether he or she had ever (or, in the case of the longitudinal subset, since the month and year of the previous survey administration) spent the night in one of the following locations—a transitional shelter or program, a homeless shelter, a chapel or church (but not in a bed), an all-night theater or other indoor public place, an abandoned building, a car or vehicle, or the street or other outdoor place—*because they had no regular place to stay*. As shown in Table 5.11, among airmen participating in the survey for the first time, nearly one-fifth had spent the night in one of these locations, which indicates possible homelessness. A previous survey question had asked airmen how long it had been since they returned from their most-recent deployment. In this section, we report on asking them how recently they had stayed in a location indicative of possible homelessness and then compared that date with the date of their return from deployment. Just over 10 percent indicated that they had been in such a situation since their return, and 8 percent indicated that their *first* experience in such a situation occurred since their return. On average, respondents indicated that it had been just over six years since they had last spent the night in such a setting.

Table 5.11. Lifetime History of Homelessness, New Wave 2 Participants Only (*N* = 319)

Homelessness Indicator	Percentage	95% CI	
		LL	UL
Ever spent the night homeless	18	14	23
Homeless since return from most recent deployment (*N* = 300)	11	8	15
First-time homeless occurred since return from most recent deployment	8	5	12

NOTE: *Homeless* is defined as a report of spending the night in one of the following because one has no regular place to stay: (1) a transitional shelter or program, (2) a homeless shelter, (3) a chapel or church (but not a bed), (4) an all-night theater or other indoor public place, (5) an abandoned building, (6) a car or vehicle, or (7) the street or other outdoor place. We calculated mean, standard deviation, and confidence interval for the number of years since the last night spent in a homeless setting: *M* = 6.4, SD = 9.0, and 95-percent CI = 3.7–9.1.

As shown in Table 5.12, among airmen in the longitudinal sample, nearly one-fourth had ever spent the night in one of these locations as of wave 1, which indicates possible homelessness. Since the previous survey was administered in the fall of 2011, 8 percent had experienced possible homelessness. At wave 2, nearly 17 percent indicated that they had been in such a situation since their most recent return from deployment, and 13 percent indicated that their *first* experience in such a situation occurred since their return. On average, longitudinal respondents indicated in wave 2 of the survey that it had been more than ten years since they had last spent the night in such a setting.

Table 5.12. Lifetime History of Homelessness in Longitudinal Sample (*N* = 205)

Homelessness Indicator	Wave 1			Wave 2		
	Percentage (ever)	95% CI		Percentage (since previous survey)	95% CI	
		LL	UL		LL	UL
Ever spent the night homeless	24	17	30	n/a	n/a	n/a
Since month and year of most recent survey administration	n/a	n/a	n/a	8	4	12
Homeless since return from most recent deployment (*N* = 184)	14	10	21	18	13	25
First-time homeless occurred since return from most recent deployment (*N* = 184)	13	9	20	14	9	20

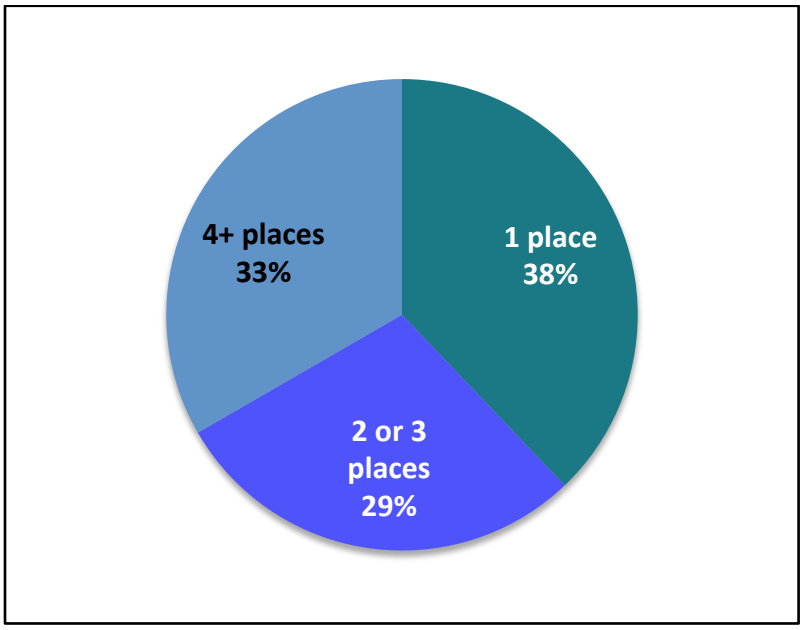
NOTE: n/a = not applicable. We also calculated means, standard deviations, and confidence intervals for the number of years since the last night spent in a homeless setting for waves 1 and 2. For wave 1, *M* = 8.1, SD = 10.3, and 95-percent CI = 5.0–11.3. For wave 2, *M* = 10.1, SD = 9.6, and 95-percent CI = 6.5–13.7.

Only those who had ever spent the night in a potentially homeless setting were asked the subsequent questions, because we assumed that anyone *currently* in a setting indicative of homelessness would logically be a subset of this group. For these people, we wanted to assess their housing situation in greater detail. First, we asked them how long

they had lived at their current place of residence; on average, airmen had been at their current residence 3.5 years. Thirty-eight percent of this subset of respondents had lived at only one location within just the past six months; 29 percent had lived in two or three different locations; and one-third had lived in four or more locations, indicating quite a bit of mobility over a six-month period.[29]

We wanted to parse the character of the number of different housing situations respondents had within the past six months in greater detail than we had for our screener item. We therefore asked respondents whether they had spent the night in a wide variety of locations during that time and included in particular a greater breadth of detail on housing situations that might be considered "homeless" (see Figure 5.1). Table 5.13 describes the variety of potential housing situations from which respondents could choose and our classification of that housing situation (i.e., how we categorized it). Note that our classification system echoes the current legislative framework in characterizing residence in voucher-paid locations as homelessness.

Figure 5.1. Number of Different Residence Places Within the Past Six Months Among Airmen Who Ever Spent the Night in a Place Indicative of Homelessness (*N* = 66)



NOTE: This figure includes only the subset of airmen who indicated that they had ever spent the night in a potentially homeless setting.

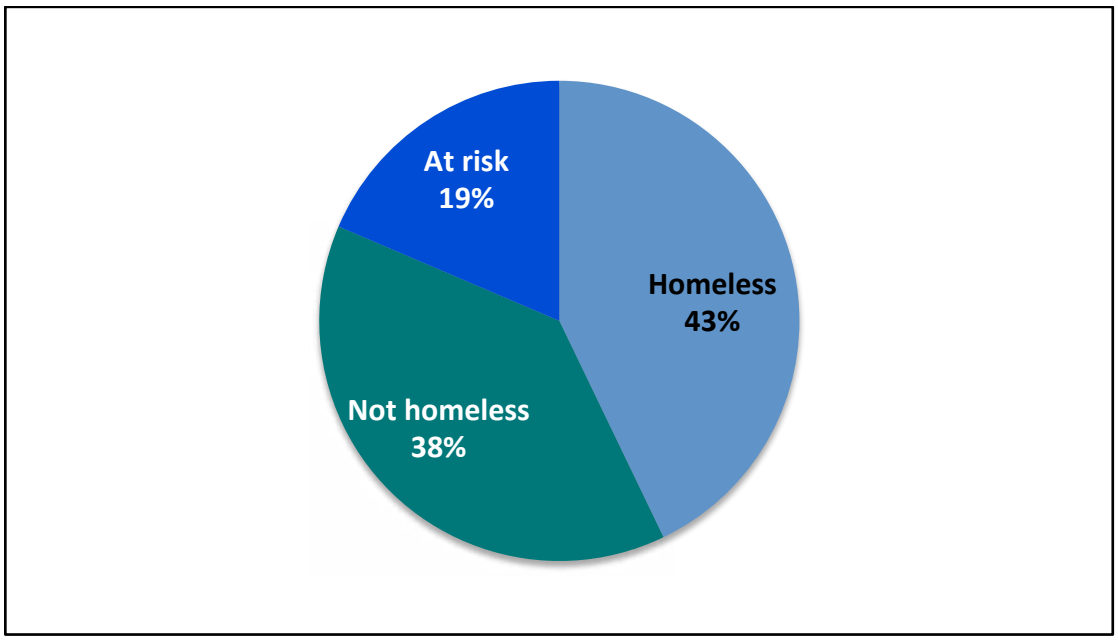
[29] However, of the 107 asked this question, 38 percent did not respond, so these percentages are of the 62 percent who did respond (*N* = 66).

Table 5.13. Classification of Housing-Situation Options

Classification	Housing Situation
Not homeless	Own home or a partner's home
At risk for homelessness	Home of family or friends; hotel paid for by self, partner, or family or friends; residential alcohol or drug detox; psychiatric hospital or drug treatment facility; hospital
Homeless	Hotel or motel room paid for with a voucher; boarding, transition, or halfway house; mission or shelter; church or chapel; all-night theater or similar; abandoned building; vehicle; street

As can be seen in Figure 5.2, 43 percent of airmen who might have ever been homeless indicated that they spent time in a housing situation that we classify as "homeless" in the past six months. This works out to about 6 percent of our total respondents, keeping in mind that only airmen who had past experience of potential homelessness were even asked these questions. An additional 18 percent would be considered at risk (2 percent of 527).

Figure 5.2. Housing Situation in Prior Six Months of Airmen with Lifetime History of Homelessness (*N* = 70)



NOTE: Numbers differ slightly from those in the text because of rounding and the need to sum to 100 for the pie chart.

We also asked airmen about other aspects of their housing situations during the prior six months. Of note, fewer than ten airmen reported *considering themselves* to have been homeless within the past six months. As noted in Chapter Two, there are numerous ways to define housing instability and no true consensus. Although a one-night minimum of

being in such a situation might be considered overly inclusive, it indicates risk: We qualify the question with the caveat that they be there because they have no regular place to stay. This implies that they do not feel that any of their options are reliable, for at least that one night.

Summary

Airmen experienced some challenges in some domains, including social and occupational functioning. We asked each to identify the nature of the relationship to the one person "who most often helps you deal with problems that come up," i.e., the "primary supporter." More than one-half of respondents selected their spouse or domestic partner as their primary supporter, although about 20 percent said that they did not have anyone who played this role. About 10 percent of those surveyed fall below HHS's poverty guidelines. Similarly, close to 15 percent of our sample would be considered unemployed based on the BLS U3 measure of unemployment. Housing instability represents another potential area of concern, with about 10 percent of the new cohort (since the fall of 2011) indicating that their first experience with housing instability occurred after their return from their most recent deployment, and about 8 percent of the longitudinal subset saying that they had had housing instability since the previous survey. Some evidence of improvement appeared in some variables over time, however: Between waves 1 and 2, the proportion of airmen who reported the presence of a primary supporter increased, and the proportion of airmen who were unemployed and looking for work decreased.

Chapter Six. Program Evaluation

In this chapter, we describe key findings on airmen's utilization and perceptions of the key nonmedical AF programs that serve wounded airmen: the AFW2 program, AFRCC program, and AF FLO program. Like we did with Chapters Four and Five, we report a snapshot of these indicators in the overall wave 2 sample, variation on these indicators by duty status, and change over time in the longitudinal subset.[30]

Air Force Wounded Warrior Program

Nearly all respondents reported that they had been in contact with a representative of the AFW2 (note that the question for those who had been surveyed before read "since last survey" rather than "ever"). The great majority of respondents reported that the AFW2 representative had initially contacted them. Given that we drew our sample from the population of AFW2 enrollees, this high level of contact is unsurprising.

We asked each respondent to indicate which of several types of services or help that AFW2 offered that he or she had received from an AFW2 representative. Nearly all (roughly 91 percent) respondents indicated that they had received at least one type of service or help, suggesting that the AFW2 program has achieved a high rate of penetration among its enrollees (see Table 6.1). Each type of service assessed had been used by at least half of respondents, except for referrals to other services and advice for life matters. The types of AFW2 services that had been received by respondents who had had contact with an AFW2 nonmedical case manager were, from most to least frequently endorsed, regular supportive calls (75 percent), support for a concern they had (73 percent), help or advice for filling out paperwork (65 percent), advice for dealing with red tape (58 percent), contact from someone providing assistance at AFW2's request (54 percent), advice for life matters (46 percent), and referrals to other services (24 percent). More than half of respondents (56 percent) indicated having received some other type of service of an unknown nature. The finding that the great majority of respondents received regular supportive calls, the most commonly received type of service, suggests that the AFW2 program functions as a source of social support for its clients.

[30] Although it would be ideal to determine what predicts a desire for given services, prior analyses of this type suggested that characteristics reflective of general vulnerability (poor health, racial or ethnic minority status) predicted that desire. Moreover, the cells in these analyses were also quite small, which means that the findings are not definitive for driving service provision.

Table 6.1. Air Force Wounded Warrior Program Utilization in Overall Wave 2

Measure	Percentage	95% CI	
		LL	UL
Contact with AFW2 nonmedical case manager (*N* = 527)	84	81	87
AFW2 case manager initiated contact first (*N* = 442)	83	80	87
Regular supportive calls	75	71	79
Support for a concern you had	73	69	77
Help or advice for filling out paperwork	65	61	70
Advice for dealing with red tape	58	54	62
AFW2 representative had someone contact the airman to provide assistance	54	50	59
Advice for life matters	46	42	51
Referrals to other services	55	50	59
Some other type of service	56	51	61
Received at least one type of service[a]	91	89	94

[a] The respondent indicated having received one or more of the following services: referrals to other services, help or advice for filling out paperwork, advice for life matters, advice for dealing with red tape, contact from someone who gave assistance, regular supportive calls, or some other type of help or service.

It is also unsurprising that this differed by cohort such that those in cohort 1, enrolled in time for the wave 1 survey in 2011, were less likely to say that they had been in contact with AFW2 (81 percent) than airmen enrolled more recently in AFW2 who are in cohort 2 (94 percent) ($p = 0.00$). As airmen proceed through the process of reintegration, they might need less contact over time. There is also a trend in the longitudinal subset such that overall frequencies of services received were lower at wave 2, although we did not test all of these services for significant differences individually and instead rely on the overall results, which have more power to detect differences. (See Table 6.2.)

Table 6.2. Air Force Wounded Warrior Program Utilization in Longitudinal Subset

	Wave 1			Wave 2		
		95% CI			95% CI	
Measure	Percentage	LL	UL	Percentage	LL	UL
Contact with AFW2 nonmedical case manager (*N* = 205)	100	96	100	74	68	81
AFW2 case manager initiated contact first (*N* at wave 1 = 204; *N* at wave 2 = 150)	86	80	91	86	80	92
Regular supportive calls	90	86	95	64	55	72
Help or advice for filling out paperwork	74	67	80	52	43	61
AFW2 representative had someone contact the airman to provide assistance	69	62	76	35	27	44
Referrals to other services	62	54	69	41	32	49
Advice for life matters	54	46	61	34	26	42
Advice for dealing with red tape	53	46	61	49	41	58
Some other type of service	56	48	63	49	41	58
Received at least one type of service	95	91	99	84	77	90

Of respondents who reported having received at least one type of service or help from an AFW2 representative, we subsequently asked whether they agreed or disagreed with several statements designed to assess their perceptions of specific services that AFW2 provides and their overall satisfaction with the program. As shown in Table 6.3, the vast majority of respondents agreed that AFW2 case managers are available and ready to help (87 percent), provide good information on available resources (83 percent), helped them believe that they could improve their lives (77 percent), and are able to give needed support (76 percent), indicating that the great majority of respondents perceive case managers positively.

Table 6.3. Air Force Wounded Warrior Program Perceptions in Overall Wave 2 (*N* = 410)

Perception	Percentage	95% CI	
		LL	UL
Would recommend AFW2 to a friend	87	84	90
AFW2 case managers are available and ready to help	87	84	90
Case managers provide good information on available resources	83	80	87
Likely to continue to use AFW2 program support	82	78	86
Overall satisfied with services provided by AFW2 program	**80**	**76**	**84**
Case manager helped me believe that I could improve my life	77	73	81
Case managers are able to give needed support[a]	76	72	80
Services available through AFW2 case managers can help with issues caused during AF service[a]	72	67	76
Currently benefit from AFW2 services	63	58	67
Services provided by AFW2 help with reintegration issues	56	51	61

NOTE: To ensure that respondents would have at least some relevant experience to inform their assessments of the AFW2 program, we limited the denominator for these descriptive statistics to respondents who reported having used at least one service. The frequencies and percentages reflect how many respondents agreed with the AFW2 program perception listed in the left column.
[a] In the survey, we worded this statement negatively (e.g., we asked the respondent whether he or she agreed or disagreed that "the services available through AFW2 case managers can't really help me deal with any issues caused during my Air Force service").

Although the majority of respondents expressed confidence in the actual services provided, this was slightly less widespread than confidence in the AFW2 case managers themselves. Nearly three-quarters of respondents (72 percent) perceived that services available through AFW2 case managers could help with issues caused during the respondent's AF service. Less than two-thirds of respondents (63 percent) reported that they currently benefit from AFW2 services, and a little more than half of respondents (56 percent) perceived that services that AFW2 provides help with reintegration issues.

Finally, when asked whether they were satisfied overall with services that AFW2 provides, the great majority of respondents (80 percent) affirmed their overall satisfaction. The high proportions reporting that they would recommend AFW2 to a friend (87 percent) and would be likely to continue to use AFW2 program support (82 percent) also suggest users' widespread satisfaction with the program. Overall satisfaction with AFW2 services and number of positive statements endorsed did not differ significantly by retiree status ($p > 0.05$). In sum, although some respondents expressed dissatisfaction with different aspects of the AFW2 program, satisfied program users were much more heavily represented in this sample than dissatisfied program users were. Table 6.4 shows the equivalent findings for the longitudinal subset.

Table 6.4. Air Force Wounded Warrior Program Perceptions in Longitudinal Subset

	Wave 1 (*N* = 196)			Wave 2 (*N* = 126)		
		95% CI			95% CI	
Perception	Percentage	LL	UL	Percentage	LL	UL
AFW2 case managers are available and ready to help	92	88	96	90	84	96
Case managers provide good information on available resources	89	84	93	83	77	90
Services available through AFW2 case managers can help with issues caused during AF service[a]	69	62	76	78	70	86
Would like to be contacted by AFW2 case managers more often	27	20	34	45	36	55
Overall satisfied with services provided by AFW2 program	85	80	90	82	75	90

NOTE: To ensure that respondents would have at least some relevant experience to inform their assessments of the AFW2 program, we limited the denominator for these descriptive statistics to respondents who reported having used at least one service. The frequencies and percentages reflect how many respondents agreed with the AFW2 program perception listed in the left column.
[a] In the survey, we worded this statement negatively (i.e., we asked the respondent whether he or she agreed or disagreed that "the services available through AFW2 case managers can't really help me deal with any issues caused during my Air Force service").

We also asked about frequency, current and desired, of contact with case managers; Table 6.5 shows responses. Note that we did not define *contact* for airmen, but, given AFW2 processes, a contact is most likely a single call in which the AFW2 case manager discusses the airman's ongoing issues and goals.

Table 6.5. Air Force Wounded Warrior Program Contact Frequency in Overall Wave 2 (*N* = 410)

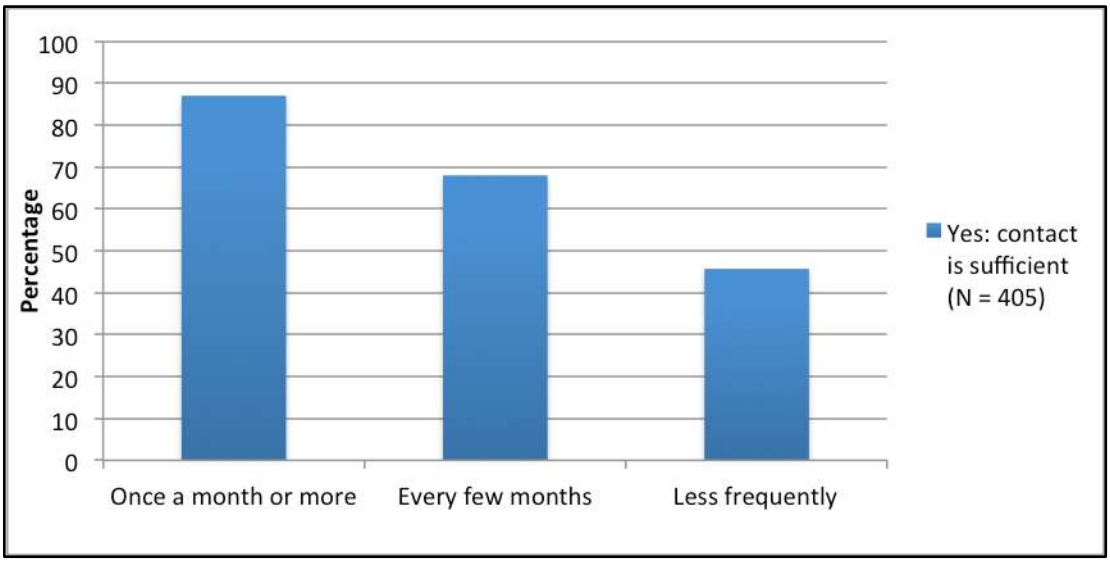
Perception	Percentage	95% CI	
		LL	UL
Frequency of contact in past 90 days			
Multiple times a week	2	0	3
Once a week	10	7	13
Once a month	30	25	34
Once every few months	24	20	28
Less than once every few months	34	30	39
Frequency of contact with AFW2 case manager is often enough to get needed services	68	64	73
Would like to be contacted by AFW2 case managers more often	44	39	49
Frequency of contact in first few months of enrollment			
Too often	2	1	3
About the right amount	82	79	86
Not often enough	15	12	19

NOTE: To ensure that respondents would have at least some relevant experience to inform their assessments of the AFW2 program, we limited the denominator for these descriptive statistics to respondents who reported having used at least one service.

Less than half (44 percent) of respondents indicated that they would like for AFW2 case managers to contact them more often, indicating that the majority of respondents do not perceive the need to increase contact with AFW2 case managers. We examined whether frequency of contact differed by duty status and found that it did such that current airmen reported being contacted more often ($M = 3.13$; SD = 1.07) than retirees did ($M = 3.97$; SD = 1.01; $t[403] = -6.72$; $p < 0.05$) (lower scores indicate more-frequent contact; 1 = multiple times a week and 5 = less than once every few months).

