Military Suicide: Developing an Understanding of Basic Issues to Provide a Lower Risk Force

A Monograph

by

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2017

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In the last decade, the suicide rate for military personnel exceeded that of the general population; additionally, the suicide rate for military personnel more than doubled. This dramatic increase in suicide rates for the military gained significant public attention and the military then focused on preventing suicides for currently serving service members. An exploration of available research and demographic data identifies specific subpopulations at increased suicide risk prior to entering service. Comparisons of the Army Study to Assess Resilience and Risk in Servicemembers (STARRS), national mortality data, and national census data provided a more detailed view of the suicide decedent population. Both the general and military decedent populations present specific trends in behavior and demographics that lead to suicidal behaviors. The research suggests that a significant proportion of new service members enter service possessing the characteristics that will lead to suicidal behavior. These findings imply that the current suicide prevention programs may not fully address the underlying mental health issues associated with the young adult population. As a result, the services may be inadvertently recruiting service members with increased risk.
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Monograph Title: Military Suicide: Developing an Understanding of Basic Issues to Provide a Lower Risk Force

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Abstract


The US military has historically experienced a much lower suicide rate compared to the general US population. In the last decade, the suicide rate for military personnel exceeded that of the general population; additionally, the suicide rate for military personnel more than doubled. This dramatic increase in suicide rates for the military gained significant public attention and the military then focused on preventing suicides for currently serving service members. However, the suicide prevention efforts placed little emphasis on preventing the induction of high risk subpopulations. An exploration of available research and demographic data identifies specific subpopulations at increased suicide risk prior to entering service. Comparisons of the Army Study to Assess Resilience and Risk in Servicemembers (STARRS), national mortality data, and national census data provided a more detailed view of the suicide decedent population. Both the general and military decedent populations present specific trends in behavior and demographics that lead to suicidal behaviors. The common issue affecting both populations is that the young adult age groups are the most affected by suicide. This suggests that a significant proportion of new service members enter service possessing the characteristics that will lead to suicidal behavior. These findings imply that the current suicide prevention programs may not fully address the underlying mental health issues associated with the young adult population. As a result, the services may be inadvertently recruiting service members with increased risk. The military services have a history of conducting psychological screening in times of conflict, and have developed additional testing aids that may assist in efforts to provide a more resilient force. Unfortunately, the military services currently do not place significant effort on reducing the population with highest suicidal behavioral risk at the point of accession for service. Efforts to identify and reduce these specific subpopulations will both reduce the military suicide rates and enable military medical resources to focus better on the currently serving population to enhance suicide prevention and intervention efforts.
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Acknowledgement

I would also like to extend a special thanks to my wife, Dr. Patricia Mulkeen Remoy, PhD., for her assistance over the last several months of writing. Her thoughts on research sources, grammar advice, and multiple reviews to help me edit this paper contributed significantly to its completion. As in so many aspects of my life, I would have been lost without her.
Acronyms

AAS  All Army Study
ADP  Army Doctrine Publication
CDC  Center for Disease Control
DoD  Department of Defense
DoDSER  Department of Defense Suicide Event Report
DMDC  Defense Manpower Data Center
HADS  Historical Administrative Data Study
IED  Intermittent Explosive Disorder
IPT  Interpersonal-Psychological Theory
JAMA  Journal of the American Medical Association
LGBT  Lesbian, Gay, Bisexual, and Transgender
MDD  Major Depressive Disorder
NCTT  National Center for Telehealth and Technology
NSS  New Soldier Study
PTSD  Post-Traumatic Stress Disorder
STARRS  Study to Assess Risk and Resilience in Service Members
TBI  Traumatic Brain Injury
VA  United States Department of Veterans Affairs
VHA  Veterans Health Administration
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Introduction

Suicide is a national problem. Since 2008, when the national rate for suicide reached 11.8 deaths per 100,000 persons, 36,035 annual deaths, the Center for Disease Control (CDC) has ranked suicide within the top ten leading causes of death in the United States.\(^1\) Through 2014, both the number of suicides and suicide rate in the general population continued to increase.\(^2\) From 2008, the suicide incidence rate has grown to 13.4 deaths per 100,000 persons, with 42,773 deaths in 2014.\(^3\) The relative risk of suicide, however, is low compared to accidents and unintentional injuries; the only other non-disease related causes of death in the top ten list. The CDC reported that suicides accounted for 1.6% of deaths in the United States in 2014. Nevertheless, an individual was three times more likely to die from an accident. Accidents accounted for 5.2%, or 136,053, deaths nationally.\(^4\) Suicide takes an immense emotional toll on the surviving family members and also removes a productive member of society from the population.

Despite the low probability of suicide, the public pays particular attention to military and veteran suicides. Until recently, the military had enjoyed a considerably lower rate of suicide among its members than the rest of the American society. Soldiers died at rates that were typically less than half that of their civilian counterparts.\(^5\) The likely explanation for the historically lower


\(^5\) Joseph Rothberg et al., "Life and Death in the US Army," \textit{Journal of the American
military suicide rates in previous generations was the greater scrutiny in induction standards, a strong sense of social network, and ready access to health care. Military suicide rates increased in the 1990’s until they surpassed civilian suicide rates in the early Twenty-First Century. Suicide rates among service members grew from approximately ten per 100,000 service members in 2003 to almost twenty per 100,000 service members in 2009. The suicide rate reached a high of 22.7 deaths per 100,000 members in 2012, and then decreased again to 19.9 per 100,000 service members by 2014. The fact that suicide rates doubled was unprecedented, and coincided with the military’s entry into protracted conflict in Iraq and Afghanistan and the associated increased manpower requirements. In 2012, the proportion of veteran and service member deaths attributed to suicide exceeded deaths attributed to hostile fire. Thus, suicide became the second leading cause of military death, just behind accidents.

In 2009, in response to the growing number of suicides in the military population, the Army released the Army Campaign Plan for Health Promotion, Risk Reduction, and Suicide Prevention (ACPH). This document closely followed the National Strategy for Suicide Prevention released

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Army G-1, “2020 Army Strategy for Suicide Prevention, 1 October 2012” (Suicide
by the US Surgeon General in 2001. In 2012, the Army updated the strategy and published the 2020 Army Strategy for Suicide Prevention, “A Healthy Force is a Ready Force.” The goals and objectives of the strategy primarily addressed suicide prevention efforts for the currently serving, and post-service, population of soldiers and family members. The strategy assumed that military suicides are primarily associated with military service unique stressors and experiences. However, other research into suicides has begun to paint a picture that suicidal behaviors and associated mental health concerns for a large number of suicide decedents begins during earlier life stages.

The recent trends in suicide rates in the Army parallel increases in suicide rates for the general population also. Suicide rates for the 15-24, 25-34, and 35-44-year-old age groups have increased and these age groups represent the majority of the military population age groups as well. The rates also parallel an increase in diagnoses of mental health disorders in the general population. The data documenting the rise in suicides in the general population corresponds with the relaxation of recruiting standards to meet the All-Volunteer Force (AVF) manpower demands during the recent protracted wars. The expansion in recruiting would likely be seen in an increase in density of the youngest military age groups, the same national population age groups also experiencing increases in suicide rates. As Figure 1 shows, the suicide percentages for the younger military service members and civilian populations are similar. Less evident is the decrease in suicide rates in the 25-34-year-old age group among military service members. The 17-24-year-old age group is the primary recruiting population but spans only a seven-year cohort. The 25-34-year-old age group cohort represents ten years. Breaking the 25-34-year-old age group into two smaller groups reveals a much higher distribution of deaths in the 25-29-year-old population, eighty-seven


suicides versus fifty for the 30-34-year-old age group. The 18-29-year-old cohort accounted for approximately 68% of military suicides in 2012. Although alarming, the military suicide rates reflected several trends in the general US population. While military suicide rates increased, so did those rates among younger age groups in the general population, which coincidentally were the same age cohorts in highest demand to meet military personnel increases.

