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Active Monitoring of Mental Health and Suicide Prevention for Military Personnel

December 2024

Capt Adam R. Zelenka, USAF

Thesis Advisors: Dr. Paul Lester, Associate Professor
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Department of Defense Management

Naval Postgraduate School

Prepared for the Naval Postgraduate School, Monterey, CA 93943

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ABSTRACT

The Department of Defense (DoD) faces a serious challenge as suicide is now the leading cause of death for active-duty military personnel. Despite the DoD's attempts to improve its suicide prevention program, suicide rates have not decreased for service members and continue to exceed the civilian population. This thesis evaluates the effectiveness of existing strategies within the Army, Navy, and Air Force, identifying implementation gaps and opportunities for innovative approaches to improve mental health and suicide prevention. This study utilized quantitative, comparative, and retrospective analysis, evaluating trends within suicide rate, suicide count, and population size of the Army, Navy, and Air Force from 2011 to 2023. Findings show disparities between active-duty military and civilian populations, along with differences across service branches in suicide rate and program effectiveness. Recommendations emphasize adopting innovative and tailored suicide prevention methods, enhancing access to mental health resources, embedding professionals in units, strengthening Lethal Means Safety with a tracking system for weapons, and launching a minimally invasive pilot program requiring quarterly service member check-ins. This research aims to help the DoD strengthen early detection, reduce stigma, and enhance intervention efforts to reduce suicide rates, promote a supportive culture, and ensure mission readiness for the U.S. military.

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ABOUT THE AUTHOR

Capt Adam Zelenka was born in Ft. Sill, OK and is the son to an enlisted Army sergeant and grew up in various locations including South Korea, Colorado, Oklahoma, and Texas. He Enlisted in the United States Air Force in 2008 and served in Security Forces. As an Enlisted member he completed tours in Washington D.C, Kuwait, Colorado and finished his "E" career as an Enlisted Accessions Recruiter in Medina, OH in 2016. During this time, he earned degrees from the Community College of The Air Force in Criminal Justice and Human Resources and earned his bachelor's degree in criminal justice from the American Military University in 2014. Adam was selected by the Vice Chief of Staff of the Air Force to commission under the Senior Leader Enlisted Commissioning Program to become a Security Forces Officer. He officially earned his commission in August 2018 at Maxwell, Air Force Base (AFB), AL. He has served in critical positions as Flight Commander, Operations Officer, Officer in Charge of the Security Forces Officer Course, and Force Protection Action Officer. He completed tours at McConnell AFB, KS, Incirlik AFB, Turkey, Joint Base San Antonio-Camp Bullis, TX, MacDill AFB, FL, and was selected to attend the Naval Postgraduate School. He is currently studying Systems Acquisitions Management under the Department of Defense Management Program.

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Also, I give my heartfelt thanks to my family and closest friends for their unwavering support and encouragement through my achievements and most difficult challenges throughout my career. Your belief in me has been my foundation. I also want to express my appreciation to my Air Force Security Forces family and leadership for allowing me to attend one of the most prestigious schools in the world. Finally, I dedicate this thesis to my fellow service members, hoping to create awareness, promote support, and make a profound difference in saving lives. This work is a testament to the shared commitment to ensuring no service member stands alone in their time of need.

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LIST OF ACRONYMS AND ABBREVIATIONS

AFMES	Armed Forces Medical Examiner System
ASR	Annual Suicide Report
ASPP	Army Suicide Prevention Program
DMDC	Defense Manpower Data Center
DoD	Department of Defense
DoDSER	Department of Defense Suicide Event Report
DSPO	Defense Suicide Prevention Office
QSR	Quarterly Suicide Report
SecDef	Secretary of Defense
SPARRC	Suicide Prevention and Risk Reduction Committee
SPGOSC	Suicide Prevention General Officer Steering Committee
SPRIRC	Suicide Prevention and Response Independent Review Committee
USD	Under Secretary of Defense

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I. BACKGROUND OF ACTIVE-DUTY MILITARY SUICIDE

Suicide is now the leading cause of death for active-duty military personnel. Suicide, death resulting from intentionally injuring oneself with the intent to die, is a tragedy not only because the individual experiences pain and suffering leading up to the incident but also because it causes agony for their family, friends, significant others, and co-workers (Centers for Disease Control and Prevention, 2024c). Suicide can impact the readiness and morale of the individual's unit, affecting missions across the DoD (Kamarck & Mendez, 2023). The DoD faces a serious challenge and needs to examine current strategies, investigate deficiencies, and implement effective suicide prevention approaches. This chapter discusses these challenges by understanding the current state of the active-duty military suicide crisis, the historical evolution of military suicide prevention efforts, the risk factors, and suicide rates. It also describes the research questions and provides an overview of the chapters in this thesis.

A. ACTIVE-DUTY MILITARY SUICIDE CRISIS

Though the suicide rate within the United States has steadily increased over many years, the U.S. military's rates are significantly worse, as shown in Table 6. A recent report found that while over 7,000 service members have died in combat since 9/11, over 30,000 active-duty service members and veterans have committed suicide (Hernandez, 2021). This statistic means suicides among active-duty military personnel and veterans have exceeded combat deaths by more than four times despite knowing that suicide is a preventable cause of death.

Suicide is the leading cause of death for U.S. active-duty military personnel in six out of the seven years analyzed from 2016 through 2022, as Figure 1 depicts. Historically, accidents were the leading cause of death for active-duty military personnel. However, suicide surpassed accidents as the leading cause of death for the first time in 2016 (Defense Casualty Analysis System, 2023). This shift signifies the severity of the issue and emphasizes its development as a new challenge. In response to the suicide crisis in the U.S. military, DoD leadership has involved command and unit leadership, medical professionals, counselors, and subject matter experts in efforts to mitigate the suicidal

ideations, attempts, and deaths seen in recent years (Kamarck & Mendez, 2023). Indeed, since the early 2000s, the DoD has repeatedly changed strategy, policy, and programs in an attempt to turn the tide against service member suicide.

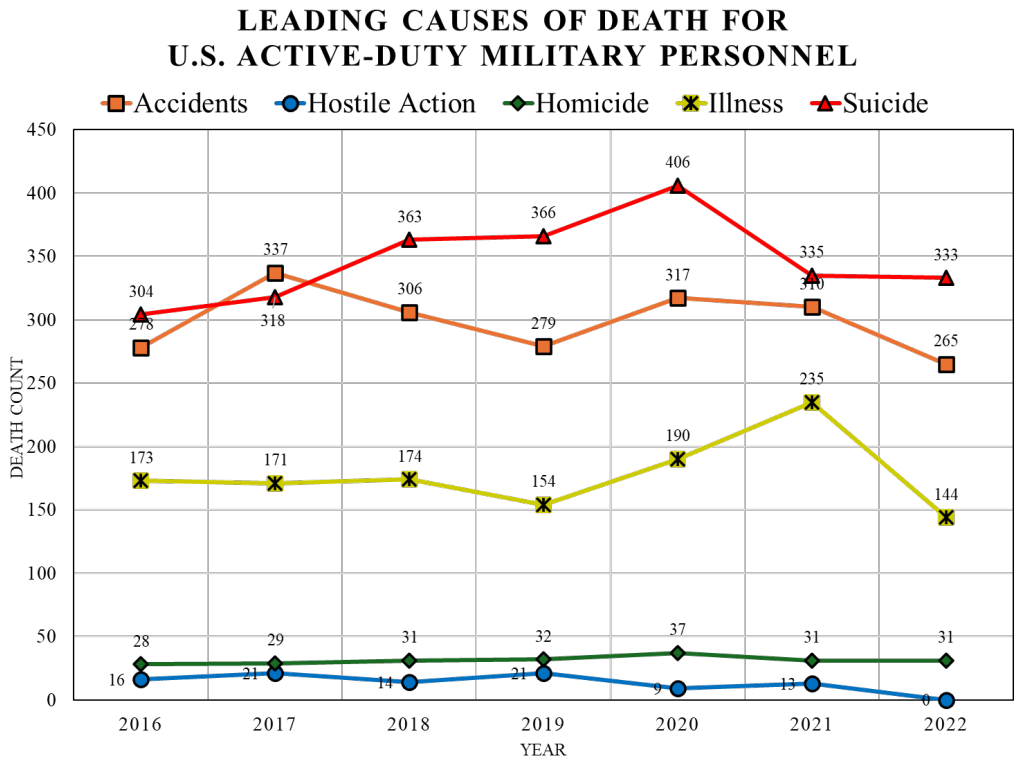

Figure 1. Leading Causes of Death for U.S. Active-Duty Military Personnel from 2016 through 2022. Adapted from Defense Casualty Analysis System (2023).

The DoD recognizes that there is a military suicide crisis that must be addressed. According to Suitt (2021), in response to the growing crisis, Congress provided $20 million annually to the DoD dedicated to suicide prevention programs, research, and resiliency initiatives. The DoD's expenditure on suicide prevention continues to grow, with the DoD requesting $261 million for suicide prevention in the Fiscal Year 2025 budget alone (Roza, 2024). Although the U.S. military receives significant resources to address the concerning rise of suicide among service members, suicide rates have not shown any improvement (Suitt, 2021). This lack of progress indicates that although the DoD is determined to develop and implement effective policies, procedures, and practices to address this challenge, it continues to grapple with identifying effective suicide prevention policies, procedures, and programs.

Many factors can influence the likelihood of a suicidal behavior (Centers for Disease Control and Prevention, 2024c). Research by Griffith and Bryan (2018) emphasizes that one of the leading challenges in preventing active-duty military suicides is identifying at-risk individuals before they reach a crisis stage, followed by the essential assessment, referral, and follow-up. The authors specify that this approach is commonly known as secondary prevention and is one of the most challenging aspects of suicide prevention to manage effectively. Moreover, they note that effective secondary prevention requires greater emphasis on proactive strategies including training all DoD personnel on the significance of executing active monitoring at every level, from peers, supervisors, leadership, and beyond. Such approaches can directly address factors that influence lowering the suicide rates seen today (Griffith & Bryan, 2018).

This thesis explores how improving early detection and prevention strategies for mental health within U.S. active-duty military personnel will strengthen the overall resilience and readiness of the entire U.S. armed forces. Additionally, by focusing on proactive suicide prevention initiatives, this study investigates how organizational efforts can strengthen the long-term resilience of service members and foster a supportive culture. The research aims to identify strategies that enhance operational effectiveness and improve overall outcomes for military personnel. This thesis will emphasize the importance of addressing suicide prevention as a critical element of military leadership, policy, and sustainability. The analysis highlights the importance of proactive measures to ultimately cut down on the concerning suicide rates observed in recent years. In the section that follows, I describe the historical evolution of the military's suicide prevention efforts.

1. Historical Evolution of Military Suicide and Prevention Efforts

Before 2000, the suicide rate for the U.S. military was historically lower than the U.S. population. However, in the years following, the military's suicide rate increased considerably (Pruitt et al., 2019). For example, the suicide rate of active-duty personnel rose from approximately 11.8 suicides per 100,000 service members in the 1990s to 28.2 per 100,000 in 2023, surpassing the civilian rate of 14.8 per 100,000 (Centers for Disease Control and Prevention, 2024a; Defense Suicide Prevention Office, 2024a; Department of

the Army, 1999). Pruitt et al. (2019) describe how the increase in suicide rates among active-duty military personnel forced the DoD to address the issue with vigorous surveillance data, which played a vital role in developing policy and prevention actions. The authors note that this analysis also provided critical information about military suicide to government leadership, vital stakeholders, the media, and the U.S. public in facilitating an understanding of the factors contributing to elevated suicide rates. According to Pruitt et al. (2019), the rising rates of suicide culminated in the DoD establishing a systematic data collection platform for all instances of death by suicide among active-duty Army, Navy, Air Force, and Marines, known as the Department of Defense Suicide Event Report (DoDSER). Established in 2008, DoDSER captures data on the incidents, circumstances, risk factors, and suicide attempts that result in hospitalization. One advantage of the DoDSER is that it standardizes the collection across services and reduces redundancies that often emerge when individual service branches create their own systems (Pruitt et al., 2019). This standardization assisted leaders and researchers in analyzing, understanding, and implementing changes to reduce suicide rates.

In 2009, DoD leadership established a Task Force to study military suicides and provide recommendations to reduce them (Suicide Prevention and Response Independent Review Committee, 2023). The following year, in 2010, the DoD Task Force published 76 recommendations, which included establishing a consolidated suicide prevention office, known as the Defense Suicide Prevention Office (DSPO), in 2011. Consequently, the DSPO provides the DoD with a comprehensive policy on suicide prevention and is the official source for reporting data on suicide and suicide attempts, keeping track of both the active component and reserves. However, in 2015, the DoD employed the Office of the Inspector General (OIG) to analyze suicide prevention programs within the DoD and found that there was a lack of structure and planning across the DoD. As a result of these shortcomings, the DoD published the Department of Defense Strategy for Suicide Prevention (DSSP), which outlined a consolidated mission, vision, goals, and objectives. Building upon this strategy, in 2017, the DoD created an official instruction for all military services to adhere to, Department of Defense Instruction (DoDI) 6490.16, *Defense Suicide Prevention Program.* This instruction established policies and

responsibilities and outlined oversight procedures for all military personnel (Suicide Prevention and Response Independent Review Committee, 2023).

In 2020, the DoD published DoDI 6400.09—*DoD Policy on Integrated Primary Prevention of Self-Directed Harm and Prohibited Abuse or Harm*—which integrated policies and responsibilities to prevent self-harm and abusive or harmful acts. In 2021, the Government Accountability Office (GAO) published GAO-21-300, *DoD Needs to Fully Assess Its Non-Clinical Suicide Prevention Efforts and Address Any Impediments to Effectiveness.* The report recommended that the DSPO, the military services involved in non-clinical suicide prevention efforts, and the Psychological Health Center of Excellence enhance their collaboration to improve suicide prevention programs and reduce suicide rates among service members. Also, in 2021, the White House released *Reducing Military and Veteran Suicide: Advancing a Comprehensive, Cross-Sector, Evidence-Informed Public Health Strategy,* which identified five critical elements of suicide prevention: 1) improving Lethal Means Safety; 2) improving crisis care changes; 3) increasing access and quality of mental health care; 4) addressing risk and protective factors; and 5) increasing research coordination, data sharing, and evaluation (Suicide Prevention and Response Independent Review Committee, 2023). Despite the DoD's active attempts to improve its suicide prevention efforts each year, suicide rates have not decreased for service members as intended and have continued to exceed the civilian population. This demonstrates that the initiatives have yet to achieve the DoD's goal of reducing suicide rates among active-duty personnel to levels equal to or below the U.S. population.