We looked at the relationship between frequency of contact with AFW2 case managers and whether that frequency was enough to get needed services, as shown in Figure 6.1. To present these analyses with stable cell sizes of $N > 10$, we combined the categories for frequency of contact greater than once a week, once a week, and once a month. The Fisher's exact omnibus test suggested that the three groups were different ($p = 0.00$). Follow-up comparisons revealed that those who were contacted once a month or more were most likely to say that this was sufficient (87 percent), followed by those who were contacted once every few months (68 percent), followed by those who were contacted less frequently still (46 percent); all differences were significant ($p < 0.01$).

Figure 6.1. Percentage of Airmen Reporting Contact with an Air Force Wounded Warrior Case Manager as Sufficient



Air Force Recovery Care Coordinator Program

We asked respondents about their use of services that AFRCC offers and their perceptions of the program. Table 6.6 shows that slightly more than one-fourth of respondents reported having received any help or services from the AFRCC program. Just over one-third (34 percent) of respondents were unsure of what the AFRCC program is, and more than one-third (37 percent) indicated not having received help or services from the AFRCC program. Thus, a minority of respondents had used the AFRCC program. This should not be taken as a cause for concern, however, because the eligibility requirements for the AFRCC program include significant injuries, whether or not combat-related. Some injuries, such as PTSD, might not manifest immediately, so airmen who later experience difficulties related to traumatic events that did not result in grievous physical injury to themselves would be unlikely to be assigned an RCC. Moreover, the program itself did not begin rollout before 2008 and was phased throughout that year. Thus, although some overlap in services was anticipated, a one-to-one correspondence of the AFW2 population with AFRCC was not expected.

Table 6.6. Air Force Recovery Care Coordinator Program Utilization in Overall Wave 2 (*N* = 527)

		95% CI	
Response[a]	Percentage	LL	UL
Yes	26	22	29
No	37	33	41
Not sure what AFRCC program is	34	30	38

[a] Fewer than ten individuals indicated that the program was "not applicable."

The longitudinal subset was somewhat more likely to indicate that they had not received services and that they were not sure what the program was—at least at wave 1 (see Table 6.7).

Table 6.7. Air Force Recovery Care Coordinator Program Utilization in Longitudinal Subset (*N* = 205)

	Wave 1			Wave 2		
		95% CI			95% CI	
Response[a]	Percentage	LL	UL	Percentage	LL	UL
Yes	21	15	27	22	15	28
No	38	31	46	45	37	52
Not sure what AFRCC program is	40	33	48	32	25	39

[a] Fewer than ten individuals indicated that the program was "not applicable."

As displayed in Tables 6.8 and 6.9, the most–commonly used AFRCC services were referrals to other services and programs for veterans or combat-injured airmen and help accessing these services and programs. These findings suggest that a key function of the AFRCC program is facilitating access to services and programs for veterans or combat-injured airmen. Regular supportive calls were another frequently used service, indicating that, like the AFW2 program, the AFRCC program functions as a source of social support for many of its users. Other, somewhat less frequently used services or types of help included advice for life matters, help adjusting to or coping with physical or mental health conditions that developed during or after military service, and assistance with goal-setting and planning through the development of a CRP or recovery care plan (RCP); roughly 60 percent of respondents received each type of help.

Table 6.8. Air Force Recovery Care Coordinator Program Services Utilized in Overall Wave 2 (*N* = 135)

		95% CI	
Service Utilized	**Percentage**	**LL**	**UL**
Referrals to other services and programs for veterans or combat-injured airmen	83	77	89
Help accessing services and programs for veterans or combat-injured airmen	81	74	88
Regular supportive calls	66	58	74
Advice for life matters	63	55	71
Help adjusting to or coping with physical or mental health conditions that developed during or after military service	61	52	69
Assistance with goal-setting and planning through the development of a CRP or RCP	58	49	66
Follow-up after the development of CRP and RCP to help airman stay on track to meet his or her goals	58	49	66
Some other help or service	67	59	75

NOTE: We asked questions about specific AFRCC services utilized only of respondents who had reported receiving help or services from the AFRCC program.

Table 6.9. Air Force Recovery Care Coordinator Program Services Utilized in Longitudinal Sample

	Wave 1 (*N* = 42)			Wave 2 (*N* = 44)		
		95% CI			95% CI	
Service Utilized	**Percentage**	**LL**	**UL**	**Percentage**	**LL**	**UL**
Referrals to other services and programs for veterans or combat-injured airmen	82	68	96	74	59	90
Help accessing services and programs for veterans or combat-injured airmen	76	61	92	75	60	90
Regular supportive calls	66	49	82	51	34	67
Advice for life matters	63	46	80	59	42	76
Help adjusting to or coping with physical or mental health conditions that developed during or after military service	58	41	76	52	35	68
Assistance with goal-setting and planning through the development of a CRP or RCP	66	50	82	45	28	61
Follow-up after the development of CRP and RCP to help airman stay on track to meet his or her goals	49	32	67	41	25	57
Some other help or service	61	44	78	61	44	77

NOTE: We asked questions about specific AFRCC services utilized only of respondents who had reported receiving help or services from the AFRCC program.

As with the AFW2 program, we asked any respondent who reported having received at least one type of help or service from the AFRCC program whether he or she agreed with statements intended to assess satisfaction with services received. As shown in Tables 6.10 and 6.11, the majority of respondents positively endorsed all statements about satisfaction with help received, indicating that program users tended to be more satisfied than dissatisfied with services received from the AFRCC program. In particular, the great majority of respondents perceived RCCs to be knowledgeable about available resources (92 percent) and highly accessible (82 percent). Program users also widely recognized RCCs as capable facilitators of access to needed programs and services (88 percent) and achievement of personal goals (75 percent). A similar proportion (77 percent) of program users agreed that RCCs could help with issues or problems caused during the respondent's AF service. Fully 88 percent of program users indicated that they would recommend RCCs to a friend, and roughly four-fifths of respondents affirmed their overall satisfaction with services that AFRCC provides.[31]

Table 6.10. Air Force Recovery Care Coordinator Program Perceptions in Overall Wave 2 (*N* = 132)

		95% CI	
Perception	**Percentage**	**LL**	**UL**
RCCs can give good information on available resources	92	88	97
RCCs can facilitate access to needed programs and services	88	82	94
I would recommend RCCs to a friend[a]	88	82	94
RCCs are easy to reach	82	75	89
RCCs can help with issues or problems caused during AF service[b]	77	69	84
RCCs can help achieve personal goals	75	68	83
Overall satisfied with services provided by the AFRCC program	80	73	87

NOTE: To ensure that respondents would have at least some relevant experience to inform their assessments of AFRCC, we limited the denominator for these descriptive statistics to respondents who reported having used at least one service. The frequencies and percentages reflect how many respondents agreed with each of the AFRCC program perceptions listed in the left column.

[a] New item.

[b] In the survey, we worded this statement negatively (e.g., we asked the respondent whether he or she agreed or disagreed that "RCCs can't really help me deal with any issues or problems caused during my Air Force service").

[31] We considered examining differences in satisfaction with the AFRCC program services by duty status. However, the breakdown of total AFRCC users by current duty status produced very small cells, particularly in the reserve and guard, which yielded very unstable estimates and precluded sufficiently powerful tests to examine these differences.

Table 6.11. Air Force Recovery Care Coordinator Program Perceptions in the Longitudinal Sample

	Wave 1 (*N* = 43)			Wave 2 (*N* = 41)		
		95% CI			95% CI	
Perception	Percentage	LL	UL	Percentage	LL	UL
RCCs can give good information on available resources	92	83	100	92	82	102
RCCs are easy to reach	82	69	95	76	62	91
RCCs can facilitate access to needed programs and services	82	70	94	80	65	94
RCCs can help achieve personal goals	78	64	92	65	48	81
RCCs can help with issues or problems caused during AF service[a]	66	50	82	67	51	84
I would recommend RCCs to a friend[b]	n/a	n/a	n/a	80	66	94
Overall satisfied with services provided by the AFRCC program	81	68	94	73	58	88

NOTES: CI = confidence interval; LL = lower limit; UL = upper limit. To ensure that respondents would have at least some relevant experience to inform their assessments of AFRCC, we limited the denominator for these descriptive statistics to respondents who reported having used at least one service. The frequencies and percentages reflect how many respondents agreed with each of the AFRCC program perceptions listed in the left-hand column.
[a] In the survey, we worded this statement negatively (e.g., we asked the respondent whether he or she agreed or disagreed that "RCCs can't really help me deal with any issues or problems caused during my Air Force service").
[b] New item.

We also asked AFRCC program users about concerns regarding possible adverse effects of program use, as shown in Tables 6.12 and 6.13. Specifically, we asked each user whether others would think less of him or her for getting help from the AFRCC program and whether obtaining help would harm his or her career. Almost one-tenth endorsed the former, and nearly one-quarter endorsed the latter—a nontrivial proportion. Thus, concerns about the possible adverse effect of receiving help on others' perceptions of the respondent and the respondent's career were salient to some respondents.

Table 6.12. Potential Concerns About Air Force Recovery Care Coordinator Service Utilization in Overall Wave 2 (*N* = 132)

		95% CI	
Barrier	Percentage	LL	UL
Others (family members, friends, or coworkers) would think less of airman for getting help from AFRCC program	10	5	15
Career would be harmed by getting help	24	16	31

Table 6.13. Potential Concerns About Air Force Recovery Care Coordinator Service Utilization in the Longitudinal Subset

	Wave 1 (*N* =43)			Wave 2 (*N* = 41)		
		95% CI			95% CI	
Barrier	Percentage	LL	UL	Percentage	LL	UL
Others (family members, friends, or coworkers) would think less of airman for getting help from AFRCC program	18	5	31	12	1	23
Career would be harmed by getting help	26	12	41	26	11	41

Air Force Family Liaison Officer Program

We asked each respondent about his or her use of services that the FLO program offers and his or her perceptions of the program. Note that, like with the AFRCC program, perfect overlap was not expected because of eligibility requirements. Table 6.14 shows that slightly less than one-tenth of respondents reported having received any help or services from the FLO program or from someone from their unit. Slightly more than 20 percent believed themselves ineligible for the FLO program, and 23 percent believed that FLO services would have been helpful. Thus, a minority of respondents had used the FLO program. Receipt of a FLO did differ by duty status such that current airmen (16 percent) were more likely to say that they had gotten one than retirees were (8 percent) ($p = 0.03$).

Table 6.14. Air Force Family Liaison Officer Utilization in Overall Wave 2 (*N* = 527)

		95% CI	
Response[a]	Percentage	LL	UL
No, not applicable	21	17	24
No, we didn't get one	36	32	40
No, though one would have been helpful	23	19	27
Yes, we got a FLO	6	4	8
Yes, we got someone from the unit	4	2	6
Not sure	9	7	12

[a] Fewer than ten individuals indicated that the program was "not applicable."

As with the AFW2 and AFRCC programs, we asked any respondent who reported having received services from a FLO or from someone from the unit whether he or she agreed with statements intended to assess his or her satisfaction with services received. As shown in Table 6.15, the majority of respondents positively endorsed all statements

about satisfaction with help received, indicating that program users tended to be more satisfied than dissatisfied with services received from the FLO program. In particular, FLOs were perceived to give good information on available resources to family and friends (82 percent). A slightly lower proportion (68 percent) of program users agreed that FLOs can help family and friends deal with issues or problems caused during the respondent's AF service. Roughly four-fifths of respondents affirmed their overall satisfaction with services that the FLO program or other personnel provide, and 86 percent would recommend the program to a friend.

Table 6.15. Air Force Family Liaison Officer Perceptions in Overall Wave 2 (*N* = 50)

		95% CI	
Service Utilized	**Percentage**	**LL**	**UL**
FLO gave family and friends good information on available resources	82	71	93
Helped family and friends deal with issues caused by AF service	68	55	81
Would recommend FLO or other unit family assistance contact to a friend	86	76	96
Overall thought services provided by the FLO or unit personnel to my family and friends were helpful	80	69	92

NOTE: We asked questions about specific AF FLO services used only of respondents who had reported receiving help or services from AF FLOs.

Summary

In summary, we asked questions regarding use of and satisfaction with three AF programs available to help these airmen and their families. High numbers of respondents indicated that they were receiving services, particularly for the AFW2 program. Most respondents were also receiving multiple services and reported overall very high levels of satisfaction with the program. Less than half (44 percent) of respondents indicated that they would like for AFW2 case managers to contact them more often. We also found that current airmen reported being contacted more often than retirees did, which might be expected given that current airmen are more likely to be in a state of transition from AF and need assistance in that process. We looked at the relationship between frequency of contact with AFW2 case managers and whether that frequency was enough to get needed services; analyses revealed that, as contact frequency decreased, so did the proportion who said that contact was sufficient (to a low of 46 percent for those contacted less frequently than once every few months).

Although eligibility requirements and program existence dictated that the AFRCC and FLO programs would cover a smaller proportion of our population than AFW2 does, airmen who reported receipt of AFRCC and FLO services received a variety and were

very satisfied with the programs. For all three programs, the nature of services provided can be characterized as a form of social support.

Chapter Seven. Conclusions and Recommendations

We examined well-being based on a range of indicators among a population that AF identified as experiencing reintegration challenges substantial enough to warrant consideration for medical retirement because of combat-related injuries and illnesses. Our wave 2 survey findings demonstrate that the airmen in this sample continue to experience challenges in a variety of domains, although there was evidence of improvement in some domains.

Mental health problems and barriers to obtaining mental health treatment when desired continue to be commonly reported in this sample. A high proportion of airmen screened positive for PTSD (roughly 75 percent) and depression (roughly 72 percent), with 67 percent screening positive for both. Although our sample reported very high rates of mental health treatment within the past year for those who needed it (90 percent), within that same time frame, about half reported at least one instance in which they desired but did not obtain mental health treatment. Thus, unmet need for mental health treatment remains a pertinent issue.

We also identified problems in the areas of physical health, financial instability, employment, and housing instability. Perceived physical health was lower within our sample than in the U.S. general population. Although not many airmen responded in a manner consistent with falling below HHS's poverty guidelines, about 10 percent could be considered to fall below this guideline. Similarly, close to 15 percent of our sample would be considered unemployed based on the oft-reported BLS U3 measure of unemployment. Housing instability represents another potential area of concern, with about 10 percent of the new cohort (since the fall of 2011) indicating that their first experience with housing instability occurred after their return from their most recent deployment, and about 8 percent of the longitudinal subset saying they experienced housing instability since the previous survey administration. This number might seem low and thus dampen concerns about veteran homelessness. However, this number represents only one service, AF. Moreover, considering the level of support offered to veterans, even a low proportion reporting instability can be seen as troubling.

Despite the challenges observed in the overall wave 2 sample, there was evidence of improvement in some domains in the longitudinal subset. Specifically, between waves 1 and 2, airmen's perceptions of their physical impairments improved, the proportion of airmen who reported the presence of a primary supporter increased, and the proportion of airmen who were unemployed and not looking for work decreased.

In the remainder of this chapter, we discuss our recommendations to deal with the reintegration challenges identified in this study. Before delving into these recommendations, we offer caveats for general consideration.

Brief Caveats

Our study is limited in a few key respects. First, the sample is confined to enrollees in the AFW2 program. Thus, our results might not generalize to the broader population of all wounded airmen. Second, inasmuch as the sample consisted of people with psychological, rather than physical, wounds, the findings might not apply to airmen with physical wounds. Third, some of our analyses relied on small samples that might not be representative. This situation is particularly the case with analyses aimed at prediction rather than description. To the extent that our findings reflect the broader literature, some of this concern might be alleviated. Fourth, although having data collected at two time points enabled us to examine changes over time, more-sophisticated analysis of changes over time would have required at least another wave of data. Finally, given our goal of assessing a broad array of potentially relevant constructs, we were necessarily limited in the depth at which we could address any given topic in detail.

Recommendations

Given that the challenges that these airmen faced manifested in multiple domains, we have recommendations in multiple domains. To streamline their presentation, we have categorized them into two groups: mental health and nonmedical.

As airmen in this sample continued to face many of the same challenges identified in the wave 1 survey, it follows that our current recommendations bear many similarities with those made earlier, not only by us but also by many others whose research explores the effects of combat deployment.[32]

Mental Health

A substantial proportion of airmen who screened positive for current PTSD or MDD reported encountering barriers to mental health treatment during the past year. Some of the most–commonly reported barriers included the belief that available mental health treatments were not very good, concerns about the side effects of psychotropic medication, and the belief that airmen could handle the problem better on their own. Concerns about confidentiality and the potentially adverse effects that seeking treatment

[32] We provide a discussion of these recommendations below, but interested readers can consult Sims et al., 2015, for a more detailed discussion of some of these issues.

could have on one's career also manifested in a few ways. We have designed our recommendations to address these reported barriers to accessing mental health services and facilitate other possible recovery mechanisms. To overcome these barriers, we recommend that AF (and other related systems of care) take the following actions to increase airmen's receipt of high-quality mental health treatment:

1.1. Continue to collect and publicize data on the quality of care provided, and evaluate new approaches to treating mental health problems.
1.2. Engage airmen in a discussion about availability and quality of care.
1.3. Evaluate, emphasize, and enhance confidential treatment options.
1.4. Pilot-test the efficacy of empowering nonmedical case managers to help address scheduling difficulties.
1.5. Explore and facilitate social-support interventions.

In this section, we describe in greater detail how AF might implement each recommendation, including the nonmedical case managers in the AFW2, AFRCC, and FLO programs, and offer other suggestions.

Recommendation 1.1. Continue to Collect and Publicize Data on the Quality of Care Provided, and Evaluate New Approaches to Treating Mental Health Problems

Concerns about the quality of care available to airmen weighed heavily in their considerations about seeking treatment for mental health: About one-third of airmen rated each barrier relating to quality and efficacy of care as one of their top three barriers. Nearly half of airmen with unmet mental health treatment needs perceive that the mental health treatments available to them are not very good, and nearly two-thirds of airmen reported a conviction that they would do better on their own, without mental health treatment provided by professionals.

These concerns suggest that a closer look at the quality of treatment available to airmen is warranted. DoD and VA have jointly promulgated EBT guidelines for PTSD, depression, and other conditions that could be consequences of current conflicts (see, e.g., Management of Post-Traumatic Stress Working Group, 2010). Given these treatment guidelines, such EBTs should be easily accessible within both the military and veteran health care systems. However, the extent to which evidence-based mental health care is practiced in DoD and VA has been called into question (Burnam et al., 2008; Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2012, 2014; Peterson et al., 2011; Rosen et al., 2004). Even within VA, where mental health care has been shown to outperform that provided in civilian settings, marked variation in quality of care has been found across facilities (Watkins et al., 2011; RAND Health, 2015), indicating room for improvement. Moreover, issues of timeliness of care received within the VA system have been identified recently (RAND Health, 2015). Delayed access to care could reduce the quality of treatment provided to the extent that it causes deviation from the intended length and frequency of appointments

(Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2014). There are also known concerns regarding the quality of care available on the civilian market (Committee on Crossing the Quality Chasm, 2006; Burnam et al., 2008; Tanielian et al., 2014). These concerns notwithstanding, we found that many prefer care on the civilian market.

Concerns about the quality of care provided to servicemembers and veterans are at least partly attributable to insufficient assessment, tracking, and reporting of the implementation of EBTs in practice across health care systems, including the VA, DoD, and civilian settings (Burnam et al., 2008; Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2012, 2014). Calls for increased attention to the measurement of the quality of care provided in DoD and VA and through TRICARE-participating care providers have been issued (Burnam et al., 2008; Committee on the Initial Assessment of Readjustment Needs of Military Personnel, Veterans, and Their Families, 2010; Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2014; Recovering Warrior Task Force, 2014). Some efforts have been reported to be under way to improve the measurement and tracking of the quality of behavioral health care in DoD; specifically, the Army is creating the Behavioral Health Data Portal for tracking and evaluation of the treatments that patients receive in MTFs. At the time of this writing, however, DoD and the service branches were reported not to "track and evaluate the types of treatments that patients receive or their outcomes" (Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2014, p. 132). Thus, much remains to be done in DoD, as well as other health care systems (VA and civilian settings), to improve the measurement of quality of care.

To inform airmen's decisions about the treatment options that are best for them, it will be necessary to continue to *collect and publicize data on the quality of care provided*. Because ongoing measurement of the quality of care provided is critical to ensuring that EBTs adhere to the treatment protocol and are therefore likely to exert beneficial influences on mental health (Burnam et al., 2008; Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2014), such efforts serve a dual purpose.

Finally, in addition to assessing the quality of care provided, looking for opportunities to improve the quality of care by identifying innovative, safe, and efficacious treatments for mental health problems is important. A sizable proportion of people who receive mental health treatments with an established evidence base do not respond to those treatments. For example, a systematic review of CPT and PE, the most-studied trauma-focused interventions for PTSD with the strongest evidence base, identified notable limitations, including high nonresponse rates, continued symptoms in many patients, and only marginally superior results compared with active control conditions (Steenkamp et

al., 2015). This indicates a need to *improve existing interventions or develop and evaluate new interventions for PTSD and MDD.*

Recommendation 1.2. Engage Airmen in a Discussion About Availability and Quality of Care

To address further the treatment barrier of beliefs about the perceived ineffectiveness of available treatments, we also recommend *educating airmen about the efficacy and characteristics of the full range of available treatments*. Although airmen might not find EBTs desirable, they might become more receptive to them after they understand that these are the treatments most likely to benefit them. This recommendation echoes the VA/DoD clinical practice guidelines for management of both PTSD and depression, which direct providers to provide this type of education to all patients with either of these conditions (Management of Post-Traumatic Stress Working Group, 2010; Management of Major Depressive Disorder Working Group, 2008).

This recommendation applies to a range of potential actors, including behavioral health care providers, primary care providers, and AFW2 nonmedical case managers. The nature of activities that each of these actors performs can differ according to their roles and relationships with the airmen, but having multiple types of actors consistently communicate information and proactively lower barriers could have a more powerful effect on airmen than the actions of any single actor. Primary care providers are particularly well positioned to perform this function given that primary care is a common point of referral into behavioral health treatment in the DoD and VA health care systems. AFW2 nonmedical case managers could also play a key role in implementing this recommendation given that the majority of airmen in the AFW2 program have contact with them. For example, AFW2 case managers could actively promulgate widely available psychoeducational resources on mental health and EBTs, such as VA and DoD's PTSD Coach mobile application, the Make the Connection website, and the National Center for PTSD website, all of which were recommended as useful resources for treatment engagement in the Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2014, report about treatment for PTSD in military and veteran populations.

