DEPARTMENT OF DEFENSE

UNDER SECRETARY OF DEFENSE
FOR PERSONNEL AND READINESS

DEPARTMENT OF DEFENSE ANNUAL REPORT ON SUICIDE IN THE MILITARY

CALENDAR YEAR 2021

If you or anyone you know is experiencing thoughts of suicide, please reach out for help immediately.

The Military Crisis Line (MCL) is a toll-free, confidential resource, with support 24/7, that connects Service members, including members of the National Guard and Reserve, and their family members with qualified, caring responders. The MCL is staffed by responders who understand the challenges that Service members and their loved ones face.

- Call: **Dial 988 then Press 1**
- Chat: **www.MilitaryCrisisLine.net**
- Text: **838255**

Need crisis assistance while overseas? The following overseas locations have direct crisis line numbers for active duty Service members:

- In Europe: Call **00800 1273 8255** or **DSN 118**
- In Korea: Call **0808 555 118** or **DSN 118**
- Crisis chat support is available elsewhere and internationally at **www.MilitaryCrisisLine.net**

In an emergency, **dial 911** or your local emergency number immediately. An emergency is any situation that requires immediate assistance from the police, fire department, or an ambulance.

Military OneSource provides 24/7 support to Service members, including the National Guard and Reserve, and eligible family members for non-crisis concerns, such as relationship, family, or financial challenges. Arrange a face-to-face, phone, online, or video counseling session:

- CONUS: **800-342-9647**
- OCONUS: **800-342-9647** or **703-253-7599** (for country-specific instructions, see **https://www.militaryonesource.mil/international-calling-options/**)
- Chat: **https://livechat.militaryonesourceconnect.org/chat**
- Web: **https://www.militaryonesource.mil**
- App: My Military OneSource (available from Google Play and the Apple App Store)

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EXECUTIVE SUMMARY

Suicide is a serious public health issue for the United States and the Department of Defense (DoD). Every suicide changes the lives of families, friends, and the broader community. We owe our military and their families an unwavering commitment to preventing suicide through a comprehensive and integrated approach that addresses the experiences and challenges Service members face as they carry out the nation's critical national security mission.

Department of Defense Annual Report on Suicide in the Military: Calendar Year 2021

SERVICE MEMBERS | CY 2021 DATA

Suicides per 100,000

24.3 **Active Component** Service members

21.2 **Reserve** Service members

26.4 **National Guard** Service members

519 Service members died by suicide in 2021

328 Active | **74** Reserve | **117** Guard

MILITARY FAMILIES | CY 2020* DATA

Suicides per 100,000

7.7 **Family members** (spouses and dependents)

13.0 **Spouses**

4.3 **Dependents** (minor and non-minor)

202 military family members died by suicide in 2020

133 Spouses | **69** Dependents

Active Component suicide rates have **gradually increased** since 2011, although the **2021 rate was lower** than the 2020 rate.

Reserve and Guard suicide rates fluctuate year to year, but there was **no increasing or decreasing trend** between 2011 and 2021.

The suicide rates for military spouses and dependents in 2020 were **similar to prior years.**

Since 2011, Active Component, Reserve, and National Guard suicide rates were **similar to the U.S. population** in most years when accounting for age and sex differences (the military is younger and mostly male).

In 2020, suicide rates for spouses and dependents were **similar to the U.S. population** when accounting for age and sex differences, except for male spouses who had a higher rate of suicide.

Most Service members who died by suicide were **young, enlisted men.**

SPOUSES

51% female
79% under 40 years old
47% service history

DEPENDENTS

72% male
62% under 18 years old
<5% service history

Most common method of suicide death: **Firearm**

70% Service members

Most common method of suicide death: **Firearm**

60% Spouses **55%** Dependents

**Family member data lag one year based on sourcing from CDC.*

DoD Suicide Prevention Efforts in CY 2021: Key Highlights

"Mental health is health, period." — Secretary Lloyd J. Austin III, July 2021

In 2021: DoD continued to implement an integrated primary prevention approach to suicide prevention to reduce factors that heighten suicide risk and promote factors that lessen risk. DoD advanced initiatives focused on the areas shown below.