In 2022, the DoD continued to enhance its suicide prevention efforts by supporting the launch of the national 988 Suicide and Crisis Lifeline. This resource is accessible to all military personnel and provides immediate access to professional support in times of need. Finally, in 2022, the DoD established the Suicide Prevention and Response Independent Review Committee (SPRIRC) to evaluate and enhance its suicide prevention program. Their report was released in 2023 and provided the DoD with 117 recommendations to improve suicide prevention efforts across all branches of the military. (Suicide Prevention and Response Independent Review Committee, 2023).

Taken together, three themes emerge. First, suicide is inherently complex, and the DoD is expending significant resources to study, understand, and prevent it. Second, despite devoted effort toward focused strategies to mitigate suicide in the military, there is little indication that those efforts have paid off. Third, there is a rising concern related to the public's perception of suicide rates in the military, and this concern is reflected in the growing resources allocated by Congress to the DoD to fight suicide.

2. Current Military Mental Health Risk Factors and Suicide Rates

In the context of military suicide prevention, risk factors specific to service members can stem from combat stress, operational trauma, or unique circumstances inherent to military service. Risk factors can disrupt protective mechanisms, increasing the likelihood of individuals developing mental health disorders or becoming predisposed to high-risk, self-injurious behaviors (Defense Suicide Prevention Office, 2023). These risk factors are intensified among military personnel. Several government reports and academic studies suggest that while serving in the military, service members are exposed to high stress with a lack of access to mental health care and encounter traumatic cultural, training, and operational contexts that civilians do not experience, thus making service members more susceptible to suicidality (Fox, 2018). Furthermore, researchers suggest that the unique demands placed on service members and the demographic composition of those who voluntarily serve in the military set the conditions for service members to have a higher risk for suicidality (Kamarck & Mendez, 2023). Specifically, some service members are exposed to combat and high-stress environments, which are associated with higher rates of mental health diagnoses, including depression, anxiety, moral injury, and post-traumatic stress disorder (Hoyt & Hein, 2021). Mental health conditions can develop over time following constant exposure to high-stress environments (Kamarck & Mendez, 2023). Understanding these specific risk factors is necessary because it allows for the development of targeted suicide prevention strategies that address unique challenges encountered by active-duty military personnel. By recognizing and focusing on the distinct stressors inherent in a military lifestyle, the DoD can implement more effective interventions aimed at lowering suicide rates within the active-duty community, which is the overarching goal.

Another issue that has arisen due to military culture is the viewpoint that the military values toughness and resiliency, which can discourage some members from seeking help when they need it. Mental health professionals identify this phenomenon as stigma, which serves as a significant barrier to service members seeking mental health support. Many service members avoid utilizing mental health services due to a lack of trust in the system, fear of negatively affecting their career progression, and feelings of shame or embarrassment associated with admitting to mental health issues (Hammer, 2023). The DoD is actively working to eliminate the stigma around mental health services to enable members to seek help when they need it.

Research has also indicated that traumatic brain injury (TBI) found in military members is linked to heightened suicidal ideations, attempts, and death rates (Weiss, 2023). Additionally, military personnel who have been deployed and exposed to explosive blasts may have sustained concussive injuries they may not be aware of. According to the DoD, 458,000 military personnel were identified with TBI from 2000 to 2022; although it is a physical injury, it regularly leads to mental and emotional issues (Weiss, 2023). Also, studies have shown that substance abuse elevates the risk of death by suicide among military members, which includes excessive alcohol consumption. This is particularly problematic because research clearly and consistently indicates that members of the military collectively abuse alcohol at a rate much higher than that of the general civilian population (Kamarck & Mendez, 2023).

The most recent Annual Suicide Report (ASR) for CY 2023 (2024a) identifies the use of firearms as the most common method of suicide death and is a significant risk factor in active-duty personnel. The DSPO reported that in 2023, 65% of active-duty suicides were from firearms, suggesting the importance of Lethal Means Safety (LMS) in the military community (Defense Suicide Prevention Office, 2024a). Due to the nature of service, military personnel have more exposure to firearms and are more likely to own a personal firearm (Hoyt et al., 2022).

Finally, another top issue that military members face is the effects the military has on their interpersonal relationships. For example, the most recent ASR indicates that intimate relationship problems were likely contributing factors to 43.6% of completed

suicides in 2023 (Defense Suicide Prevention Office, 2024a). Due to the unique nature of military service, intimate relationships are affected by frequent separations, training requirements, deployments, constant moving to different installations, and much more, contributing to relationship tensions. This section identifies some of the most common statistically significant factors regarding suicidality (Ramchand et al., 2011). Still, it is also important to note that there is no evidence that they are causal associations.

Over the last 13 years, the suicide rates for active-duty personnel consistently hovered in the mid-20s per 100,000 service members, while the U.S. population is at 14 per 100,000 citizens (please see Table 6 later in this thesis for details). Due to these alarming rates, DoD leaders, clinicians, epidemiologists, and scholars continue to analyze and study the suicide crisis to develop data-driven recommendations that will influence the reduction of suicide rates that are seen so prevalently today in active-duty military personnel. Despite extensive investigation and continuing efforts by DoD leaders, clinicians, and scholars to address the suicide crisis, critical gaps remain in understanding why prevention programs produce uneven results across military branches and which strategies effectively mitigate key risk factors. These unresolved challenges emphasize the need for further research, leading to the core research questions of this study.

B. RESEARCH QUESTIONS AND CHAPTER OVERVIEW

1. What aspects of service branch-specific suicide prevention programs are the most effective and why?
2. What are the programmatic similarities and differences across the suicide prevention programs within the United States Army, Navy, and Air Force?
3. What forms of active monitoring or other prevention strategies might the DoD consider adopting from civilian behavioral health communities to improve the Department's suicide prevention program?

Despite the allocation of resources and dedicated efforts by DoD leaders, clinicians, and scholars, the DoD lacks effective policies, programs, and medical interventions that decrease the rate of active-duty suicides. This thesis examines options for improved early detection and intervention strategies that may decrease suicidal behavior within the U.S. military, including the reported efficacy of military branch-specific suicide prevention programs. This study evaluates the effectiveness of suicide prevention programs across service branches, offering actionable recommendations to

enhance Department-wide program efficacy. Also, it explores the potential benefit of incorporating active monitoring strategies to decrease suicide rates amongst military personnel, providing insights for Departmental leadership to strengthen prevention efforts and improve outcomes.

This thesis consists of five chapters relevant to mental health and suicide prevention for active-duty military personnel. Chapter II is a comprehensive literature review that illustrates the current state of suicide prevention in the DoD, the Army, Navy, and Air Force's suicide prevention strategies, analyzes statistics, and discusses active monitoring systems for mental health. Chapter III provides the data sources and methodology of this thesis. Chapter IV analyzes the data and presents the results. Finally, Chapter V will explain the summary of key findings, discuss the limitations, and provide recommendations from the research of this thesis.

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II. LITERATURE REVIEW

In this chapter, I examine the current state of DoD suicide prevention, including recent suicide prevention efforts, current statistics on military suicide, the Army, Navy, and Air Force's suicide prevention strategies, and active monitoring systems that could assist in reducing suicide rates. Building on this foundation, the following section presents the current state of suicide prevention within the DoD, including policies, programs, and plans to address current issues.

A. CURRENT STATE OF SUICIDE PREVENTION IN THE DOD

The alarmingly high suicide rate among service members within the DoD continues to garner significant concern from both military and civilian leaders alike. As a response to this problematic issue, the DoD has empowered several organizations to conduct thorough studies, collect extensive data, and investigate the root causes of the high suicide rates of active-duty military personnel. These efforts are valuable because the studies used data to identify several key areas and potential intervention points within the suicide prevention programs that need improvement. Subsequently, the DoD has implemented new policies, procedures, and practices intended to reduce suicide rates within the military population. I begin this chapter by closely examining the DoD's current policy on suicide prevention. Later, I will describe the recent changes that leaders have implemented, and finally, I will explore some overarching statistics on suicide rates in the military.

1. DoD Suicide Prevention Efforts

Before I examine each service branch's suicide prevention policy and programs, it is essential to acknowledge that the U.S. military operates under the hierarchical umbrella of the DoD. The DoD outlines its suicide prevention policy in DoD Instruction 6490.16, *Defense Suicide Prevention Program*. This guidance provides a comprehensive framework for the DoD, which includes the Army, Navy, and Air Force (Department of Defense, 2023a). This instruction contains 40 concise pages that address the DoD's expectations of its personnel to follow and emphasize the need to establish policies and

attribute responsibilities for the DoD Suicide Prevention Program. The document also determines processes for overseeing and reporting the program and guidelines for reporting suicides, including suicide ideations of active-duty and reserve service members, as well as their dependents.

Furthermore, it identifies deeply rooted and influential committees in the program, including the Suicide Prevention General Officer Steering Committee (SPGOSC) and the Suicide Prevention and Risk Reduction Committee (SPARRC). SPGOSC provides oversight and guidance for the execution of the Defense Suicide Prevention Program, while SPARRC is an action officer working group that focuses on suicide prevention efforts within the DoD. Lastly, this instruction ensures that the DoD Suicide Prevention Program is evaluated for effectiveness, critical in identifying areas of concern (Department of Defense, 2023a). Having introduced and described the intent of DoD Instruction 6490.16, *Defense Suicide Prevention Program*, I next explore how the policy impacts active-duty military personnel the greatest.

DoD Instruction 6490.16 (2023) states, "Ensure suicide prevention programs are implemented by Component's structure, demographics, and needs across the Active Component" (p. 7). This quote is essential for understanding DoD's suicide prevention approach: U.S. military branches do not follow one uniform policy or prevention program. Instead, each military branch tailors its suicide prevention program to fit the needs of its respective service. Thus, because military missions vary widely between military branches, each branch is afforded the latitude to tailor its suicide prevention efforts to meet its unique needs.

On this note, the secretaries of the military departments are the leaders who represent each branch. They have the responsibility to implement suicide prevention policy and ensure their service members, as well as civilians, know what assistance is available for suicide prevention, intervention, and postvention that are available. Additionally, the secretaries of the military departments ensure that prevention employees at the command level are authorized and supported by leaders to apply data-informed actions, in other words, delegate authority. Moving from the strategic level to operational and tactical organizations, local commanders must ensure that all personnel

within their organization obtain suicide prevention training, as required by their respective service branch's instructions (Department of Defense, 2023a). DoD Instruction 6490.16 is an important document that lays the foundation for active-duty military suicide prevention programs, highlights vital personnel and critical organizations, and identifies the programmatic requirements to be managed and monitored by the chain of command.

DoD Instruction 6490.16, *Defense Suicide Prevention Program* (2023), "Integrates the use of evidence-based programs and strategies related to suicide prevention and clinical intervention across the Military Health System" (p. 11). This aspect is significant to this thesis. With all the policies, procedures, and practices in action, the DoD continuously seeks to improve, evolve, or advance suicide prevention as long as a substantial amount of reliable evidence supports the change. Having explored key aspects of DoD Instruction 6490.16, *Defense Suicide Prevention Program,* I now focus on the vital organizations that are involved in analyzing active-duty suicides. Furthermore, I highlight the relevant reports examined later in this chapter. The organizations and reports have a critical role in comprehending the efficacy of suicide prevention efforts and formulating potential future strategies within the U.S. military.

The DSPO serves as the DoD's lead agency in producing reports to Congress on military suicide deaths. The Armed Forces Medical Examiner System (AFMES) is responsible for tracking all active-duty deaths determined to be suicides. The AFMES has the obligation of calculating annual suicide rates for active-duty military, and it provides the DSPO with finalized suicide death statistics. Moreover, the AFMES also reports active-duty suicide deaths to the DSPO and the Defense Manpower Data Center (DMDC) weekly, with contributions from each military service's suicide prevention programs. Figure 2 depicts how the AFMES calculates suicide rates. After calculating these numbers, the DSPO publishes the Quarterly Suicide Report (QSR) and the ASR each year (Department of Defense, 2023a). The collaboration of these organizations to compile the data for suicide death rates is paramount for both data-informed and evidence-based analysis for future decisions of active-duty suicide prevention programs. This data assists leaders in focusing on specific areas of concern that require immediate attention. DoD Instruction 6490.16, *Defense Suicide Prevention Program,* provides the

foundation for the most recent actions the DoD has taken to prevent suicide in the military.

DoD Suicide Rate =

$$\frac{Sum\ of\ all\ Active\ ,National\ Guard,\ and\ Reserve\ Component\ suicides\ that\ occurred\ during\ the\ CY}{Average\ Active\ Component\ Popuation + Average\ National\ Guard\ Population + Average\ Reserve\ Population} \times 100{,}000$$

Active Component Suicide Rate =

$$\frac{Sum\ of\ all\ Active\ Component\ suicides\ that\ occurred\ during\ the\ CY}{Average\ Active\ Component\ Population} \times 100{,}000$$

Average Active Component Population =

$$\frac{Sum\ Army\ monthly\ Populations\ for\ CY}{12} + \frac{Sum\ Air\ Force\ monthly\ Populations\ for\ CY}{12} + \frac{Sum\ Navy\ monthly\ Populations\ for\ CY}{12} + \frac{Sum\ Marine\ Corps\ monthly\ Populations\ for\ CY}{12} + \frac{Sum\ Army\ Cadet\ Populations\ for\ CY}{12} + \frac{Sum\ Air\ Force\ Cadet\ Populations\ for\ CY}{12} + \frac{Sum\ Navy\ Midshipmen\ Populations\ for\ CY}{12}$$

National Guard Suicide Rate =

$$\frac{Sum\ of\ all\ National\ Guard\ suicides\ that\ occurred\ during\ the\ CY}{Average\ National\ Guard\ Population} \times 100{,}000$$

Average National Guard Population =

$$\frac{Sum\ Army\ National\ Guard\ monthly\ Populations\ for\ CY}{12} + \frac{Sum\ Air\ National\ Guard\ montly\ Populations\ for\ CY}{12}$$

Reserve Suicide Rate Calculation =

$$\frac{Sum\ of\ all\ Reserve\ suicides\ that\ occurred\ during\ the\ CY}{Average\ Reserve\ Population} \times 100{,}000$$

$$Average\ Reserve\ Population = \frac{Sum\ Army\ Reserve\ monthly\ Populations\ for\ CY}{12} + \frac{Sum\ Navy\ Reserve\ monthly\ Populations\ for\ CY}{12} + \frac{Sum\ Marine\ Corps\ Reserve\ monthly\ Populations\ for\ CY}{12} + \frac{Sum\ Air\ Force\ Reserve\ monthly\ Populations\ for\ CY}{12}$$

Note:

- The suicide rate is a measure of suicide frequency amongst different Military Components.
- Component strength population will be obtained from the Defense Manpower Data Center, the primary source for Service and Component population data, to ensure consistent inclusion and exclusion criteria of Service members.
- Rates will be calculated with suicide case and Component population information from the most recently-completed calendar year.
- For the Army and Air Force, a combined National Guard and Reserve rate may be calculated to meet the minimum threshold.