Case managers could also *help airmen who are seeking mental health treatment identify providers of high-quality care and advocate for their receipt of it* (see, e.g., Pickett et al., 2012) by coaching airmen on the types of questions to ask prospective mental health care providers. For example, an airman could be coached to ask questions about the provider's training as a clinician, how the provider makes decisions about what type of treatment to provide patients (are the decisions based on research?), how and whether the provider keeps abreast of the latest developments in mental health care and research, and the manuals that the provider uses to inform the treatment approach (see

Brown, 2013). Having AFW2 case managers conduct this discussion in a "motivational-interviewing" style could be an effective way to solicit airmen's preferences for mental health treatment and to identify and overcome their barriers to obtaining mental health treatment (Westra and Dozois, 2006).

Another area in which airmen could benefit from education and information about mental health treatment is psychotropic medication and its side effects. Even though the great majority of airmen who needed mental health treatment reported having received medication for mental health problems at some point in the recent past, many airmen reported concerns regarding medication side effects (48 percent of those who reported unmet mental health needs). This suggests that *airmen should be encouraged to raise their concerns about side effects with providers* and that *providers should be prepared to discuss the range of pharmacotherapeutic options and their side effects with patients*, possibly multiple times over the course of care. Ideally, information regarding pharmacotherapeutic options would be readily available in treatment waiting rooms, but dissemination through discussions with nonmedical case managers might also be appropriate.

Alternatively, airmen who would forgo mental health treatment altogether because of concerns about the side effects of psychotropic medication should be *encouraged to consider seeking evidence-based psychotherapy without medication*. The current suite of frontline EBTs for PTSD and MDD includes several psychotherapies that have been shown to be effective in the absence of psychotropic medication (e.g., trauma-focused CBT, such as PE, for PTSD [Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2012, 2014] and CBT or IPT for depression [Butler et al., 2006; Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2014; van Hees et al., 2013]). Thus, psychotherapy without psychotropic medication is a legitimate EBT option for PTSD and depression that should be included in discussions between providers and patients about the range of available treatment options.

To accommodate patients' treatment preferences, we also recommend that *providers discuss alternatives to pharmacotherapy with patients.* This recommendation might be considered to be a subset of the quality care requirement that providers are supposed to discuss the full range of available EBT options. Absent data on the implementation of behavioral health care in DoD and VA (Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2014), it is impossible to know at present how consistently these conversations actually take place between providers and their patients; although it is clear from our results that the majority of respondents do receive therapy, the majority also receive medication. Thus, providers might routinely discuss alternatives to pharmacotherapy with patients, and other things might be the primary drivers of airmen's ongoing concerns about side effects of medication and the

effectiveness of available treatments. However, the fact that so many airmen are concerned about medication while the majority of airmen also report receiving it suggests that in-depth conversations about available options might not be happening between providers and patients as a matter of course.

Recommendation 1.3. Evaluate, Emphasize, and Enhance Confidential Treatment Options

Another barrier to mental health treatment that airmen commonly reported pertained to concerns regarding treatment confidentiality. Our findings show that approximately 40 percent of respondents with unmet treatment needs reported one or more of the following: concerns about confidentiality and concerns that treatment seeking would negatively affect the respect of their colleagues and their career or would result in denial of a security clearance in the future (which, if treatment were confidential, would be mitigated as concerns). About one-quarter of airmen listed the concern about career harm as one of the top three barriers to receipt of mental health treatment. These concerns were significantly more likely for airmen currently serving than they were for retirees and more commonly experienced at the MTF than the VA or civilian settings. Stigma is a well-recognized concern in the military health system, and efforts are ongoing to combat the issue. These efforts include calls to reexamine the tension between the needs of commanders and mission and a servicemember's desire for privacy in mental health care (Acosta et al., 2014). Research suggests that servicemembers with mental health symptoms and treatment-seeking populations tend to be most likely to have concerns about confidentiality (Elbogen, Wagner, et al., 2013; Hoge, Castro, et al., 2004; Kim et al., 2011; Rae Olmstead et al., 2011; Warner et al., 2011). This, in turn, suggests that confidentiality would greatly benefit those who most acutely need treatment, including those who might already be in the system. Our findings suggest that this is particularly important for airmen on active duty. Thus, we recommend that AF and related systems of care *evaluate, emphasize, and enhance confidential treatment options for airmen.* The confidential treatment option with the strongest evidence base is online or computerized interventions for MDD and PTSD. In general, computerized CBT has been shown to decrease depression similarly to CBT that a therapist delivers in person (Andersson and Cuijpers, 2009; Andrews et al., 2010; Leykin et al., 2014). The benefits of computerized interventions for PTSD have also been shown, although less research has been conducted on PTSD than on depression (Knaevelsrud and Maercker, 2007). In addition, smartphone apps (e.g., PTSD Coach), though not yet rigorously evaluated, have been shown to hold promise in the treatment of PTSD (Kuhn et al., 2014). More research is needed to determine the benefits of mental health interventions delivered via different technological platforms.

Efforts are also under way to reduce or eliminate the stigma associated with seeking mental health treatment in the military (see, e.g., the description of programs in Weinick et al., 2011), and some limited work suggests that mental health treatment-seeking is unlikely to result in adverse career effects (Christensen and Yaffe, 2012; Rowan and Campise, 2006). AF seeks to *make mental health providers more accessible (and access to them somewhat less visible) by embedding them in primary care clinics* through the Behavioral Health Optimization Program (Munsey, 2009). These efforts are also important, especially in light of the Wong et al., 2013, finding that previously deployed active-duty servicemembers are more likely to seek aid from a mental health specialist provider than from a primary care provider. This might reflect a preference for therapy rather than medication or preference for specialized mental health expertise. As the current survey results reveal, this initiative is key for active-duty airmen.

Echoing others' suggestions (e.g., Engel, 2014; Neuhauser, 2011), we further recommend that DoD *consider revising its policies on military mental health confidentiality standards for servicemembers*. Under current DoD policy, there is some provision for maintaining confidentiality of mental health treatment, but confidentiality can be broken when military commanders deem doing so to be essential to the military mission (Neuhauser, 2011). This policy gives military commanders wide latitude to access information on servicemembers' mental health status and treatment history from military mental health care providers. Thus, military servicemembers who seek mental health treatment do not enjoy the same protections of confidentiality that their civilian peers do. However, no empirical evidence suggests that limiting confidentiality in this way serves its intended purpose of fostering military readiness (Engel, 2014). Indeed, to the extent that mental health problems compromise military readiness and concerns about confidentiality limit seeking of mental health treatment, current policy might actually *compromise* military readiness. Moreover, applying the confidentiality standards observed in the civilian sector to the military is not without analogue: Pastoral counseling that chaplains provide is granted absolute confidentiality, and attorney–client privilege in the military is similar to that in the civilian world (Engel, 2014).

In light of these considerations, we recommend careful review of current DoD policy on military mental health confidentiality standards to determine how this policy affects military readiness in practice and whether policy revisions are warranted to serve the interests of military servicemembers and maximize military readiness. One step in this direction recommended in a recent report on mental health stigma in the military would be to convene a task force "to explore the tensions between a command's need to know a service member's mental health status and treatment history and the need for privacy" (Acosta et al., 2014, p. 101).

Recommendation 1.4. Pilot-Test the Efficacy of Nonmedical Case Managers Helping Address Scheduling and Other Difficulties

Difficulty scheduling an appointment with a provider was another commonly endorsed barrier to mental health treatment. About 40 percent of those airmen who reported having desired but not obtained mental health treatment in the past year reported that one of the barriers to care was difficulty scheduling an appointment. For about one-quarter of airmen, this was one of their top three barriers. Those who rated this as a top-three barrier indicated it was largely associated with the VA health system, echoing the recent highly publicized finding of VA scheduling backlogs. However, there are several possible causes of scheduling difficulties, and AF might be able to implement changes to help. For example, AF could *have the nonmedical case managers for both the AFW2 and AFRCC programs help to address scheduling difficulties by assisting airmen in calling the clinic to schedule an appointment*.

This recommendation is based on the premise that difficulty navigating the complex, bureaucratic health care system is one cause of appointment scheduling difficulties. The President's Commission on Care for America's Returning Wounded Warriors, 2007, recognized bureaucracy as a key barrier to accessing health care and recommended creating the RCC position to facilitate navigation of the bureaucracy. Recent work suggests that, although improvements have been made, navigating the systems of care is still a complex and confusing process (e.g., U.S. Government Accountability Office, 2012; Recovering Warrior Task Force, 2014). Thus, case managers in the AFW2 and AFRCC programs might also have difficulty scheduling appointments for airmen, but it is expected that they will be able to navigate the bureaucracy effectively at least some of the time.

Because these assumptions have not been tested, we offer this recommendation tentatively and acknowledge that it might not be an effective remedy. However, we believe that it is worth attempting on a short-term basis and tracking the effectiveness of case managers' efforts to assist airmen with appointment scheduling and the ease of implementation. If this potential solution proves ineffective after a brief trial, case managers can stop implementing it. Certainly, similar case-management interventions have been shown to have efficacy in other domains of health care, such as cancer management (K. Wells et al., 2008).

Scheduling difficulty could also result partly from ongoing difficulties that both DoD and VA have experienced with regard to maintaining sufficient staffing to meet the mental health service demand. T. Wells et al., 2011 (see also Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2012, 2014) summarized initiatives that DoD and VA have undertaken to meet the ongoing and likely future demand for mental health services, including efforts at prevention and innovative service provision. Efforts are also under way to enable veterans who meet

certain eligibility requirements to obtain care in the civilian sector. One of the initiatives to resolve the scheduling backlog is the Veterans Choice program, which is part of the Veterans Access, Choice, and Accountability Act of 2014 (Pub. L. 113-146). It is designed to enable a veteran to receive care on the civilian market if he or she cannot get care within 30 days or live more than 40 miles from a VA provider and is enrolled to receive VA care as of August 1, 2014 (or is a newly discharged combat veteran).

For airmen interested in obtaining care in the civilian sector through one of the recently launched policy initiatives, it might be particularly helpful if *nonmedical case managers convey eligibility requirements and assist airmen in finding good civilian providers*. Although nonmedical case managers are not in a position to evaluate the quality of care provided in the civilian market (indeed, many challenges accompany measurement of the quality of care provided to patients; see, e.g., Peterson et al., 2011; Ruzek and Rosen, 2009; Shafran et al., 2009), they might be in a position to aggregate reports of care-quality perceptions that airmen provide, given their centralization at AFPC. Thus, they might be able to point airmen away from providers whom other airmen perceive as poor. Retirees were also more likely than currently serving airmen to report that they were unsure where to go for mental health care. Thus, as a general rule, *nonmedical case managers should be prepared to answer questions or initiate discussion regarding where retirees should go for mental health care*.

In addition to helping airmen access health care, AFW2 program case managers might be able to facilitate airmen's receipt of health care by engaging with the medical care team and offering referrals to other appropriate services. Research demonstrating the benefits of integrating psychosocial with medical assistance (J. Corrigan and Cole, 2008; Drake, Bond, and Becker, 2012) suggests the utility of case managers serving in this capacity (though see Resnick, Rosenheck, and Drebing, 2006, for contrasting findings in the domain of employment). Furthermore, AFW2 program case managers are well positioned to liaise with the medical care team given their frequency of contact with airmen: Almost one-third of airmen reported monthly contact with AFW2, and another quarter reported contact every few months. This would also logically continue the movement within AF toward greater service integration and coordination (testimony for Recovering Warrior Task Force, 2012; see also U.S. Government Accountability Office, 2012). Thus, implementing this recommendation might be one way to increase coordination along the care continuum.[33]

[33] Note that program personnel currently report that they do assist in scheduling care when an airman initiates discussion about a scheduling concern or needs acute care.

Recommendation 1.5. Explore and Facilitate Social-Support Interventions

Survey findings underscored the importance of social support to mental health and revealed deficits in social support. Specifically, lacking a primary supporter at wave 1 was a significant predictor of screening positive for PTSD at wave 2. Although the percentage of airmen who reported lacking a primary supporter declined significantly between the wave 1 and 2 surveys, a sizable minority of airmen (20 percent) in the overall wave 2 sample reported lacking a primary supporter. Further, when asked what types of resources they would find helpful, the majority of airmen in the overall wave 2 sample reported that help connecting with others on a personal level would be appreciated. Moreover, the desire for help connecting with others on a personal level was significantly more pronounced among airmen who screened positive for PTSD or depression (70 percent) than those who screened negative for both disorders (47 percent). These findings dovetail with other research that has documented strong associations between social support and PTSD (Brewin, Andrews, and Valentine, 2000), reinforce more-general calls for increased integration of caregivers into the reintegration process (e.g., Recovering Warrior Task Force, 2014), and highlight the importance of addressing social support and interpersonal issues in the context of PTSD (Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2014; Markowitz et al., 2009).[34]

Consistent with the VA/DoD clinical guidelines for management of PTSD (Management of Post-Traumatic Stress Working Group, 2010) is our recommendation to facilitate social support and ameliorate interpersonal functioning for airmen who have a PTSD diagnosis, particularly those who do not have a primary supporter or otherwise indicate potential deficits in or a desire for improved social support. There are many avenues of intervention to accomplish this. Psychotherapeutic interventions that target social support and interpersonal functioning are broad and varied and include couples' therapy, family therapy, peer support, social-support groups, and IPT for PTSD. Currently, the evidence base for these approaches in the treatment of PTSD is not nearly as well developed as it is for the PTSD treatments whose efficacy has garnered sufficient evidence to warrant designation as a frontline treatment contained in the VA/DoD clinical guidelines (i.e., PE, CPT, eye-movement desensitization and reprocessing, stress inoculation, SSRIs, or serotonin–norepinephrine reuptake inhibitors) (Cukor, Spitalnick,

[34] We focus on social support and interpersonal functioning in the context of PTSD (as opposed to MDD) here because of social support's longitudinal effect on PTSD in our study. We did not find a significant effect of social support on depression in our study. However, given the large evidence base suggesting a robust relationship between social support and depression (Lakey and Cronin, 2008) and the efficacy of IPT for MDD (van Hees et al., 2013), we also support the notion of addressing social support and interpersonal issues in the context of MDD.

et al., 2009; Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, 2014; Sharpless and Barber, 2011). However, a growing evidence base supports the hypothesis that IPT has beneficial effects for PTSD (e.g., Krupnick et al., 2008), including evidence that it specifically benefits social interpersonal functioning (Robertson et al., 2007), and couples' CBT for PTSD (Monson, Fredman, Adair, et al., 2011; Monson, Fredman, Macdonald, et al., 2012). Additional research to investigate the benefits of these interpersonally focused interventions for PTSD is under way.

Given the status of the evidence base for PTSD treatments that are explicitly designed to target social support, we recommend offering these therapies to people with PTSD under either of the following conditions: (1) as an adjunct to one of the frontline EBTs for PTSD or (2) as an alternative to frontline treatments if the patient is unwilling to participate in any of the frontline treatments or does not respond to frontline treatments after trying all of them. For wounded, ill, or injured airmen who do not meet diagnostic criteria for a psychiatric condition and who report social-support deficits, nonclinical interventions, such as social-support groups for people who share the same types of injuries, could be beneficial (Taylor, 2011).

Nonmedical Support

Employment is another realm in which nonmedical case managers within AF assist in recovery and reintegration. Many of our respondents indicated that they are currently employed at least part time. However, our results suggest that the unemployment rate is somewhat elevated. There is an expectation that reported unemployment would typically be higher for those immediately or recently leaving service. One finding in our wave 2 survey echoes this: Within our longitudinal subset, the odds of being unemployed and looking for work decreased significantly from wave 1 to wave 2. However, given the special needs of this population, this finding still warrants attention and monitoring.

To overcome these barriers, we recommend that AF (and other related systems of care) take the following actions to increase airmen's receipt of nonmedical support:

2.1. Offered employment assistance should explore specific reasons for anxiety about new work context and consider efficacy interventions focused on these issues.
2.2. Offered employment assistance should focus on individual skill sets and their translation to new contexts.
2.3. Continue systemizing and resourcing services to integrate social support generally.
2.4. Systematically assess the desired frequency of contact by nonmedical case managers.

Recommendation 2.1. Offered Employment Assistance Should Explore Specific Reasons for Anxiety About New Work Context and Consider Efficacy Interventions Focused on These Issues

For those who indicated that they were unemployed and looking for work, unemployed and not looking, retired, or unemployed because of disability, we asked about perceived barriers to employment and found that more than half felt that they were not physically capable. Given that many who answered that question reported that they *were disabled* and not working, concerns regarding disability status are unsurprising. Self-efficacy and other types of training are beneficial for those who are having difficulties finding employment (Liu, Huang, and Wang, 2014; Wanberg, 2012). (Indeed, Liu, Huang, and Wang, 2014, notes that research suggests that employment intervention might be particularly helpful for people with depression.) Specific career counseling can also help inform disabled airmen of available options for reasonable accommodations at work. Therefore, these are possible approaches for intervention even when work does not seem an attainable goal initially. As part of the employment counseling assistance already provided through AFW2, case managers could recommend such services and monitor the results to determine whether this specific type of assistance is of value for this population. Airmen, both not employed and employed, also reported anxiety about working in the civilian workforce. Thus, we recommend *exploring specific reasons for this anxiety and considering efficacy interventions focused on these issues*. Although this is not a typical application of efficacy training, it might be advantageous to bolster the comfort level of airmen who are, or who are considering, working in the civilian sector.

Recommendation 2.2. Offered Employment Assistance Should Focus on Individual Skill Sets and Their Translation to New Contexts

Other barriers that airmen reported include concern regarding their qualifications—in particular, that their deployments put them behind their civilian counterparts (36 percent) and a general lack of confidence (40 percent). The literature suggests that attention to individual skill sets and their presentation on resumes and in interviews, as well as individual preferences for work, pays dividends in the forms of employment, lasting employment, and satisfaction (Drake, Bond, and Becker, 2012; Liu, Huang, and Wang, 2014; Resnick, Rosenheck, and Drebing, 2006; Wanberg, 2012). Moreover, there are many employment aid offerings, and some of the most densely resourced are those provided for wounded, ill, and injured warriors (U.S. Government Accountability Office, 2012, notes 19 different programs in fiscal year 2010). Thus, we do not recommend additional programs but rather suggest that the *employment assistance offered to airmen focus on individual skill sets and their translation to new contexts*. Specifically, there is a plethora of training options available for veterans generally, and those with combat injuries in particular. Thus, AFW2 assistance can be used to point these airmen to

programs that offer credentialing for experience gained during service or that provide the training and education necessary to leverage such experience and interests. Several initiatives have been launched to increase the personal tailoring of employment assistance to airmen and other servicemembers; however, evaluations of programs, such as the revamp of the Transition Assistance Program, have not yet examined these specific components or their efficacy (U.S. Government Accountability Office, 2014), and we recommend continued attention to these issues. Other aspects of employment assistance might be relevant as well. Liu, Huang, and Wang, 2014, notes that job-seeking initiatives that incorporate *both* a skill component (e.g., improving self-presentation on resumes and in interviews to articulate relevant skills concretely) and a motivational component (e.g., encouraging proactivity, such as by making "cold calls" and networking, or enhancing social support by facilitating peer support among job seekers) were more successful than interventions using either type of component alone. Thus, case managers might consider interventions with both aspects particularly helpful and recommend them more frequently.

Recommendation 2.3. Continue Systemizing and Resourcing Services to Integrate Social Support Generally

Airmen whose family got FLOs rated the service as positive. Moreover, one-quarter of airmen, who did not receive FLOs or unit personnel to help with family matters, thought that such assistance would have been helpful. This finding aligns with the discussion above regarding the integration of social support into therapeutic process but is a broader recommendation. Taylor, 2011, summarizes research linking social support, broadly construed, to health outcomes. Various studies have shown that including families in behavioral change interventions or recruiting them in the promotion of particular medical treatment programs can be beneficial in maintaining the desired behaviors. Our own findings suggest that having a primary supporter has a beneficial effect on PTSD symptoms over time. Our data do not speak to whether having a FLO enables primary supporters to be more efficient, persistent, or effective caregivers. However, it seems logical to surmise that AF assistance with the transition that family members must make to their new roles might offer some advantages. Although there are occasions when social support can have negative effects, these findings suggest that integrating family members and other providers of social support into treatment might be helpful. Although the duties of a FLO as AFI 34-1101 (Manpower, Personnel and Services, 2012, 2015) describes entail primarily acute logistical support for the family, they also include linking in the family with appropriate services. These efforts can include connecting family members to other members of the wounded airman's recovery team who can assist the family in how best to support the airman and give them specific information and counseling regarding what would be helpful, and perhaps even how best

to provide that support in a positive way. As acute-care needs recede, other members of the recovery care team can assume this role. For example, Liu, Huang, and Wang, 2014, notes that one of the characteristics of successful employment interventions is that they harness social-support networks in job seeking. AF might wish to consider formalizing this type of support to primary supporters of airmen for later stages in the continuum given our service-specific findings and given the support in the literature and the calls from other stakeholder bodies (Recovering Warrior Task Force, 2014).

Recommendation 2.4. Systematically Assess the Desired Frequency of Contact by Nonmedical Case Managers

In wave 1, we asked whether airmen wanted nonmedical case managers to contact them, without grounding the question in the context of how often they were getting called. In wave 2, we asked both how frequently airmen were contacted and whether that was enough from their perspective to get needed services. There was a correlation such that, as frequency of contact increased, the number reporting that the amount of contact was sufficient also increased. Only 46 percent of those who reported that AFW2 contacted them less than once every few months indicated that this was enough to get needed services. AF must consider whether this is a sufficient proportion of airmen regarding the service level as appropriate to get the needed services. Moreover, consideration of program resources requires balancing the needs of those further along in reintegration, who presumably need fewer services, with the needs of those who are embarking on their journey. Because reintegration is an individual process, we recommend that *nonmedical case managers systematically ask airmen how often they wish to be contacted* and incorporate that information into their operating procedures. Because this would entail a reevaluation of how to process airmen through the care continuum and would potentially increase the workload of existing case managers, consideration and implementation of this recommendation should include appropriate resourcing.