Way Forward: In 2022, DoD efforts include assessing current lethal means safety policies and the recommendations of the Suicide Prevention and Response Independent Review Committee, tasked with identifying ways to strengthen the DoD's existing suicide prevention programs.

FOSTERING A SUPPORTIVE ENVIRONMENT FOR SERVICE MEMBERS AND FAMILIES

Quality of life matters not just in suicide prevention, but also as a key component to force readiness. For example, the DoD's "Resources Exist, Asking Can Help" (REACH) program is designed to reduce barriers to care.

- Fielding a dedicated and specialized **prevention workforce**. Implementation, development, and hiring will continue through CY 2022.
- Implemented the **On-Site Installation Evaluation (OSIE)** process at select installations to examine installation-level capabilities to prevent and effectively address risk for suicide.
- Commenced **Connect to Protect: Support Is Within Reach**, a yearlong suicide prevention communication campaign that emphasizes the importance of self-care and social connectedness while promoting awareness of support resources.
- The Secretary of Defense directed several **actions in response to economic challenges resulting from the COVID-19 pandemic**, e.g., increased housing allowances in response to substantial cost-of-living increases. Similar efforts will continue through CY 2022.

ADDRESSING STIGMA AS A BARRIER TO HELP-SEEKING

In March 2021, the Deputy Secretary of Defense directed the development of specific plans to advance the Department's **priority focus on people**, including suicide prevention and mental health.

- Established a DoD-wide working group to **address stigma toward help-seeking** resulting from perceived impacts on security clearances and career advancement.
- Directed DoD to undertake review of policy documents to identify and **rectify language that may inadvertently cause stigma** toward help-seeking.
- Continued **focus on educating** Service members on the availability and benefits of support resources.

PROMOTING A CULTURE OF LETHAL MEANS SAFETY

Lethal means safety places time and space between a person in crisis and their access to lethal means, such as firearms and medication, and is a critical focus of suicide prevention efforts with DoD and across the federal government.

- Published a **Lethal Means Safety suite of tools** to provide information and resources for Service members, families, leaders, and external partners, such as firearm retailers.
- In September 2021, the Deputy Secretary of Defense directed the Military Services to **develop specific plans to promote lethal means safety** tailored to the needs of their Service members.
- Continued to expand and evaluate **Counseling on Access to Lethal Means (CALM)**, a training program designed to provide non-medical support providers with counseling strategies to promote safe use and storage of firearms and medication.

Introduction

The U.S. Department of Defense (DoD) *Annual Report on Suicide in the Military* serves as the official source for annual suicide counts and rates for DoD. This annual report satisfies requirements established by the Under Secretary of Defense for Personnel and Readiness (USD[P&R]) in October 2018, requiring a report that serves as the official source for annual suicide counts and unadjusted rates for DoD. This annual report also includes information about DoD efforts and initiatives undertaken in CY2021 that aim to reduce suicide risk among Service members and their families. In addition, this report contains the calendar year (CY) 2021 Department of Defense Suicide Event Report (DoDSER) System Data Summary, which provides contextual information related to Service member suicides and suicide attempts (see Enclosure).

Safe Reporting on Suicide

This report follows best practices for safe reporting on suicide, available at www.reportingonsuicide.org.

This report reflects DoD's transparency, accountability, and commitment to preventing suicide. It was developed in collaboration with the Military Departments, Military Services, National Guard Bureau, Office of the Assistant Secretary of Defense for Manpower and Reserve Affairs, Office of the Assistant Secretary of Defense for Health Affairs, Office of the Assistant Secretary of Defense for Readiness, and the Defense Human Resources Activity. This collaborative process is reflective of DoD's commitment to an integrated and collaborative approach to prevent suicide.

The Department leverages standardized processes to collect Service member and military family suicide death data and to report these data in a transparent and timely manner each year. The first two sections of this report present this suicide surveillance data, including CY 2021 suicide counts and rates for Service members and CY 2020 suicide counts and rates among military family members.[a] The third section of this report outlines efforts undertaken in 2021 toward key priority areas, including promoting a culture of lethal means safety, addressing stigma as a barrier to help-seeking, and fostering a supportive environment for Service members and their families.