Figure 2. Suicide Rate Calculation. Source: Department of Defense (2023a).

In a 2023 press release titled *DoD Announces New Actions to Prevent Suicide in the Military*, the DoD identified several areas for improvement in its suicide prevention program (Department of Defense, 2023b). This release confirms that the DoD is actively pursuing enhancements to its suicide prevention program with the critical objective being reducing the overall number of suicides. The press release also revealed that Secretary of Defense (SecDef) Lloyd Austin released a memo directing the DoD to address suicide by executing his five lines of effort, which were recommended by the SPRIRC, as a result of two years of analysis (Department of Defense, 2023b). An understanding of the DoD's new actions to prevent suicide sets the stage for how the SecDef formulated his initiatives.

In 2022, the SecDef established the SPRIRC, an organization chartered to prepare a detailed analysis of the state of suicide prevention programs across the DoD. The SPRIRC was instrumental in assisting the SecDef to formulate his five lines of effort to enhance the DoD's suicide prevention program. This committee, comprised of subject matter experts from outside of DoD, was tasked with reviewing the DoD's suicide prevention program, reviewing clinical and non-clinical suicide prevention methods across each military branch, and providing recommendations. This action resulted in the SPRIRC assembling a comprehensive report that involved internal reviews of 11 military installations, which examined data from hundreds of focus groups and conducted interviews with thousands of civilian staff and military members. The committee's efforts culminated in over 100 short- and long-term recommendations for the DoD to focus on (Department of Defense, 2023b).

This report facilitated the SecDef establishing a new path forward and creating a memorandum that outlines the DoD's priority objective, which is to reduce the incidence of suicide across all military branches. The DoD is now planning to implement the SecDef's memorandum. The SecDef has assigned the Under-Secretary of Defense for Personnel and Readiness to oversee the SecDef's directive. The DoD expects to meet each line item by the end of fiscal year 2030 (Department of Defense, 2023b). Implementing these changes over seven fiscal years underscores two important considerations. First, the department correctly identified that it must carefully monitor all programmatic changes within the suicide prevention space to prevent or limit iatrogenic impacts on service members; program efforts should be efficacious and not exacerbate the problem. Second, the department recognizes that strategic change is a process that requires several resources – namely, time, money, and stakeholder buy-in.

On September 26, 2023, the SecDef released a memo titled "New Actions to Prevent Suicide in the Military," which addressed senior Pentagon leadership, commanders of the combatant commands, and the Directors across other DoD activities. As discussed, these actions build upon years of extensive analysis of suicide concerns within the military, primarily completed through the SPRIRC recommendations. More specifically, "The SPRIRC presented Secretary Austin with this report and ten recommendations addressing overarching issues within the military that the SPRIRC

believe will improve service member well-being by improving operations and infrastructure. An additional 117 recommendations are provided within the four strategic directions of the Defense Strategy for Suicide Prevention" (Suicide Prevention and Response Independent Review Committee, 2023). Figure 3 illustrates the five lines of effort identified in the SecDef's memorandum for suicide prevention.

Experts understand that suicide is a very complex problem, and it becomes even more challenging to understand driving factors when jobs, locations, service branch cultures, and prevention programs all differ. With this in mind, one conclusion raised by SPRIRC is that "persistently elevated suicide rates in the DoD result in no small part to the DoD's limited responsiveness to multiple recommendations that have been repeatedly raised by independent reviewers and its own experts" (Suicide Prevention and Response Independent Review Committee, 2023, p. 20). Despite this concern, it must also be noted that it is very difficult to rapidly implement so many changes across all service branches due to the size of the organization, complexity of the operating environment, and competing demands on time and other resources.

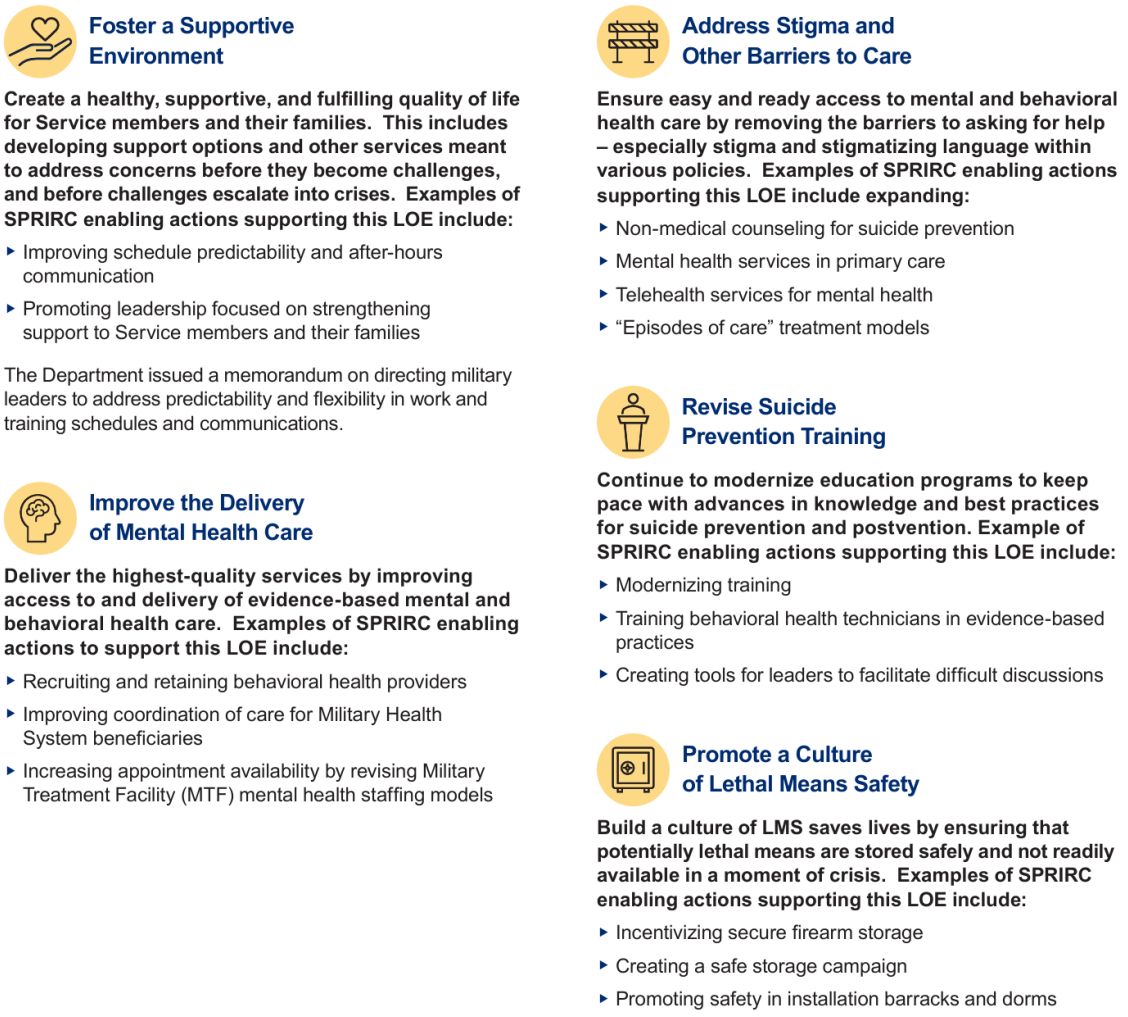

Figure 3. DoD's Five Lines of Effort for Suicide Prevention. Source: Defense Suicide Prevention Office (2024a).

2. Statistics on Suicide Deaths in the Military

The DoD's goal in surveillance of military suicide is to understand trends over time. The most current QSR that the DSPO has available is for the second quarter of calendar year 2024 (Defense Suicide Prevention Office, 2024b). This report highlights the fact that the statistics on suicide deaths within the document can change upon further investigation of unresolved cases. In addition, analyzing each report illustrates how suicides impact the U.S. military as a whole. Actively monitoring these statistics helps leaders understand the effectiveness or areas of concern for their suicide prevention strategies. The current QSR is a representation of suicide deaths that occurred from April

1, 2024, through June 30, 2024, for active-duty and reserve components. Table 1 represents the number of suicide deaths by service and components. This thesis focuses on active-duty military suicide deaths for the Army, Navy, and Air Force. Although this is a QSR for the second quarter of calendar year 2024, Table 1 includes valuable data that dates to 2016. I break this data down further to compare statistics from the Army, Navy, and Air Force's suicide prevention programs in Chapter IV of this thesis.

Table 1. Number of Suicide Deaths by Service and Component. Source: Defense Suicide Prevention Office 2nd QSR (2024b).

DoD Component and Service	CY 2021					CY 2022					CY 2023					CY 2024		
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Total
Active Component	**76**	**97**	**70**	**85**	**328**	**75**	**87**	**90**	**79**	**331**	**91**	**89**	**84**	**100**	**364**	**93**	**70**	**163**
Army	44	57	31	43	**175**	37	33	37	28	**135**	48	32	35	43	**158**	38	29	**67**
Marine Corps	13	8	13	9	**43**	8	17	25	13	**63**	13	13	19	17	**62**	13	8	**21**
Navy	12	18	14	15	**59**	14	22	14	21	**71**	17	21	13	18	**69**	24	15	**39**
Air Force	7	14	12	18	**51**	16	15	14	17	**62**	13	21	17	22	**73**	17	17	**34**
Space Force	0	0	0	0	**0**	0	0	0	0	**0**	0	2	0	0	**2**	1	1	**2**
Reserve Component	**43**	**42**	**59**	**51**	**195**	**42**	**41**	**34**	**46**	**163**	**44**	**35**	**46**	**35**	**160**	**46**	**42**	**88**
Reserve	**15**	**14**	**21**	**24**	**74**	**19**	**18**	**15**	**13**	**65**	**18**	**14**	**16**	**21**	**69**	**24**	**18**	**42**
Army Reserve	10	9	13	14	**46**	10	12	9	6	**37**	8	10	12	14	**44**	14	11	**25**
Marine Corps Reserve	2	3	4	4	**13**	3	1	1	2	**7**	4	3	1	2	**10**	3	2	**5**
Navy Reserve	3	1	1	5	**10**	2	3	1	1	**7**	4	0	2	2	**8**	4	2	**6**
Air Force Reserve	0	1	3	1	**5**	4	2	4	4	**14**	2	1	1	3	**7**	3	3	**6**
National Guard	**28**	**28**	**38**	**27**	**121**	**23**	**23**	**19**	**33**	**98**	**26**	**21**	**30**	**14**	**91**	**22**	**24**	**46**
Army National Guard	26	23	34	22	**105**	22	18	16	27	**83**	19	20	26	12	**77**	20	21	**41**
Air National Guard	2	5	4	5	**16**	1	5	3	6	**15**	7	1	4	2	**14**	2	3	**5**

DoD Component and Service	CY 2016	CY 2017	CY 2018					CY 2019					CY 2020				
	Total	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
Active Component	**280**	**287**	**81**	**78**	**78**	**89**	**326**	**93**	**71**	**84**	**101**	**349**	**89**	**80**	**114**	**101**	**384**
Army	**130**	**116**	36	31	40	34	**141**	32	37	34	43	**146**	37	41	53	44	**175**
Marine Corps	**37**	**43**	13	13	15	16	**57**	14	6	11	16	**47**	14	10	20	19	**63**
Navy	**52**	**65**	23	15	11	19	**68**	22	13	19	19	**73**	19	11	20	15	**65**
Air Force	**61**	**63**	9	19	12	20	**60**	25	15	20	23	**83**	19	18	21	23	**81**
Space Force	**NA**	**NA**	NA	NA	NA	NA	**NA**	NA	NA	NA	NA	**NA**	NA	NA	NA	NA	**NA**
Reserve Component	**202**	**226**	**49**	**44**	**62**	**62**	**217**	**45**	**43**	**42**	**26**	**156**	**45**	**49**	**44**	**60**	**198**
Reserve	**80**	**93**	**22**	**16**	**19**	**24**	**81**	**21**	**16**	**17**	**12**	**66**	**20**	**25**	**13**	**19**	**77**
Army Reserve	**41**	**63**	15	11	13	9	**48**	10	8	11	8	**37**	9	16	7	10	**42**
Marine Corps Reserve	**19**	**10**	4	1	4	10	**19**	5	1	1	2	**9**	2	2	2	4	**10**
Navy Reserve	**10**	**9**	3	3	2	3	**11**	2	2	3	0	**7**	5	3	2	3	**13**
Air Force Reserve	**10**	**11**	0	1	0	2	**3**	4	5	2	2	**13**	4	4	2	2	**12**
National Guard	**122**	**133**	**27**	**28**	**43**	**38**	**136**	**24**	**27**	**25**	**14**	**90**	**25**	**24**	**31**	**41**	**121**
Army National Guard	**108**	**121**	24	26	36	33	**119**	19	24	22	11	**76**	22	18	29	36	**105**
Air National Guard	**14**	**12**	3	2	7	5	**17**	5	3	3	3	**14**	3	6	2	5	**16**

Note: All figures above may be subject to change in future publications as updated information becomes available. Suicide counts (both confirmed and pending) are **current as of July 15, 2024**.

Indicates a change from the previous QSR based on updated information.

Highlighted for descriptive purposes. Does not reflect statistical increases or decreases nor account for population size.

The most current ASR that the DSPO has available is for calendar year 2023, providing the necessary data to address the research questions and the objective of this thesis. This report is comprehensive and detailed, providing vital statistics on suicide in all military service components and dependents. Additionally, the ASR includes suicide prevention resources that are available to military personnel, along with a breakdown of categories from death by suicide data. Furthermore, the ASR contains statistics on suicide rate comparisons across time between the service branches, demographic information about death by suicide, and the five lines of effort that the SecDef issued to the DoD.