Conclusion

Our purpose was to look more closely at the psychosocial needs of airmen with combat or related injuries and undertake an in-depth, longitudinal, and holistic assessment of the needs of this particular subgroup of airmen. Their process of recovery and reintegration is likely to be lengthy. A long-term research approach is needed to gauge the effectiveness of the many interventions and conditions that affect this process. For this reason, as well as continuous efforts to improve program offerings, we suggest ongoing program evaluation. Many studies have examined various aspects of reintegration issues, but much remains to be done; this study's examination spans two

points in time of well-being on a range of relevant indicators. However, because no one analysis can encompass the complexities that inhere in real life, it is appropriate to leverage quality research from multiple avenues. AF, by means of this and other research, is starting to compile the necessary information and to mitigate potential issues before they become entrenched problems. Our data represent only two points in time, fall of 2011 and spring of 2014. We are therefore limited in how extensive our discussion of the process of recovery and reintegration can be; that said, our data do present the ongoing story of wounded airmen's well-being on a holistic set of indicators. Our findings reveal that combat-related enrollees in the AFW2 program face a variety of reintegration challenges. These are likely to remain pressing for some time to come; AF and others must continue to provide support through this process. In a time of declining resources, research can help determine the most-effective means to do so, thereby benefiting airmen, their families, and the nation.

Appendix A. October 2013 Air Force Wounded Warrior Newsletter Study Summary

The summary provided here, by Carra Sims and Christine Vaughan of RAND, first appeared in the October 2013 issue of *Air Force Wounded Warrior News* (p. 3). We reproduce it here without alteration except for formatting consistent with the rest of the report.

"Officials Release Key Wounded Warrior Survey Results: Applications Available for 2014 Warrior Games Selection Camp"

In 2011, RAND Project Air Force surveyed Airmen enrolled in the Air Force Wounded Warrior program to assess how they were using U.S. Air Force support services, and to understand their needs, including for mental health and employment. Out of 872 enrollees, 459 Airmen responded: 127 active-duty, 48 Guard and Reserve, and 284 retired.

The majority of Airmen from all three groups who used support services reported a high level of overall satisfaction with them. The majority, 95 percent, had received at least one service from the Air Force Wounded Warrior program; 20 percent used the more recently implemented Recovery Care Coordinator program.

Major depressive disorder and post-traumatic stress disorder affect all three groups. About 80 percent of respondents reported symptoms consistent with a diagnosis of depression or PTSD. As many injuries in the sample are psychological, these findings are not surprising. Overall, reserve component and retired Airmen were affected more than active-duty wounded warriors by both disorders. More recent retirees had higher odds of screening positive for PTSD.

Mental health needs were unmet at times. Most wounded warriors received some mental health treatment in the past year, but more than 40 percent of respondents reported that they did not get the care needed for mental health concerns at some point in the prior year. Commonly perceived barriers were appointment scheduling difficulties and confidentiality concerns, though the treatment setting of these experiences was unclear.

Many prefer mental health care from civilian providers. If cost were not an issue, 51 percent of respondents suggested they would prefer civilian provider care rather than from Veteran Affairs or a military treatment facility. Airmen who were concerned about confidentiality and who were on active duty rather than retired had higher odds of preferring civilian providers.

Employment concerns were common. Many Airmen who were disabled and not working or looking for work were concerned their disability posed an employment

barrier; many also worried they lacked the qualifications, skills, and abilities needed to succeed in civilian work.

Based on these findings, we recommend that the Department of Defense and VA take the following actions:

- Have AFW2 care managers help Airmen and retirees schedule appointments with mental health care providers.
- Emphasize and enhance confidential mental health treatment options for all Airmen.
- Educate all Airmen and retirees on what high-quality mental health treatment looks like (treatment protocols, evidence-based treatments) and where it can be found.
- Offer employment assistance focused on the transition of individual skill sets to new contexts.
- Assess ongoing Air Force programs to measure the effect of changes in support services.

In response to our recommendations, the Air Force is doing the following:

- Partnering with Penn State on a pilot evaluation to assess the quality of mental health treatment and processes.
- Developing a robust system for flagging appointment delays.
- Using the findings from this study to advocate for more mental health care support.
- Devoting resources to tailored employment assistance.
- Partnering with the Office of the Secretary of Defense on its Education and Employment Initiative and Operation Warfighter to improve access to education and employment opportunities.
- Exploring and eliminating redundancies in nonmedical care management and encouraging an integrated, cohesive team approach to warrior care through the new Warrior and Survivor Care division.

The Air Force wants to learn more about how best to provide the services wounded warriors deserve and need. We hope wounded warriors will talk with us again if contacted for the second wave of the survey.

Appendix B. January 2014 Air Force Wounded Warrior Newsletter Announcement

The following announcement appeared in the January 2014 AFW2 newsletter. We reproduce it here without alteration except for formatting consistent with the rest of the report.

"Warrior Care Survey Coming Soon"

The RAND Corporation will be conducting the second wave of a survey to find out how the Air Force Recovery Coordination Program and other Air Force programs can better serve combat-wounded Airmen. The RAND Corporation is an independent, objective nonprofit research institution.

In the next few weeks, all active-duty and medically retired Airmen enrolled in the Air Force Recovery Coordination Program with injuries that are potentially combat or hostile-related will receive a letter in the mail inviting them to complete a survey. The survey will ask about several important life areas and needs addressed by Air Force programs, such as wounded airmen's health and well-being, as well as their experiences with and opinions of these programs. The survey will take about 45 minutes to complete. Airmen who choose to take the survey will be offered the choice of completing it over the phone or on the web.

The military benefits and standing of individuals invited to participate in the survey will not be affected by their decision regarding whether or not to participate in the survey. The survey is confidential. The research team will not share or make public any information that might be used to identify specific individuals who choose to participate. The decision to participate, as well as individual responses to all questions, will not be shared with the U.S. military or Department of Veterans Affairs or anyone else outside of the RAND research team. Findings from the survey will be reported only in summary form.

Appendix C. Detailed Measure Information

Social Functioning

We asked respondents to indicate their current relationship status. Response options included married and living together, married and living separately by choice, married and living separately because of separate military assignments, living together as married, dating exclusively, and no current exclusive relationship. We created an indicator for marital status such that someone was considered married if he or she endorsed either of the options "married and living together" or "married and living separately due to separate military assignments," and someone who endorsed any other relationship status was considered not married.[35]

We also asked respondents how many dependents they had: "How many children do you have by birth or adoption who depend on you for more than half of their financial support?" For every dependent, we asked respondents the dependent's age and whether he or she lived with the respondent.

Respondents also reported on household structure: "Who is living with you for more than half the time?" Response options included spouse or domestic partner, children, parent or parent-in-law, sibling or sibling-in-law, other relatives, and others not related to the respondent.

We also asked respondents to nominate their primary supporter (i.e., the person "who most often helps you deal with problems that come up"). Response options included spouse or domestic partner, boyfriend or girlfriend, child, parent or parent-in-law, brother or brother-in-law or sister or sister-in-law, other relative, friend, or not applicable (don't share problems with anyone).

Each respondent rated his or her satisfaction with his or her marriage if he or she were married and living together, married and living separately by choice, or married and living separately because of separate military assignments. We asked any respondent who was not in any of these categories to rate his or her satisfaction with his or her relationship with the primary supporter. We assessed satisfaction with a single item: Taking things altogether, how satisfied are you with ("your marriage" if respondent was married; "the relationship you have with the person who most often helps you deal with

[35] We considered including respondents in the category "married and living separately by choice" in the "married" category of the marital status indicator because they are technically married, at least according to the legal definition. However, because these people are separated by choice, we believed that they might be categorically different from people who are married and not making motions to end their marriage. Thus, we excluded them from the "married" category.

problems" if respondent was not married)? Response options ranged from very satisfied (1) to very dissatisfied (5). We recoded responses so that higher scores indicate higher levels of relationship satisfaction.

We also asked respondents about their perceptions of the social support available to them from different people in their lives. We used two subscales from the Social Provisions Scale (Cutrona and Russell, 1987) to assess two different dimensions of social support: (1) reliable alliance, which refers to the availability of instrumental support (e.g., people on whom to depend in an emergency), and (2) attachment, which refers to the availability of emotional support from and intimacy with other people. Sample items from the reliable-alliance subscale include the following: "There are people I can depend on to help me if I really need it," and "If something went wrong, no one would come to my assistance." Sample items from the attachment subscale include "I feel that I do not have close personal relationships with other people," and "I have close relationships that provide me with a sense of emotional security and well-being." Past research has demonstrated the reliability, convergent validity, and divergent validity of the Social Provisions Scale (Cutrona and Russell, 1987). Each subscale consists of four items, each of which is rated on a Likert scale with response options ranging from strongly disagree (1) to strongly agree (4). Possible scores on the reliable-alliance and attachment subscales range from 4 to 16. Subscale items are scored and aggregated so that higher subscale scores connote higher levels of perceived social support. Internal-consistency reliability estimates for both of these subscales were very high in the current analysis (reliable alliance: Cronbach's alpha = 0.87; attachment: Cronbach's alpha = 0.81).

Posttraumatic Stress Disorder Screening

To screen for PTSD, we used the PCL (Weathers et al., 1993), an instrument that contains 17 symptom items keyed directly to the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (DSM-IV) (American Psychiatric Association, 1994). Respondents indicated the extent to which they had been bothered by each symptom in the past 30 days on a scale with response options ranging from 1 (not at all) to 5 (extremely). The PCL has been used to study posttraumatic distress in various military samples (e.g., Grieger et al., 2006) and is commonly used to screen for PTSD in both DoD and VHA.

We classified respondents as screening positive for PTSD in accordance with guidelines offered by Weathers et al., 1993. We counted a symptom as present if the respondent indicated that the symptom had at least "moderately (3)" bothered him or her. According to the DSM-IV definition, also known as the cluster scoring method, we classified respondents as screening positive or negative for PTSD. This scoring method is commonly used (see Brewin, 2005, for a review of different scoring methods).

Depression Screening

To screen for depression, we used the PHQ-8 (Kroenke, Spitzer, and Williams, 2001; Löwe, Kroenke, et al., 2004). The PHQ-8 assesses all of the criteria on which a DSM-IV diagnosis of depression is based except for suicidal ideation. Respondents provide responses on a four-point (0 to 3) scale with respect to the frequency with which they experienced symptoms in the past two weeks. The PHQ-8 is well validated and widely used as a brief screening measure in civilian settings (e.g., Löwe, Spitzer, et al., 2004) and in DoD and VA. We classified a respondent as screening positive for depression if he or she had a total score of 10 or above on the PHQ-8, following the recommended cut point (Kroenke, Spitzer, and Williams, 2001). This method of scoring is commonly used.

Alcohol Consumption and Misuse

We screened for alcohol misuse with the AUDIT-C (Bush et al., 1998). The AUDIT-C has been validated in past research as a screener for identifying people with heavy drinking or active alcohol abuse or dependence (Bush et al., 1998). This scale consists of three items that assess quantity and frequency of typical and heavy drinking. Participants answer each item on a 0-to-4 scale, and composite scores are computed by summing item scores. In the current research, we defined alcohol misuse by a score of 4 or higher in men and a score of 3 or higher in women, consistent with the cutoffs that VHA uses (Achtmeyer and Bradley, 2011). In past research, this cutoff for men has been shown to have a sensitivity of 0.86 and a specificity of 0.72 in VA outpatients and a sensitivity of 0.86 and specificity of 0.89 in non-VA outpatients (Achtmeyer and Bradley, 2011). This cutoff in women has been shown to have a sensitivity of 0.66 and specificity of 0.94 in VA outpatients and a sensitivity of 0.73 and specificity of 0.91 in non-VA outpatients (Achtmeyer and Bradley, 2011).

Illicit-Drug Use

We assessed respondents' use of illicit substances during the past 12 months with the following question: "In the past 12 months have you used any prescription medication that was not prescribed for the respondent by a doctor or was used in a way other than as prescribed."

Mental Health Service Utilization and Preferences

We assessed use of any type of mental health services in the past year with a single question: "In the past 12 months have you received any of the following types of treatment for stress, emotional, alcohol, drug, or family problems?" Response options

were medication prescribed by a health care provider, some type of counseling or talk therapy provided by a mental health specialist, and some other treatment. We considered a respondent who endorsed any of these response options to have received some sort of mental health treatment in the past year. For every type of treatment the respondent reported having received, we asked the respondent to indicate all of the settings in which he or she had received that type of treatment. Response options were military treatment facility, VA facility, and civilian facility.

We also asked each respondent to indicate his or her preferred type of provider if cost were not an issue: "If you wanted to get mental health care and could go to any type of provider free of charge, would you go to . . ." Response options were mutually exclusive (i.e., the respondent could choose only one option): military treatment facility, VA facility, civilian facility, and none of these. We also assessed preferences for type of treatment: "If you wanted to get mental health care and could afford any of the following types of treatment, which one of the following treatments would you choose?" The mutually exclusive response options were medication prescribed by a health care provider, some type of counseling or talk therapy provided by a mental health specialist, and neither.

Unmet Need for Mental Health Services and Barriers to Care

To assess unmet need for mental health services during the past year, we asked respondents a single question: "In the past 12 months, was there ever a time when you wanted to get professional help for a mental health, stress, family or alcohol problem but did not?" To any respondent who answered "yes" to this question, we then read a list of 12 concerns and asked to select those that had kept him or her from getting help when he or she needed it. To any respondent who answered "no," we read the same list of concerns and asked to indicate which concerns would make it difficult for him or her to get help in the future if needed. We drew the concerns on the list from previous studies of mental health treatment barriers conducted in military samples (Schell and Marshall, 2008; Vaughan et al., 2011). Original sources of the barriers include the National Comorbidity Survey Replication (e.g., Kessler, Chiu, et al., 2005) and the Hoge, Castro, et al., 2004, study of barriers to care in the military. The list consists of three broad classes of barriers to care: logistical barriers (e.g., "difficulty scheduling an appointment"), institutional and cultural barriers ("concerns about harm being done to your career"), and beliefs and preferences for treatment (e.g., "believing that the mental health treatments available to you are not very good").

Health-Related Quality of Life

To assess respondents' health-related quality of life, we used the SF-36 (Ware et al., 1993) subscales of general health and role limitations due to physical health. Respondents self-reported general health on a scale that ranged from 1 (excellent) to 5 (poor). We assessed role limitations due to physical health with four items asking the respondent about the occurrence of four problems with "work or other regular daily activities as a result of your physical health" during the past four weeks. We scored both subscales in accordance with the recommendations of Hays, Sherbourne, and Mazel, 1993. Subscale scores range from 0 to 100, with higher scores indicating better health-related quality of life. The reliability and validity of the SF-36 have been extensively documented in past research (Brazier et al., 1992; Buchwald et al., 1996; Stansfeld, Roberts, and Foot, 1997; Ware et al., 1993).

Occupational Functioning: Employment Status

We asked each respondent to select his or her current employment status from a list that included the following options: "working full-time," "working part time," "unemployed and looking for work," "disabled and not working," "full time student," "part time student," "homemaker," "retired," and "not employed, not looking for work." We then defined employment status two ways. One method used the entire sample as the denominator and divided the sample into mutually exclusive categories of current employment status for descriptive purposes. The other method used the denominator defined in the U3 measure of unemployment that BLS uses (BLS, 2016a). This denominator is restricted to the civilian workforce, defined as people who are currently employed either part or full time and those who are unemployed and looking for work. The numerator was the number of people who reported that they were unemployed and looking for work.

Job Performance and Satisfaction

To assess absenteeism and presenteeism in respondents who were employed part or full time, we used the absenteeism and presenteeism questions from the World Health Organization Health and Work Performance Questionnaire (Kessler, Berglund, et al., 2003). We computed absolute absenteeism based on respondents' self-reports of the total number of hours that they had worked in the past seven days and the number of hours that their employers expected them to work in a typical seven-day week. We multiplied each of these numbers by 4 to convert estimates for the past week to a month, and then subtracted the estimated number of hours that the respondent had worked in the past month from the estimated number of hours that the respondent's employer expected him

or her to work during the past month. Positive values indicate hours of work lost, with higher positive values indicating more hours of work lost, i.e., greater absenteeism. A value of 0 indicates no hours of work lost (i.e., the number of hours actually worked equaled the number of hours of work that the employer expected), and negative values indicate that the respondent worked more than his or her employer expected. The maximum and minimum values allowed on each of these absenteeism questions are 97 and 0, respectively, so the range of possible scores is –388 to 388.

We computed absolute presenteeism based on a question asking each respondent to "rate your overall job performance on the days you worked during the past 4 weeks (28 days)" on a scale that ranged from 0 (worst performance) to 10 (top performance). We then multiplied the self-rating by 100 to represent the presenteeism score as a percentage. Absolute presenteeism scores therefore range from 0 to 100, with higher scores indicating higher self-perceived job performance.

We assessed job satisfaction with a single question: "How satisfied are you with your job in general?" Response options ranged from 1 (very dissatisfied) to 5 (very satisfied). This single-item measure of job satisfaction has been validated in past research (Scarpello and Campbell, 1983; Weiss, Dawis, and England, 1967).

Barriers to Employment

We asked any respondent whose current employment status was "disabled and not working" or "unemployed and looking for work" to indicate which of 16 potential barriers to employment "make it difficult for you to obtain employment." We drew barriers assessed in our research from another survey of wounded warriors (data not publicly releasable). Barriers fell roughly into four major categories: disability-related barriers (e.g., "no one will hire me because of my injury or disability"); concerns about qualifications, skills, or abilities needed for the civilian labor market (e.g., "I lack confidence in myself and my abilities"); disincentives to obtain employment (e.g., "would lose financial benefits"); and other (e.g., "do not know about available jobs").

Financial Strain

We assessed financial strain with two main measures. One indicator of financial strain was the categorization of veterans as above or below the federal poverty guidelines that HHS set for 2010 (Office of the Assistant Secretary for Planning and Evaluation, 2010). We derived this categorization from the respondent's best estimate of his or her household's total annual income from all sources before taxes in 2010 and the number of people in the household that the total household income supports.

The other measure of financial strain consisted of three items designed to assess respondents' self-perceived financial difficulties (Vinokur, Caplan, and Williams, 1987).

Each respondent indicated how difficult it was to live on his or her household income at the present time on a scale that ranged from 1 (not at all difficult) to 5 (extremely difficult or impossible). Respondents also answered two questions about the extent to which they expected to experience, over the next two months, financial adversity, such as not having a home or enough food or medical care and having to reduce their lifestyle to the bare necessities. We rated each of these questions on a scale that ranged from 1 (not at all) to 5 (a great deal). The internal-consistency reliability for this scale was good in the current sample (Cronbach's alpha = 0.80). We averaged responses to these three questions to obtain a composite scale score for financial strain.

Housing Instability

We developed several indicators related to past and current housing situations and stability. In the absence of well-validated measures of the constructs of interest, we solicited input from experts in homelessness (Joan Tucker and Paul Koegel) to inform the development of our indicators. In general, we phrased our location items such that they could be comparable to the conceptualization of homelessness that the Stewart B. McKinney Homeless Assistance Act (Pub. L. 100-77, 1987) embodies.

First, we assessed lifetime history of homelessness by asking each respondent whether he or she had ever spent the night in one of the following locations because he or she had nowhere else to stay: a transitional shelter or program; a homeless shelter; in a chapel or church (but not in a bed); an all-night theater or other indoor public place; an abandoned building; a car or vehicle; or the street or other outdoor place. We considered any airman who endorsed any of these options to have a lifetime history of homelessness; we excluded airmen who did not endorse any of these options from the rest of this section of the survey. We then asked each respondent about the first and last times he or she had spent the night in any of the locations endorsed in the previous question and used this information to develop indicators of whether he or she had been homeless for a night since his or her most-recent return from deployment and whether his or her first time being homeless had occurred since that most-recent return from deployment. We also assessed the duration of time that each respondent had lived at his or her current place of residence.

We also asked some more in-depth questions to gauge the stability of respondents' housing situations over the past six months. We gave respondents a list of different settings in which they might have lived during the past six months and asked them to indicate where they had lived during the past six months. Settings on the list were the following: their own home; a partner's home; the home of a family member; the home of a friend; a self-paid hotel or motel room; a partner-paid hotel or motel room; a family- or friend-paid hotel or motel room; a hotel or motel room paid for with a voucher; a

boarding, transition, or halfway house; a residential alcohol or drug detox program; a psychiatric or drug treatment inpatient facility; a hospital, a jail, or prison; a shelter or other program; a mission or shelter; a church or chapel; an all-night theater or similar; an abandoned building; a vehicle; or the street. We classified the following settings as indicative of homelessness in the past six months: a hotel or motel room paid for with a voucher; a boarding, transition, or halfway house; a mission or shelter; a church or chapel; an all-night theater or similar location; an abandoned building; a vehicle; or the street. We asked any airman who selected a setting indicative of homelessness how long he or she had spent there. We classified the following settings as potentially at risk for homelessness: the home of family or friends; a hotel room paid for by the respondent, a partner, or family or friends; residential alcohol or drug detox; a psychiatric hospital or drug treatment facility; and hospital. We considered any respondent who indicated having lived in an apartment or home of his or her own or a partner's home, apartment, or room not to have been homeless in the past six months. We also asked each respondent to select his or her current housing situation from the list and classified each as currently homeless or at risk for homelessness using the same definitions described above.

In addition to applying our objective definitions of homelessness to characterize respondents' living situations, we asked respondents to indicate whether they considered themselves to have been homeless at any time during the past six months to gauge their self-perception of their housing situation. Finally, we asked any respondent who did not currently live in his or her own or partner's home to indicate the main reason that he or she did not currently live in his or her own or partner's home. Reasons on the list included the following: saving money for my own place, hiding from creditors, cannot afford it, house foreclosed on, enjoy staying with friends or family, left housing as a result of relationship difficulties with living companions, hard to find quality housing, and do not feel it is necessary to live in an apartment or home that you or your partner own or rent.

Perceived Helpfulness of Assistance and Services

We asked respondents to indicate whether each of ten different types of assistance and services would be useful to them, regardless of whether they had ever received it. The types of assistance and services assessed included medical care, financial aid for education, job training, housing assistance or loans, transitional housing, general information (e.g., about rules or policies, or about what is available and how to access it), an advocate (i.e., someone to try to get help for the respondent), help connecting with others on a personal level, a helping hand (e.g., loans, donations, services to help out with some of your responsibilities), and activities (e.g.., for fitness, recreation, stress relief, family bonding). We drew some of these items from a list of desired types of assistance

and services that a previous study of OEF and OIF veterans used (Vaughan et al., 2011), and others we created specifically for our project.