![Figure 1. Comparison of percentages of suicide deaths between US and Military population by military age groups. Data collected from CDC 2012 Leading Causes of Death Report and DoDSER 2012 Annual Report.]

A United States Department of Veterans Affairs (VA), Mental Health Services Division, 2013 report indicated veteran suicide had reached an incidence rate of twenty-two veterans per day.\textsuperscript{14} The statistic implied that in 2012 approximately 8030 veterans committed suicide. However, the VA report had several limitations. The report used data from only twenty-one reporting states and then extrapolated the final estimate. Those twenty-one states did not include several states with large veteran populations such as California and Texas.\textsuperscript{15} Data collectors for the report based the decedent’s veteran status largely on information obtained from family members and funeral home personnel and was not validated against a VA database at the time of death.\textsuperscript{16} The VA defined the


\textsuperscript{15} US Department of Veterans Affairs, "Suicide Data Report, 2012," 15.

veteran population as all adults who were either currently serving, or had previously served, and were eligible for Veterans Health Administration (VHA) benefits. The statistic was stark in the implication of the number of deaths potentially associated with military service simply by associating the veteran population. The report also indicated that 69% of veteran suicides occurred at age fifty and older.\textsuperscript{17} This calls into question the linkage between military service and suicide. The report did not account for additional life experiences after military service in civil society that might have impacted an individual’s decision to commit suicide. The VA study did uncover one important connection in an updated version of the report published in 2016. The VA noted that the number of Veterans Health Administration (VHA) patients with mental health disorders had increased by thirteen percent in fourteen years.\textsuperscript{18} The time period for the increase suggests not only a growing problem of mental health in the United States, but also an increase in diagnoses among the studied and veteran population serviced by the VHA. However, it is unclear if military service caused or contributed to the mental health diagnoses. The macroscopic level of the VA data was not helpful in determining if military service was a key factor in suicidal behavior. Whether intended or not, the report may have created the impression that the general military population had a suicide problem when the problem is likely limited to more specifically defined subpopulations.

A National Center for Telehealth and Technology (NCTT) study into the correlation between suicide rates and deployment experience uncovered an unexpected association between shorter lengths of service and suicide. The study revealed an association between early separation from service and suicide.\textsuperscript{19} Members of the study cohort that separated with less than one year of

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\textsuperscript{17} Ibid., 22.

\textsuperscript{18} US Department of Veterans Affairs, “Suicide Among Veterans and Other Americans 2001-2014,” 8. “The proportion of VHA users with mental health conditions or substance use disorders has increased from approximately 27 percent in 2001 to more than 40 percent in 2014.”

\textsuperscript{19} Mark Reger et al., “Risk of Suicide Among US Military Service Members Following Operation Enduring Freedom or Operation Iraqi Freedom Deployment and Separation from the US Military,” \textit{JAMA Psychiatry} 72, no. 6 (2015): 563.
service demonstrated a suicide incidence rate of 48.04 deaths per 100,000 service members. Members that separated with less than two years of service displayed a slightly lower incidence rate at 44.16 deaths per 100,000 members. Further, the study uncovered that the “hazard of suicide for service members who completed between four and twenty years of service was approximately half that for service members who only served a year or less before separation.” For service members that separated after four years of service the incidence rate fell to 21.7 deaths per 100,000, and the rate for those with greater than eight years fell even further to 20.2 deaths per 100,000 members. This report indicated that a significant portion of suicides occurred very early in the career lifespan of soldiers and, hence, provided reasons to question the association between military service factors and suicide incidence. This data suggests that the focus for suicide prevention in the military must shift from identifying the stresses of deployment and military lifestyle factors to a stronger consideration for pre-existing conditions and their impact on suicide rates after transitioning into service. This evidence suggests that suicidal behavior in many cases may begin prior to military service. Consequently, service programs addressing suicide prevention that are focused on the in-service and post-service population and service related stressors may not address the underlying mental health issues associated with a significant portion of suicide prone service members. These observations raise the question of whether the military is effectively identifying high risk subpopulations and whether the suicide prevention program adequately addresses the needs of the suicide prone population.

Assessing the Army anti-suicide program required the research to set aside the presumption that service related factors were the primary element in suicide decisions. Removing that presumption made it possible to understand military suicide from a system perspective. That is, if service members were predisposed to suicide prior to entry then it was necessary to determine

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20 Ibid., 567.
21 Ibid., 564.
whether there were identifiable characteristics that would permit identification of at risk populations prior to entry or during initial entry training. Once the suicide prone subpopulations were identified then the research shifted to examining military data to determine whether those populations are found in the Army. The detailed review of existing suicide research identified that the suicide decedent population displays some identifiable characteristics. Generally, suicide most heavily impacts the younger demographic groups. Those younger age groups also display trends in increased incidence of mental health issues and specific trends in mental disorders. Suicide within the military is largely confined to an identifiable sub-population displaying many of these common characteristics. If the military seeks to reduce the overall suicide rate and focus resources, it will require excluding those at risk to suicide from serving or early identification of the suicide prone in order to provide active intervention. Because the findings are somewhat at odds with military’s considerable research and on-going programs, there needs to be a careful discussion of the methodology that produced the evidence upon which the findings are based.

Methodology

Sociologists and psychologists have developed theories to explain how societal factors and psychological conditions contribute to suicidal behavior. These theories include Emile Durkheim’s suicide theory which relies on sociological factors and Dr. Thomas Joiner’s Interpersonal-Psychological Theory (IPT) which discusses individual psychology and the development of an individual ability to inflict self-injury. Using these theories aids in identifying general characteristics associated with suicidal behavior. By comparing Department of Defense Suicide Event Report (DoDSER) data and Historical Administrative Data Survey (HADS) data it was possible to identify some distinct subpopulations that display suicidal behavior. HADS data analysis revealed behaviors such as early suicide by female soldiers with less than four years of service in a “currently deployed” status, and an association between sexual assault and suicide. These risk factors represent the military sociological impact on suicide behavior in the population.
Comparing military force demographics to the US population reveals some interesting relationships and displays the challenges in comparing the two populations. It reveals some similarities in racial composition, but the differences in age distribution within those subpopulations can create perceptions of suicidal behavior problems in subpopulation groups that may not exist. Analysis of suicide rates for African Americans and female service members provided insight into the effect of minority stress in the military population as a factor leading to suicide in those populations. Ultimately, this data indicated that the current suicide prevention strategies are not appropriately focused to address underlying issues associated with suicidal behavior.

The military as a social institution keeps meticulous records on career data for personnel and associated suicides. The DoDSER annual reports provide a wealth of information about the relationship between career factors and suicide behaviors. The DoDSER data clearly demonstrates the prevalence of young adult suicide in the military. An interesting revelation was the association between early separation from the military and increased suicide rates for a population outside of continued military medical jurisdiction. This revelation also demonstrated a further association between negative characterizations of separation from service and increased suicide rates for those personnel. Finally, the DoDSER data challenges the assumptions that deployment to combat theaters results in an elevated risk and increased rate of suicide within the military population. The DoDSER data sets assist in identifying particular subpopulations in the military population that exhibit increased suicidal behaviors.

Army Study to Assess Risk and Resilience in Servicemembers (STARRS) data sets provide a rich body of information for determining trends in behavior, pre-existing suicide related mental health issues, and the prevalence of suicidal behavior and mental disorders in the current military force. This data provides insights into the timing of onset and prevalence of specific types of mental disorders such as intermittent explosive disorder and major depressive disorder. The data also reveals that these disorders occur more frequently in the current recruiting population than
researchers previously realized. Army STARRS data also reveals that a significant subpopulation of
recruits enters the service with a previous history of suicidal behavior including suicide ideation
and attempts. These data sets help to identify specific characteristics associated with suicidal
behavior in the military population.