This report also highlights service-specific suicide prevention efforts and much more, offering critical quantitative and qualitative data as it pertains to focus areas for improvement in reducing suicide deaths among military members (Defense Suicide Prevention Office, 2024a).

The ASR contains significant discoveries that aid in formulating an alternative strategy that the DoD and individual service branches may have yet to attempt. Table 2 displays annual data on service member suicide counts and rates per 100,000 from calendar year 2021 through calendar year 2023. To fully comprehend the crisis that the DoD is facing, Table 3 displays annual data on the U.S. population's suicide counts and rates per 100,000 from calendar year 2000 through calendar year 2022. Analyzing the data illustrates the challenges faced by the DoD, providing a direct transition into the next section, where I discuss the armed forces' suicide prevention strategies.

Table 2. Annual Suicide Rates and Counts per 100,000 Service Members, CY 2021–2023. Source: DSPO ASR CY 2023 (2024a).

Component and Service	CY 2021		CY 2022		CY 2023	
	Rate	Count	Rate	Count	Rate	Count
Active Component	**24.3**	328	**25.1**	331	**28.2**	363
Army	**36.1**	175	**28.9**	135	**34.8**	158
Marine Corps	**23.9**	43	**36.0**	63	**35.9**	61
Navy	**17.0**	59	**20.6**	71	**21.0**	70
Air Force	**15.3**	51	**19.0**	62	**22.5**	72
Space Force	--	0	--	0	--	2

Table 3. U.S. Annual Suicide Counts and Rates per 100,000, CY 2000–2022. Source: Centers for Disease Control and Prevention (2024d).

Year	Rate per 100,000	Count
2000	10.4	29,350
2001	10.7	30,622
2002	10.9	31,655
2003	10.8	31,484
2004	11.0	32,439
2005	10.9	32,637
2006	11.0	33,300
2007	11.3	34,598
2008	11.6	36,035
2009	11.8	36,909
2010	12.1	38,364
2011	12.3	39,518
2012	12.6	40,600
2013	12.6	41,149
2014	13.0	42,826
2015	13.3	44,193
2016	13.5	44,965
2017	14.0	47,173
2018	14.2	48,344
2019	13.9	47,511
2020	13.5	45,979
2021	14.1	48,183
2022	14.2	49,476

B. ARMED FORCES SUICIDE PREVENTION STRATEGIES

The DoD has established comprehensive policies to address the active-duty military suicide crisis, which is supported by substantial investments and focuses on prevention strategies. Yet, despite these efforts, suicide rates across each service branch remain alarmingly high, indicating continuing gaps in program effectiveness and execution. A detailed analysis of the Army, Navy, and Air Force's suicide prevention policies and programs offers valuable insights into each branch's strengths, weaknesses, and unique challenges. This examination focuses on opportunities for improving suicide prevention efforts and identifies similarities and differences that could form more effective, Department-wide approaches.

1. Army Suicide Prevention Strategy

The Army's policy on suicide prevention is covered in Army Regulation 600-92, *Army Suicide Prevention Program* (ASPP), and has been in effect since September 8, 2023. "The policy directs activities to prevent suicide using a comprehensive and proactive three-phased approach (prevention, intervention, and postvention)" (Department of the Army, 2023, p. 1). This regulation applies to the active-duty Army, Army National Guard, and Army Reserves. The ASPP integrates both the DoD's suicide prevention strategy and the Centers for Disease Control and Prevention's suicide prevention strategies. The ASPP integrates seven primary strategies, as shown in Table 4.

Table 4. Suicide Prevention Strategies. Source: Department of the Army (2023).

Suicide Prevention Initiatives and Centers for Disease Control Strategies	
Types of Suicide Prevention Initiatives (Tools, Education, Training)	**Centers for Disease Control Strategies (DoDI 6400.09)**
Army Financial Readiness Program	*Strengthening economic supports*
BH Pulse; CRRT, BH Teams in brigade (BDE) footprints	*Strengthening access and delivery of care*
Building Strong and Ready Teams, ACE; ACE–SI; Army Family Programs	*Creating protective environments*
Chaplains, ACE; ACE–SI; Engage; MRT	*Promoting connectedness*
Army Family Programs; MRT; Reception, Staging, Onward Movement, and Integration (RSOI) Training for New Soldiers arriving to Installation and Deployment/Redeployment	*Teaching coping and problem-solving skills*
Visibility tools-BH Pulse; CRRT ACE; ACE–SI	*Identifying and supporting people at risk*
Soldier Counseling, Counseling to reduce access to lethal means; Postvention Toolkit	*Lessening harm and preventing future risk*

As described in Table 4, the Army has taken steps to improve its suicide prevention program by integrating external evidence-based strategies into its program: "The ASPP aligns policies, practices, and programs that promote positive behavioral change, strengthen personal and collective bonds, and build readiness and resilience through collaborative partnerships" (Department of the Army, 2023, p. 1). The aspirational goal of the ASPP is to help prevent suicides. The ASPP describes building a resilience and risk-reduction culture and ensures its soldiers understand coping skills. Additionally, the program proactively trains its personnel to seek help through prevention, intervention, and postvention activities. The ASPP promotes fostering a culture of trust, enabling Army personnel to seek help without fear of reprisal. On this note, commanders are a vital component of the ASPP; as they are the leaders of their personnel, they are responsible for protecting and preserving individuals under their

command. As I highlighted, the ASPP uses a three-phased approach that starts with prevention, emphasizing education, training, and outreach activities to teach Army personnel self-care skills. For the ASPP, an intervention occurs when treatment is required to alter the conditions that produce crisis, ensuring soldiers get immediate treatment and follow-up care. Postvention includes a range of post-event activities the individual's leadership and installation subject matter experts will engage in to secure and support the affected individuals (Department of the Army, 2023). As referenced previously, the Army's suicide prevention strategy includes helping personnel by connecting them with subject matter experts, providing active leadership support, encouraging help-seeking, informing through training and education, and so on.

Despite these efforts, and as the data shows in Tables 1 and 2, the Army has the highest suicide rate among the active-duty component. The Center for Naval Analyses examined the Army's suicide prevention program in 2023 and found that "The Army lacks systematic program evaluations with supporting metrics to determine which prevention efforts are working" (Center for Naval Analyses, 2023, p. 3). This issue is a significant concern given that if efficacy is unknown, the department cannot determine if the existing program meets its goals or if the program should change. A recent article addressing the Army's suicide prevention program at Ft. Bliss stated that "Despite our programs, processes, and emphasis, we have failed to reduce the mean number of suicides per year since 2012" (Isenhower & Webb, 2024, para. 1). The authors discuss a recommendation for the Army to reduce suicide deaths by shifting away from addressing all issues everywhere simultaneously. Along with this, the authors acknowledge that suicide prevention is intricate and contradictory in nature (Isenhower & Webb, 2024). Considering this, the DSPO highlighted in its annual report the Army's suicide prevention initiatives, such as the Ask, Care, Escort (ACE) Suicide Prevention Pilot Program, LMS Toolkit, Spiritual Readiness Initiative Pilot Program, Wellness Checks for Soldiers Pilot Program, and Commander Suicide Prevention Training (Defense Suicide Prevention Office, 2023). Having explained the Army's suicide prevention strategies and initiatives, I now review the Navy's suicide prevention program.

2. Navy Suicide Prevention Strategy

The Navy's policy on suicide prevention is covered in OPNAVINST 1720.4B, *Suicide Prevention Program,* and has been in effect since September 18, 2018. It states, "Command suicide prevention programs are designed to enable deck plate action, which focuses on training, intervention, response, and reporting as core elements" (OPNAV, 2018, p. 2). This method is slightly different from the Army's focus, which, as stated previously, is prevention, intervention, and postvention, but both share many similarities. The Navy's policy applies to all active-duty and reserve Navy units within the Department of the Navy.

The Navy requires its personnel to have annual suicide prevention training with a focus on risk factors, protective behaviors, and encouraging members to seek help. Like the Army's ACE, the Navy has Ask, Care, Treat (ACT). As stated in OPNAVINST 1720.4B, *Suicide Prevention Program* (2018) ACT is "The Navy's call-to-action to encourage early intervention when a Sailor may be at-risk for suicide or is experiencing difficulty navigating stress" (p. 3). As stated in Army Regulation 600-92, *Army Suicide Prevention Program* (2023) ACE's objective is to "Support the development of knowledge on suicide-related help-seeking and stigma, protective and risk factors, stressors, and warning signs, early and crisis intervention and postvention principles" (p. 38). Both are fundamentally similar, with personnel in both branches empowered with recognizing concerning signs by their teammates and engaging them by asking if they are considering self-harm. If escalation is required, personnel should show support by caring for the teammate in distress. The key difference is the approach: the Army escorts the individual in distress to receive professional help, usually treating this as a handoff. Conversely, the Navy ensures that the individual receives initial treatment and continues with follow-up care.

The Navy also established the Sailor Assistance and Intercept for Life (SAIL) program, which provides support to sailors within the critical 90 days after an identified suicide-related behavior. The Army uses the Commander's Risk Reduction Toolkit similarly. The Navy's suicide prevention program also focuses on reducing access to lethal means, as does the Army in its policy. Both also clarify definitions, procedures,

checklists, resources, etc. Both programs value training and education for all of their personnel. In addition to this, both programs also value leadership involvement within their programs to foster a supportive command climate, encouraging leaders to be present to recognize at-risk personnel and assist with reducing the barriers to stigma when seeking help (OPNAV, 2018). As I have discussed throughout this thesis thus far, the Army and Navy suicide prevention programs have programmatic similarities and slight differences due to their distinct operational environments. The data in Tables 1 and 2 identified previously show that the Navy and the Air Force have had very similar suicide rates and counts since 2016, which were much lower than the Army's. Also, Table 3 shows that in 2022, the civilian suicide rate was 14.2, compared to the Navy's 20.6.

Yet, as previously discussed, individual service branches have faced somewhat distinctive contexts and thus face different issues. For example, "An internal Navy audit has found that the sea service has struggled to properly implement its suicide prevention program" (Ziezulewicz, 2023, para. 1). As the Navy performs its mission and is continuously traveling the oceans, it can be challenging to have oversight of everyone. In addition to this, Ziezulewicz (2023) explains, "Selected commands were unable to determine whether all their sailors completed annual suicide prevention training, potentially hindering the ability of sailors to help themselves" (para. 2). Obviously, this is an issue that must immediately be corrected, as suicide rates are high in the military. Given this, the DSPO also highlighted in its annual report the Navy's suicide prevention initiatives, such as Lethal Means Safety (LMS), Expanded Avenues for Care, and Project 1 Small Act (P1SA) (Defense Suicide Prevention Office, 2023). Having reviewed the Navy's suicide prevention strategies and initiatives, I now analyze the Air Force's program.

3. Air Force Suicide Prevention Strategy

The Air Force's policy on suicide prevention is covered in DAFI 90–5001, *Integrated Resilience,* and has been in effect since July 23, 2024. The Air Force's suicide prevention program involves a comprehensive, community-based strategy that focuses on fostering resilience and eliminating barriers and the stigma of seeking help. As with the Army and Navy, the Air Force strongly emphasizes leadership involvement, encouraging

leaders to actively monitor, identify, and address risk factors among their personnel. The Air Force also requires its personnel to have regular training and education on suicide prevention. The Air Force uses a public health approach to build and integrate mental health care into its mission readiness. Like the Army and Navy, the Air Force emphasizes monitoring access to lethal means, as this is an issue all three services face (Department of the Air Force, 2024). As shown in Table 1, the comparative analysis suggests that the Air Force had the lowest suicide deaths in the first quarter of 2024, with a total of 17. Likewise, in Table 2, the data show that the Air Force had the lowest suicide rate in 2022, with 19.0 suicides per 100,000 service members. Just as the Army having the highest suicide rates among the services is only an observation of numbers, these statistics do not mean programmatically that the Air Force is better or worse, as each service presents different circumstances. However, it is worth analyzing and understanding each service's unique obstacles. As Air Force Secretary Frank Kendall pointed out, "The service is still struggling to curb suicides across the force, calling the number 'fairly stable' despite efforts to emphasize mental health and bolster firearm safety" (Cohen, 2023, para. 1).

Although there have been fluctuations and some signs of success, the overall perception of the program's performance is that it continues to fall short of its intended goal, especially compared to the U.S. population. Cohen (2023) explains, "It's the latest look at the Air Force's yearslong battle to stem a suicide crisis it shares with the other armed forces and the American public at large" (para. 4). Although the Navy currently has lower suicide totals than the other services do, it still shares this crisis with the Army and Air Force. Taking this into account, the DSPO also highlighted the Air Force's suicide prevention initiatives in their annual report. Initiatives such as Time-Based Prevention (TBP), Wingman Connect/Guardian Connect (WC/GC), Suicide Prevention Virtual Reality Training (SPVR), Uniformed Services University of the Health Sciences (DAF) Standardized Suicide Fatality Analysis (StandS), and the True North Program are promising efforts highlighted by the DSPO in addressing suicide prevention within the U.S. military (Defense Suicide Prevention Office, 2023). The Army, Navy, and Air Force have made strides toward improving their suicide prevention programs. Their progress supports the opportunity to examine the branches' areas of overlap and identify the gaps within these initiatives to enhance efficacy.

4. Overlap and Gap Overview

After thoroughly analyzing the Army, Navy, and Air Force's suicide prevention strategies, I summarize this comprehensive review's key elements and discoveries. Table 5 highlights key similarities and differences between the suicide prevention policies of the Army, Navy, and Air Force. As I briefly discussed in this chapter, all three strategies identify the importance of leadership engagement, ensuring commanders are the focal point for fostering a supportive environment. They are responsible for encouraging their personnel to seek help and eliminating the stigma around such help. In addition to this, all three require that all personnel receive suicide prevention training at least annually.

Furthermore, the Army does training on ACE, the Navy does training on ACT, and the Air Force completes resiliency training; these approaches are designed to ensure personnel understand what resources are available to them, the warning signs to look out for, and how to intervene when someone needs professional help. All three have postvention methods like the Army's Commander's Risk Reduction Toolkit, the Navy's SAIL, and the Air Force's True North Programs. Lastly, all three branches support the DoD in data collection, which is critical to pinpointing areas of concern and improving strategies across the board.