Air Force Wounded Warrior Program Utilization and Perceptions

We asked each respondent whether he or she had had contact with an AFW2 representative. We then asked any respondent who answered this question affirmatively whether he or she initiated this contact or the AFW2 representative had and to indicate which of seven types of AFW2 services he or she had received. Types of AFW2 services assessed were referrals to other services, help or advice for filling out paperwork, advice for life matters, advice for dealing with red tape, whether AFW2 had someone contact the respondent to give him or her assistance, regular supportive calls, and some other help or service.

We then asked any respondent who reported having received at least one type of AFW2 service to indicate whether he or she agreed or disagreed with several statements designed to assess perceptions of the services that AFW2 provides. Respondents indicated their agreement or disagreement with the following statements: (1) the case managers give me good information on what resources are available to me; (2) the services available through AFW2 case managers can't really help me deal with any issues caused during my Air Force service; (3) I would like for the AFW2 case managers to contact me more often; (4) AFW2 case managers are available and ready to help me if I wanted to contact them; and (5) overall, I am satisfied with the services provided by the AFW2 program.

Air Force Recovery Care Coordinator Program Utilization and Perceptions

We asked each respondent whether he or she had received any services from the AFRCC program. We then asked any respondent who answered this question affirmatively which of several types of help or services he or she had received from an RCC: (1) assistance with goal-setting and planning for the future through the development of a CRP or RCP, (2) referrals to other services and programs for veterans or combat-injured airmen, (3) help accessing services and programs for veterans or combat-injured airmen, (4) advice for life matters, (5) regular supportive calls, (6) follow-up after the development of your CRP and RCP to help you stay on track to meet your goals, (7) help adjusting to or coping with physical or mental health conditions that you developed during or after your military service, and (8) some other help or service.

We then asked several statements designed to assess respondents' perceptions of various aspects of the AFRCC program and potential barriers to program utilization. We assessed respondents' agreement with the following statements regarding the AFRCC program: (1) the RCCs can give me good information on what resources are available to me; (2) they can help me get access to the services and programs that I need; (3) they can't really help me deal with any issues or problems caused during my Air Force service; (4) they are easy to get in touch with if I wanted to contact them; (5) others, such as family members, friends, or coworkers, would think less of me for getting help or services from the AFRCC program; (6) my career would be harmed by getting help or services; (7) the RCCs can help me to achieve my personal goals; (8) overall, I am satisfied with the services provided by the AFRCC program.

Air Force Family Liaison Officer Program Utilization and Perceptions

We asked each respondent whether his or her family or friends had had contact with a FLO or unit-appointed personnel for family assistance. We then asked any respondent who answered this question affirmatively whether he or she agreed or disagreed with several statements designed to assess perceptions of the services that AFW2 provides. Respondents indicated their agreement or disagreement with the following statements: (1) they gave my family and friends good information on what resources are available to me; (2) they helped my family and friends deal with issues caused during my Air Force service; (3) I would recommend the Air Force FLO, or other unit family assistance contact, to a friend; and (4) overall, I thought the services provided by the FLO or unit personnel to my family and friends were helpful.

Appendix D. Wave 2 Survey Instrument

In this appendix, we reproduce the content, unaltered except for formatting to be consistent with the rest of this report, of the wave 2 survey instrument.

Air Force Service History

[If this is not the respondent's first survey administration *and* the respondent indicated in a previous administration that he or she was in the category "permanent disability retirement" (option 2) in MS1b, skip out of the section on Air Force Service History.]

MSnw11. What was your military status when you were wounded or injured? [Read options]

1. Mobilized Guard or Reserve Component
2. Active Component
3. (Vol) Don't know
4. (Vol) Refused

MSnw12. Are you . . . (Read list)

1. Still in Military, or
2. Separated from Service?
3. (Vol) Don't know
4. (Vol) Refused

[If MSnw12 = 1, ask the following:]

MSnw13.Which of the following best describes your current status in the military? (Read list, single response)

1. Active Duty
2. Traditional/Part-time Guard/Reserve
3. Currently Activated/Full-time Guard/Reserve
4. (Vol) Don't know
5. (Vol) Refused

MSnw2. If you have received a disability rating from the Physical Evaluation Board (PEB), what is it?

1. Not applicable—I have not received a disability rating from the PEB
2. 10%
3. 20%
4. 30%
5. 40%

6. 50%
7. 60%
8. 70%
9. 80%
10. 90%
11. 100%

MS3. Considering all periods during which you were on active duty together, how many total *years* did you spend on active duty in the military? ____ (Iwer: Select response from drop-down menu; if respondent does not provide a whole number, round to the nearest whole number)

[Programmer: Program responses as drop-down menu with years ranging from 0 to 40 years at 1-year increments; 98 = DK (vol), 99 = REF (vol)]

Program Evaluation

Now I would like to ask you some questions about programs and benefits for wounded Airmen.

Air Force Wounded Warrior Questions

PR1. Have you been in contact with a non-medical case manager of the Air Force Wounded Warrior program? [Notes: If this is not the respondent's first time completing the survey and the respondent provided a valid response (i.e., response other than "don't know" or "refused") to this question in the previous survey, add to the end of the question "since we last spoke with you in (insert month and year of previous survey administration")?"]

1. Yes (Go to PR1a)
2. No (Go to PR5)
3. Not sure what the Air Force Wounded Warrior program is (Go to PR5)
98. (Vol) DK (Go to PR5)
99. (Vol) REF (Go to PR5)

PR1a. Did the non-medical case manager from the Air Force Wounded Warrior Program contact you first, or did you contact the Air Force Wounded Warrior Program first?

1. The case manager from the Air Force Wounded Warrior Program contacted respondent first.
2. Respondent contacted a non-medical case manager from the Air Force Wounded Warrior Program first.
98. (Vol) DK
99. (Vol) REF

PR2. What help or services have you received from the Air Force Wounded Warrior program? [If this is not the respondent's first time completing the survey and the respondent provided a valid response to this question in the previous survey, add to the end of the question "since we last spoke with you in (insert month and year of previous survey administration")?"] Please tell me yes or no for each. [Read list, record yes or no for each option.]

[Response options include:]

1. Yes
2. No
98. (Vol) DK
99. (Vol) REF

a. Referrals to other services

b. Help or advice for filling out paperwork

c. Advice for life matters

d. Advice for dealing with red tape (e.g., who to call)

e. They had someone contact you to give you assistance

f. Regular supportive calls

nwa. Support for a concern you had

g. Some other help or service

(Programming: If PR2a–g all = No/DK/REF and PR2nwa = No/DK/REF skip to PR4)

PR3. Please tell me whether you agree or disagree with each of the following statements about the Air Force Wounded Warrior program. For each statement I read, please say "agree" or "disagree." [Read list, record agree or disagree for each.]

[Response options include:]

1. Agree
2. Disagree
98. (Vol) DK
99. (Vol) REF

a. The case managers give me good information on what resources are available to me.

nwa. The case manager helped me believe that I could improve my life.

b. The services available through Air Force Wounded Warrior case managers can't really help me deal with any issues caused during my Air Force service.

c. I would like for the Air Force Wounded Warrior case managers to contact me more often.

d. Air Force Wounded Warrior case managers are available and ready to help me if I wanted to contact them.

nwb. I feel that the Air Force Wounded Warrior case managers are not able to give me the support I need.

nwc. I feel the services provided by the Air Force Wounded Warrior program help me deal with reintegration issues.

nwd. I would recommend the Air Force Wounded Warrior program to a friend.

nwe. I am likely to continue to use Air Force Wounded Warrior Program support.

e. Overall, I am satisfied with the services provided by the Air Force Wounded Warrior program.

PRnw1. About how often in the past 90 days have you been contacted by Air Force Wounded Warrior case managers?

a. Multiple times a week

b. Once a week

c. Once a month

d. Once every few months

e. Less than once every few months

PRnw1_1. Is that often enough to get the services that you need from the Air Force Wounded Warrior Program?

1. Yes

2. No

98. (Vol) DK

99. (Vol) REF

PRnw2. For the first few months of your enrollment, were you contacted by Air Force Wounded Warrior case managers:

a. Too often

b. About the right amount

c. Not often enough

PRnw3. Would you say that you currently benefit from services provided by the Air Force Wounded Warrior program?

[Response options include:]

1. Yes

2. No

98. (Vol) DK

99. (Vol) REF

[Ask PR4 only if PR2a–g all = No/DK/REF and PR2nwa = No/DK/REF, i.e., they have not received help or services.]

PR4. Which of the following kept you from receiving any help or services from the Air Force Wounded Warrior Program? [If this is not the respondent's first time completing the survey and the respondent provided a valid response to this question in the previous survey, add to the end of the question "since (insert month and year of

previous survey administration")?"] Please tell me yes or no for each. [Read list, record yes or no for each.]

[Response options include:]

1. Yes
2. No
98. (Vol) DK
99. (Vol) REF

a. Not knowing what type of services are provided

b. Thinking that the services provided would not be effective in addressing your problems

c. Difficulty contacting the case managers

d. Concerns that information you provided would not be kept confidential

e. Concerns that others, such as family members, friends, or co-workers, would think less of you for getting help or services from the Air Force Wounded Warrior program

f. Concerns that your career would be harmed by getting help or services

g. Concerns that getting help would lead to more requirements of you, such as time, money, or paperwork

Air Force Recovery Care Coordinator Program Questions

The next questions are about the Air Force Recovery Care Coordinator program.

PR5. Have you received any help or services from an Air Force Recovery Care Coordinator? [If this is not the respondent's first time completing the survey and the respondent provided a valid response to this question in the previous survey, add to the end of the question "since (insert month and year of previous survey administration")?"]

1. Yes (ask PR6)
2. No (skip to PRnw4)
3. Not sure what the Air Force Recovery Care Coordinator program is (skip to PRnw4)
4. Does not apply (skip to PRnw4)
98. (Vol) DK (skip to PRnw4)
99. (Vol) REF (skip to PRnw4)

PR6. What help or services have you received from an Air Force Recovery Care Coordinator? [If this is not the respondent's first time completing the survey and the respondent provided a valid response to this question in the previous survey, add to the end of the question "since (insert month and year of previous survey administration")?"] Please tell me yes or no for each. [Read list, record yes or no for each.]

Response options include:

1. Yes

2. No

98. (Vol) DK

99. (Vol) REF

Have you received. . .

a. Assistance with goal-setting and planning for the future through the development of a Comprehensive Recovery Plan (CRP) or Recovery Care Plan (RCP)

b. Referrals to other services and programs for veterans or combat-injured Airmen

c. Help accessing services and programs for veterans or combat-injured Airmen

d. Advice for life matters

e. Regular supportive calls

f. Follow-up after the development of your Comprehensive Recovery Plan and Recovery Care Plan to help you stay on track to meet your goals

g. Help adjusting to or coping with physical or mental health conditions that you developed during or after your military service

h. Some other help or service

PR7. Please tell me whether you agree or disagree with the following statements about the Air Force Recovery Care Coordinator program. For each I read, please say "agree" or "disagree." [Read list, record response.]

Response options include:

1. Agree

2. Disagree

98. (Vol) DK

99. (Vol) REF

a. The Recovery Care Coordinators (RCCs) can give me good information on what resources are available to me.

b. They can help me get access to the services and programs that I need.

c. They can't really help me deal with any issues or problems caused during my Air Force service.

d. They are easy to get in touch with if I wanted to contact them.

e. Others, such as family members, friends, or co-workers, would think less of me for getting help or services from the Recovery Care Coordinator program

nwa. I would recommend the Recovery Care Coordinator program to a friend.

f. My career would be harmed by getting help or services.

g. The RCCs can help me to achieve my personal goals.

h. Overall, I am satisfied with the services provided by the Recovery Care Coordinator program.

Other Programs and Benefits for Wounded Airmen and Their Family and Friends

PRnw4. In some cases, help is available from the Air Force for the family or friends of a wounded Airman. Have you or your family or friends received any help or services from an Air Force Family Liaison Officer or FLO [pronounced *flow*], or other unit person detailed to assist friends and family members?

1. No, not applicable (skip to PR8)
2. No, we didn't get one (skip to PR8)
3. No, though one would have been helpful (skip to PR8)
4. Yes, we got a FLO (ask PRnw5)
5. Yes, we got someone from the unit (ask PRnw5)
6. Not sure (skip to PR8)

PRnw5. Please tell me whether you agree or disagree with the following statements about the family assistance provided by the Air Force. For each I read, please say "agree" or "disagree." [Read list, record response.]

Response options include:

1. Agree
2. Disagree
98. (Vol) DK
99. (Vol) REF

a. They gave my family and friends good information on what resources are available to me.

b. They helped my family and friends deal with issues caused during my Air Force service.

c. I would recommend the Air Force FLO, or other unit family assistance contact, to a friend.

d. Overall, I thought the services provided by the FLO or unit personnel to my family and friends were helpful.

PR8. Veterans and combat-injured Airmen are eligible for a wide range of possible benefits and services. Which of the following benefits, if any, have you received since your most recent deployment or deployment-related activities? [If this is not the respondent's first time completing the survey and the respondent provided a valid answer to this question in his/her previous survey administration, substitute "since (insert month and year of previous survey administration)" for "since your most recent deployment."] Please tell me yes or no for each I read. [Read list, record response.]

[Response options include:]

1. Yes
2. No
98. DK

99. REF

a. Medical care at any VA facility

b. Assistance at a VA Vet Center

c. Financial aid for education

d. Disability payments

e. Military retirement pay

f. Housing assistance or loans

g. Transitional housing

h. Reduced costs of health insurance for myself or my family members

PR9. For each of the following types of assistance or services that I read, please tell me whether or not they would be helpful for you, regardless of whether you've ever used them. Please tell me yes or no for each I read. [Read list, record response.]

[Response options include:]

1. Yes

2. No

98. (Vol) DK

99. (Vol) REF

a. Medical care

b. Financial aid for my education

c. Job training

d. Housing assistance or loans

e. Transitional housing

f. General information: for example, about rules or policies, or about what's available and how to access it

g. An advocate: someone to try to get help for you

h. Help connecting with others on a personal level

i. A helping hand: loans, donations, services to help out with some of your responsibilities

j. Activities: for fitness, recreation, stress relief, family bonding

As a reminder, all of these questions are confidential.

PR10. In addition to health insurance you may have through the VA or Tricare, are you currently covered by any other health insurance? This may include health insurance you purchase directly, that you get through an employer or union, or that you get through a spouse or parent.

[Record response.]

1. Yes

2. No

98. (Vol) Don't Know

99. (Vol) Refused

Mental Health

Now I would like to ask you some questions about things that might have happened while you were in the military.

Trauma History

I'm going to be asking you about your reactions to difficult or stressful events that people sometimes experience or witness during deployment or deployment-related situations. Some examples of this are being in some type of serious accident; witnessing an accident that resulted in serious injury or death; being physically moved or knocked over by an explosion; having a friend who was seriously wounded or killed; seeing dead or seriously injured non-combatants; or being forced to have sex when you didn't want to.

TE1. While you were deployed or in a deployment-related situation, did you experience or witness any events similar to those just described during which you felt that you or someone else were going to die or be killed?

1. Yes (go to TE2)
2. No (go to PCL1)
98. (Vol) DK
99. (Vol) REF

TE2. Did you feel intense fear, helplessness, or horror during any of these events?

1. Yes
2. No
98. (Vol) DK
99. (Vol) REF

PTSD Checklist (PCL)

Now I am going to read you a list of reactions that airmen sometimes experience following deployment or in response to other stressful life experiences. Please tell me how much you have been bothered by each problem *in the past 30 days.*

PTSD1. In the past 30 days how bothered have you been by (insert a–q), not at all, a little bit, moderately, quite a bit, or extremely bothered? (Interviewer: Read entire question and verbal response options for each reaction below (e.g., "not at all" instead of "1", "a little bit" instead of "2", etc.)

(Response options are)

Not at all	A little bit	Moderately	Quite a bit	Extremely (vol.)	Dk (vol.)	Ref
1	2	3	4	5	98	99

a. Repeated, disturbing *memories, thoughts, or images* of the stressful experience

b. Repeated, disturbing *dreams* of the stressful experience

c. Suddenly *acting* or *feeling* as if the stressful experience were *happening again* (as if you were re-living it)

d. Feeling *very upset* when *something reminded you* of the stressful experience

e. Having *physical reactions* (like heart pounding, trouble breathing, sweating) when *something reminded you* of the stressful experience

f. Avoiding *thinking about* or *talking about* the stressful experience or avoiding *having feelings* related to it

g. Avoiding *activities* or *situations* because *they reminded you* of the stressful experience

h. Trouble *remembering important parts* of the stressful experience

i. *Loss of interest* in activities that you used to enjoy

j. Feeling *distant* or *cut-off* from other people

k. Feeling *emotionally numb* or being unable to have loving feelings for those close to you

l. Feeling as if your *future* somehow will be *cut short*

m. Trouble *falling* or *staying asleep*

n. Feeling *irritable* or having *angry outbursts*

o. Having *difficulty concentrating*

p. Being *"super alert"* or watchful or on-guard

q. Feeling *jumpy* or easily startled

PTSD2. [If all PCL1 = 1, then skip to D1.] Were these symptoms due to stressful experiences that occurred during a military deployment or other operation or training?

1. Yes
2. No
98. (VOL) DK
99. (VOL) Refused

Depressive Symptoms (Patient Health Questionnaire–8)

Now I'd like to ask you some questions about your mood, and problems that may have bothered you over the *last 2 weeks*. Please answer just for the last 2 weeks, even if that period has not been usual for you.

D1. In the *last 2 weeks* how often have you been bothered by having little interest or pleasure in doing things:

1. Not at all,
2. Several days,
3. More than half the days, or
4. Nearly every day
98. (Vol) DK

99. (Vol) REF

D2. In the *last 2 weeks* how often have you been bothered by feeling down, depressed, or hopeless?

1. Not at all,
2. Several days,
3. More than half the days, or
4. Nearly every day
98. (Vol) DK
99. (Vol) REF

D3. In the *last 2 weeks* how often have you been bothered by trouble falling asleep or staying asleep, or sleeping too much?

1. Not at all,
2. Several days,
3. More than half the days, or
4. Nearly every day
98. (Vol) DK
99. (Vol) REF

D4. In the *last 2 weeks* how often have you been bothered by feeling tired or having little energy?

1. Not at all,
2. Several days,
3. More than half the days, or
4. Nearly every day
98. (Vol) DK
99. (Vol) REF

D5. In the *last 2 weeks* how often have you been bothered by poor appetite or overeating?

1. Not at all,
2. Several days,
3. More than half the days, or
4. Nearly every day
98. (Vol) DK
99. (Vol) REF

D6. In the *last 2 weeks* how often have you been bothered by feeling bad about yourself—or that you are a failure or have let yourself or your family down?

1. Not at all,
2. Several days,
3. More than half the days, or
4. Nearly every day

98. (Vol) DK

99. (Vol) REF

D7. In the *last 2 weeks* how often have you been bothered by trouble concentrating on things, such as reading the newspaper or watching television?

1. Not at all,
2. Several days,
3. More than half the days, or
4. Nearly every day

98. (Vol) DK

99. (Vol) REF

D8. In the *last 2 weeks* how often have you been bothered by moving or speaking so slowly that other people could have noticed? Or the opposite—being so fidgety or restless that you were moving around a lot more than usual?

1. Not at all,
2. Several days,
3. More than half the days, or
4. Nearly every day

98. (Vol) DK

99. (Vol) REF

Alcohol Use

As a reminder, all of these questions are confidential.

AU1. How often did you have a drink containing alcohol in the past 12 months? Consider a "drink" to be a can or bottle of beer, a glass of wine, a wine cooler, or one cocktail or a shot of hard liquor (like scotch, gin, or vodka).

Would you say . . .

1. Never [Skip to DU3]
2. Monthly or less
3. 2 to 4 times a month
4. 2 to 3 times a week
5. 4 to 5 times a week
6. 6 or more times a week

98. (Vol) DK

99. (Vol) REF

AU2. How many drinks did you have on a typical day when you were drinking in the past 12 months?

Would you say . . .

1. 0 drinks
2. 1 to 2 drinks

3. 3 to 4 drinks
4. 5 to 6 drinks
5. 7 to 9 drinks
6. 10 or more drinks
98. (Vol) DK
99. (Vol) REF

AU3. How often did you have 6 or more drinks on one occasion in the past 12 months?

Would you say . . .

1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily
98. (Vol) DK
99. (Vol) REF

Drug Use

Again, please remember that all of these questions are confidential.

DU3. In the past 12 months have you used any prescription medication that was not prescribed for you by a doctor, or used these medications in a way different than prescribed?

1. Yes
2. No
98. (Vol) DK
99. (Vol) REF

Mental Health Treatment History

MH1. In the last 12 months, have you received any of the following types of treatment for stress, emotional, alcohol, drug, or family problems? For each type of treatment I read, please tell me yes or no. [Interviewer: Read list, record responses. [If this is not the respondent's first time completing the survey, replace "In the last 12 months" with "Since (insert month and year of previous survey administration)".]

[Response options include:]

1. Yes
2. No
98. (Vol) DK
99. (Vol) REF

a. Medication prescribed by a health care provider.

b. Some type of counseling or talk therapy provided by a mental health specialist such as a psychiatrist, psychologist, counselor, or social worker;

c. Some other treatment

(After each yes at MH1, ask MH2)

MH2. Where did you (receive medication/participate in therapy/receive other treatment)?

Did you [receive medication from/participate in therapy at/receive other treatment at] a . . . [read list, select all that apply]

1. Military health facility
2. VA facility
3. Civilian facility
98. (Vol) Don't know
99. (Vol) Refused

[If MH2 included more than one of 1, 2, and/or 3:]

MH2nw1 Why did you [receive medication from/participate in therapy at/receive other treatment at] more than one type of facility? [Read list, select all that apply]

a. Moved from one location to another
b. Transitioned from one status to another (for example, left Active Duty)
c. Changed civilian health insurance
d. Difficulty arranging transportation to treatment
e. Difficulty scheduling appointments at convenient times
f. Difficulty paying for mental health treatment
g. Believing that the mental health treatments available to you were not very good
h. Seeking a different type of mental health provider
i. Concerns about your treatment not being kept confidential
j. Other reason not mentioned

Unmet Need/Desire for Mental Health Treatment

MH3. In the last 12 months, was there ever a time when you wanted to get professional help for stress, emotional, alcohol, drug, or family problems but did not? [If this is not the respondent's first time completing the survey, replace "In the last 12 months" with "Since (insert month and year of previous survey administration)".]