An historical review of military manning practices in the last century provides an
understanding of the process for mental health assessment over time in the military. The main focus
of psychological screening to this point has been focused on suitability for military service, and
prevention of neuropsychiatric illness care issues following periods of conflict in US history. The
Accession Medical Standards Analysis and Research Activity (AMSARA) collects data useful in
determining the quality of the recruited military force. The AMSARA regularly notes that the
current medical screening system is easily bypassed by recruits that have no incentive to report
disqualifying mental health and behavioral issues. However, several initiatives designed to better
align recruits with military career skills may provide additional screening capability for negative
behavioral and temperament concerns. Early identification of these issues in a non-invasive manner
could prove useful to identify recruits for further screening by clinical professionals for suicidal
history, suicidal behavior, and mental health issues.

Since 2012 was the high mark for service member suicides in recent history, the statistics
for the year 2012 provided an ideal snapshot with which to begin examining the various sets of
suicide data. As unpredictable as suicide may be, decedents do display common characteristics.
While these characteristics may not apply to the entire decedent population, there are some
characteristics that may also serve as predictors of suicidal behavior. The actual number of suicides
among currently serving members in 2012, both in an active and reserve status, differed
dramatically from the estimates in the 2012 VA study. The DoDSER Annual Report for 2012
indicated that 319 active duty and 203 reserve members across the joint services committed suicide
in that calendar year. These numbers represented a calculated incidence rate of 22.7 active duty deaths per 100,000 members. The incident rate for the reserve component forces in 2012 was 24.2 deaths per 100,000 members. A large proportion of the military suicides were service members with previous mental health issues, legal problems, substance abuse issues and other contributing factors. The members of this group are diverse, complicated, and influenced by multiple factors that are not all related directly to military service. Understanding service member suicide requires understanding the military demographic composition and the societal and personal factors that may affect their vulnerability to suicide.

Military Sociological and Psychological Impacts on Suicide Behaviors

It is important also to look at the social factors associated with military affiliation and how those factors may affect suicide risk. The military represents a subpopulation of American society with unique aspects of shared experiences and behavioral expectations. Two notable social theories, mentioned earlier, were used to describe some of the motivation behind suicide among the military population. The body of work by Emile Durkheim represents one of the earliest theories of suicide. Durkheim’s theories revolved particularly around the impact of social integration and behavioral regulation on suicidal behavior. A second important approach is Thomas Joiner’s work on the Interpersonal-Psychological theory of suicide behavior. Joiner’s work focuses on the individual motivations regardless of societal pressures to prevent a suicidal outcome. Understanding the social origins of the military is important, as well as how the military population differs in composition from the rest of the country. Drawing direct comparisons between the US population and the military population without due regard for the differences in those populations can lead to false

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22 Department of Defense, Department of Defense Suicide Event Report (DoDSER): Calendar Year 2012 Annual Report, 2.

assumptions. The distinct differences in military composition creates high density subpopulations that can skew the aggregate statistics if not analyzed in greater detail. These differences can lead researchers and the public to an over-generalized conclusion about the nature of suicide in the military without fully understanding how it impacts discreet subpopulations.

Suicidal thoughts and behavior are a deeply personal burden often carried without external indicators. The individual decision to entertain suicide as an option is shaped by both social factors and individual psychology. French sociologist Emile Durkheim sought to explain suicide as “a highly individual and personal phenomenon” that was explained through “social structure and its ramifying functions.”24 The interaction between an individual and society created complex individual circumstances that could influence that individual’s behavior. Durkheim defined social integration as the extent to which an individual determined that he was part of a larger social group. Individuals regulate their behaviors to match the norms and customs of their society. Durkheim’s theory states, “suicide varies inversely with the degree of integration of the social groups of which the individual [belongs].”25 Durkheim went on to define several forms of suicide: egoistic, anomic, fatalistic, and altruistic. The last two categories have little relevance for understanding current military suicide behavior as a preventable condition. Fatalistic suicide was most associated with the despondence of the slave and indentured social classes of Durkheim’s era. Therefore, the social foundation of fatalistic suicide is not present in the military social structure. Altruistic suicide was evident when an individual’s connection to the group was too strong and they sacrificed themselves for greater good. In the military context, altruistic suicide is best associated with a soldier covering an exploding grenade to save the rest of their team. Altruistic suicide in the military context represents a behavioral anomaly. The instantaneous decision to commit suicide based on the

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25 Ibid., 209.
situation does not lend itself to treatment and prevention. However, egoistic suicide occurs when individuals feel separated from the group or when their integration within society has been significantly weakened. Under this theory, Durkheim reasoned that a person could reach the state of suicide when he felt that his need to end his own life surpassed society’s pull to have him continue to contribute to the collective. In this condition, an individual’s social and familial bonds have deteriorated to such a point that he had become sufficiently disillusioned and disappointed with his level of social integration that he contemplated suicide. This form of suicide is applicable when some individual breaks or violates the social norms and finds themselves outside the social support structure of the group. Individualism also exists as a component in this theory in that the decedent doesn’t feel that society meets his emotional need to conform any longer, or simply that he is no longer constrained by society’s expectations.

Durkheim labeled a second form of suicide, anomic suicide. Anomic suicide was the situation in which the individual felt devoid of meaningfulness, or felt he was no longer of value to the larger group. In explaining this theory of suicidal behavior, Durkheim explored the notion that financial crisis, increased wealth, and divorce were causal factors for suicide. He ultimately settled on anomic suicide resulting from, “man’s activities lacking regulation and his consequent sufferings.” Meaning that when an individual no longer feels bound or is outcast from the social conditions and norms that kept suicidal ideation in check, he is more open to suicide as a means to relieve suffering in his current state. Durkheim explained the role and structure of society and its impact on an individual’s life as key to development or inhibition of suicidal behavior. A well-integrated individual is less prone to suicidal behavior. When the societal ties became unraveled for

28 Durkheim, Suicide: A Study in Sociology, 258.
an individual their sense of isolation increased as well. Durkheim theorized that suicidal behavior was not simply influenced by an individual’s psychology, but by his integration into society and sense of compliance with social norms. Durkheim’s theories are useful in describing the protective factors that military cohesion can provide as well as the stressors created by service separation or loss of status within the military population.

While Durkheim’s theories describe the role of society in suicide, suicide is ultimately an individual decision and action. Dr. Thomas Joiner’s Interpersonal-Psychological Theory relies much more on individual psychology in generating desire and capability than societal influence. His theory proposes that, “an individual will not die by suicide unless he or she has both the desire to die by suicide and the ability to do so.” An individual must possess two psychological states in order to contemplate and commit suicide. The first is a perceived burdensomeness, or the individual’s misperception that his death has greater value than his life due to his failings and inadequacies. The second condition is low belonging or social alienation. In this state, the individual perceives that he is completely detached from the social network. In this condition “two fundamental needs are frustrated to the point of extinction; namely, the need to belong with or connect to others, and the need to feel effective with or influence others.” Joiner also theorizes that in order for an individual to commit self-harm he must overcome the overwhelmingly strong reflex of self-protection. This is often effected through either previous attempt at self-harm and suicide, desensitization to pain and suffering, or violence through either observation or provocative experience. This factor is of critical importance to a military population that may, through its very nature and culture, become desensitized to violence, suffering, and individual pain. This is not to


30 Thomas Joiner, Why People Die by Suicide (Cambridge, MA: Harvard University Press, 2005), 47.
say that combat deployments uniquely create these conditions and desensitize service members to the fear of death. As noted before there has been little correlation between deployments and direct combat, and suicidal risk. The exposure to injury, to both self and others, and desensitization to fear through multiple iterations of high risk activities could play a part and exist in both the combat theater and the garrison environment. Joiner notes that the repeated experiences of pain and discomfort over time are also factors in developing the capability to inflict self-harm. Joiner cites numerous examples of suicide that involve several previous attempts that enabled the decedent to adjust to the fear surrounding the lethal event. In essence, while popular thought embraces the idea of suicide by a weak-minded individual, the actual act of suicide involves an over-whelming inner strength required to overcome the instinct of self-preservation.