"While we're working hard on this problem, we have a lot more to do. I believe it has to start with removing the stigma attached to mental health issues. *Mental health is health, period."*

– Secretary Lloyd J. Austin III, July 24, 2021

[a] For military family members, there is a lag of one year due to the time lag in collection of NDI data.

Service Member Suicide Data

CY 2021 Service Member Data Summary

This section includes counts and rates for CY 2021 and updated counts and rates for CY 2020 and CY 2019 **(Table 1)**, rate comparisons across time within military populations **(figures 1, 3 A–D, 4, and 6)**, rate comparisons between the military and U.S. populations **(figures 2, 5, and 7)**, demographic and military characteristics **(Table 2)**, and method of suicide **(Table 3)** in 2021. For information on methods, see **Appendix A.**

Appendix A describes:

- Who verifies and reports suicide deaths for Service members
- What suicide counts and rates are, and why it is important to understand both
- Who reports counts and rates
- Why counts are not enough to understand suicide trends
- What unadjusted and adjusted rates are, and why it is important to adjust rates when comparing suicide in the military to the U.S. population
- What we understand as variability and volatility in suicide rates, and how it affects our interpretations
- What is "statistical significance," and how important is it

Suicide Counts and Unadjusted Rates per 100,000

Table 1. Annual Suicide Counts and Unadjusted Rates per 100,000 Service Members by Military Population and Service, CY 2019–CY 2021

	CY 2019		CY 2020		CY 2021	
	Rate	Count	***Rate***	Count	***Rate***	Count
Active Component	***26.3***	349	***28.7***	384	***24.3***	328
Army	***30.5***	145	***36.2***	174	***36.3***	176
Marine Corps	***25.3***	47	***34.5***	63	***23.9***	43
Navy	***22.1***	74	***19.0***	65	***16.7***	58
Air Force	***25.1***	83	***24.6***	82	***15.3***	51
Reserve	***18.5***	66	***21.7***	77	***21.2***	74
Army	***19.4***	37	***22.2***	42	***24.2***	45
Marine Corps	**--**	9	**--**	10	**--**	14
Navy	**--**	7	**--**	13	**--**	10
Air Force	**--**	13	**--**	12	**--**	5
National Guard	***20.5***	90	***27.5***	121	***26.4***	117
Army	***22.9***	76	***31.5***	105	***30.3***	102
Air Force	**--**	14	**--**	16	**--**	15

NOTES. Source(s): Armed Forces Medical Examiner System (AFMES); Table 1 includes both confirmed and suspected suicides reported as of March 31, 2022. Both are included so the counts and rates are not underestimates as investigations continue. Per DoDI 6490.16, rates are not reported ("--") when the number/count of suicide deaths is under 20 because those rates are considered unstable and would not be reliable (statistical instability).[2] Space Force will be broken out separately in future reports. No suicide deaths for the Space Force have been reported to date. Only DoD Services are reported here; therefore, Coast Guard uniformed member suicide rates are not included in this report (CY 2019: 7; CY 2020: 7; CY 2021: 2). The Coast Guard is under the Department of Homeland Security—unless operating under the Department of the Navy—and is the smallest Military Service.

Suicide Rates Over Time

This report compares suicide rates within the military using two timeframes: First, the suicide rates for CY 2021 are compared to each of the prior two years, so military leaders and the community directly supporting suicide prevention know recent changes and can take quicker action. However, these comparisons only tell a part of the story. Any differences identified from year-to-year comparisons do not necessarily represent an overall pattern, or trend. Second, analyzing suicide rates over multiple years more accurately indicates what kind of trend may be happening. The CY 2011 to CY 2021 timeframe provides the longest window to see changes in the rates since DoD began collecting comparable data.

Year-to-Year Comparisons

Year-to-year analytic comparisons provide preliminary, short-term insights. One should be very cautious about not overstating such results: they may not be reliable enough to detect true change and do not reflect trends.

Trend Analysis (CY 2011–CY 2021)

Examining data over mid- and long-term timeframes enables one to understand changes in suicide rates over time.