Although there are differences between these branches' suicide prevention programs, the programs are still very similar. Despite their similarities, though, the programs have vastly different outcomes. In the end, the DoD, the Army, the Navy, and the Air Force all share a commitment to improve their suicide prevention programs. The services have yet to determine the proximal cause of this performance variance. Yet it does suggest that a) there is a lack of program implementation fidelity (i.e., the program provides clear execution guidance, yet unit leaders lack the resources or ability to implement as intended); b) the contextual demands on service members vary dramatically, which in turn results in uneven outcomes across the DoD; c) the psychological profiles of service members vary between service branches (i.e., prospective Navy sailors may simply be psychologically healthier and more resilient than prospective Army Soldiers); or d) some combination thereof. As I have solidified the programmatic similarities and differences between the Army, Navy, and Air Force's

suicide prevention policies, it is time to introduce possible future options that could help the DoD improve on the suicide crisis the U.S. military faces today. The background of the U.S. military suicide crisis, the historical evolution of military suicide and prevention efforts, the analysis of each branch's suicide prevention strategy, and a thorough analysis of active-duty suicide have finally led to possibly discovering an active monitoring system to improve the U.S. military's suicide rate issues.

Table 5. Suicide Prevention Policies of the Army, Navy, and Air Force. Adapted from Department of the Army (2023), Department of the Navy (2018), and Department of the Air Force (2024).

Policy Document	**AR 600-92 Army Suicide Prevention Program**	**OPNAVINST 1720.4B Navy Suicide Prevention Program**	**DAFI 90-5001 Integrated Resilience**
Program Focus	Prevention, Intervention, and Postvention.	Training, Intervention, Response, and Reporting.	Comprises of 15 Elements, Utilizes Comprehensive Airman Fitness (CAF) and True North programs.
Specialized Programs	Army Financial Readiness Program, Army Community Service (ACS), Ask, Care, Escort-Suicide Intervention (ACE-SI), Military Family Life Counselors (MFLCs), Better Opportunities for Single Soldiers (BOSS), Building Strong and Ready Teams (BSRT).	Implements the Sailor Assistance and Intercept for Life (SAIL) Program for post-crisis care during the critical 90-day period, and utilizes early intervention with Ask, Care, Treat.	Integrates Resilience Tactical Pause (RTP), CAF, ACE and True North programs.
Leadership Involvement	Leaders are required to foster a culture of trust, reduce stigma, and promote resilience. Commanders and leaders play an integral role in all aspects of the program to protect and preserve individuals, units, and installations.	Requires leaders to foster command climates that promote health and a sense of community, remove barriers to seeking help, increase awareness of resources, and take appropriate action when a Sailor is in need.	Air Force military and civilian leaders will build environments that promote healthy and adaptive behaviors, foster the wingman culture and Guardian Spirit, and encourage responsible and early help-seeking.
Stigma Reduction	Significant emphasis on reducing stigma through modeling help-seeking behaviors and proactive activities creating an environment where Soldiers, Civilians, and family members feel enabled to improve their mental health.	Promote help-seeking behaviors and support for vulnerable or at-risk Sailors and civilians. Remove barriers to seeking help, increase awareness of resources, and take appropriate action when a Sailor is in need.	Encourage early help-seeking behaviors with Airmen, Guardians, Civilians, family members, and reduce and eliminate stigma, utilizing the Spectrum of Resilience.
Follow-Up Care	Places strong emphasis on follow-up care. Intervention includes treatment of underlying conditions that may have contributed to suicidal behaviors, and follow-up care to assure positive outcome. Army can utilize Behavioral Health (BH) Pulse and Commander's Risk Reduction Toolkit (CRRT).	Implements SAIL for structured follow-up during the critical post-crisis period. After a Sailor has been treated for suicide behavior and found fit to return to duty, effective reintegration is critical to the healing process for both the Sailor and the command.	True North provides ongoing support and monitoring within units to ensure continuity of care. Limited Privilege Suicide Prevention (LPSP) Program ensures Airmen in vulnerable positions receive timely and non-punitive care.
Access to Mental Health Resources	Advocates for improved accessibility to mental health care and follow-ups. Ensures timely access to quality care and resources for Soldiers and their families through referrals, Health Officers, crisis hotlines, and provide support regardless of geographical location.	Provides Navy Suicide Prevention Website, crisis hotline, Chaplain Care, Mental Health, Fleet and Family Support Centers. Requires timely access to resources for at-risk individuals.	Implements True North Program to provide decentralized mental health care, CAF and LPSP.
Mandatory Training	Commanders will incorporate face-to-face suicide prevention annual training for Soldiers and Civilians. Training will be made available for Family members at times and locations that promote attendance. Annual training for all service members focus on risk factors and help-seeking.	Annual training includes core competencies and resources for intervention. Suicide Prevention General Military Training educate Sailors on suicide risk factors, warning signs, actions to strengthen protective factors, promote supportive command climates, when and how to intervene appropriately, and available support resources.	Mandates regular resilience and suicide prevention training. All total force Airmen and Guardians will complete annual suicide prevention training as designated by Air Force's Manpower, Personnel, and Services Directorate.
Lethal Means Safety	Promote and educate on the voluntary use of safe storage methods to include gun locks and safes, and safe storage for medications. Raise awareness and provide education on time-based prevention for individuals at risk.	Provides education, awareness, about the risks of lethal means. Advocates for voluntary firearm storage and safety protocols.	Timed based prevention targets safe storage of lethal means, particularly firearms and medications as these are most involved in death by suicide and suicide attempts by Air Force personnel.
Crisis Intervention	The objective of "Ask, Care, Escort" is to support the development of knowledge on suicide-related help-seeking, stigma, protective factors, risk factors, stressors, warning signs, early crisis intervention and postvention principles.	Intervention includes proactive planning for crisis intervention, addressing the process for identification, referral, access to treatment, and follow-up procedures for personnel who are at risk of suicide. Early intervention can be conducted by initiating "Ask, Care, Treat."	The Department of the Air Force Spectrum of Resilience represents the many sources of support Airmen, Guardians and their families can turn to in times of need and utilizes "Ask, Care, Escort."

C. ACTIVE MONITORING SYSTEMS FOR MENTAL HEALTH

As I have analyzed throughout this thesis, the DoD, Army, Navy, and Air Force have been actively working toward reducing suicide rates within their areas of responsibility. The growing interest in mental health and suicide prevention among the DoD and service branches has created an opportunity for innovative approaches designed to reduce suicide. I explore some of the most technologically advanced active monitoring systems available and examine existing data's positive and negative perspectives. With this literature review, I explore the efficacy of active monitoring systems and discuss possible ethical concerns and the feasibility of integrating such a system. Thus, this section examines the technical approach and efficacy of several active monitoring systems currently in use or under development.

1. Present-Day Active Monitoring Systems

The MITRE Corporation is developing an application to assist with health emergencies and improve resilience for service members, prompting the DoD's priority on mental health and suicide prevention and the fact that mental health issues were the primary reason for hospitalization of service members in 2023 (Schiavone, 2024). More specifically, of the 62,800 cases of troop hospitalizations that occurred last year, nearly one-third were for mental health treatment, breaking down to a little more than 8,000 service members for the Army, 5,257 for the Navy, and 3,554 for the Air Force. Failure to receive necessary mental health care is one of the detected issues; this is partially due to shortages of mental health workers, which causes a failure to monitor and delays treatment (Saballa, 2024). These issues led to researchers developing a prototype application called Technology Assisted Stress Control (TASC). This system operates with smartwatches that enable active monitoring of physiological stress to get ahead of mental health concerns and utilize machine learning and data-driven methodology to provide members with the required resources. MITRE is currently partnered with the University of California, Los Angeles (UCLA), to research and develop the application for the U.S. military. TASC has demonstrated the ability to detect service members in

distress and provide resources for early detection and intervention, thereby preventing issues from escalating. TASC will offer specific services for service members based on the device's active monitoring, and their doctors can analyze their data and provide in-person professional assistance. TASC also enables commanders to anonymously monitor trends across their unit and implement interventions with support from counselors, chaplains, or mental health professionals (Schiavone, 2024). Although TASC has promise, service members could also perceive it as invasive. While reducing suicide is a noble goal, there must be guidelines to protect the privacy of individuals.

Beyond TASC, other emergent technologies could be applied to understanding the efficacy and use cases of current suicide prevention intervention programs. For example, the National Institute of Mental Health (NIMH) funded a five-year, $17 million project with the Center for Accelerating Practices to End Suicide through Technology Translation (CAPES). CAPES evaluates the effectiveness of system interventions, implementation procedures, patient care, business structure, and ethical considerations. One project that CAPES intends to assess is the Jasper Health digital platform, a tablet- or PC-based system that enables a patient to develop coping plans that are compiled within their electronic record so clinicians can analyze and prescribe treatment or take other actions. Patients can also access the app on their phones to refer to their plans and tools after their appointment.

Another system that CAPES will analyze is Computerized Adaptive Tests (CATs), which apply intricate computations from extensive data collections to expedite primary care and identify specific required treatment for mental health symptoms, suicide risk, and guidance for intervention delivery. Next, CAPES will also explore the Automated, Data-Driven, Adaptable, and Transferable learning for suicide risk prediction (ADAPT), which utilizes artificial intelligence methods to recommend the transfer of current suicide prediction frameworks to other medical care systems. CAPES will also observe the effectiveness of Leveraging Early Mental Health Uncovering Risk for Suicide (LEMURS), which incorporates using a smartphone application to use data collected from collegiate students and combines with analyzing voice variations that screen for suicidal or depressive behavior. Dashboards will assist college medical centers in suicide prevention (Spencer, 2023). Researchers are developing active monitoring

systems for mental health and suicide prevention and are currently testing their efficacy. These systems have shown promising preliminary results; yet once again, utilizing systems such as those described here can bring on privacy concerns and ethical issues and make service members uncomfortable.

2. Viability of Integration

Integrating emergent technology that actively monitors mental health and suicidality faces two distinct hurdles. First, the technology has yet to mature and its efficacy is either questionable or simply unknown. However, once the technology is mature and studies can prove the efficacy of such a system, the DoD should consider active monitoring for its active-duty military personnel. Second, adopting emergent technology requires ethical safeguards and technological enculturation within the U.S. military. Stated differently, users need to know that the technology is safe, effective, and endorsed by organizational leadership. Given the privacy concerns previously raised, individuals utilizing this system face vulnerabilities related to the collection of sensitive information. It becomes apparent that access to these systems needs to be exclusively restricted.

Fortunately, department leadership recognizes the ethical pitfalls and potential reticence to adopting such technology. Therefore, they have taken steps to "Maintain an AI and machine-learning inventory, enact guidance for responsible AI, provide guidance for a trustworthy generative AI, promote and enable a digital workforce, promote and coordinate with other DoD and federal agencies" (Hammer, 2024). Military Health System leaders are refining their mission and vision strategies for artificial intelligence and machine learning into select fields of military health while actively ensuring that they implement these initiatives responsibly and ethically. Hammer (2024) states, "Mullen emphasized the need for partners across the Military Health System and other government agencies to establish a trustworthy AI framework." This thinking implies that technology is coming and that the military needs to start structuring its framework to be prepared to implement it when it becomes available. Now that I have discussed the DoD's current state of suicide prevention and reviewed the most recent statistics, the Army, Navy, and Air Force's suicide prevention programs, and possible future options

for active monitoring of mental health and suicide prevention, I now discuss my methodology, research design, and data collection.

D. CHAPTER SUMMARY

In this chapter, I reflected on how suicide remains a top priority for both military and civilian leaders. I discussed the current state of suicide prevention efforts within the DoD, thoroughly examining DoD Instruction 6490.16, *Defense Suicide Prevention Program*, and exploring the roles of key organizations such as the DSPO, the SPRIRC, and AFMES. Furthermore, I analyzed the initiatives that the SecDef directed with his five lines of effort, which leadership expects to implement fully by 2030. In addition to the DoD's suicide prevention policy, I also broke down the statistics of suicide within the military using the QSR and the ASR. Additionally, I thoroughly dissected the Army's ASPP, the Navy's OPNAVINST 1720.4B, and the Air Force's DAF Instruction 90–5001. I also analyzed active monitoring systems for consideration, the current state of these systems, and the ethical concerns they bring.

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III. DATA SOURCES AND METHODOLOGY

A. DATA SOURCES

To conduct my analysis, I utilize data from the DSPO's quarterly and annual suicide reports, the Department of Defense Suicide Event Reports (DoDSERs), the DMDC, and the Centers for Disease Control and Prevention's (CDC's) Web-based Injury Statistics Query and Reporting System (WISQARS), and Wide-ranging Online Data for Epidemiologic Research (WONDER). I specifically captured data from 2011–2023 and compiled suicide rates, suicide counts, and population statistics for both active-duty military and civilian populations. The following section provides a more comprehensive description of these sources.

1. Defense Suicide Prevention Office

As outlined in Chapter II, the DSPO serves as the DoD's lead agency in producing reports to Congress on military suicide deaths. The DSPO's mission states, "Leading data-driven suicide prevention efforts in the Department of Defense by advancing policy, oversight, program evaluation, and engagement to save lives of service members, their families, and the military community" (Defense Suicide Prevention Office, n.d). The data that the DSPO provides within its ASRs and QSRs are core to the analysis of this thesis. Specifically, I extracted data from the most recently published ASR (Defense Suicide Prevention Office, 2024a). The DSPO provides suicide rate data per 100,000 service members for the entire active-duty component from CY 2011 through CY 2023. Additionally, the DSPO also provides suicide rates specific to active-duty Army, Navy, and Air Force service members from CY 2011 through CY 2023. Considering the purpose of this thesis, this trend analysis can help identify which branch has the most effective suicide prevention program or understand the efficacy of program implementation. Also, selected data required utilizing older ASRs to cover the entire period I was evaluating, 2011 through 2023; in these instances, the data is properly cited.

Within the ASR provided by the DSPO, critical information is delivered by the DoDSER (Defense Suicide Prevention Office, 2024a). I focus on the event characteristics data for CY 2023 of the active-duty component, which is broken down by percentage

data and evaluates specific characteristics of suicide, such as the location of the occurrence, the method used, or if they ever communicated self-harm to anyone. Additionally, I also focus on the behavioral health characteristics and contextual factors for CY 2023 of the active-duty component, which is also broken down by percentage data. Finally, I compile the data from CY 2019 through 2023. Considering the purpose of this thesis, I am seeking to discover any significant area of concern that the DoD may be able to mitigate with methods or strategies that are proven to be effective, depending on the issue.