1. Yes
2. No
98. (Vol) Don't know
99. (Vol) Refused

Barriers to Mental Health Treatment

MH4. (Use different introductory question for each of the following 2 categories):

1) (Ask this of people who indicated in question MH3 above that they did not want treatment (if MH3 = 2, 98, 99)): Even when people need to get help for their emotional or personal problems they may find it difficult to get help. If in the future you wanted help for stress, emotional, alcohol, drug, or family problems, which of the following concerns would get in the way of seeking or receiving treatment for any of these problems? Please tell me yes or no for each I read. [Read list, record responses.]

2) (Ask this of people who indicated in question MH3 above that they wanted help but did not receive it (if MH3 = 1)): Thinking back to the time or times when you wanted to get professional help for stress, emotional, alcohol, drug, or family problems but did not, which of the following concerns kept you from getting professional help? Please tell me yes or no for each I read. [If this is not the respondent's first time completing the survey, insert the time qualifier "since (insert month and year of previous survey administration)" after "family problems . . .".] [Read list, record responses.]

[Response options are:]

1. Yes
2. No
98. (Vol) Don't know
99. (Vol) Refused

[If MH3 = 2: Would you not seek help because of . . .]

[If MH3 = 1: Did you not get help because of . . .]

a. Not knowing where to get help or whom to see
b. Difficulty arranging transportation to treatment
c. Difficulty getting childcare or time off of work
d. Difficulty scheduling an appointment
e. Difficulty paying for mental health treatment
f. Believing that the mental health treatments available to you are not very good
g. Medications having too many side-effects
h. Concerns about your treatment not being kept confidential
i. Concerns that your friends, family, or coworkers would respect you less
j. Concerns about losing contact with or custody of your children
k. Concerns about harm being done to your career
nwa. Concerns about being denied a security clearance in the future
nwb. Concerns that your commander or supervisor might respect you less
nwc. Believing you can handle the problem on your own
l. Other reason not mentioned

[Programmer: Ask this of people who indicated in question MH3 above that they wanted help but did not receive it (if MH3 = 1) and received the "barriers experienced" stem]

MHnw1. Of the ones you listed, now think about which were your top 3 concerns. You said [programmer: list only items that were endorsed in MH4], which was your top concern? [Pause, prompt with list as needed], How about your second and third? [Prompt with list as needed]

a. Not knowing where to get help or whom to see
b. Difficulty arranging transportation to treatment
c. Difficulty getting childcare or time off of work
d. Difficulty scheduling an appointment
e. Difficulty paying for mental health treatment
f. Believing that the mental health treatments available to you are not very good
g. Medications having too many side-effects
h. Concerns about your treatment not being kept confidential
i. Concerns that your friends, family, or coworkers would respect you less
j. Concerns about losing contact or custody of your children
k. Concerns about harm being done to your career
l. Concern about being denied a security clearance in the future
m. Concern that your commander or supervisor might respect you less
n. Believing you can handle the problem on your own
o. Other reason not mentioned

(After each of top three at MHnw1, ask MHnw2)

MHnw2 (phone) Where did [fill concern] make it difficult for you to obtain treatment? Was it a . . . read list, select all that apply]

1. Military health facility
2. VA facility
3. Civilian facility
98. (Vol) Don't know
99. (Vol) Refused

Mental Health Treatment Preferences

MH5. If you wanted to get mental health care and could go to any type of provider free of charge, would you choose to go to a: [Read list, record only one response.]

1. Military health facility
2. VA facility
3. Civilian provider
4. none of these [Skip to MH6]
98. (Vol) don't know [Skip to MH6]
99. (Vol) refused [Skip to MH6]

MH5nw1 Can you tell me about why you'd like to see that type of provider? Please tell me yes or no for each I read: [Read list, select all that apply]

[Response options are:]

1. Yes

2. No

98. (Vol) Don't know

99. (Vol) Refused

a. They are easy to get to

b. There isn't a lot of "red tape" to get an appointment

c. They have flexible hours

d. They schedule appointments quickly

e. They have effective treatments available

f. They will not give you medications that have too many side-effects

g. They will keep your treatment confidential

h. Your friends, family, or coworkers would support you going to this provider

i. Your friends, family, or coworkers would not find out if you went to this provider

j. You would worry less about harm to your career if you went to this provider

k. You would worry less about being denied a security clearance at some point in the future.

l. Your commander or supervisor would support you going to this provider

m. Your commander or supervisor would not find out if you went to this provider

n. Spouse is covered by this provider

o. You've seen this provider before

p. Other reason not mentioned

MH6. If you wanted to get mental health care and could afford any of the following types of treatment, which one of the following treatments would you choose? [Read list, record only one response]?

1. Medication prescribed by a health care provider

2. Some type of counseling or talk therapy provided by a mental health specialist such as a psychiatrist, psychologist, counselor, or social worker

3. Neither

98. (Vol) DK

99. (Vol) REF

Family Relationships and Social Support

Marriage/Significant Other

The next questions are about your family relationships and household structure.

MF1. Are you . . . [Read list, record only one response.]

1. Married and living together

2. Married and living separately by choice

3. Married and living separately due to separate military assignments

4. Living together as married (but not married)

5. Dating exclusively

6. No current exclusive relationship [skip to MF3]

98. (Vol) DK (skip to MF3)

99. (Vol) REF (skip to MF3)

[If this is not the respondent's first survey administration and the respondent's relationship status in the previous administration was one of the response options 1–5 for MF1 (i.e., involved in some sort of significant romantic relationship), clarify whether the person with whom they're involved is the same person or not: "Is the person with/to whom you are (insert relationship status, e.g., married and living together) now the same person with/to whom you were (insert relationship status at previous survey administration, e.g., married and living together) in (insert month and year of previous survey administration?" Response options are yes = 1, no = 2, DK = 98, REF = 99. If it is the same person, skip MF2 and go to MF3.]

MF2. How long have you been with this person? (Iwer: If the respondent's answer is less than 1 year, click that option, and then a screen will appear for you to select the number of months he/she reports. If the respondent's answer is not a whole number of years (e.g., 6 years and 3 months), round his/her response to the nearest year and select that option)

[Programmer: Show the following list of options in a drop-down menu:]

1. Less than one year (if respondent selects this option, take him/her to a new option to determine how many months [Question: "How many months have you been with this person?"]; show drop-down menu featuring options ranging from less than a month up to 11 months at 1-month increments)

2. 1 year

3. 2 years

4. 3 years

. . . continue to show 1-year increments up to 40 years; also use 98 DK (vol) and 99 REF (vol)

MF3a. How many children do you have by birth or adoption who depend on you for more than half of their financial support? (Programmer: Please program responses ranging from 0–20+ in a drop-down menu, 98 DK, 99 REF)

MF3nwa. Please tell me how many children live with you: (Programmer: Please program responses ranging from 0–20+ in a drop-down menu, 98 DK, 99 REF)

MF4. Who is living with you for more than half the time? Please tell me yes or no for each I read. [Iwer: Read list, record responses.] [Programmer: If respondent has already said in MF1 that he/she is living with his/her spouse (MF1 = 1) or partner (MF1 = 4) or

that he/she has dependents living with him/her in MF3, please program this question to include the word "else" in between "who" and "is", i.e., "Who else is living with you?" if we already know from a previous question that someone lives with the respondent.]

[Response options:]

1. Yes
2. No
98. (Vol) DK
99. (Vol) REF

1. Spouse or domestic partner [If MF1 = 1, 2, 3, 4, 5, or 6, skip this response option.]
2. Child(ren) (include biological/adopted/step child(ren)) [If respondent reported that at least one dependent lives with him/her in MF3, skip this response option.]
3. Parent(s)/parent(s)-in-law
4. Brother(s)/brother(s)-in-law and/or sister(s)/sister(s)-in-law
5. Other relatives
6. Others not related to me

MF5_1 Who most often helps you deal with problems that come up? Please stop me when I read the option that best describes this person's relationship to you. [Interviewer: If respondent answers more than one person, ask them to pick who helps them the *most*]

1. Spouse or domestic partner [If MF1 equals 5 (dating exclusively) or 6 (no current exclusive relationship), skip this option.]
2. Boyfriend or girlfriend [If MF1 equals 1–3 skip this option.]
3. Child(ren)
4. Parent(s)/parent(s)-in-law
5. Brother(s)/brother(s)-in-law and/or sister(s)/sister(s)-in-law
6. Other relative
7. A friend
8. Not applicable (don't share problems with anyone)
98. (Vol) DK
99. (Vol) REF

[MF5_2 If this is not the respondent's first survey administration, and baseline MF5 = follow up MF5, ask: Is this (insert name of primary supporter nominated in most recent survey administration), the same person that you mentioned the last time we spoke with you? (Response options: 1 = yes, 2 = no, 98 = DK, 99 = REF.)

MF6. Taking things altogether, how satisfied are you with (insert "your marriage" if the person is married *or* "the relationship you have with the person who most often helps you deal with problems" if person is not married)? Would you say you are very satisfied, somewhat satisfied, neutral, somewhat dissatisfied, or very dissatisfied? [Please program this question so that respondents who are not married (i.e., MF1 is not equal to 1, 2, or 3) and who select not applicable or refuse to answer MF5.1, i.e., no primary supporter, are

skipped out of it. If this is not the respondent's first survey administration and the respondent indicated a different primary supporter in MF5 than the primary supporter they indicated in the previous survey administration, ask about "the relationship you have with the person who currently most often helps you deal with problems."]

[Response options include:]

Very satisfied . . . 1

Somewhat satisfied . . . 2

Neutral . . . 3

Somewhat dissatisfied . . . 4

Very dissatisfied . . . 5

Don't know . . . 98

Refuse . . . 99

Work and Career

The next questions ask about your work and career.

WC1. What is your current work status? Are you . . .

1. Working full-time (go to WC1nw1)
2. Working part-time (go to WC1nw1)
3. Unemployed and looking for work (go to WC1nw1)
4. Unemployed and not looking for work (go to WC1nw1)
5. Disabled and not working (go to WC1nw1)
6. Full-time student (go to ID1)
7. Part-time student (go to ID1)
8. Homemaker (go to WC1nw1),
9. Retired (go to WC1nw1)
98. (Vol) DK (go to ID1)
99. (Vol) REF (go to ID1)

WC1nw1. Are you currently pursuing any college or graduate educational opportunities?

[Programmer: Ask of anyone who does not answer 6 or 7 to WC1.]

1. Yes, full time
2. Yes, part time
3. No
4. Don't know
5. Refused

Programmer:

If working full (WC1 = 1) or part time (WC1 = 2), go to WC2;

if unemployed and looking for work (WC1 = 3), unemployed and not looking for work (WC1 = 4), disabled and not working (WC1 = 5), or retired (WC1 = 9), go to WC15;

if full-time student (WC1 = 6), part-time student (WC1 = 7), homemaker (WC1 = 8), DK, or REF, go to ID1.

Presenteeism/Absenteeism

WC2. About how many hours altogether did you work in the past 7 days? (If more than 97, enter 97.)

Number of hours (00–97+, 98 = DK, 99 = REF)

WC3. How many hours does your employer expect you to work in a typical 7-day week? (If it varies, estimate the average. If more than 97, enter 97.)

Number of hours (00–97+, 98 = DK, 99 = REF)

WC4. Now please think of your work experiences over the past 4 weeks (28 days). I would like to know the number of days you spent in each of the following work situations.

In the past 4 weeks (28 days), how many days did you . . . (Read stem for 4a–4e)

	Number of days (00–28)
WC4a. . . . miss an *entire* work day because of problems with your physical or mental health? Please include only days missed for your own health, not someone else's health.	
WC4b. . . . miss an *entire* work day for any other reason including vacation?	
WC4c. . . . miss *part* of a work day because of problems with your physical or mental health? Please include only days missed for your own health, not someone else's health.	
WC4d. . . . miss *part* of a work day for any other reason including vacation?	
WC4e. . . . come in early, go home late, or work on your day off?	

WC5. On a scale from 0 to 10 where 0 is the worst job performance anyone could have at your job and 10 is the performance of a top worker, how would you rate the usual performance of *most* workers in a job similar to yours?

Worst performance						Top performance				
0	1	2	3	4	5	6	7	8	9	10

WC6. Using the same 0-to-10 scale, how would you rate your usual job performance over the past year or two?

Worst performance						Top performance				
0	1	2	3	4	5	6	7	8	9	10

WC7. Using the same 0-to-10 scale, how would you rate your overall job performance on the days you worked during the past 4 weeks (28 days)?

Worst performance						Top performance				
0	1	2	3	4	5	6	7	8	9	10

Job Satisfaction

If response to WC1 = 1 or 2 (employed full-time or part-time), ask:

WC14. How satisfied are you with your job in general?

Are you:

1 = very dissatisfied

2 = dissatisfied

3 = can't decide if I am satisfied or not

4 = satisfied

5 = very satisfied

98 = (Vol) DK

99 = (Vol) REF

Barriers to Employment

If respondent answered WC1 = 3 "Unemployed and looking for work", WC = 4 "Unemployed and not looking for work", WC1 = 5 "Disabled and not working", or WC1 = 9 "retired," ask:

WC15. Which of the following make it difficult for you to obtain employment? Please tell me yes or no for each.

Response options include:

1. Yes
2. No
98. (Vol) DK
99. (Vol) REF

a. Not qualified/lack education

b. Not qualified/lack work history

c. Available jobs don't pay enough

d. Do not know about available jobs

e. Family prefers I stay at home

f. Would lose financial benefits (e.g. disability benefits)

g. Would lose medical benefits

nwa. Do not need a job because I receive benefit payments

h. Pursuing an education

i. Do not have good transportation

j. Not physically capable

k. Cannot pass background checks due to criminal history

l. No one will hire me because of my injury or disability

m. I do not have the tools or knowledge to translate my military skills to the civilian workforce

n. I feel uncomfortable or get anxious when thinking about working in the civilian workplace

o. I lack confidence in myself and my abilities

p. Due to my long and/or multiple deployments, I feel behind compared to my peer civilian counterparts

If respondent answered WC1 = 1 or 2 (employed full-time or part-time), ask:

WCnw1. Which of the following concerns you about keeping your job or getting another? Please tell me yes or no for each.

Response options include:

1. Yes
2. No
98. (Vol) DK
99. (Vol) REF

a. Not qualified/lack education

b. Not qualified/lack work history

c. Available jobs don't pay enough

d. Do not know about available jobs

e. Would lose service-connected financial benefits (e.g. disability benefits)

f. Would lose service-connected medical benefits

g. Do not have good transportation

h. Not physically capable

i. Cannot pass background checks due to criminal history

j. People will be reluctant to hire me because of my injury or disability

k. I do not have the tools or knowledge to translate my military skills to the civilian workforce

l. I feel uncomfortable or get anxious when thinking about working in the civilian workplace

m. I lack confidence in myself and my abilities

n. Due to my long and/or multiple deployments, I feel behind compared to my peer civilian counterparts

Economic Situation

Income and Disability Compensation

The next set of questions asks about your financial situation. As a reminder, all of these questions are confidential.

ID1. What was your household's total annual income from all sources before taxes in 2012? Include money from jobs, social security, retirement income, disability payments, unemployment payments, public assistance, investments and so forth. [For survey

administrations that take place one year or more after January 1, 2014, update year as needed to reflect the most recent year for which annual income is known.]

Please stop me when I read your income category:

1. Less than $10,000
2. 10,000 to less than $20,000
3. 20,000 to less than $30,000
4. 30,000 to less than $40,000
5. 40,000 to less than $50,000
6. 50,000 to less than $75,000
7. 75,000 to less than $100,000
8. $100,000 or more
98. (vol.) dk
99. (vol.) refused_____

ID2. Including yourself, how many people in your household are supported by your total household income? _____(1–15+, 98 DK, 99 REF)

Financial Strain

Now I would like to ask you some questions about your finances. Please answer the following question on a scale of 1 (not at all difficult) to 5 (extremely difficult or impossible) (DK = 98, REF = 99).

FS1. How difficult is it for you to live on your total household income right now?

Please answer the next two questions on a scale of 1 (not at all) to 5 (a great deal) (DK = 98, REF = 99):

FS2. In the next two months, how much do you think that you or other members of your household will experience problems such as not having a home, or not enough food or medical care?

FS3. In the next two months, how much do you think you will have to reduce your lifestyle to the bare necessities? 1 (not at all) to 5 (a great deal) (DK = 98, REF = 99):

Housing

And now, about your housing . . .

H1. During your lifetime, have you *ever* spent the night in any of the following places *because you had no regular place to stay*, like your own house, apartment, or room (including military housing), or in the home of a family member or friend? [If this is not the respondent's first survey administration, delete the word "ever" and begin the sentence with "Since (insert month and year of most recent survey administration) . . ."]

For each place I read, please tell me yes or no.

Response options:

1. Yes

2. No (skip the rest of the Housing section)

98. (Vol) DK (skip the rest of the Housing section)

99. (Vol) REF (skip the rest of the Housing section)

a) a transitional shelter or program

b) a mission or homeless shelter

c) a church or chapel, but not in a bed

d) an all-night theater or other indoor public place

e) an abandoned building

f) a car or other vehicle

g) the street or in some other outdoor place

[If respondent answers no (2) to all of the above (a–g), skip the rest of the Housing section. If respondent answers yes (1) to any of the above (a–g) and this is the respondent's first survey administration, ask H2 and H3; otherwise, skip to H4.]

H2. When was the *first time* you ever spent the night in any of those places because you had no regular place to stay? That is, when did your first stay begin? Please provide the month and year of the first time you stayed in any of those places. [Allow years to go back to 1940.]

H3. When was the *last* time you had to spend the night in any one of those places? That is, when did that last stay end? Please provide the month and year of the last time you stayed in any of those places. [Allow years to go back to 1940.]

or

Currently living there

[If respondent gives a response to this question that is inconsistent with the response to H2, i.e., he/she says the last time took place before the first time, have prompt appear for IWER to query respondent for an internally consistent response: "Are you sure that the last time you lived in one of those places was April 2010? You said in response to an earlier question that the first time you lived in one of those places was June 2010." Add the following note for the IWER: "Iwer: If respondent acknowledges that responses to first and last time questions were incorrect and wants to correct responses, press the 'back' button below to return to the screens with those questions and correct the respondent's previous answers.]

Current Living Situation

H5. How long have you lived at your current place of residence?

(Allow respondent to indicate number of days/nights or weeks or months or years at current residence; 998 = DK, 999 = REF.)

[Record number]

1. Days/Nights

2. Weeks

3. Months

4. Years

H6. I will read you a list of places where you might have lived during the past six months, that is, since [fill date]. For each place I read, please tell me whether you lived there since [fill date]. Include any of the places you reported earlier and where you're living now. Please stop me after I've read all of the places you've lived during the past six months. [Please program a skip pattern such that respondents who said "no" in H1 to ever having lived in the corresponding place for options o–u of H6 are not asked if they've lived in one of these places in the past 6 months. For example, if a respondent says in H1 that he/she has never spent the night in a transitional shelter or program, he/she would be skipped out of option "o" (transitional shelter or program) in H6 (but would still be read all of the other housing options to which he/she has not already said no). Please do not display the section headings, e.g., "Housing." Go through the list of places below and indicate yes or no. If this is not the respondent's first survey administration, replace "in the last 6 months" with the number of months in between this survey administration and the previous administration.]

1. Yes

2. No

98. (Vol) DK

99. (Vol) REF

Since [fill date], have you lived in a/an . . .

Housing

a) Apartment or home of your own (including rented)

b) A partner's home, apartment or room

c) Family's home, apartment or room

d) Friend's home, apartment or room

Hotel/Motel

e) Hotel or motel that you paid for

f) Hotel or motel partner paid for

g) Hotel or motel family or friends paid for

h) Hotel or motel paid for with voucher

Specialized Housing

j) Boarding house, halfway house, board and care facility group home, or sober living shelter

Treatment or Correctional Facility or Hospital

k) Residential alcohol or drug treatment program or detox

l) Psychiatric hospital or drug treatment inpatient facility

m) Hospital (for medical/physical health reasons)

n) Jail or prison

o) Transitional shelter or program

Homeless Setting

p) Mission or homeless shelter

q) Church or chapel (but not in a bed)

r) All night theater, other indoor public place

s) Abandoned building

t) Car, or other vehicle

u) Street, or other outdoor place (including homeless encampment)

H6a. Where are you currently living? (Interviewer: If NEC read list of places that respondent said he or she has lived during the specified interval to get this information.)

[Programmer: If respondent selects one of the places under the "Hotel/Motel" or "Homeless Setting" categories or c or d or o in response to H6, ask H7; if respondent selected multiple options under either of these categories, ask H7 for each option selected. If the respondent did not select any of the aforementioned options, skip to H8]

H7. Did you stay in a [fill option selected] because you had no regular place to stay, like your own or your partner's house, apartment, or room?

1. Yes
2. No
98. (Vol) DK
99. (Vol) REF

H8. Do you consider yourself to have been homeless at any time during the past six months? [If this is not the respondent's first survey administration, replace the number "6" with the number of months in between this survey administration and the previous administration.]

1. Yes
2. No
98. (Vol) DK
99. (Vol) REF

Physical Health

Physical Functioning (SF-36)

Now I would like to ask you some questions about your physical health.

Physical Health

PH1. In general, would you say your health is: (Read list of response options, record only one.)

(Response options:)

Excellent 1

Very good 2

Good 3

Fair 4

Poor 5

(Vol) DK. . .98

(Vol) REF. . .99

PH2. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health? Please tell me yes or no for each problem I read.

1. Yes

2. No

98. (Vol) DK

99. (Vol) Refused

1. Have you cut down the amount of time you spent on work or other activities?

2. Have you accomplished less than you would like?

3. Were you limited in the kind of work or other activities that you could perform?

4. Have you had difficulty performing the work or other activities (for example, it took extra effort)?

Conclusion Script

Termination script: Thank you very much for participating in this study. Before we say good-bye, I'd like to remind you that the Air Force offers programs to help Seriously and Very Seriously Wounded, Ill, and Injured Airmen. These programs include Recovery Care Coordination and the Air Force Wounded Warrior Program. If you'd like to call them, you can get in touch with a representative from the program by calling 1-800-581-9437. Thanks again for participating, and have a great day/evening! (Interviewer: Repeat phone number as needed. If respondent asks about hours, it is manned during business hours but after business hours the voice mail provides a phone number for an after-hours emergency contact.)