Durkheim and Joiner agree that social belonging by the individual and his perception of relative value to the social group are strong obstacles to suicide. In both theories, and particularly Durkheim’s theory of anomic suicide, the idea of low social integration is the key factor. Too little social integration or individual feelings of isolation lead to increased suicidal ideation according to both theories. First term soldiers who commit suicide after military separation may represent these theories at work. Consequently, those military decedents who had been facing criminal charges, and those who had been experiencing family or intimate relationship issues at time of death may be understood as fitting the profile described by Durkheim and Joiner. From a sociological perspective, these conditions would have placed them outside of the social network and societal expectations for conduct and performance. Additionally, failure to conform likely results in a feeling of social isolation related to Joiner’s psychological perspective.

The interaction of both social and individual psychological pressure may create an insurmountable stressor for affected individuals. According to the 2014 DoDSER, ninety-two suicides and 370 attempted suicides stemmed from administrative and legal issues within ninety
days of the event, accounting for 33% of total suicides for the year. Not all administrative cases would have logically lead to separation. Cases involving denial of promotion, legal investigation, unfavorable retention board proceedings, and other civil legal proceedings would ultimately lead to separation from the service. The varying nature of discharges associated with separations presents additional considerations for suicide prevention. While general and honorable characterizations of discharge result in access to continued VHA medical services and behavioral care, dishonorable discharges and certain early separations do not. This would leave a small population of separated personnel not only suddenly isolated socially, but isolated individually without psychological medical access.

An examination of the demographics surrounding military suicide provided additional insight into the protective aspects of social integration. The DoDSER Annual Report for 2012 indicated some distinct demographic trends among groups defined by age, sex, and life experience. The report indicated a majority of the 319 decedents fell within a very specific demographic; “male (n = 295; 92.8%), white/Caucasian (n = 236; 74.2%), between 17 and 24 years of age (n = 126; 39.6%), junior enlisted (E1–E4; n = 158; 49.7%)”. The Army specific numbers were very similar as well. The demographic breakdown reflected the following trends; “male (n = 145; 93.5%), Caucasian (n = 104; 67.1%), between 17 and 24 years of age (n = 51; 32.9%), junior enlisted (E1–E4; n = 78; 50.3%)”. These demographic trends indicate that a significant portion of the decedent population, based on age and rank, is likely to be soldiers in their first enlistment term. This analysis supports the idea that younger service members represent the larger portion of the military


population that display suicidal behaviors. The early onset of these behaviors, potentially before accumulating significant stress from military service, points to accession into service with some propensity for suicidal behavior.

The military’s demographic composition is unique which makes direct comparisons to the general population challenging. The distribution of age, sex, and race is not necessarily representative of the rest of the society. As displayed in Figure 2, racially the total US Military force, the active duty and selective reserve, is overwhelmingly white. According to the Defense Manpower Data Center (DMDC), the active duty force is 69.7% white, 16.8% black or African-American, and 3.7% Asian. According to the United States Census Bureau report for 2010, the racial distribution of the US general population was 72.4% white, 12.6% black or African-American, and 4.8% Asian. However, there does not appear to be a significantly different racial distribution beyond a slight over representation of African-Americans in the military population. Additionally, the DMDC reported that males made up 84% of the force as opposed to females who only comprised 16% of the force. This stands in rather stark contrast to the national distribution of sex which is roughly 49% male and 51% female. To further complicate comparisons, the social distribution within individual military units also varies widely. Therefore, the degree of social integration may also vary widely for individuals transitioning into military service. Service members may find themselves attempting to integrate into a social network very different from


36 Office of the Deputy Assistant Secretary of Defense (Military Community and Family Policy), 2012 Demographics Profile of the Military Community, 12.

what they experienced in civilian life. Some service members may find it difficult or impossible to fully integrate into a social support network under these conditions.

![Figure 2. Comparison of Racial Distribution among US and Military Service Population. Defense Manpower Data Center 2012 Demographic Data and US Census Bureau 2010 data.](image)

The age distribution of the military force differs from the national population’s age distribution. Figure 3 highlights that military service members, ages 18-25 years old, constitute the largest age cohort and represent 39.4% of the total force. This same age cohort represents only 9.9% of the national population. The young adult military population experiences the highest incidence rates of suicide with the 20-24-year-old age group exhibiting an incidence rate of 27.1 deaths per 100,000 members. The data available from the CDC does not use the same age group categories as the DoDSER statistics, but a similar civilian 15-24 year old age group displayed an 11.1 suicide incidence rate in 2012. The youngest military age group exhibits significantly higher suicide incidence rates than their civilian counterparts. Despite the differences in densities of the age cohort population, the suicide incidence rates should have been more similar. However, the

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military population suicide incidence rate was almost two and half times greater than their civilian counterparts. This data point presents a significant concern regarding what factors beyond military service stressors contribute to this significant increase in suicide rate for the initial entry population.

Figure 3. Comparison of US Military and US General Population Age Group Distribution. Defense Manpower Data Center 2012 Demographic Data and US Census Bureau 2010 data.

Another method for understanding unique subpopulations in the military is to examine racial demographics to explore the potential for minority stress on suicide rates. African Americans constitute approximately 13% of military suicides, with an incidence rate of 18.7 deaths per 100,000 members. Black suicide decedents in the national population occur at a rate of 5.4 deaths per 100,000 members. If age and sex distributions across the total force are consistent within the racial groups in the military, then the black suicide death rate should more accurately correlate with the younger age groups than the overall black population. The age distribution within the black male military population should represent the majority of the group, with a similar under representation of black females. The younger black male population in the general public exhibits suicide incidence rates in the 20-24-year-old age group of 16.7 deaths, and 15.2 deaths in the 25-34-year-old age group. Black females for the same age groups display an incidence rate of 3.0 and 2.8 respectively. Given this, the military rates closely match the black male civilian population rates displayed in Table 1. If minority status had presented additional stressors to impact suicide rates, then the incidence rates would have been much higher than the general population. There do not
appear to be indications racially related suicide stress in the minority black populations within the military.

Table 1. US Population Suicide Rates displayed by Race, Gender, and Age Group. Rates per 100,000 in expressed group. Missing data in some cells is due to suicide not constituting one of the Top 10 causes of death in that particular sub-group.

<table>
<thead>
<tr>
<th></th>
<th>All Races</th>
<th>White</th>
<th>Black, African American</th>
<th>Native American, Alaska Native</th>
<th>Asian, Pacific Islander</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>Male</td>
<td>Female</td>
<td>Overall</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>General Population</td>
<td>13.4</td>
<td>21.1</td>
<td>6.0</td>
<td>15.4</td>
<td>24.1</td>
</tr>
<tr>
<td>20-24</td>
<td>14.2</td>
<td>22.9</td>
<td>5.0</td>
<td>15.3</td>
<td>24.5</td>
</tr>
<tr>
<td>25-34</td>
<td>15.1</td>
<td>23.8</td>
<td>6.3</td>
<td>17</td>
<td>26.5</td>
</tr>
<tr>
<td>35-44</td>
<td>16.6</td>
<td>25</td>
<td>8.2</td>
<td>19.1</td>
<td>28.5</td>
</tr>
</tbody>
</table>


The military female population presents another subpopulation to explore. Military female decedents displayed an incidence rate of 11.7 deaths per 100,000 members in 2012. Comparatively, female deaths in the general population from suicide displayed a rate of 6.0 deaths per 100,000 females. Again, the majority of the female military population is composed of younger age groups. Estimates based on the DMDC data and the association of age and rank in the military indicate that military women, 18-34 years-old, compose as much as 80% of the small military female population. Military female suicides exhibit incidence rates almost twice that of their civilian counterparts. Even within the younger age groups, civilian female suicides presented incidence rates of only 5.0 and 6.3 for the 20-24 and 25-34-year-old age groups, respectively. What is not clearly evident in the available military data is when in their service careers female suicides occur.