Lastly, under the DSPO, I utilize the most current QSR for the second quarter of CY 2024. Along with the suicide rate mentioned previously, I analyze and compile the total active-duty suicide count for CY 2011 through CY 2023. I also compile the total active-duty suicide count for the Army, Navy, and Air Force for CY 2011 through CY 2023. Also, selected data required utilizing older QSRs to cover the entire period I was evaluating, 2011 through 2023; in these instances, the data is properly cited.

2. Defense Manpower Data Center

I obtained historical reports of the active-duty military population utilizing the DMDC (Defense Manpower Data Center, 2011–2023). The historical reports of *DoD Active-Duty Military Personnel by Rank, Grade and Service* are conducted monthly and employ data from the end of FY 2011 through 2023 (September 30th of each year). By evaluating annual service member totals alongside branch-specific suicide rates and counts, I explored potential correlations, organizational trends, and stress factors influencing suicide rate calculations. Retrieving this data illustrates more accuracy in understanding the suicide crisis the DoD has been facing by understanding the raw numbers.

3. Web-based Injury Statistics Query and Reporting System and Wide-ranging Online Data for Epidemiologic Research

One way to provide a solid benchmark for understanding the efficacy of the U.S. military's suicide prevention programs is to obtain similar data to that used in the ASR but for the U.S. civilian population. I used WISQARS and WONDER to retrieve CY 2011 through CY 2023 suicide rates, suicide counts, and U.S. population analysis per

year. WISQARS and WONDER are interactive online resources that present access to injury data, including information on fatal and nonfatal injuries, injury-related costs, and social factors of health connected with injuries (Centers for Disease Control and Prevention, 2024a; Centers for Disease Control and Prevention, 2024b). This data helps with understanding where the DoD stands regarding its suicide prevention programs. The filters I applied to obtain the data in correlation with this thesis are as follows: 2011 to 2023, United States Population, Fatal, Suicide Deaths, Rates, All Ages, All Sexes, All Races, All Ethnicities.

B. METHODOLOGY

1. Quantitative Methods

To achieve the objectives of this thesis, I employ quantitative data analysis to examine which service branch has the most statistically effective suicide prevention program. I provide data tables to analyze suicide rates, suicide counts, and end strength populations of the active-duty Army, Navy, and Air Force (2011-2023). I also provide tables on the total active-duty military population and total U.S. population to analyze the annual suicide death count and rate per 100,000 from CYs 2011–2023 to discover program efficiencies or deficiencies.

a. Statistical Analysis of Suicide Deaths and Rates

In this thesis, I examine the historical suicide deaths and rates of all active-duty military personnel as a collective and by service branch from FY 2011 through FY 2023. I use DSPO, ASR, QSR, DoDSER, DMDC, WISQARS, and WONDER data sets to discover any correlations.

b. Evaluate Program Effectiveness

I examine *indicators* of program efficacy by conducting a thorough analysis of statistical trends correlating with the implementation of different suicide prevention programs. Specifically, I examine the active-duty annual suicide rates and completed suicide counts to uncover signs of improvement or decline within and across military service branches. To be clear, analyzing directional trends in DoD suicide data *cannot*

establish program efficacy – specifically, this type of analysis cannot establish a causal link between program elements and focal outcomes, suicide in this case – but rather those trends serve as indicators of how the program may be *contributing* to suicide prevention.

2. Comparative Analysis

I present unadjusted statistics to compare suicide rates and deaths between the Army, Navy, and Air Force. Furthermore, I captured CYs 2011–2023 data to rank these three programs strictly based on suicide rates and counts. The analysis also includes the average suicide rate and suicide count for each year from CYs 2011–2023. Moreover, I analyzed and calculated the total average suicide rate and suicide count of the entire period for the Army, Navy, and Air Force individually. Lastly, I compared the entire active-duty component against the U.S. population on annual suicide rate and suicide count per 100,000 individuals for CYs 2011–2023.

a. Army, Navy, and Air Force Suicide Death Rate and Count

All suicide rate data for CYs 2011–2023 for the Army, Navy, and Air Force was provided by the DSPO's most recent ASR (Defense Suicide Prevention Office, 2024a). The suicide counts for CY 2011–2023 were retrieved from multiple sources, starting with the DoDSER's 2013 annual report, Table B1 (Department of Defense Suicide Event Report, 2014), the 2017 fourth quarter QSR, Attachment A (Defense Suicide Prevention Office, 2017), and the 2024 second quarter QSR, Attachment A (Defense Suicide Prevention Office, 2024b). Finally, I retrieved data from the DMDC for total active-duty military personnel by service, rank, and grade from end strength FY reports 2011–2023 (Defense Manpower Data Center, 2011–2023).

b. Active-Duty and U.S. Population Suicide Death Rate and Count

I conducted a comparative analysis of active-duty suicide death rates and counts with the U.S. population suicide death rates and counts. All suicide rate data for CYs 2011–2023 for the entire active-duty component was provided by the DSPO's most recent ASR (Defense Suicide Prevention Office, 2024a).

The suicide count for CYs 2011–2023 was retrieved from multiple sources, starting with DoDSER's 2013 annual report, Table B1 (Department of Defense Suicide Event Report, 2014), the 2017 fourth quarter QSR, Attachment A (Defense Suicide Prevention Office, 2017), and the 2024 second quarter QSR, Attachment A (Defense Suicide Prevention Office, 2024b).

I retrieved data from the DMDC for total active-duty military personnel by service, rank and grade from end strength FY reports from 2011–2023 (Defense Manpower Data Center, 2011–2023). I also retrieved data on the U.S. total population, annual suicide death, and rate per 100,000 for CYs 2011–2023 from WISQARS and WONDER (Centers for Disease Control and Prevention, 2024a; Centers for Disease Control and Prevention, 2024b).

3. Retrospective

The DSPO provides three tables germane to this thesis that report on suicide event characteristics. This data highlights the most significant areas of concern, including the event's location, the method used, and communication before the occurrence, and leads to an analysis of how to prevent these occurrences from happening at such a high frequency. For this retrospective, I analyzed suicide event characteristics, suicide behavioral health characteristics, and contextual factors for CYs 2019–2023.

a. Active-Duty Suicide Event Characteristics

I retrospectively analyzed active-duty military suicide utilizing the DSPO's Active-Duty Event Characteristics Percentage, suicide deaths (Defense Suicide Prevention Office, 2024a). I specifically extracted from the completed suicide event characteristics to home in on possible root causes of suicide occurrences. This analysis assists with immediately identifying program improvements, program focus areas, and program implementation. I specifically analyze the percentage of suicides attributed to firearms and determine whether individuals communicated self-harm before the incident. Understanding these characteristic trends can potentially help gauge the influence they have on individuals who commit suicide.

b. Active-Duty Suicide Behavioral Health Characteristics

I retrospectively analyzed active-duty military suicide utilizing the DSPO's Active-Duty Behavioral Health Characteristics, suicide deaths (Defense Suicide Prevention Office, 2024a). I specifically analyzed the percentage of suicides attributed to service members who were and were not diagnosed with a behavioral health issue before the incident. Understanding these behavioral health characteristic trends can possibly assist in identifying the proper frequency with which medical professionals, peers, supervisors, and others should follow up.

c. Contextual Factors

Finally, Contextual factors analyze the circumstances, conditions, and external influences that shape, contribute to, or impact a specific situation, decision, or phenomenon. I specifically analyzed the percentage of suicides attributed to intimate relationship problems. Understanding the severity of intimate relationships can help form focused strategies toward making counseling readily available for service members.

C. SUMMARY OF DATA SOURCES AND METHODOLOGY

In summary, I utilized DSPO QSRs and ASRs, DoDSERs, DMDC, and the CDC's WISQARS and WONDER data. From these sources, my objective was to extract and analyze CY 2011–2023 suicide rates and suicide counts in the Army, Navy, and Air Force. From this data, I discovered trends and correlations in comparing the service branches' suicide prevention programs with the suicide data. In addition to this, I also analyze the active component as a collective with the U.S. population as a benchmark to truly understand the U.S. military's deficiency in suicide prevention programs. Finally, I retrospectively analyze percentages of active-duty suicide event characteristics, active-duty behavioral health characteristics, and contextual factors of completed suicides. My objective is to identify areas of immediate program improvements, program focus areas, and program implementations to lower suicide occurrences. This data can potentially find focus areas of improvement so that the DoD can focus on reducing suicide rates within the U.S. military.

IV. ANALYSIS AND RESULTS

This chapter presents quantitative and comparative analysis results of suicide death rate, suicide death count, and total population for the entire active-duty component compared to the U.S. population from 2011–2023. Additionally, I internally analyze the data of suicide death rate, suicide death count, and total population trends within the active-duty Army, Navy, and Air Force from 2011–2023. Furthermore, this chapter includes a retrospective examination of the most recent active-duty suicide event characteristics, behavioral health characteristics, and contextual factors data from 2019–2023, which provides critical insights into trends and factors that influence suicide prevention decisions within the military.

A. ACTIVE-DUTY COMPONENT AND U.S. POPULATION ANALYSIS

1. Annual Suicide Rate and Count of Active-Duty Military Personnel

As shown in Table 6, from 2011–2023, the suicide rate among active-duty personnel has increased significantly. In 2011, the suicide rate was 18.7 per 100,000 service members; by 2023, the rate rose to 28.3 per 100,000, displaying an increasing trend. Similarly, the number of suicide deaths has also increased from 267 deaths in 2011 to 363 deaths in 2023, although there were variations throughout these years. The suicide death count reached its peak in 2020, totaling 384. The rate increase was most notable from 2018 (24.9) through 2020 (28.5), which has stabilized slightly since but remains higher than earlier years. As I have discussed throughout this thesis, the DoD has been diligently working toward decreasing the suicide rate and death count due to the alarming data presented in Table 6. Taken together, it is no surprise that improving suicide prevention remains a top priority for both military and civilian leaders. As I analyze the data of the active-duty component as a collective, it highlights the essential need for restructuring and enhancing suicide prevention programs.

2. Annual Suicide Rate and Count of U.S. Population

As a benchmark, I analyzed the U.S. population's suicide rate and count from 2011–2023. As shown in Table 6, in 2011, the suicide rate was 12.68 per 100,000 citizens

and increased to 14.81 per 100,000 in 2023, displaying a slight increasing trend. Also, the annual suicide death count rose from 39,518 in 2011 to 49,366 in 2023, which reflects similar upward trends. From 2017 and beyond, the suicide rate has hovered slightly over 14 deaths per 100,000, except for 2020, which dipped to 13.87. In 2022, the U.S. population reached its peak suicide rate of 14.85, with a death count of 49,476. The civilian population is also facing its challenges, with suicide rates and suicide deaths increasing but significantly lower than the rate of the U.S. military. Collectively, the U.S. population displays relatively stable numbers with a slight upward trend, with an average suicide rate of 13.9 in the 13 years analyzed.

3. Comparative Analysis: Active-Duty vs. U.S. Population

Table 6 shows that active-duty suicide rates were consistently higher than the U.S. population across every year examined in this thesis, with an average difference of approximately +9 per 100,000. The highest suicide rate the military recorded was 28.5 per 100,000 in 2020, which totaled 384 deaths. The highest suicide rate the U.S. population recorded was 14.85 in 2022, which totaled 49,476 deaths. The average suicide rate for the military from 2011–2023 is 23.2, while the U.S. population is 13.9. This variance indicates that there is a significant disparity between the two groups in terms of suicide rates. Significant demographic disparities exist between these two groups (e.g., differences in age, SES status, etc.). Nevertheless, the wide gulf in suicide rates highlights a need for enhancing suicide prevention strategies within the military. Also, note the population size; the average for the active-duty military is 1,340,309, while the U.S. population is 324,163,587. This significant difference on population size is a critical consideration because subjectively small changes to the death count could significantly impact the military's suicide rate while not impacting the U.S. population as drastically. The importance of comparing trends of active-duty suicide rates with the benchmark of the U.S. population delivers an understanding of possible systemic issues and focus areas for military suicide prevention efforts. It can also adapt civilian best practices while also addressing unique challenges.

4. Results of Active-Duty and U.S. Civilian Population Analysis

The higher suicide rates in the active-duty military, highlighted in red in Table 6, underlines the need for customized interventions, including mental health services and stress management programs. As discussed in Chapter 1, several government reports and academic studies suggest that while serving in the military, members are exposed to high stress with a lack of access to mental health care and arguably traumatic cultural, training, and operational contexts that civilians do not experience, thus making service members more susceptible to suicidality (Fox, 2018). The data implies a need for culturally sensitive, military-specific prevention strategies. The military lifestyle is unique compared to the U.S. population and needs robust improvements specific to the DoD's suicide prevention programs (Defense Suicide Prevention Office, 2024a). Although the active-duty military lifestyle is unique, adopting civilian best practices could provide valuable support. As I have described in this thesis, the DoD has acknowledged the serious problem of suicide and is currently addressing mental health, stigma, access to care, and much more.

Table 6. Active-Duty Component and U.S. Civilian Annual Suicide Death Rate, Death Count, and Population CY 2011–2023. Adapted from DoDSER Annual Report CY 2013 (2014), DSPO 4th QSR (2017), DMDC (2011-2023), DSPO ASR CY 2023 (2024a), DSPO 2nd QSR (2024b), CDC (2024a) and CDC (2024e).