Appendix E. Preliminary Analyses

Preliminary analyses included examination of nonresponse at the level of the sample and individual survey items and assessment of the effects that survey completion mode (web versus phone) had on item responses. This appendix provides additional technical detail on the preliminary analyses that we conducted and the results of these analyses.

Unit Nonresponse

First, we examined survey nonresponse in both the overall wave 2 sample and the longitudinal subset to determine the extent to which our samples of survey completers were biased with respect to the target populations they were intended to represent. Given the availability of administrative data on the population of identified AF wounded warriors, we could compare each sample of survey completers and the relevant sampling frame on a wide array of sociodemographic and service history characteristics. To assess nonresponse bias for the overall wave 2 cohort, we compared the sample of wave 2 survey completers (N = 527) and the wave 2 sampling frame (N = 1,219). Population values (proportions and means) were within the limits of the 95-percent CIs around the point estimates for survey completers on all variables except for age. Respondents who were 30 years old or older (74 percent; 95-percent CI = 71–78) were slightly overrepresented in the sample of survey completers relative to the sampling frame (67 percent). This difference, although statistically significant given our large sample, was not substantively meaningful. Overall, the survey completers closely resembled the larger population of medically retired and active-duty airmen served by the AFW2 program on these administrative variables (see Tables E.1 and E.2). Thus, there is little evidence of nonresponse bias. Accordingly, we deemed adjustment for nonresponse bias unnecessary for the overall wave 2 sample.

Table E.1. Comparison of Medically Retired and Active-Duty Airmen Served by the Air Force Wounded Warrior Program at Wave 2 and Overall Wave 2 Survey Completers: Component, Specialty, Service, and Personal Data

	Population (*N* = 1,219)		Survey Completers (*N* = 527)			
					95% CI	
Characteristic	***N***	**Percentage**	***N***	**Percentage**	**LL**	**UL**
Component						
Active	903	74	382	73	69	76
Air Force Reserve	133	11	57	11	8	14
Traditional reservist[a]	102	77	45	79	68	90
Air National Guard	179	15	86	16	13	20
Drill (versus other)[b]	145	81	72	84	78	93
AFSC						
1	247	20	98	19	15	22
2	258	21	118	22	19	26
3	531	44	214	41	36	45
4	120	10	65	12	10	15
Other (5–9)	59	5	30	6	4	8
Enlisted	1,090	89	457	87	84	90
Number of deployments						
0	78	6	39	7	5	10
1	306	25	121	23	19	27
2	261	21	110	21	17	24
3	206	17	92	18	14	21
4 or more	367	30	165	31	27	35
Operation supported by most recent deployment						
OEF	393	32	175	33	29	37
OIF	414	34	171	33	28	37
Other[c]	313	26	145	28	24	31
Retired	1,022	84	432	82	79	85
Male	1,047	86	454	86	83	89
Race or ethnicity						
White	922	76	409	78	74	81
Hispanic	121	10	46	9	6	11
Black	97	8	38	7	5	9
Other	41	3	16	3	2	5
College degree or higher	208	17	106	20	17	24

[a] The denominator for the percentage listed is the number of AF reservists.
[b] The denominator for the percentage listed is the number of airmen in the Air National Guard.
[c] Includes airmen who never deployed.

Table E.2. Comparison of Medically Retired and Active-Duty Airmen Served by the Air Force Wounded Warrior Program at Wave 2 and Overall Wave 2 Survey Completers: Deployment, Active Duty, and Separation Data

	Population (*N* = 1,219)		Survey Completers (*N* = 527)			
					95% CI	
Characteristic	***M***	**SD**	***M***	**SD**	**LL**	**UL**
Length of most recent deployment, in months[a]	3.46	2.67	3.35	2.54	3.12	3.57
Years since return from most recent deployment[a]	7.50	2.83	7.64	2.87	7.38	7.89
Total active years in the military (active duty only)[b]	12.61	5.66	13.2	6.22	11.79	14.56
Years since most recent AF separation[c]	3.81	2.37	3.78	2.41	3.55	4.00
Age, in years	35.15	8.36	36.99	8.61	36.26	37.73

[a] We computed descriptive statistics on these variables only for the subset of respondents who had deployed at least once (population: *N* = 1,140; survey completers: *N* = 488).
[b] We computed descriptive statistics for this variable only for the subset of respondents who were in the active component (population: *N* = 163; survey completers: *N* = 80) because there were not sufficiently complete administrative data available for respondents in the reserve and guard to compute it for them.
[c] We computed descriptive statistics for this variable only for the subset of retired respondents (population: *N* = 1,022; survey completers: *N* = 432).

We assessed nonresponse bias among the longitudinal subset (*N* = 205) by comparing it with the wave 1 sampling frame (*N* = 872) on sociodemographic and service history characteristics in the wave 1 administrative data. This comparison revealed significant differences in AFSC, officer (versus enlisted), highest level of education (college degree or higher), and age. The longitudinal subset slightly underrepresented airmen with AFSCs indicative of a support occupation during one's active service in AF and slightly overrepresented those with AFSCs indicative of a medical occupation during one's active service in AF relative to the wave 1 sampling frame. The longitudinal subset also underrepresented airmen of enlisted rank at the time of their most-recent separation from AF (81 percent) and overrepresented airmen who had at least a college degree (25 percent) and who were 30 years old or older (78 percent) relative to the wave 1 sampling frame.[36] Given these differences, we created poststratification sampling weights

[36] Comparisons between the longitudinal subset and the wave 1 sampling frame on the characteristics on which we found significant differences are as follows: support AFSC (longitudinal subset: 33 percent; 95-percent CI = 27–40; wave 1 sampling frame: 40 percent); medical AFSC (longitudinal subset: 18 percent; 95-percent CI = 13–23; wave 1 sampling frame: 11 percent); enlisted (longitudinal subset: 81 percent; 95-percent CI = 76–86; wave 1 sampling frame: 89 percent); college degree or higher (longitudinal subset: 25 percent; 95-percent CI = 19–31; wave 1 sampling frame: 17 percent); age 30 or older (longitudinal subset: 78 percent; 95-percent CI = 72–84; wave 1 sampling frame: 65 percent).

for the longitudinal subset to increase its resemblance of the wave 1 sampling frame on sociodemographic and service history characteristics. See Tables E.3 and E.4 for detailed information on the comparison.

Table E.3. Comparison of Medically Retired and Active-Duty Airmen Served by the Air Force Wounded Warrior Program at Wave 1 and Longitudinal Sample: Component, Specialty, Service, and Personal Data

	Population (*N* = 872)		Survey Completers (*N* = 205)			
					95% CI	
Characteristic	***N***	**Percentage**	***N***	**Percentage**	**LL**	**UL**
Component						
Active	618	71	138	67	61	74
Air Force Reserve	120	14	32	16	11	21
Traditional reservist[a]	88	73	23	72	55	88
Air National Guard	132	15	34	17	12	22
Drill (versus other)[b]	109	83	30	88	77	100
AFSC						
1	162	19	38	19	13	14
2	218	25	50	24	19	30
3	352	40	68	33	27	40
4	93	11	37	18	13	23
Other (5–9)	45	5	11	5	2	9
Enlisted	773	89	166	81	76	86
Number of deployments						
0	88	10	23	11	7	16
1	335	38	77	38	31	44
2	232	27	48	23	18	29
3	121	14	33	16	11	21
4 or more	96	11	24	12	7	16
Operation supported by most recent deployment						
OEF	274	31	59	29	23	35
OIF	492	56	117	57	50	64
Other[c]	102	12	28	14	9	18
Retired	567	65	140	68	62	75
Male	744	85	177	86	82	91
Race or ethnicity						
White	669	77	166	81	76	86
Hispanic	83	10	19	9	5	3
Black	70	8	13	6	3	10

	Population (*N* = 872)		Survey Completers (*N* = 205)			
					95% CI	
Characteristic	***N***	**Percentage**	***N***	**Percentage**	**LL**	**UL**
Other	29	3	2	1	0	2
College degree or higher	144	17	51	25	19	31

NOTE: All point estimates for the sample of survey completers are based on wave 1 data and are unweighted.
[a] The denominator for the percentage listed is the number of AF reservists.
[b] The denominator for the percentage listed is the number of airmen in the Air National Guard.
[c] Includes airmen who never deployed.

Table E.4. Comparison of Medically Retired and Active-Duty Airmen Served by the Air Force Wounded Warrior Program at Wave 1 and Longitudinal Sample: Deployment, Active Duty, and Separation Data

	Population (*N* = 872)		Survey Completers (*N* = 205)			
					95% CI	
Characteristic	***M***	**SD**	***M***	**SD**	**LL**	**UL**
Length of most recent deployment (months)	4.48	2.78	5.31	2.31	4.97	5.65
Years since return from most recent deployment	4.18	2.07	4.26	1.97	3.98	4.55
Total active years in the military (active duty only)	11.03	6.32	13.98	6.73	11.93	16.02
Years since most recent AF separation	1.84	2.19	2.94	2.71	2.49	3.40
Age, in years	34.87	8.77	38.45	8.90	37.22	39.67

NOTE: All point estimates for the sample of survey completers are based on wave 1 data and are unweighted.

Item Nonresponse

We also examined nonresponse on individual survey items and core variables (i.e., variables that all respondents were eligible to complete) among survey completers in the overall wave 2 sample and the longitudinal subset to determine whether adjustments for missing data were necessary. Table E.5 shows the percentage of respondents who were missing data on core variables. For both the overall wave 2 sample and the longitudinal subset, missingness was 5 percent or less on most variables, indicating that missingness was not extensive. Exceptions to this included physical health variables, which we derived from items close to the end of the survey, when respondents might have fatigued and been less motivated to answer; whether the respondent was above or below the HHS poverty guidelines, which was based in part on the respondent's income, a question that is sensitive to many people; history of homelessness, which is stigmatized; and preferences for mental health treatment type. We did not use imputation for missing data

because it did not seem to be extensive and because we report primarily univariate statistics for which small amounts of missing data would not be a cumulative problem.

Table E.5. Rates of Missingness on Core Variables in the Overall Wave 2 Sample and the Longitudinal Subset, as Percentages

Core Variables	Overall Wave 2 (*N* = 527)	Longitudinal Subset (*N* = 205)	
		Wave 1	Wave 2
Sociodemographic and service history characteristics			
Retired	0	0	0
Component	0.4	0.5	0.5
Officer (versus enlisted)	0.4	0.5	0.5
Number of deployments	0	0	0
Gender	0.4	0.5	0.5
Race or ethnicity	3.4	2.4	2.4
Age	0.4	0.005	0.005
Mental health			
Current PTSD screening	1.9	0.5	1.5
Current MDD screening	1.1	0	1.0
Alcohol misuse in past year	2.1	0.5	0.5
Misuse of prescription drugs in past year	0.6	0	0
Mental health service utilization, barriers, and preferences			
Any mental health service utilization in past year or since previous survey	0.8	0	0.5
Unmet desire for mental health treatment in past year or since previous survey	1.3	0.5	1.0
Mental health treatment barriers[a]	2.9–4.9	0–1.0	1.5–2.9
Provider preferences	3.0	2.0	1.5
Treatment type preferences	5.9	4.4	5.9
Physical health			
General health	5.7	0.005	4.4
Role limitations due to physical health	5.7	0.005	4.4
Interpersonal relationships			
Relationship status	3.8	0.5	2.4
Number of child dependents	3.2	0	2.4
Lives alone	3.4	0	2.9
Primary supporter	3.6	1.0	3.4
Employment status	4.2	1.0	3.4
Poverty	11.8	3.0	11.4

Core Variables	Overall Wave 2 (*N* = 527)	Longitudinal Subset (*N* = 205)	
		Wave 1	Wave 2
History of homelessness in lifetime or since previous survey	5.7	1.0	4.4
Utilization and perceptions of AF programs			
Receipt of AFW2 services	2.7	0	4.4
Receipt of AFRCC services	1.7	0	0.5
Receipt of FLO services	1.5	N/A	N/A
Benefits desired and received			
Benefits received since previous deployment or deployment-related activities[b]	0.8–2.5	0–2.4	0.5–1.5
Types of assistance and services desired, whether or not they were used[c]	0–2.7	0–1.0	0–1.0
Other health insurance	0.8	0.5	0

[a] This refers to the range of missingness rates observed in the set of mental health treatment barriers about which we asked all survey respondents. Barriers included not knowing where to get treatment; difficulty arranging transportation to treatment; difficulty getting childcare or time off of work; difficulty scheduling an appointment; difficulty paying for mental health treatment; believing that available mental health treatments are not very good; medications having too many side effects; concerns about treatment not being kept confidential; concerns that friends, family, or coworkers would respect you less; concerns about losing contact or custody of your children; concerns about harm being done to your career; concerns about being denied a security clearance in the future; concerns that your commander or supervisor might respect you less; believing you can handle the problem on your own; and other reason not mentioned.
[b] This refers to the range of missingness rates observed in the different types of benefits about which we asked respondents whether they had received since their previous deployment or deployment-related activities. These benefits include medical care at any VA facility, assistance at a VA vet center, financial aid for education, disability payments, military retirement pay, housing assistance or loans, transitional housing, and reduced costs of health insurance for oneself or one's family members.
[c] This refers to the range of missingness rates observed in the different types of assistance and services that respondents indicated would be helpful, regardless of whether they had received them. The types of assistance and services assessed included medical care, financial aid for education, job training, housing assistance or loans, transitional housing, general information, an advocate, help connecting with others on a personal level, a helping hand, and activities (for fitness, recreation, stress relief, or family bonding).

Mode Effects

Because the survey could have been completed by web or phone, we also examined mode effects for the measures used in the survey. We estimated bivariate associations between survey-completion mode (web versus phone) and sociodemographic and service history characteristics and key outcomes. We conducted chi-square and Fisher's exact tests for binary characteristics and outcomes (we used Fisher's tests for any cell with fewer than five observations), and we conducted *t*-tests for continuous characteristics and outcomes. After performing a Bonferroni correction to control for the inflation in the type 1 error rate due to performing multiple tests of significance, of which there were 68 in total, we found that those who answered on the phone were slightly younger (phone: $M = 35.3$ years, SD = 8.1; web: $M = 39.2$ years, SD = 8.7; $t[523] = -5.3$; $p < 0.0001$);

more likely to report that they had not had contact with an RCC (phone: 44.9 percent; web: 27.0 percent) and less likely to report that they were "not sure" whether they had had contact with an RCC (phone: 27.2 percent; web: 43.4 percent) ($p < 0.0001$, Fisher's exact test);[37] more likely to indicate that they had received financial aid for education since returning from their previous deployment or deployment-related activities (phone: 45.8 percent; web: 28.3 percent; $\chi^2 = 17.0$, $p < 0.0001$); and more likely to indicate that housing assistance or loans would be helpful (phone: 79.7 percent; web: 66.3 percent; $\chi^2 = 10.9$, $p = 0.0009$). Given the small number of differences by mode and the desire to streamline the presentation of analyses and maximize power to detect effects, we collapsed participants across mode in subsequent sections.

[37] The variable on which we made this mode comparison had four categories that corresponded to the following response options: had contact with RCC (phone: 24.9 percent; web: 26.6 percent); did not have contact with an RCC (phone: 44.9 percent; web: 27.0 percent); was not sure whether he or she had had contact with an RCC (phone: 27.2 percent; web: 43.4 percent); and "does not apply" (phone: 0; web: 3 percent).

Appendix F. Additional Results

In this appendix, we provide, in tabular form, additional descriptive results from our wave 2 survey that supplement the findings from the rest of the document. We begin by presenting information on substance abuse and additional health-related information. We follow with further details on family demographics and social situation. We end with additional detail on work, education, and financial situation and housing instability.

Substance Abuse

As noted in the literature, PTSD and depression can often be comorbid with substance use. As shown in Tables F.1 and F.2, roughly one-quarter of respondents in both the overall wave 2 and longitudinal samples reported that they did not consume any alcohol in the past year. Roughly 35 percent of overall wave 2 respondents screened positive for alcohol misuse in the past year based on the AUDIT-C. This rate is very close to the roughly 37-percent rate for men that would be anticipated in the U.S. general population based on National Epidemiologic Survey on Alcohol and Related Conditions data (i.e., based on general population rates adjusted for the age of our sample).[38] We also asked respondents about their illicit use of prescription drugs during the past year.[39] Specifically, respondents reported on whether they had used prescription medication not

[38] We present age-adjusted estimates of alcohol misuse in the general population of males based on National Epidemiologic Survey on Alcohol and Related Conditions data to provide a point of reference for the interpretation of rates of alcohol misuse in the current sample. Other factors are known to affect alcohol misuse (e.g., highest level of education, race/ethnicity) for which we made no adjustment in our comparison estimates. Thus, the comparison of rates of alcohol misuse in the current sample and those in the general population is limited by the lack of adjustment for other relevant factors.

[39] Because alcohol and drug use are particularly sensitive topics to assess in military populations, in which known alcohol or drug use can lead to job loss, we expended extra effort to protect the confidentiality of individual responses and to communicate the extent of these protections to respondents prior to their completing the survey. We designed these efforts to safeguard respondents' information to the fullest extent possible and to minimize distortion of reports of alcohol and drug use. We obtained a certificate of confidentiality from the National Institute of Mental Health, which guards against forced disclosure of data in the event of subpoena. We also implemented a memorandum of understanding with AF in which AF agreed not to attempt to reverse-engineer respondents' identities and affirmed understanding of RAND's exclusive ownership of individual-level data. We informed prospective respondents of these additional layers of protection of confidentiality during the informed-consent process prior to them deciding whether to participate in the survey. Moreover, we immediately preceded survey questions on alcohol and drug use with a reminder that all responses would be kept confidential. In spite of these efforts, however, it is nonetheless possible that reports of alcohol or drug use are underestimates of the true extent of alcohol and drug use in this population.

prescribed by a physician or taken other than as prescribed.[40] Illicit-drug use was much less common than alcohol use, with about 5 percent of respondents reporting use of prescription medication other than as prescribed.

Table F.1. Rates of Alcohol and Illicit–Prescription Medication Use in the Past 12 Months in Overall Wave 2 (*N* = 527)

		95% CI	
Alcohol or Substance Use	**Percentage**	**LL**	**UL**
Abstinence from alcohol consumption	26	22	30
Positive screen for alcohol misuse	35	31	39
Prescription medication used other than as prescribed	6	4	8

Table F.2. Rates of Alcohol and Illicit–Prescription Medication Use in the Past 12 Months in Longitudinal Subset (*N* = 205)

	Wave 1			Wave 2		
		95% CI			95% CI	
Alcohol or Substance Use	**Percentage**	**UL**	**LL**	**Percentage**	**UL**	**LL**
Abstinence from alcohol consumption	27	20	33	27	20	34
Positive screen for alcohol misuse	43	35	50	39	31	46
Prescription medication used other than as prescribed	6	2	9	7	4	11

Health Care

We assessed respondents' health insurance coverage other than through VA or TRICARE (all respondents in the sample are eligible for VA or TRICARE). As shown in Table F.3, just under one-quarter of respondents reported that they were currently covered by health insurance other than VA or TRICARE. Similarly, just under one-quarter of respondents had obtained reduced costs of health insurance for themselves or their family members since returning from their most-recent deployment or deployment-related activities. Table F.4 shows the health insurance status of the longitudinal sample.

[40] Although, in wave 1, we also asked about marijuana and other illicit drugs, such as cocaine, opium, amphetamines, or ecstasy (3,4-methylenedioxy-methylamphetamine), we dropped these questions in wave 2 because of extremely low endorsement of these items in wave 1.

Table F.3. Health Insurance Status in Overall Wave 2 (*N* = 527)

Item	*N*	Percentage	95% CI LL	95% CI UL
Currently covered by health insurance other than VA or TRICARE	128	24	21	28
Reduced costs of health insurance for airman or his or her family members received since return from most recent deployment or deployment-related activities	114	22	18	25

Table F.4. Health Insurance Status in Longitudinal Sample (*N* = 205)

	Wave 1				Wave 2			
			95% CI				95% CI	
Item	*N*	Percentage	UL	LL	*N*	Percentage	UL	LL
Currently covered by health insurance other than VA or TRICARE	60	28	22	35	62	29	23	36
Reduced costs of health insurance for airman or his or her family members received since return from most recent deployment or deployment-related activities	51	24	19	31	43	22	17	29

More than three-quarters of respondents reported having received talk therapy, and just under 70 percent reported having received prescription medication during the past year, indicating that these types of treatment were utilized by similar proportions of respondents (Table F.5). Just under 40 percent of respondents reported having received a form of mental health treatment other than prescription medication or talk therapy.

Table F.5. Specific Details on Mental Health Services in Overall Wave 2 (*N* = 527)

Item	*N*	Percentage	95% CI LL	95% CI UL
Mental health services were desired but not obtained	244	46	42	51
Any mental health services received	440	84	80	86
Medication prescribed for mental health problems	368	70	66	74
Received therapy for mental health problems	398	76	72	79
Some other treatment received	207	39	35	44
Co-occurrence of receiving medication and therapy for mental health problems				
Neither medication nor therapy received	86	16	13	20
Only medication received	37	7	5	10
Only therapy received	68	13	10	16
Both medication and therapy received	329	62	58	67
Mental health service setting				
Military treatment facility	235	45	40	49
VHA facility	313	59	55	64
Civilian facility	242	46	42	50

Slightly less than two-thirds of respondents reported having received both prescription medication and talk therapy during the past year. Less than 13 percent of the sample reported having received only medication or only talk therapy during the past year. Thus, receipt of medication and talk therapy at some point during the past year was fairly typical for this sample. Table F.6 shows these figures for the longitudinal sample at both wave 1 and wave 2; differences are minor.

Table F.6. Specific Details on Mental Health Services in Longitudinal Sample (*N* = 205)

	Wave 1				Wave 2			
			95% CI				95% CI	
Item	*N*	Percentage	UL	LL	*N*	Percentage	UL	LL
Mental health services were desired but not obtained	95	45	38	53	98	46	39	53
Any mental health services received	183	88	82	93	175	84	77	89
Medication prescribed for mental health problems	170	81	74	86	157	74	67	80
Received therapy for mental health problems	164	78	71	84	162	78	71	84
Some other treatment received	84	40	33	48	90	44	36	51
Co-occurrence of receiving medication and therapy for mental health problems								
Neither medication nor therapy received	23	12	8	18	30	16	11	23
Only medication received	18	10	6	15	12	5	3	10
Only therapy received	12	7	4	13	17	9	6	15
Both medication and therapy received	152	71	64	78	145	69	61	76
Mental health service setting								
Military treatment facility	102	48	40	55	81	39	32	46
VHA facility	129	62	54	69	146	71	63	77
Civilian facility	115	56	48	63	107	53	45	60

NOTE: At wave 1, we asked participants about mental health service utilization in the past 12 months. At wave 2, we asked participants about mental health service utilization since the date of the previous survey administration, or over a roughly 2.5-year period.