Active Component:

Figure 1.

- The CY 2021 suicide rate was lower compared to CY 2020* and similar to CY 2019.
- There was an increasing trend in the suicide rates between CY 2011 and CY 2021.*

Figure 2.

- In most years, the Active Component suicide rate was similar to the U.S. population, except in CY 2012 and CY 2020, when it was higher.* CY 2021 U.S. population suicide data were not yet available.
- Suicide rate comparisons between the military and U.S. populations account for differences in sex and age. See Appendix A.

*Statistically significant—high confidence this is a true difference and not due to chance.

†Not statistically significant—low confidence this is a true difference. Likely due to chance or normal variation.

Figure 1. Active Component Suicide Rates per 100,000 Service Members, CY 2011–CY 2021

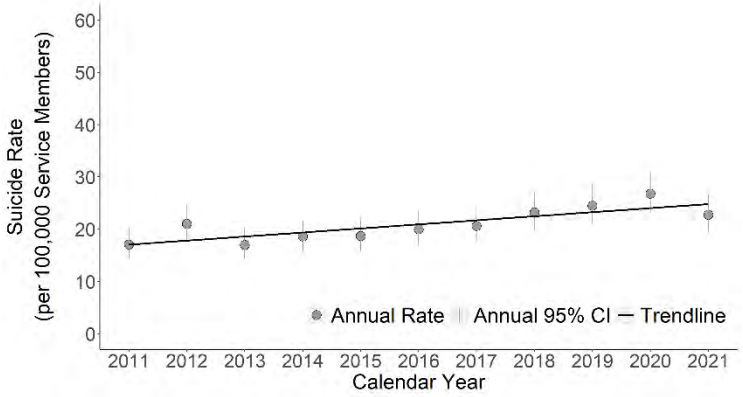
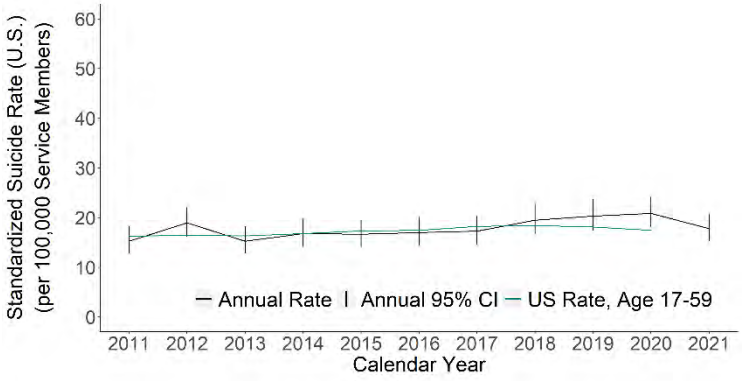
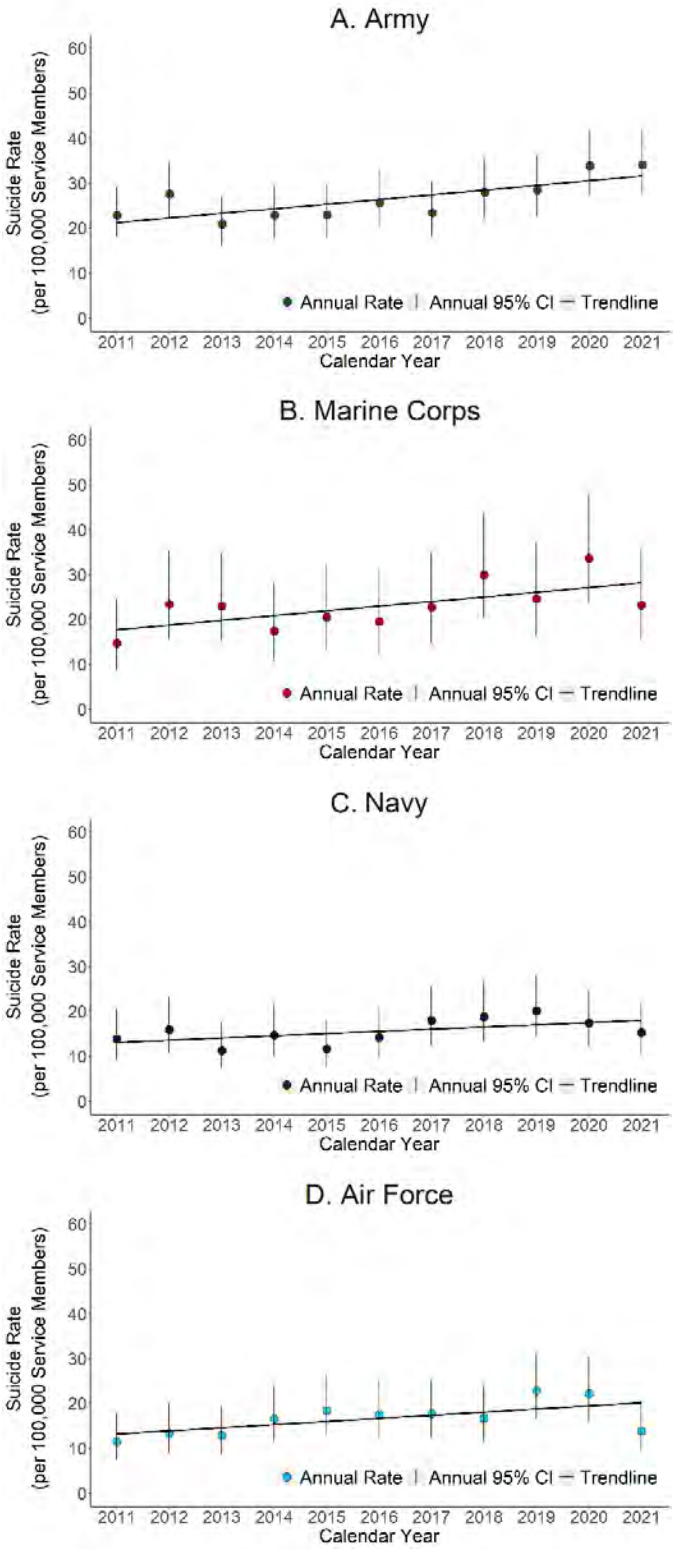