Year	Active-Duty Component			U.S. Population		
	Rate	Count	Total AD	Rate	Count	Total Population
2011	18.7	267	1,425,113	12.68	39,518	311,583,481
2012	22.9	321	1,400,535	12.94	40,600	313,877,662
2013	18.4	256	1,382,684	13.02	41,149	316,059,947
2014	20.2	276	1,338,487	13.45	42,826	318,386,329
2015	20.2	266	1,313,940	13.78	44,193	320,738,994
2016	21.5	280	1,301,308	13.92	44,965	323,071,755
2017	22.1	287	1,307,366	14.51	47,173	325,122,128
2018	24.9	326	1,317,325	14.79	48,344	326,838,199
2019	26.2	349	1,339,036	14.47	47,511	328,329,953
2020	28.5	384	1,346,651	13.87	45,979	331,511,512
2021	24.4	328	1,348,479	14.51	48,183	332,031,554
2022	25.1	331	1,317,067	14.85	49,476	333,287,557
2023	28.3	363	1,286,027	14.81	49,366	333,287,557
Average	23.2	310.3	1,340,309	13.9	45,329.5	324,163,587
Total		4,034			589,283	
Indicates the Lowest Rate for CY						
Indicates Highest Rate for CY						

B. ACTIVE-DUTY ARMY, NAVY, AND AIR FORCE ANALYSIS

1. Annual Suicide Rate and Count of Active-Duty Army Personnel

As shown in Table 7, from 2011–2023, the suicide rate among active-duty Army personnel has shown fluctuations throughout the years but with a steady increase. In 2011, the suicide rate was 24.8 per 100,000, with a death count of 141, possibly reflecting the effects of stress and challenges brought on by the war in Iraq and Afghanistan. In 2023, the Army reported a suicide rate of 34.8 per 100,000 with a death count of 158, which suggests persistent suicide prevention challenges despite constant efforts toward program improvements. The Army reported its peak rate in 2020 to be 36.2 per 100,000. The average suicide rate of the 13 years I analyzed is 28.8, with the average death count at 142.1, totaling 1,847 suicide deaths. Table 7 indicates no significant improvement

despite changes to its suicide prevention program. Options for doing so include enhancing service-specific strategies, including providing novel approaches toward supporting soldiers recovering from deployments, addressing combat-related stress, offering comprehensive training on managing high-stress operational environments, and decreasing strains on military families, such as relocations, among others. By targeting these critical areas, the Army may develop more effective interventions tailored to the unique challenges faced by its personnel.

2. Annual Suicide Rate and Count of Active-Duty Navy Personnel

In 2011, the Navy's suicide rate was 16 per 100,000, with a death count totaling 52, as shown in Table 7. In 2023, the Navy's suicide rate was 21 per 100,000, with a death count of 70, showing a slight steady increase during the 13 years I analyzed. The Navy's average suicide rate is 17.9, with an average death count of 59.3, totaling 771 deaths, from 2011–2023. The data shows that the Navy's suicide rate and count were largely inconsistent during the 13 years I analyzed. The Navy's highest suicide rate occurred in 2019, with 21.8 per 100,000, along with its highest death count of 73. In 2013, the Navy recorded its lowest suicide rate at 12.8 per 100,000, along with its lowest death count of 41. The variance in dealing with conflicts, deployments, and unpredictable workloads each year could explain the Navy's inconsistent numbers. Although the Navy consistently reports lower suicide rates than the Army for every year analyzed, the upward trend still highlights shared challenges between the service branches.

3. Annual Suicide Rate and Count of Active-Duty Air Force Personnel

In 2011, the Air Force had a suicide rate of 12.9 per 100,000 and a death count of 43, as illustrated in Table 7. In 2023, the Air Force recorded a suicide rate of 22.5 per 100,000 and a death count of 72, showing an increasing trend over the 13 years I analyzed. The Air Force's suicide rate and suicide death count were generally inconsistent from year to year. The highest suicide rate for the Air Force was 25.1 per 100,000, which amounted to a suicide count of 83 in 2019. Conversely, the lowest suicide rate for the Air Force was in 2011, with a suicide rate of 12.9 and a death count of 43. The Air Force's unique mission set includes critical tasks in aviation, protection of mass

destruction assets, and other unique operational demands, to name a few. Similarly to the Army and Navy, the data shows gradual upward trends with fluctuations.

4. Comparative Analysis of Active-Duty Army, Navy, and Air Force

Of the 13 years of data I analyzed, the Army's suicide rate and count are the highest when compared to the Navy and Air Force's statistics. Every year, the Army's suicide rate and count topped the other branches, which would suggest there are uniquely serious issues and possibly cultural difficulties that need improvement. The Army, Navy, and Air Force each show a slight upward trend in the suicide rate and suicide count, sharing unique challenges within the military. Strictly based on the statistics presented in Table 7, the Navy has the lowest overall average suicide rate, average suicide count, and total suicides. Next, the Air Force has the median average suicide rate, suicide count, and total suicides. Despite branch-specific prevention programs, the upward trends suggest that existing efforts may not be sufficient to address the root causes of suicide in the military.

5. Results of Active-Duty Army, Navy, and Air Force Analysis

Out of the three service branches I analyze in this thesis, the Army has the highest suicide rate and suicide count, both of which were consistently higher than those of the Navy and Air Force. The comparative analysis indicates that the Army requires the greatest need for improvement in its suicide prevention program. The Navy and the Air Force are primarily similar in suicide rate, suicide count, and population size. Both have higher suicide rates than the civilian population. Despite the demographic differences between the military and the U.S. population, the significant differences in rates indicate the need for program improvement. As I discussed earlier in this thesis, there are branch-specific issues, stressors, roles, environments, and cultural elements that require tailored suicide prevention programs. The data potentially reveals that Army personnel may be at a higher risk than the Navy and Air Force, though an analysis of the data reported in these government publications cannot conclusively indicate why this is the case.

In contrast, there are also shared challenges across the Army, Navy, and Air Force, such as all three branches share a higher suicide rate than the U.S. population and

rising rates over time. As a collective, all three branches are actively working to eliminate the stigma around seeking mental health assistance. Finally, all three branches encounter high-stress levels, frequent deployments, demanding environments, constant moves, lengthy separation from loved ones, periods of isolation, and much more. Although it cannot be conclusively established due to the limitations of the data reported here, it may be that novel, data-driven strategies for suicide prevention tailored to each military service branch culture and context may be needed. Specifically, the data suggests that neither the current "due course" approach nor some of the more recent programmatic changes has made a dent in the problem, though the latter changes may prove beneficial over time (i.e., the scientific adage that *the absence of evidence is not evidence of absence* may apply here as programs continue to mature).

Table 7. Active-Duty Army, Navy, and Air Force Annual Suicide Death Rate, Death Count, and Population CY 2011–2023. Adapted from DoDSER Annual Report CY 2013 (2014), DSPO 4th QSR (2017), DMDC (2011-2023), DSPO ASR CY 2023 (2024a), and DSPO 2nd QSR (2024b).

Year	Army			Navy			Air Force		
	Rate	Count	Total AD	Rate	Count	Total AD	Rate	Count	Total AD
2011	24.8	141	565,463	16.0	52	325,123	12.9	43	333,370
2012	29.9	165	550,063	18.1	58	318,818	15.0	50	332,834
2013	22.5	121	532,043	12.8	41	324,308	14.4	48	330,485
2014	24.4	126	508,210	16.6	54	326,054	18.5	62	316,332
2015	24.4	120	491,365	13.1	43	327,801	20.6	64	311,357
2016	27.4	130	475,400	15.9	52	324,524	19.4	61	317,883
2017	24.7	116	476,245	20.1	65	323,933	19.6	63	322,787
2018	29.9	141	476,179	20.7	68	329,851	18.5	60	325,880
2019	30.5	146	483,941	21.8	73	336,985	25.1	83	332,101
2020	36.2	175	485,383	19.0	65	346,520	24.0	81	333,790
2021	36.1	175	486,490	17.0	59	347,677	15.3	51	334,634
2022	28.9	135	465,625	20.7	71	344,441	19.0	62	332,424
2023	34.8	158	453,551	21.0	70	332,322	22.5	72	318,698
Average	28.8	142.1	496,151	17.9	59.3	331,412	18.8	61.7	326,352
Total		1,847			771			802	

Indicates the Lowest Unadjusted Rate/Count for CY

Indicates the Median Unadjusted Rate/Count for CY

Indicates Highest Unadjusted Rate/Count for CY

C. ACTIVE-DUTY SUICIDE DEATH RETROSPECTIVE

1. Active-Duty Suicide Event Characteristics

To examine suicide event characteristics, I focus on specific items identified in Table 8 that are potentially the most concerning and in need of immediate attention for improvement by the DoD. Table 8 provides a thorough analysis of the details involving completed suicides among active-duty military personnel. First, under "Mechanism of injury" (how the suicide was completed), firearms were utilized in 64.4 percent of all active-duty suicides in 2023. This trend confirms why so much attention focuses on Lethal Means Safety, and it is included in the Army, Navy, and Air Force's suicide prevention policy regulations. Although the DoD's suicide prevention programs prioritize Lethal Means Safety, current data suggest that these initiatives may require further enhancement to achieve desired outcomes.

Next, I focus on "Communicated intent for self-harm," with a "Yes" response. This action accounted for 27.6 percent of all active-duty suicides in 2023 and highlighted the importance of adequate identification and intervention strategies. While it can be difficult to identify individuals who need mental health assistance because the causes are idiosyncratic and can emerge rapidly, this statistic indicates that these individuals specifically communicated to a mental health professional, friend, or significant other that they wanted to harm themselves. These findings underscore the complexity of effectively intervening with individuals at risk for self-harm. Even when individuals communicate their intent to harm themselves, there remains a significant need for comprehensive support and monitoring to address their needs adequately. The low communication rates, particularly to mental health staff, could indicate a need to reduce stigma and improve accessibility and trust in mental health resources.

Subsequently, I examine cases of "Communicated intent for self-harm" with a "No" response, which accounted for 72.4 percent of all active-duty suicides in 2023. The data potentially indicates that sub-clinical suicide risks likely go undetected, and several factors likely contribute to service members avoiding assistance. One of the common reasons service members avoid medical assistance is the stigma attached to seeking and receiving help. Also, potentially lacking awareness among peers and supervisors who

miss indicators, the perceived inconvenience of seeking help, a lack of training and education of sources available, and much more. For example, although service members have multiple avenues to seek help or receive command referrals, the data shows that most do not. Factors such as the stigma associated with seeking assistance, the inability to recognize the need for help during a crisis, and the suddenness of many suicide incidents likely contribute to this ongoing challenge. Because the majority of suicides occur unexpectedly, it emphasizes the necessity for more proactive suicide prevention engagement within the military.

The retrospective analysis of active-duty suicide event characteristics emphasizes how complex suicide prevention is in the military. The analysis helps pinpoint problems that potentially require immediate attention to facilitate the development of multifaceted prevention strategies. Focusing on issues such as firearm safety, reducing stigma, improving early detection, and providing practical support systems are critical to mitigating suicide risk within the military.

Table 8. Active-Duty Suicide Death Event Characteristics. Source: DSPO ASR CY 2023 (2024a).

Item	Total	Army	Marine Corps	Navy	Air Force
Occurred in the continental United States	91.7	92.7	95.2	93.5	83.9
Event occurred at a military installation	34.7	36.4	51.6	22.6	25.8
Mechanism of injury					
Falling	3.0	*	*	*	*
Firearm	64.4	66.9	61.3	61.3	64.5
Suffocation/asphyxiation/hanging	27.0	25.2	33.9	25.8	25.8
Other/unknown	5.6	*	*	*	*
Communicated intent for self-harm[a]	27.6	26.5	29.0	24.2	32.3
Mental health staff	5.3	7.3	*	*	*
Friend	10.1	7.9	*	16.1	*
Spouse/partner	11.3	11.9	*	*	*
Duty environment[a]					
Garrison	78.9	82.1	79.0	69.4	80.6
Training	4.7	*	*	*	*
Other/unknown	22.0	*	*	*	*

Note: Percentages based on 337 total forms (151 Army, 62 Marine Corps, 62 Navy, and 62 Air Force). Two Space Force events are not included in the table because of small event counts.
[a]Subcategories are not mutually exclusive.
*Data suppressed to restrict individual-level identification.

2. Active-Duty Suicide Behavioral Health Characteristics

Table 9 presents behavioral health characteristics and details of active-duty personnel who died by suicide. The percentages capture active-duty personnel who were diagnosed with some form of mental health condition, medication use, substance abuse, and other relevant factors. This chart describes the effects behavioral health potentially has in completed suicides among active-duty military personnel. Approximately 41.5 percent of active-duty personnel who committed suicide, captured under "Any behavioral health diagnosis" in Table 9 included an alcohol use disorder, depressive disorder, anxiety disorder, trauma-related disorder, or adjustment disorder in 2023. This correlation highlights the influence that behavioral health conditions may have on suicide among active-duty military personnel. Future suicide prevention initiatives should consider prioritizing active-duty personnel diagnosed with the disorders outlined in Table 9. These individuals are at higher risk and would potentially benefit from ongoing monitoring, consistent follow-ups, and tailored support to address their specific needs.

This is not to suggest that receiving a behavioral health diagnosis is the leading indicator of subsequent suicides, especially when one considers that 58.5 percent of the suicides that occurred in 2023 had no prior behavioral health diagnosis. The possible indications of this statistic could be attributed to influences such as perceived stigma for receiving help, having limited access to care, having no knowledge of the resources available, or simply not wanting help. To iteratively improve on the potential lessons learned from Table 9, the department leadership could consider: 1) active-duty personnel who are diagnosed with any behavioral health issue should receive treatment that adequately addresses the intricacy of their unique challenges and additional suicidality screening; and 2) the department leadership should consider increasing the frequency of mental health screenings for all personnel, even for those who have no history of behavioral health problems. Due to its complexity, there are apparent gaps in identifying behavioral health challenges within military personnel. However, utilizing data like what is presented in Table 9 helps to guide actionable insights for improving mental health, forming efforts geared toward reducing suicide rates. This retrospective analysis identifies the value of comprehensive approaches to suicide prevention, which include

more frequent screenings, reducing stigma, and providing adequate care through active monitoring.

Table 9. Active-Duty Suicide Behavioral Health Characteristics. Source: DSPO ASR CY 2023 (2024a).

Item	Total	Army	Marine Corps	Navy	Air Force
Any behavioral health diagnosis[b]	41.5	45.0	43.5	30.6	41.9
Alcohol use disorder	10.4	12.6	*	*	*
Depressive disorder	19.3	21.2	25.8	*	*
Anxiety disorder	17.8	23.2	*	*	*
Adjustment disorder	20.8	25.2	21.0	*	*
Posttraumatic stress disorder	6.8	7.9	*	*	*
Psychotropic medication prescription at time of event[b]	18.1	19.9	*	*	21.0
Antidepressant	16.3	16.6	*	*	21.0
Anxiolytic	6.2	9.3	*	*	*
Family history of mental illness	11.0	12.6	*	*	*
Prior self-harm	14.8	15.9	22.6	*	*
Primary care encounter, last 90 days	67.4	68.2	64.5	54.8	80.6
Outpatient mental health encounter, last 90 days	34.4	40.4	33.9	22.6	32.3
Discharged from inpatient mental health, last 90 days	8.3	7.3	*	*	*

Note: Percentages based on 337 total forms (151 Army, 62 Marine Corps, 62 Navy, and 62 Air Force). Two Space Force events are not included in the table because of small event counts.
[a]Data for all items except family history and prior self-harm from the Military Health System Medical Data Repository.
[b]Subcategories are not mutually exclusive.
*Data suppressed to restrict individual-level identification.