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Office of the Deputy Assistant Secretary of Defense (Military Community and Family Policy), 2012 Demographics Profile of the Military Community, 19-21. Calculated by adding populations of pay grade O1-O3, E1-E4, and E5-E6 female personnel equals approximately 173,916 of 202,876 female personnel on active duty. This calculates to roughly 85%, accounting for about 5% overage as a reasonable estimate of age and rank data falling outside of the 18-34 age band. The US female population in the same age band accounts for approximately 20% of the population of females in the US.
However, deployment appears to uniquely affect military female suicide. Using HADS data, the Army STARRS report noted a significant difference in suicide rates between “currently deployed” and “never deployed” populations with less than four years of service. The “currently deployed” population displayed a 3.8-fold higher rate of suicide than the “never deployed” population. Interestingly, the suicide rate returned to nearly the pre-deployment level for females after deployment.41 This data may mean that women are more prone to increased stress from pre-existing factors that are exacerbated by deployment rather than caused by deployment since risk levels decrease upon return. Additionally, the group at highest risk had the shortest term of service which is similar to the trends displayed by other military demographic groups.

The general acceptance level for suicidal behavior in society poses another concern when developing prevention strategies. A portion of the population believes that suicide is acceptable in difficult circumstances. The states of Oregon, Washington, Montana, and Vermont have legalized medically assisted suicide. In a study to assess a viable Life Preservation Index (LPI), researchers attempted to assess suicide acceptability among a military population. Researchers surveyed 806 respondents using the Lincoln University Life Preservation Survey. The population included active service members and Department of the Army civilians.42 The results of the assessment indicated that a small portion of the population felt that suicide was acceptable under certain conditions. Survey participants responded that suicide was acceptable for disease at 30.5%, bankruptcy at 6%, dishonor at 7.9%, and 10.9% simply for being tired of living.43 The increase in levels of acceptability indicate that suicide is likely to be a persistent problem. These increases also


42 Abdoulaye Bah et al., "Computing the Prevalence Rate of At-Risk Individuals for Suicide Within the Army," Military Medicine 176, no. 7 (July 2011): 732.

43 Abdoulaye Bah et al., "Computing the Prevalence Rate of At-Risk Individuals for Suicide Within the Army," 734-735.
demonstrate that the general population possesses changing attitudes toward suicidal behavior. Developing prevention strategies that run counter to social acceptance may make suicide reduction more difficult.

The increase in suicide over time may indicate a degradation in social normative controls against suicide. The generational cohort of males born in 1930-1934 committed suicide at a rate of 17.4 suicides per 100,000 births. The suicide rate increased steadily over time until males born between 1985 and 1989 committed an estimated 37.8 suicides per 100,000 births. That 1985-1989 birth cohort began to turn 18 and was eligible for service from 2003 to 2007. While not all of the military suicides that occurred between 2007 and 2011 were from this demographic cohort, they still constituted the largest decedent group. This further reinforces the idea that suicidal behavior has increased in prevalence in the general population. It also indicates that population with increased tendencies to exhibit suicidal behavior will continue to manifest as military suicides as that population continues to enter service.

Military career experiences and lifestyle may impact suicide rates in different ways. As a social structure, military services provide protective influences that reduce suicide incidence rates in groups with longer service. The demographic structure of the military presents unique challenges when comparing suicidal behavior in the general population to the military service population due to differences in age and sex distribution. Similarities exist in broad categories and demonstrate that the youngest age groups exhibit the most suicidal behavior across both minority and majority populations. However, simply comparing suicide rates fails to accurately account for why those rates occur among the youngest service members. The greater likelihood is that behavioral tendencies in the general population negatively impact military suicide rates.

Identifying Unique Subpopulations in the Military Population

Assessing pre-enlistment onset of both mental disorders and suicidal behavior provides a source of evidence for determining the potential societal causes or effects on service member suicide rates. The 2011 Army STARRS provides interesting results. The Army STARRS used several different studies and surveys to assess factors of suicidality and psychopathology in the service member population. The HADS examined soldiers and suicides between 2004 and 2009 to assess administrative predictors of suicide. The New Soldier Study (NSS) focused on soldiers entering service by surveying soldiers at basic combat training reception to assess behavioral and cognitive tendencies to serve as a baseline for future longitudinal studies on military suicidality. The All Army Study (AAS) focused on soldiers already in the force in 2011 to 2012 to determine career attitudes and experiences contributing to suicidality. Using AAS data, the Army STARRS determined that 13.9% of US soldiers had a history of suicidal ideation, and 2.4% had a history of suicide attempts. Interestingly, the survey respondents also reported that more than half of them experienced those events prior to enlistment. Army STARRS identified that mental disorders such as anxiety, mood disorders, disruptive behavior, and substance abuse disorders were more common than in a socio-demographically matched sample of civilian counterparts. Among the 25.1% of respondents assessed with a mental disorder, more than 76% reported that their disorders began prior to enlistment in military service. Therefore, a subpopulation of service members begin their service careers with increased risk for engaging in suicidal behaviors. More detailed data focused on specific characteristics and behaviors would better define that subpopulation and allow early


46 Matthew K. Nock et al., “Prevalence and Correlates of Suicidal Behavior Among Soldiers: Results from the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS),” *JAMA Psychiatry* 71, no. 5 (May 2014): 520.

intervention. Determining if suicide behavior is a societal problem that appears in the veteran population requires a more detailed assessment of suicide among both the enlistment eligible population and service members.

What additional factors can identify or predict the influence of either military service or preexisting conditions on military suicide? Often, suicidal behaviors occur well before entry into military service. Analyzing suicide statistics reveals a different picture when examined in detail, and raises more opportunities to define the specific subpopulations that display factors associated with suicidal behavior. The DoDSER annual report concerning suicides in 2012 indicated that of the 319 active duty suicides, less than half (151, or 47.5%) had combat deployment experience. Fewer (43, or 13.5%)\(^ {48}\) had direct combat experience\(^ {49}\). Military suicide victims display trends in behavior and experiences that go well beyond labeling their deaths as completely related to military service or deployment experience.

In 2014 researchers from the National Center for Telehealth and Technology (NCTT) investigated the risk of suicide related to deployment to combat theaters and separation from the military. An additional analysis of DoDSER data, expanded to include several years of military suicide events, failed to confirm the hypothesis that combat deployments increased the risk of suicide.\(^ {50}\) The study population was a cohort of over 3.95 million service members who were in the active or reserve components between October 2001 and December 2007. The study focused on identifying suicide incidents among all service members who were in an active or reserve status.


\(^{49}\) Ibid., 97. “Direct Combat” assessment based on meeting one of the following conditions; wounded others in combat, killed others in combat, service member wounded in combat, witnessed killing, or saw bodies of other soldiers.

\(^{50}\) Reger et al., “Risk of Suicide Among US Military Service Members Following Operation Enduring Freedom or Operation Iraqi Freedom Deployment and Separation from the US Military,” 569.
during the reporting period regardless of deployment status. The researchers identified a total of 5041 suicide deaths during that period.\textsuperscript{51} Suicides within the cohort studied showed little difference in incidence rates between service members that had deployment experience and those that did not. Ultimately, researchers concluded that early separation from service and the character of the discharge had greater impact on suicide risk than deployment experience.\textsuperscript{52}

The 2014 NCTT study differed from the 2012 VA study on veteran suicide in a unique way. The NCTT report included service members who separated from service for any reason during the analysis period.\textsuperscript{53} Using this data, researchers found that the separated population accounted for thousands of service members who had separated prior to completing initial training, or had separated due to legal, administrative, adjustment, or substance abuse issues.\textsuperscript{54} This NCTT study population set differed from the VA study in that many of the members now included in the analysis would not have been eligible for VHA benefits, and, therefore, were not included in the VA study population. Although the study focused on the linkage between deployment and suicide, the results of the study revealed greater association between separation from service and suicide.\textsuperscript{55} Members of the cohort that had separated with less than one year of service demonstrated a suicide incidence rate of 48.04 deaths per 100,000 service members. Members that separated with less than two years of service displayed a slightly lower incidence rate at 44.16 deaths per 100,000 members.\textsuperscript{56} Further, the study uncovered that the “hazard of suicide for service members who

\textsuperscript{51} Reger et al., ”Risk of Suicide Among US Military Service Members Following Operation Enduring Freedom or Operation Iraqi Freedom Deployment and Separation from the US Military,” 563.