As shown in Table F.7, among longitudinal respondents who had desired help but had not received it at some point since last being surveyed, the most–commonly endorsed barriers at wave 2 included concerns about the side effects of medications and the effectiveness of available treatments; difficulty scheduling an appointment; concerns about possible harm to one's career; and concerns about the confidentiality of treatment. In general, these concerns are similar to those expressed in the wave 1 survey. Cost of care, transportation difficulties, and concerns about loss of contact with or custody of children were the least frequently endorsed barriers, selected by less than 22 percent of respondents. When examined, even large apparent differences were not significant, perhaps because of the small samples.

Table F.7. Barriers to Mental Health Service Utilization Among Airmen Who Desired Help but Did Not Receive It, Longitudinal Subset (*N* = 135)

	Wave 1			Wave 2		
		95% CI			95% CI	
Barrier	**Percentage**	**LL**	**UL**	**Percentage**	**LL**	**UL**
Logistical						
Difficulty scheduling an appointment	48	39	58	47	38	57
Difficulty getting childcare or time off of work	33	24	42	28	19	36
Not knowing where to get help or whom to see	32	23	40	29	20	37
Difficulty paying for mental health treatment	21	13	29	22	14	30
Difficulty arranging transportation to treatment	12	6	18	9	4	14
Institutional and cultural						
Concerns about confidentiality of treatment	48	38	57	42	33	51
Professional help could harm airman's career	44	35	53	45	36	55
Concerns that friends, family, or coworkers would respect airman less	38	29	47	34	25	43
Potential loss of contact or custody of children	14	7	20	16	9	23
Beliefs about and preferences for treatment						
Medications have too many side effects	49	39	58	57	48	66
Perceived ineffectiveness of mental health treatments available to airman	47	38	56	52	43	61
Other reason not mentioned	38	29	47	40	31	49

NOTE: We have omitted new items not asked of wave 1 (concerns about being denied a security clearance in the future; concerns that commander or supervisor would respect airman less; and belief in ability to handle problem independently).

Unsurprisingly, longitudinal respondents who indicated that there had *not* been a time since they last took the survey when they desired but did not receive mental health services (i.e., who did not go without desired help) endorsed the various potential barriers at a far lower rate overall than did those who had a point in the past year at which they had gone without desired help, as shown in Table F.8. Their most frequently endorsed barrier was that medications have too many side effects.

Table F.8. Perceived Barriers to Mental Health Service Utilization in Longitudinal Sample Who Did Not Go Without Desired Help (*N* = 105)

	Wave 1			Wave 2		
		95% CI			95% CI	
Barrier	**Percentage**	**LL**	**UL**	**Percentage**	**LL**	**UL**
Logistical						
Difficulty scheduling an appointment	31	22	41	26	17	36
Not knowing where to get help or whom to see	20	12	29	16	8	24
Difficulty getting childcare or time off of work	27	17	36	24	15	33
Difficulty paying for mental health treatment	24	15	33	16	8	24
Difficulty arranging transportation to treatment	17	9	24	9	3	15
Institutional and cultural						
Concerns that friends, family, or coworkers would respect airman less	20	12	28	18	10	27
Concerns about confidentiality of treatment	26	17	35	26	16	35
Professional help could harm airman's career	23	15	32	24	16	33
Potential loss of contact or custody of children	8	3	14	11	5	18
Beliefs about and preferences for treatment						
Perceived ineffectiveness of mental health treatments available to airman	31	21	40	24	15	34
Medications have too many side effects	29	20	38	40	30	50
Other reason not mentioned	17	9	24	11	6	17

Civilian providers were the most–highly preferred mental health providers by far, as shown in Table F.9. The most–commonly endorsed reasons for this preference were logistical (not a lot of "red tape" to get an appointment, flexible hours, quick appointment scheduling, and easy to get to), along with treatment confidentiality.

Table F.9. Mental Health Service Preferences, Overall Wave 2 (*N* = 490)

	MTF (*N* = 72)			VA (*N* = 149)			Civilian (*N* = 269)		
		95% CI			95% CI			95% CI	
Barrier	**Percentage**	**LL**	**UL**	**Percentage**	**LL**	**UL**	**Percentage**	**LL**	**UL**
Logistical									
Not a lot of "red tape" to get an appointment	11	8	14	22	18	26	42	38	46
They have flexible hours	7	5	10	17	14	20	40	36	45
They schedule appointments quickly	10	8	13	18	14	21	40	35	44
They are easy to get to	10	8	13	22	18	25	38	34	42
Spouse is covered by this provider	7	5	9	9	6	11	15	12	18
Institutional and cultural									
Will keep treatment confidential	12	9	15	26	22	30	39	35	43
Friends, family, or coworkers would support you going to this provider	12	9	15	27	23	31	30	26	34
Friends, family, or coworkers would not find out if you went to this provider	8	6	10	19	15	22	25	21	29
You would worry less about harm to your career if you went to this provider	6	4	8	17	13	20	27	23	31
You would worry less about being denied a security clearance at some point in the future	6	4	8	14	10	17	23	19	27
Your commander or supervisor would not find out if you went to this provider	6	4	8	15	12	18	21	18	25
Your commander or supervisor would support you going to this provider	9	7	12	18	14	21	15	11	18
Beliefs about and preferences for treatment									
They have effective treatments available	12	9	15	27	23	31	37	33	41
They will not give you medications that have too many side effects	6	4	9	13	10	16	19	15	22
You've seen this provider before	10	7	12	25	21	29	18	15	22
Other reason not mentioned	5	3	7	6	4	8	19	16	23

As can be seen in Table F.10, the differences between wave 1 and wave 2 are small. Preferred setting was consistently civilian and preferred type of service was some type of counseling or talk therapy at both time points.

Table F.10. Mental Health Service Preferences, Longitudinal Subset (*N* = 205)

	Wave 1			Wave 2		
		95% CI			95% CI	
Item	Percentage	LL	UL	Percentage	LL	UL
Preferred mental health service setting						
Private, civilian provider	51	44	59	55	48	63
VA facility	33	26	39	28	21	34
Military treatment facility	12	7	17	11	6	15
None of these	2	0	4	6	2	9
Preferred type of mental health service						
Some type of counseling or talk therapy provided by a mental health specialist	64	57	71	61	53	68
Medication prescribed by a health care provider	21	15	27	18	13	24
Neither medication nor therapy	10	6	15	15	9	21

Social Functioning

We also offer further detail on family and social characteristics. As of wave 2, more than half of the longitudinal sample were married and living together or living separately because of separate military assignments as seen in Table F.11. Around 10 percent were married and living separately by choice, and about the same percentage were either cohabitating or dating exclusively; slightly under 20 percent had no current exclusive relationship.

Table F.11. Current Relationship Status of Longitudinal Subset (*N* = 205)

	Wave 1			Wave 2		
		95% CI			95% CI	
Relationship Status	Percentage	LL	UL	Percentage	LL	UL
Married and living together or living separately because of separate military assignments	60	52	67	57	49	64
Married and living separately by choice	9	5	14		6	16
Cohabiting	5	1	8	3	3	6
Dating exclusively	4	1	8	9	4	14
No current exclusive relationship	22	15	28	19	13	25

We asked each respondent to report his or her level of relationship satisfaction with the person to whom he or she was married or, if not married, with the person identified as his or her primary supporter. Respondents rated levels of relationship satisfaction on a scale with response options that ranged from 1 (very dissatisfied) to 5 (very satisfied). Table F.12 shows respondents' average levels of relationship satisfaction by relationship type. In general, respondents tended to endorse high levels of satisfaction with their marriage or primary supporter.

Table F.12. Average Levels of Relationship Satisfaction with Marriage or Relationship with Primary Supporter in Longitudinal Subset (*N* = 205)

	Wave 1				Wave 2			
			95% CI				95% CI	
Relationship	***M***	**SD**	**LL**	**UL**	***M***	**SD**	**LL**	**UL**
Spouse								
Married and living together or living separately because of military assignments	3.8	1.4	3.5	4.0	4.2	1.2	3.9	4.4
Married and living separately by choice	1.5	1.4	0.7	2.3	3.1	1.7	2.3	4.0
Primary supporter								
Live-in domestic partner or boyfriend or girlfriend	4.6	0.8	3.9	5.3	4.3	1.2	3.5	5.1
Parent or parent-in-law	4.6	0.7	4.1	5.2	4.7	0.7	4.3	5.1
Other relative	4.3	0.8	3.3	5.4	5	—	—	—
Friend	4.1	0.5	3.8	4.4	3.7	0.7	3.2	4.2

NOTE: We skipped any respondent who was not married and did not identify a primary supporter out of this question.

Approximately one-third of respondents did not have any dependents under the age of 23 (see Table F.13). Nearly half of respondents had one or two dependents, and slightly less than one-fifth had three or more dependents. The longitudinal sample showed roughly similar figures (see Table F.14).

Table F.13. Number and Ages of Dependents in Overall Wave 2 (*N* = 527)

			95% CI	
Number of Dependents	***N***	**Percentage**	**LL**	**UL**
0	175	33	29	37
1	114	22	18	25
2	125	24	20	28
3 or more	96	18	15	22

NOTE: Percentages for ages of dependents do not sum to 100 because some respondents have more than one child and are therefore counted in more than one category.

Table F.14. Number and Ages of Dependents in Longitudinal Sample (*N* = 205)

	Wave 1				Wave 2			
			95% CI				95% CI	
Item	*N*	Percentage	UL	LL	*N*	Percentage	UL	LL
Number of dependents								
0	65	34	27	41	72	35	28	43
1	49	24	18	31	46	24	18	31
2	55	26	20	32	49	23	17	30
3 or more	36	17	12	23	33	16	12	23
Age of dependents, in years								
0–4	33	18	13	25	n/a	n/a	n/a	n/a
5–9	52	24	19	31	n/a	n/a	n/a	n/a
10–14	65	32	25	39	n/a	n/a	n/a	n/a
15–19	43	19	14	25	n/a	n/a	n/a	n/a
20 or older	30	12	8	17	n/a	n/a	n/a	n/a

NOTE: Percentages for ages of dependents do not sum to 100 because some respondents have more than one child and are therefore counted in more than one category. We asked no questions about age of dependents at wave 2.

Approximately two-thirds of respondents indicated that they reside with their spouse or domestic partner, and just over half reported residing with their children. A minority of respondents (less than 15 percent) reported living alone. Minorities of respondents (i.e., roughly 10 percent or less) reported living with their parents, siblings, other relatives, or others not related to them. Detailed results on household structure for overall wave 2 are provided in Table F.15 and for the longitudinal sample in Table F.16.

Table F.15. Household Structure in Overall Wave 2 (*N* = 527)

			95% CI	
Household Member	*N*	Percentage	LL	UL
Spouse or domestic partner	351	67	62	71
Children	287	55	50	59
Lives alone	70	13	11	17
Parent or parent-in-law	38	7	5	10
Brother, brother-in-law, sister, or sister-in-law	19	4	2	6
Other relatives	30	6	4	8
Others not related to respondent	49	9	7	12

Table F.16. Household Structure in Longitudinal Sample (*N* = 205)

	Wave 1				Wave 2			
			95% CI				95% CI	
Household Member	***N***	**Percentage**	**UL**	**LL**	***N***	**Percentage**	**UL**	**LL**
Spouse or domestic partner	140	64	56	71	130	60	52	67
Children	123	56	49	64	109	53	46	61
Lives alone	39	22	16	29	35	18	13	25
Parent or parent-in-law	16	8	5	13	13	6	3	10
Brother, brother-in-law, sister, or sister-in-law	6	4	2	9	4	3	1	7
Other relatives	10	5	3	10	14	5	3	9
Others not related to respondent	16	9	5	15	19	10	7	16

Occupational Functioning and Financial Stability

Approximately 40 percent of all respondents indicated that they were employed full time. Although this is not a majority, this is the single largest group of respondents, as shown in Table F.17. Fully 24 percent indicated that they were disabled and not working, while the comparative BLS U3 measure of unemployment (i.e., those who are seeking employment out of the total of those who are employed full or part time plus those who are seeking employment) among these wounded warriors is 7.7 percent. This compares to the age- and gender-adjusted rate of 6.1 percent for March 2014 (BLS, 2016b). Eleven percent reported not working by choice, while about 9 percent are pursuing educational attainment.

Table F.17. Current Employment Status in Overall Wave 2 (*N* = 527)

Current Employment Status	Percentage	95% CI	
		LL	UL
Working full time	40	36	44
Disabled and not working	24	20	28
Unemployed and not looking for work	1	0	2
Student (full or part time)	9	7	12
Unemployed and looking for work	6	4	8
Working part time	3	2	5
Homemaker	1	0	1
Retired	12	9	15
Unemployment rate based on BLS U3 measure of unemployment	12	8	16

NOTE: The unemployment rate based on the BLS U3 measure of unemployment is calculated as the number of people who are unemployed and looking for work divided by the workforce, which includes all people who are working full time, working part time, or unemployed and looking for work.

Note that this analysis includes those airmen who, according to personnel records, are still listed as active component and active duty; we asked all airmen to indicate their self-perceived employment status regardless of personnel record status. Naturally enough, there were significant differences by retiree status in whether respondents indicated that they were working full or part time or considered themselves to be primarily occupied in one of the other potential categories ($p = 0.000$) such that current airmen were more likely than retirees to say that they were employed.

Generally speaking, including active-duty airmen could be problematic in that it could artificially skew the data toward a lower unemployment rate, given that it includes a group employed by definition.

We explored whether the larger point estimate differences in perceived barriers to employment might indicate significant change over time. As shown in Table F.18, several differences appeared large—feelings of discomfort or anxiety, fearing loss of financial benefits, sufficiency of pay for available jobs, and family preferences. Only one difference, however, is significant. The percentage of airmen in the longitudinal subset who reported that fearing the loss of financial benefits was a barrier to employment increased from 30.3 percent at wave 1 to 40.7 percent at wave 2; this increase was statistically significant[41] (OR = 1.76; 95-percent CI = 1.02–3.06).

[41] We conducted the test of significant change by regressing a binary outcome variable representing the presence of a primary supporter (primary supporter present = 1, primary supporter absent = 0) on wave in a weighted binary logistic regression model with clustering of observations at the person level.

Table F.18. Perceived Barriers to Employment Among Those Who Were Unemployed and Looking for Work or Disabled and Not Working in Longitudinal Subsample

	Wave 1 (*N* = 77)			Wave 2 (*N* = 67)		
		95% CI			95% CI	
Barrier	**Percentage**	**LL**	**UL**	**Percentage**	**LL**	**UL**
Disability-related barrier						
Not physically capable	68	56	79	62	49	74
No one will hire me because of my injury or disability	54	42	66	52	38	65
Concern about qualifications, skills, or abilities needed for civilian labor market						
I feel uncomfortable or get anxious when thinking about working in the civilian workplace	58	45	70	75	64	87
Because of my long or multiple deployments, I feel behind compared to my peer civilian counterparts	42	29	54	39	26	52
I lack confidence in myself and my abilities	35	23	47	42	29	54
I do not have the tools or knowledge to translate my military skills to the civilian workforce	28	17	39	28	16	40
Not qualified: lack education	24	13	35	24	13	36
Not qualified: lack work history[a]	n/a	n/a	n/a	21	10	33
Disincentive to obtain employment						
Available jobs don't pay enough	35	23	47	25	13	37
Would lose financial benefits (e.g., disability benefits)	30	19	42	41	28	54
Would lose medical benefits	17	8	26	18	7	29
Do not need a job because of benefit payments[b]	n/a	n/a	n/a	37	25	50
Other						
Do not know about available jobs	22	12	32	24	12	35
Pursuing an education	21	11	30	16	5	26
Family prefers I stay at home	20	10	31	32	19	44

NOTE: We assessed barriers to employment only among those who indicated that they were unemployed and looking for work or disabled and not working. We did not report barriers for whom there were fewer than ten respondents in a cell.
[a] For wave 1, fewer than ten respondents indicated that they perceived this barrier.
[b] New item.

We asked airmen who were working full or part time questions to assess their actual and expected hours worked over the past week, as well as about time missed. We also asked about their overall job performance over the past 28 days, or their *presenteeism*, and their overall job satisfaction. Because relatively few airmen indicated that they were working part time, and because absenteeism is calculated as the number of hours worked

in comparison to what the employer anticipated, we grouped these two categories together for analysis.[42] On a scale that ranges from 0 (worst performance) to 100 (top performance), the average estimate for presenteeism was 68.7. Thus, airmen felt that their performance was somewhat above a midrange level of performance over the past 28 days.

The average estimate for absenteeism, or time missed from work, was that airmen worked more than their employers expected over a seven-day period. That is, because the estimate is negative (–3.5), on average, they worked about 3.5 hours more than their employers expected them to work during that period. Note, however, that the SD is quite large.

Those airmen who were employed at least part time indicated that, on average, their job satisfaction was midway between very dissatisfied and very satisfied, with a slight bent toward very satisfied. Airmen used the full scale, with approximately 12 percent indicating that they were very dissatisfied while approximately 20 percent indicated that they were very satisfied. Table F.19 shows these results for job performance and satisfaction. Table F.20 shows the results for the longitudinal subset. Although the difference in the absenteeism estimate appeared large, we did not examine this for significance because of our concern regarding low sample size.

Table F.19. Job Performance and Satisfaction in Overall Wave 2 (*N* = 227)

			95% CI	
Job Variable	***M***	**SD**	**LL**	**UL**
Presenteeism	68.7	24.0	65.6	71.9
Absenteeism—past-seven-day estimate	–3.5	44.0	–9.4	2.3
Job satisfaction	3.3	1.3	3.1	3.5

NOTE: We assessed absolute presenteeism, absolute absenteeism, and job satisfaction only among airmen who reported having full- or part-time jobs. Presenteeism and absenteeism can be reported in absolute terms, as raw hours worked and raw performance, or in relative terms, in comparison to other workers. We report absolute numbers here. The range of possible scores for absenteeism is –388 to 388, with higher scores indicating more hours of work lost during the past seven days. The range of observed scores for absenteeism was –80 to 240. The range of possible and observed scores for presenteeism is 0 to 100, with higher scores indicating better perceived job performance. Job satisfaction was rated on a Likert scale that ranged from 1 (very dissatisfied) to 5 (very satisfied).

[42] Part-time and full-time employees did not differ significantly on these variables ($p > 0.05$).

Table F.20. Job Performance and Satisfaction in Longitudinal Subsample (*N* = 61)

	Wave 1				Wave 2			
			95% CI				95% CI	
Job Variable	*M*	SD	LL	UL	*M*	SD	LL	UL
Presenteeism	68.2	21.7	62.4	73.9	71.3	21.2	65.5	77.1
Absenteeism—past-seven-day estimate	–4.3	46.8	–17.4	8.9	–15.6	37.0	–24.7	–6.4
Job satisfaction	3.2	1.3	2.9	3.6	3.1	1.3	2.7	3.4

NOTE: We assessed absolute presenteeism, absolute absenteeism, and job satisfaction only among airmen who reported having full- or part-time jobs. Presenteeism and absenteeism can be reported in absolute terms, as raw hours worked and raw performance, or in relative terms, in comparison to other workers. We report absolute numbers here. The range of possible scores for absenteeism is –388 to 388, with higher scores indicating more hours of work lost during the past seven days. The range of observed scores for absenteeism was –80 to 240. The range of possible and observed scores for presenteeism is 0 to 100, with higher scores indicating better perceived job performance. Job satisfaction was rated on a Likert scale that ranged from 1 (very dissatisfied) to 5 (very satisfied).

Presenteeism, absenteeism, and job satisfaction did not differ by retiree status ($p > 0.05$).

Approximately one-third of overall wave 2 had received financial aid for education since deployment. Large majorities perceived that financial aid for education and job training is helpful, whether or not it had been received.

Housing Instability

We also asked each airman about other aspects of his or her housing situation during the prior six months. When we asked how long the respondent spent in such a setting, the response was, on average, about one month, although the reported range varied widely from two to 180 days. We also asked airmen whether *they considered themselves* to have been homeless within the past six months; given the wide variety of settings about which we asked and the equally wide variety of potential reasons for being in some of these settings, we felt that this self-perception was important. However, it should also be noted that being homeless is stigmatized in American society, so people who have experiences that would classify them as homeless from an external perspective might or might not classify *themselves* as such. About 18 percent of the subset who answered these questions indicated that they considered themselves to have been homeless in the past six months. This works out to only about 4 percent of all airmen who responded to our survey because, as noted above, most of our respondents indicated no lifetime history of potential homelessness. We also asked about current living situations and found that 17 percent of airmen with a lifetime history of potential homelessness indicated that, at the time they responded to the survey, they were currently living in a situation that fell into our at-risk or homeless categorizations. Of the airmen with a lifetime history of

potential homelessness, the average (mean) number of years that they reported having lived in their current place of residence was 3.5 (SD = 3.8 years; 95-percent CI = 2.6–4.4).

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The U.S. Air Force (AF) wanted to gain greater insight into the well-being of its members who have sustained mental or physical injuries in combat or combat-related situations, with an eye toward improving services provided and enabling wounded airmen to become fully functioning members of society. It also wanted to take advantage of ongoing research into how best to do so. Areas of interest include quality of life and the challenges that will impede wounded veterans' reintegration after they leave AF. AF asked RAND Project AIR FORCE to help gauge the current status of AF's wounded warriors, including their use of and satisfaction with AF programs designed to serve them. The research team surveyed AF wounded warriors (wave 1) and published the results in 2015. This report presents the analysis of the second such survey, called wave 2.

The team developed a notional model that drove a survey that assessed well-being on a range of critical indicators. These indicators included psychological health, social support, housing instability, and perceived financial security. They also included questions to assess AF services used, focusing on the AF Wounded Warrior, AF Recovery Care Coordinator, and Family Liaison Officer programs. Because the programs were established relatively recently, this longitudinal investigation represents an independent program evaluation to determine the array and extent of the needs of intended program recipients, assess how well the program meets these needs, and suggest ways to improve the programs.

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