3. Active-Duty Suicide Contextual Factors

Table 10 describes contextual factors that may have led to active-duty suicides, which provide critical insights for understanding and improving future suicide prevention efforts. My primary focus on Table 10 is "Intimate relationship problems," which showed that 43.6 percent of active-duty military members who died by suicide in 2023 had experienced some form of relationship issues. This type of data could potentially be integrated to improve suicide prevention training and regular briefings for peers, supervisors, and leaders. DoD suicide prevention programs hold that fellow service members are key to responding and guiding individuals toward counseling, relationship support, or providing support themselves. Table 10 examines how contextual factors are potentially influencing active-duty personnel. Confronting issues such as relationship

problems, financial difficulties, workplace difficulties, and so on can improve suicide prevention efforts across the DoD.

Table 10. Active-Duty Suicide Contextual Factors. Source: DSPO ASR CY 2023 (2024a).

Item	Total	Army	Marine Corps	Navy	Air Force
Intimate relationship problems, last year	43.6	42.4	59.7	37.1	37.1
Death by suicide of friend or family member, last year	5.9	*	*	*	*
Administrative/legal problems, last year[a]	29.4	33.8	30.6	19.4	27.4
Nonjudicial punishment	8.6	11.3	*	*	*
Under investigation	16.3	21.2	*	*	*
Administrative separation	5.9	8.6	*	*	*
Financial difficulties, last year	11.6	10.6	21.0	*	*
Workplace difficulties, last year	23.7	27.2	24.2	17.7	21.0
Experienced abuse before age 18[a]	11.6	13.9	*	*	*
Physical	4.5	*	*	*	*
Sexual	3.6	*	*	*	*
Emotional	9.5	11.3	*	*	*
Experienced physical or sexual assault or sexual harassment, last year	1.8	*	*	*	*
Perpetrator of physical or sexual assault or sexual harassment, last year	3.3	*	*	*	*

Note: Percentages based on 337 total forms (151 Army, 62 Marine Corps, 62 Navy, and 62 Air Force). Two Space Force events are not included in the table because of small event counts.
[a]Subcategories are not mutually exclusive.
*Data suppressed to restrict individual-level identification.

4. Suicide Percentage Validation

To confirm the statistical trends of data provided in Tables 8, 9, and 10, I conducted a 5-year analysis to validate the percentages observed from 2019–2023. I selectively extracted specific items from each data table that I consider most impactful in this thesis. Table 11 shows that 2023 was not an abnormality as the percentages are generally consistent for the 5 years I analyzed. Table 11 indicates that most service members do not communicate suicidal intent, which highlights the challenge of identifying at-risk personnel. However, there is an enormous gap with this data; no matter what the percentage differences are between "Yes" and "No" responses, the data could be interpreted as reflecting range of systemic, programmatic, medical, or leadership shortcomings. For instance, for those who communicated that they intended to or previously harmed themselves, one could surmise that they simply did not efficaciously respond to treatment, the treatment modality lacked efficacy in general, or a lapse in

patient oversight occurred inside or outside of the treatment facility. Conversely, for those who never indicated self-harm intent or behavior, contributing factors could include stigma for seeking treatment, easy access to lethal means, perceived lack of chain of command support, missed periodic health assessments / screening, among others. Once again, this analysis underscores the complexity of the suicide phenomenon and the limitations of the reported data.

Table 11. Active-Duty Suicide Characteristics Combined Chart CY 2019–2023. Adapted from DoDSER CY 2019 (2021), DoDSER CY 2020 (2022), DSPO CY 2021 (2022), DSPO CY 2022 (2023) and DSPO CY 2023 (2024a).

Year	Communicated Intent for Self-Harm (Yes %)	Communicated Intent for Self-Harm (No %)	Firearm Used %	Any Behavioral Health Diagnosis (Yes %)	Any Behavioral Health Diagnosis (No %)	Relationship Problems, Last Year (Yes %)
2019	33.9%	66.1%	59.9%	43.6%	56.4%	42.6%
2020	31.2%	68.8%	65.9%	43.9%	56.1%	43.6%
2021	32.0%	67.7%	69.3%	43.9%	56.1%	44.2%
2022	29.5%	70.5%	66.8%	45.4%	54.6%	42.4%
2023	27.6%	72.4%	64.4%	41.5%	58.5%	43.6%

D. CHAPTER SUMMARY

In this chapter, I present an analysis of active-duty military personnel and utilize the benchmark of the U.S. population to assess annual suicide rates and counts from 2011- 2023 to fully grasp the situation the DoD faces today. Through this analysis, the active-duty suicide rates consistently surpassed the U.S. population of every year I analyzed. Additionally, the disparity could indicate that high rates are due to the unique lifestyle active-duty military members face through constant stress, frequent deployments, continuous relocation, navigating around stigma in seeking health care, and much more. Furthermore, I examine the suicide rate, suicide count, and population size of the Army, Navy, and Air Force from 2011–2023 with the intent to identify the most effective suicide prevention program. Findings indicate the Army had the highest suicide rate of every year I examined and significantly exceeded both the Navy and Air Force. The Navy and the Air Force displayed very similar numbers in suicide rate and count. All three branches showed a slight upward trend in suicide rate throughout the 13-year

analysis. Although data can indicate which branch statistically has a better suicide prevention program, it would be inaccurate to determine definitive conclusions due to the complexity of factors involved. Finally, I examine the active-duty suicide event characteristics, behavioral health characteristics, and contextual factors retrospectively. This analysis focuses on specific areas of concern which are likely to contribute to elevated suicide rates. Because the issues have been identified, each branch can take the opportunity to address the specific problems and iteratively enhance their suicide prevention programs. I also discussed how this data can be misleading due to the complexity surrounding suicide. This chapter provides quantitative, comparative, and retrospective analysis to examine factors contributing to elevated suicide rates among active-duty military personnel, setting the stage for targeted recommendations and strategies to enhance suicide prevention efforts across all branches.

V. CONCLUSION AND RECOMMENDATION

A. SUMMARY AND CONCLUSIONS

This thesis examines the urgent crisis of active-duty military suicides, analyzing challenges, contributing factors, historical trends, past and present prevention strategies, and potential solutions to mitigate suicidality. Military suicide is a complex problem that the DoD is actively working towards addressing, though current programs and policies have fallen short of stated goals. The active-duty lifestyle servicemen and women experience is vastly different than that experienced by their civilian counterparts. Due to the environment and critical responsibilities active-duty members have, there is typically constant operational stress in which they regularly function. Additionally, cultural stigma and systemic barriers to mental health care are likely to contribute to military personnel avoiding receiving the care they need. Despite the persistent effort by the DoD and service branches to improve, develop, and implement suicide prevention policies, gaps remain that require innovative solutions. Thus, this analysis offers insights into challenges and opportunities for effective interventions.

B. KEY FINDINGS

To address the complex challenges of active-duty military suicide prevention, this thesis focused on detailed analysis of trends, characteristics, and systemic factors influencing suicide rates in the Army, Navy, and Air Force. By comparing statistical data and programmatic efforts, this study aimed to discover strengths and weaknesses in current prevention strategies. The findings revealed persistent challenges and opportunities for targeted interventions. Table 12 summarizes the key findings and presents recommendations to guide improvements in suicide prevention programs across all branches.

Table 12. Active-Duty Suicide Prevention Findings and Recommendations.

Findings	Recommendations
Suicide rates in active-duty military consistently surpass U.S. civilian rates.	Implement military-wide initiatives to normalize seeking mental health care and reduce systemic stigma. Reevaluate the reliance on strictly clinical or policy-driven approaches and adopt a more creative mindset to develop innovative and effective suicide prevention methods. Tailor suicide prevention efforts to address the unique lifestyle challenges military members face.
Suicide rates in active-duty Army consistently surpass Navy and Air Force.	Develop Army-Specific Suicide Prevention Programs. Enhance Access to Mental Health Resources. Consider integrating mental health professionals directly within units, similar to the Air Force model.
Firearms are the predominant method of suicide across all branches.	Strengthen Lethal Means Safety (LMS) programs by instructing secure firearm storage and providing gun locks. Establish a system for commanders to identify and track individuals within their units who own weapons, ensuring that firearms can be promptly secured in the event of an incident.
Relationship problems are a leading contextual factor in suicide events.	Enhance relationship support programs, including counseling and resources for families coping with frequent relocations and separations.
High suicide rates among military personnel highlight the need for continued iterative improvements in fostering connectedness, enhancing access to care, promoting a culture of help-seeking, improving lethal means safety, and strengthening data-driven practices.	Support Strategic Initiatives with Accelerated Application. Launch a Pilot Program that Requires Quarterly Contact with military members.

The recommendations focus on addressing high suicide rates among active-duty military personnel through directed, realistic strategies. Key suggestions include adapting suicide prevention efforts to the unique challenges of military life, such as operational stress and stigma around seeking mental health care. Also, developing Army-specific programs and expanding access to mental health resources, including incorporating mental health professionals directly into units, can enhance support for service members. Additionally, it strengthens Lethal Means Safety (LMS) by enforcing secure firearm storage and establishing a system for commanders to identify and track individuals within their units who own weapons, ensuring that firearms can be promptly secured in the event of an incident. These actions aim to foster a culture of help-seeking while addressing systemic and branch-specific barriers to reducing suicide rates effectively.

Additionally, the Department of Defense would be wise to explore novel treatment approaches for those service members who indicate that they are experiencing suicidal ideation. For example, van Bentum et al. (2024) conducted a study in the Netherlands and explored the efficacy of a brief cognitive dual-task module as an add-on treatment as usual. The researchers focused on reducing the occurrence and seriousness of intrusive suicidal mental imagery by combining eye movements with the recall of distressing images, thus targeting the psychological mechanisms underpinning suicidal intrusions. Their findings from the study suggest that the intervention significantly reduced the severity and frequency of suicidal intrusions and ideation compared to standard treatment alone, with effects maintained over a three-month follow-up period. Furthermore, this approach is safe, therapist-guided, and can be delivered in as few as four to six sessions (van Bentum et al., 2024). Indeed, this treatment modality might be attractive to Department of Defense medical leaders as an early intervention approach, offering a cost-effective, scalable, and evidence-based solution to address suicidality in military personnel while complementing existing prevention programs.

Also, as Falke (2024) discussed in a recent article focused on the rise in suicide rates reported in the most recent ASR, the DoD's method of suicide prevention is not working. The author mentions that experts focus too heavily on clinical and policy-driven approaches that overlook contexts that contribute to suicidal ideation. Furthermore, he contends that civilian and military leaders should stop making a direct comparison between suicide rates within the military with those from civilians because the context and demographics are very different. Thus, he proposes that suicide prevention efforts must be tailored to the distinct realities of military life (Falke, 2024). Many of those prevention efforts – implemented now or postured to be implemented soon – do just that but have yet to bear fruit. Likewise, this highlights the need for both creativity and flexibility when attempting to improve suicide prevention strategies. For example, the behavioral scientists who develop and test prevention and treatment modalities tend to follow a strict and rigorous process to establish efficacy and assess iatrogenic impacts on individuals and populations; doing so typically ensures that benefits and resources are maximized while limiting harm. Nevertheless, these rigorous processes also tend to require long time horizons and can limit creativity. Thus, DoD leadership should

reexamine the processes used to seek out, identify, and fund innovative approaches to suicide prevention and treatment.

Finally, military members typically receive a mental health screening once per year during their annual PHA, during which they are asked to answer truthfully to a short series of behavioral health questions; many at-risk patients either do not answer truthfully due to the invasive nature of the questions or contexts emerge between PHAs that contribute to suicidality. The department leadership could consider implementing screening more often and in less intrusive ways. Additionally, the military medical community could adopt more advanced survey techniques that employ item response theory and iterative forced choice surveys that have shown to be difficult to fake (Drasgow et al., 2012). Relying on just one mental health check annually is likely insufficient to address the ongoing crisis of active-duty military suicides, so active monitoring may help.

C. LIMITATIONS

The scope of data in this thesis relies heavily on data provided by the DSPO, the DoDSER, and datasets from the CDC's WISQARS and WONDER. While extensive, the types of analyses that can be performed on the data are limited and thus the contextual or demographic nuance inherent in suicide research may be missed. Likewise, as mentioned previously, causal relationships between predictors and outcomes cannot be established with the data presented in this thesis.

The thesis compares the Army, Navy, and Air Force suicide prevention programs but does not account for significant differences in mission profiles, operational environments, or demographic compositions. This thesis covered data between active-duty Army, Navy, and Air Force, which did not extract detailed issues that units face. Recognizing these limitations underscores the complexity of addressing military suicides and the need for continued research. By addressing these gaps, future studies can build on this thesis to develop more nuanced, effective, and equitable suicide prevention strategies for the Department of Defense.

D. PATHWAYS FOR FUTURE RESEARCH

Future research could incorporate qualitative data, such as interviews or focus groups with service members, to complement quantitative findings and provide deeper context. The perspectives of mental health professionals would be valuable insight into systemic challenges, barriers to care, and potential solutions, further enhancing the depth and applicability of the research. Future analyses should also include tailored evaluations that address each service branch's unique contexts and stressors. Additionally, future research should evaluate the cost, scalability, and acceptance of technological solutions like active monitoring systems within military settings. Technology is still being developed, and ethical issues are a serious concern.

E. CONCLUDING SUMMARY

This thesis presents a comprehensive analysis of active-duty military suicide prevention strategies and evaluates their effectiveness in addressing the ongoing suicide crisis within the Department of Defense. By comparing the Army, Navy, and Air Force programs and analyzing data trends from 2011 to 2023, it identifies systemic strengths and critical areas for improvement. While each branch has tailored strategies to address unique stressors, the persistently high suicide rates indicate gaps in prevention efforts, such as stigma, access to care, and program implementation fidelity. Additionally, exploring emerging technologies and retrospective analyses provides a forward-looking perspective on potential solutions. These findings not only highlight the complexity of military suicide prevention but also emphasize the need for adaptive, data-driven approaches to improve outcomes. This work lays the foundation for actionable recommendations to reduce suicide rates and foster resilience among service members, ensuring a stronger and more effective military force.

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