\textsuperscript{52} Ibid., 561.

\textsuperscript{53} Ibid., 561-562.

\textsuperscript{54} Ibid.

\textsuperscript{55} Ibid., 563.

\textsuperscript{56} Reger et al., ”Risk of Suicide Among US Military Service Members Following Operation Enduring Freedom or Operation Iraqi Freedom Deployment and Separation from the US Military,” 567.
completed between four and twenty years of service was approximately half that for service members who only served a year or less before separation.” For service members that separated after four years of service the incidence rate fell to 21.7 deaths per 100,000, and those with greater than eight years fell even further to 20.2 deaths per 100,000 members. The failure to complete initial training or the initial enlistment term of service may play an important role in increasing the emergence of suicidal behaviors.

For service members who separated early, the characterization of discharge appears to play a significant role in suicide risk. Different categories of separation included an honorable separation, other than honorable, or uncharacterized separations for those departing with less than 180 days of service. Comparatively, those with other than honorable and uncharacterized separations displayed more than twice the risk factor and incidence of suicide than those who separated honorably. Those that separated honorably demonstrated a suicide rate of 22.4 deaths per 100,000 members, a rate consistent with the suicide incidence rate of the general military population. However, members who separated other than honorably displayed a suicide rate of 45.8 deaths/100,000 members. Members with uncharacterized separations displayed an incidence rate of 46.2 deaths/100,000 members. The transition to civilian life after a brief military service may have more complicated impacts and increase stressors for those individuals. Factors such as negative self-image, loss of shared identity, employability, and other conditions may exacerbate the risk within this population. Additionally, separation from service does not mean a cessation of the condition that led to separation. Continued medical, legal, or mental health issues would be particularly stressful for the populations separated under other than honorable and uncharacterized conditions because they have no access to VHA medical services.

57 Ibid., 564.
58 Ibid., 567. Table 4 “Association Between Service Characterizations at Separation and Suicide for All Service Members Who Separated From Service”
59 Reger et al., "Risk of Suicide Among US Military Service Members Following Operation
In all of these cases, the specter of mental health issues related to suicide is ever present. There is a clear body of work associating pre-existing mental health and behavioral issues to increased risk for suicide. Previous studies indicate that “the presence of a mental disorder is among the most consistently reported risk factors for suicidal behavior.”

Further, post-suicidal psychological autopsy studies indicate that “90-95% of the people who die by suicide (had) a diagnosable mental disorder at the time of death.” The US Army Public Health Command conducted a small sample study between 2001 and 2009 that examined 874 Army suicides. Within that small population approximately 46% of the decedents had received a mental health diagnosis prior to suicide. The majority of the suicide decedents involved cases with mood disorders, adjustment disorders, and anxiety accounting for more than half of the diagnoses. Almost one third of the decedents had evidence of contributing factors that led to their diagnoses for mental health issues existing prior to their accession into the Army. However, the study could not determine which decedents had entered service knowingly with a mental health diagnosis, or previous history of self-injury. An earlier study in 2006 studied Advanced Individual Training soldiers and attempted to determine the prevalence of depression in the initial entry training population. The study included 1090 participants with a mean age of 20.9 years and was consistent with service demographics at 87.6% male. Respondents reported higher rates of depression than

Enduring Freedom or Operation Iraqi Freedom Deployment and Separation from the US Military,” 567-568.

60 Nock et al., “Suicide Among Soldiers: A Review of Psychosocial Risk and Protective Factors,” 100.

61 Ibid.


63 Ibid., 442. Table 3 “Psychological Risk Factors Associated with Suicides of Army Soldiers”

64 Ibid., 443.

the general population, particularly for males who scored between 3-8% higher than their civilian counterparts for evidence of depressive symptoms. 66

Previous suicidal behavior can be a strong predictor of future attempts at self-harm. Additional studies noted that, “people who have made a previous suicide attempt are approximately forty times more likely to eventually die by suicide than those without such a history.” 67

Interestingly, an analysis conducted by the Army STARRS estimated that “14% of soldiers have a pre-enlistment history of suicidal ideation, 2% have a history of pre-enlistment suicide plans, and 2% made at least one suicide attempt before joining the military.” 68 The Public Health Command study also noted that the decedents had additional stress loads in addition to their predisposing psychological factors. The combination of environmental and biological factors in the decedents likely increased their risk of suicide. 69

The mental health conditions associated with suicide, and the types of diagnoses are not unique to the military decedent population. Similar conditions exist in the civilian population and are reflected in the derived military population. Evidence of depression is a strong, although not definitive, predictor of future suicidal behavior. Additional disorders involving anxiety are related to PTSD and are another strong predictor. However, within the military suicide decedent population, only a few suicides can be attributed to PTSD. This seems counter-intuitive, but the cause for reduced linkages is likely due to increased attention and behavioral health care given to those with a PTSD diagnosis. Disorders involving aggression and impulsiveness often surface in

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the military population as substance abuse disorders and conduct issues. The Army STARRS report based on the AAS data also noted a distinct correlation between intermittent explosive disorder (IED) and increased suicide risk. The nature of IED, characterized by recurrent and uncontrollable anger attacks, may lead to impulsive behavior. These manifestations are contrary to service culture and likely to lead to incidents that could result in punitive actions and early separation; two factors noted earlier has having a linkage to increased suicide risk. The increased suicide risk based on the presence of IED or major depressive disorder (MDD) is important to note. IED “is the most prevalent pre-enlistment disorder of all those assessed, has a strong association with suicide attempts, and has been consistently associated with attempts in prior studies.” Additionally, the pre-enlistment presence of IED in service members was the only disorder with “significantly elevated risk of post-enlistment first suicide attempts” and is the only disorder consistently found to predict suicide attempts. IED is the only disorder that can predict the “transition from ideation to suicide attempts.” Compared to similar civilian cohorts through the National Comorbidity Study Replication, military populations displayed rates of major depression five times higher than civilian counterparts, and IED six times as high. With these considerations in mind, the accession of recruits with reported histories of IED constitutes accessing a high risk

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71 Ursano et al., “The Army Study to Assess Risk and Resilience in Servicemembers (STARRS),” 111. The All Army Study (AAS) was a cross-sectional survey conducted in 2011-2012 of active duty personnel administered to active duty soldiers in Kuwait awaiting mid-tour leave flights, and Reserve and National Guard soldiers either before or after deployment. The AAS collected 35,372 respondents.

72 Ibid., 114.

73 Nock et al., “Prevalence and Correlates of Suicidal Behavior Among Soldiers,” 520.

74 Ibid., 521.

75 Nock et al., “Prevalence and Correlates of Suicidal Behavior Among Soldiers,” 521.

population for suicidal behavior. Screening of recruits should include this behavioral condition as a disqualifying condition to reduce the incidence of post-enlistment suicide.

The timing of a mental health issue or disorder onset is of critical importance. As noted previously, a large percentage of service members who enter the military already have a mental disorder and are at risk of suicide. The Army STARRS report determined that mental disorders are much more common than realized. Their sample indicated that roughly 25% of survey subjects displayed anxiety, mood, disruptive behavior, or substance disorders. Additionally, more than three quarters of the subjects had pre-enlistment onset of their disorders. These particular disorders manifested during pre-enlistment were demonstrated as more impairing and put soldiers at higher risk for suicide than disorders with onset post-enlistment. Disturbingly, the Army STARRS report indicated that approximately 60% of suicide attempts were associated with these particular types of disorders.\textsuperscript{77} When considering the points made earlier that the highest risk population is the youngest, lowest rank population, and given that the Army inducts approximately 140,000 – 190,000 members each year,\textsuperscript{78} the impact of pre-existing mental disorders is significant.

From an individual psychology perspective, the examination of pre-existing and post-enlistment onset of mental disorders provides a data point for further analysis to determine appropriate screening or intervention measures. However, it does not provide the easy answer to stop suicide. The vast majority of those service members with mental disorders never reach the point of suicidal ideation or commission. Many members without mental disorders commit suicide without ever displaying symptoms that something was wrong. The identification and awareness of personality traits, temperament, and other characteristics such as impulsiveness, aggression,
hopelessness,\textsuperscript{79} and isolation which can exist in any service member provide important indicators for intervention.

Given increases in mental health issues and greater acceptance of suicide in American society, it is not improbable that the military arrived at such an elevated rate of suicide in 2012. The additional data concerning either pre-enlistment onset of disorders and suicidal ideation within the recruiting population, or of early onset of these conditions once in service, also could have played a role in the surge in suicides experienced between 2003 and 2012. Increasing recruiting intakes from an already at risk population to meet operational requirements certainly may have combined to increase these rates. However, the DoD can learn from this period of recruiting and anticipate developing or adopting policy for application during the next recruiting surge.

Reducing the Suicide Prone Subpopulation at the Point of Accession

The increasing presence of suicidality among youth and the general population present a specific and growing challenge to the military medical and recruiting communities. Examining previous and current induction screening practices provides some clues toward developing a plan to avoid an increased suicide risk within the military population. While the military should reflect the society, the area of suicide rates is one area that there should be a distinct difference between civilian and military populations; the military displaying a lowered risk through a combination of proactive and reactive strategies. The first of those strategies should be preventing a high-risk subpopulation from entering service through careful screening.

The military has a long and varied history of mental health screening practices. The primary motive for psychological assessment in accession has been to determine the intelligence aptitude of recruits and suitability for training, not suicide prevention. Efforts expanded in World

\textsuperscript{79} Nock et al., “Suicide among Soldiers: A Review of Psychosocial Risk and Protective Factors,” 102.
War One (WWI) and focused on preventing attrition as a result of combat-related neuropsychiatric conditions. During that period, pre-enlistment assessments resulted in the rejection of approximately 83% of military applicants between 1909 and 1915; the majority those rejected did not meet physical requirements with 6% rejected for mental health defects. While many were rejected for deficiencies in intelligence aptitude, the services rejected roughly 2% of inductees on neuropsychological grounds, psychopathy or mental disorders.

World War Two (WWII) brought the second effort to evaluate recruits and draftees for psychological suitability. Based on the lessons from WWI, the military sought to reduce post conflict expenditures for treatment of neuropsychiatric casualties. The military increased the level of scrutiny in the screening process initially, eliminating 10-15% of recruits for psychiatric reasons. However, as manpower requirements increased after 1942, the services sought more expedient means to fill shortages and relaxed the screening standards. At the end of the war, the effectiveness of screening suffered setbacks due to studies that showed some individuals with previously disqualifying mental health conditions served satisfactorily during the war. Ultimately, researchers determined that accession mental health screenings designed to predict vulnerability to combat stress failed to account for intensity of combat experienced by each individual, and, thus, failed to accurately predict onset of psychiatric trauma.

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Following WWII, the services integrated psychiatric evaluation into induction medical screening, but only to identify and eliminate those with gross psychiatric disability.\textsuperscript{84} During the Vietnam War the services largely abandoned this type of psychological test. The unpopular nature of the war reduced the overall quantity of recruits and draftees so that service rejection based on the potential for developing psychological disorders presented a difficult and controversial topic.\textsuperscript{85}

The Vietnam experience in recruiting was unique compared to the contemporary model that includes the post-1973 All Volunteer Force (AVF) and warrants comparison. Vietnam was the final test of the draft and volunteer system. The long wars in Iraq and Afghanistan represented the AVF’s first test in sustaining a warfighting force structure. In the Vietnam era, the services tended to reject far more applicants for other than medical reasons such as educational deferments for draftees. Without the national pool of draftees to fill vacancies not filled by voluntary recruits, the AVF has a significantly smaller population of candidates. Comparing applicants for service in Vietnam in a two-year period between 1964-1975 with a similar two-year voluntary applicant population between 2003 and 2005 reveals some surprising statistics. The population available for accession in a two-year period for Vietnam averaged around 4.5 million, while the AVF applicants during a similar period of time averaged around 429,000. To meet mission requirements, the Vietnam era force accepted approximately 8\% of applicants for service as opposed to around 55\% for the AVF. Additionally, the AVF waived disqualifying conditions for approximately 38\% of the initially rejected applicants.\textsuperscript{86} The conclusion from this comparison is that the AVF is much less selective than the former draft and volunteer force. The services certainly are driven by operational

\textsuperscript{84} Cardona and Ritchie, "U.S. Military Enlisted Accession Mental Health Screening: History and Current Practice," 33.

\textsuperscript{85} Jones, Hyams, and Wessely, “Screening for Vulnerability to Psychological Disorders in the Military: An Historical Survey,” 43.

\textsuperscript{86} Griffith and Bryan, “Suicides in the U.S. Military: Birth Cohort Vulnerability and the All-Volunteer Force,” 489.
requirements to recruit personnel while faced with a decreasing pool from which to select. The services are also smaller than their Vietnam-era counterparts and continue to decrease in size based on budget availability. The challenge remains how much more selective can the services be in accession in order to meet requirements when drawing from a population that displays increasing risk for mental disorders and risk of suicide.

Wartime assessment measures focused primarily on the two aspects of determining suitability for service and predicting combat stress casualties with limited effect. Current efforts take a slightly different approach. The services use three common components of mental health screening for applicants. The first, the Services use the Armed Services Vocational Aptitude Battery (ASVAB) to assess the intelligence the recruit and use that score to determine a range of suitable military occupations. The second measure is educational level attainment. The third measure is a review of medical screening forms and records with a general psychiatric evaluation.87 Again, the services focus on determining the trainability and suitability of each recruit and not suicidal or neuropsychiatric behavioral risk. While the medical screening process includes a questionnaire listing previous disqualifying mental health conditions, it relies each recruit admitting that they possess a disqualifying condition. The current process includes a series of yes/no questions regarding the recruit’s past history of conditions such as anxiety, depression, suicide, behavioral counseling, and drug abuse.88 The Accession Medical Standards Analysis and Research Activity (AMSARA) commonly notes that “the great majority of existing prior to service discharges (EPTS)”89 are for medical conditions that were not discovered or disclosed at the time of

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89 Walter Reed Army Institute of Research: Division of Preventive Medicine, “AMSARA: Accession Medical Standards Analysis and Research Activity 2014 Annual Report” (Silver Spring, MD/Defense Technical Information Center, 2014): 118. “A discharge for a medical condition can be classified as an EPTS discharge if the condition was verified to have existed before the recruit
application for service, with concealment by the applicant being the most common scenario.” 90 AMSARA further notes that the challenge with (EPTS) discharges “appears to be the bypassing of accession medical standards rather than the implementation of those standards” with psychiatric conditions listed first among common causes of EPTS.91 As noted earlier, the danger of this practice is the active concealment of mental health conditions, particularly among the population with prior suicidal ideation and attempts, and among the population with pre-existing major depressive disorder and intermittent explosive disorder. However, the challenge in accurate reporting is that a recruit has greater incentive to appear qualified for military service than to report an accurate history of mental health counseling, suicide history, drug abuse, anxiety, or depression.92

There is potential in using noncognitive temperament testing protocols to identify potential mental disorders in recruit populations in order to focus additional behavioral health screening. Both the Assessment of Individual Motivation (AIM) and the Tailored Adaptive Personality Assessment System (TAPAS) collect self-reported personality and behavioral information from recruits. However, the surveys are designed in such a way that the respondents are less able to fake a favorable score or respond in terms of social desirability.93 The assessments included a cohort population between 2005 and 2009 of non-high school graduate recruits totaling 47,979 respondents. Although this group was typically considered high risk for early attrition, the aim of

began service and if the complications leading to discharge arose no more than 180 days after the recruit began duty.”

90 Walter Reed Army Institute of Research: Division of Preventive Medicine, “AMSARA: Accession Medical Standards Analysis and Research Activity 2014 Annual Report,” 3.

91 Ibid., 95.

92 Gubata et al., "A Noncognitive Temperament Test to Predict Risk of Mental "Disorders and Attrition in U.S. Army Recruits," 374.

93 Gubata et al., "A Noncognitive Temperament Test to Predict Risk of Mental "Disorders and Attrition in U.S. Army Recruits," 375.
the study was to determine if the AIM could predict early attrition. The AIM evaluation measured candidates in six areas: work orientation, adjustment, agreeableness, dependability, leadership, and physical conditioning. Respondents were categorized into quintiles for comparison purposes. Interestingly, across the quintiles, between 46% and 35% of subjects developed mental health disorders in the first year of service. The most common mental disorders were adjustment, affective disorders, and substance use. The AIM was not designed as a mental disorder detection test, but provided some indices within the testing population that helped predict future diagnosis. The AIM might be used in the future to identify recruit populations requiring additional clinical screening and potentially deny enlistment. The TAPAS is a more sophisticated tool designed to replace AIM. While still in development, potential TAPAS utilization includes identification of “applicants for in-depth examination in favorable recruiting environments as well as lower risk applicants for waiver consideration during periods of challenging recruitment.” In essence, this assessment can provide a tailorable screening method to identify and reduce the burden of undiagnosed and concealed pre-existing mental disorders. The decision to use the collected data to control entry of higher risk personnel could be dependent on the military’s operational requirements and willingness to accept risk at the point of accession.

Specific nontraditional minority populations present unique challenges in suicide prevention and incidence reduction. Although the military services no longer restrict the entry of Lesbian, Gay, Bisexual, and Transgender (LGBT) persons, little is empirically known about the suicidality of this population within the military. Previous military policies restricted the self-identification of service members in these categories and effectively masked the data over time. The first obstacle to determining suicide rates among this population is the absence of sexual identity

94 Ibid.
95 Ibid., 376.
96 Ibid., 379.
data on death certificates. Often the determination of sexual minority status relies on psychological autopsy data acquired from family members to confirm sexual orientation. However, several adolescent surveys conducted in the US have consistently reported suicide attempt rates at two to seven times higher in high school students who identify as LGBT compared to their heterosexual counterparts.97 Additionally, studies reveal that the LGBT population often displays significantly higher rates of depression, anxiety, conduct disorder, and substance abuse. Further, researchers observed this population to display six times greater prevalence to display multiple disorders than their heterosexual counterparts.98 Data from the National Transgender Discrimination Survey also showed a significantly higher suicide attempt rate for the LGBT community. Estimates focused on the transgender and non-gender conforming population revealed that 41% of respondents in the study attempted suicide during their lifetime. The study also indicated that the suicide propensity was highest among the 18-24-year-old age cohort with high school or less educational attainment in both the LGBT and heterosexual communities.99 This indicates that the LGBT population represents a subpopulation with a higher risk for suicidal behavior. However, as with their heterosexual counterparts, the levels of adjustment and temperament are the critical factor in determining suicidality. While a significant portion of the population may present increased risk for suicidal behavior, a larger portion will may not. Determining the suitability for service requires careful screening for the LGBT population in concert with the heterosexual community.


Historically, the military has attempted to screen recruits for mental health in an effort to build a suitable force and reduce medical risk to the service member and long term medical costs. These efforts were successful to varying degrees but were also diminished by the inability to prove success. Future efforts to identify and screen specific populations will encounter increasing complexity and challenges. Changing conditions such as increased behavioral health diagnoses in the civilian population and other conditions precluding military service will reduce availability pools for recruits. The military services will face hard decisions on which standards to adjust in order to allow entry and include these previously excluded high risk subpopulations. However, there are tools available to conduct screening in order to identify recruits for more deliberate assessment and intervention.

Conclusion

Reviewing available research into military suicide reveals that a subpopulation of recruits enter service with either a pre-existing disposition toward suicide or a history of suicidal behaviors. However, medical screening procedures used to identify and exclude this population are insufficient and easy to evade. Subpopulations within the military force and general population display common trends in suicidal behavior that can serve as predictors for future suicide events. Informed with these trends and indicators, the services should be able to establish more stringent screening criteria for recruits to limit the induction of persons who display these trends. These efforts to reduce the induction of a suicide vulnerable subpopulation will allow the military services to focus behavioral health resources better on currently serving members.

The gross demographic data shows the young males in the general population have the highest incidence rates for suicide. That same population is the largest demographic group represented in the military. The young men and women who join are new to military service and cannot logically be strongly protected from suicide by military normative behaviors that serve to inhibit suicidal behavior. The behavior of a newly enlisted man or woman reflects the habits and
values of the environment from which they came more than the norms of the military. This indicates that many of the suicidal behaviors or predictors occur prior to entry into service. It also indicates that the critical period for identification and intervention occurs early in service.

Current efforts to reduce suicide rates are hampered by the numerous and varied individual reasons for suicide. However, focusing identification efforts on commonly associated mental disorders such as IED and MDD may provide an avenue to better early intervention. Not all persons with mental disorders or behavioral health concerns commit suicide. However, suicidal populations do display some common trends in identifiable and treatable disorders.

The ultimate goal of the recruiting and retention program is to provide personnel who are both physically and psychologically suitable for military service. Additionally, enlisting qualified recruits eliminates the excessive time lost from duty for necessary treatment or hospitalization or likelihood the enlistee would be separated from the Army for medical unfitness.\textsuperscript{100} Mechanisms exist to identify better those subpopulations for further clinical screening during the accession process. Those measures to identify at risk personnel must go beyond the self-report screening procedures that have proven easy to evade through willful action or ignorance of individual medical history. The use of non-cognitive tests to assess behavioral health as well as job skill placement would serve dual duty in providing a healthier and more capable force for service.

The military personnel end strength will continue to expand and retract and recruiting requirements will adjust in reaction to issues of national security. Similarly, there is an established history and precedent for increased scrutiny to prevent induction of psychiatically vulnerable persons. These efforts are even more critical during conflict periods with increased recruiting requirements. The military services should logically be able to set screening standards to limit the

\textsuperscript{100} Army Regulation 40-501, \textit{Standards of Medical Fitness}, ch 2-2(2).
entry of suicide prone subpopulations displaying specific tendencies from entering the services. Doing so will result in a higher quality force with greater resiliency.

The identification of the association between early discharge, nature of discharges, and suicide also presents an interesting challenge. Current policy prevents the provision of post-service medical benefits to the population of dishonorable and uncharacterized discharges. Yet, this subpopulation would appear to be at great risk due to the conditions of their separation. While active duty treatment and retention are not viable options in most cases, perhaps some form of support is appropriate. More research is required to determine the highest vulnerability period post-separation for this population. As noted by Dr. Mark Reger and his research team in their study of service member suicide following deployment,

“it is possible that the transition from military to civilian life may have increased risk for suicide. Loss of shared military identity, difficulty in developing a new social support system, or unexpected difficulties in finding meaningful work may contribute to a sense that the individuals do not belong or are a burden to others.”

This sense of burdensomeness is the same psychological risk condition noted by Dr. Thomas Joiner in his Interpersonal-Psychological Theory of suicide. The loss of social integration and shared identity relate to Durkheim’s social integration requirements to stem suicidal behavior. A limitation in interpreting Dr. Reger’s research was in identifying the time between separation and suicide. A possible policy consideration would be to provide up to twenty-four months of VHA behavioral health care to this population in order to enable their period of adjustment after their military service.

The available research indicates that the services could enhance their suicide prevention programs by identifying and focusing efforts on some of the underlying causes of military suicide. The available research has identified many factors beyond specific military service stressors that

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influence an individual suicide decision. Greater awareness of trends in the general population that run counter to military suicide programs will also enhance effectiveness. Recognition of negative mental health trends related to suicide within the recruited population will help to shape better suicide prevention strategies and intervention efforts.
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