Figure 2. Active Component Suicide Rates Compared to U.S. Population Rates, CY 2011–CY 2021



Notes. Source(s): Data from AFMES (military populations) and the Centers for Disease Control and Prevention (CDC; U.S. population), ages 17–59. Rates in figures 1-2 were adjusted for age and sex. See Appendix A for additional information on methodology.

Figures 3 A–D. Active Component Suicide Rates per 100,000 Service Members **by Service**, CY 2011–CY 2021



NOTES. Rates in Figure 3 were adjusted for age and sex. See Appendix A for additional information on methodology.

Active Component by Service

Figure 3A—Army.

- Like for all other Services, there was an increasing trend from CY 2011 to CY 2021.* The Army CY 2021 suicide rate appears similar to CY 2020 and higher than in CY 2019.†

Figure 3B—Marine Corps.

- Like for all other Services, there was an increasing trend from CY 2011 to CY 2021.* The CY 2021 suicide rate for the Marine Corps appears lower than in CY 2020 and CY 2019.†

Figure 3C—Navy.

- Like for all other Services, there was an increasing trend from CY 2011 to CY 2021.* The CY 2021 suicide rate for the Navy appears lower than in CY 2020 and CY 2019.†

Figure 3D—Air Force.

- Like for all other Services, there was an increasing trend from CY 2011 to CY 2021.* The CY 2021 suicide rate for the Air Force was lower compared to CY 2020 and CY 2019.*

*Statistically significant—high confidence this is a true difference and not due to chance.

†Not statistically significant—low confidence this is a true difference. Likely due to chance or normal variation.

Reserve:

Figure 4.

- The CY 2021 suicide rate appears similar to CY 2020 and higher compared to CY 2019.†
- There was no increasing† or decreasing trend in suicide rates between CY 2011 and CY 2021.

By Service

- Army Reserve rates followed the same pattern as the overall Reserve (data not shown). Marine Corps, Navy, and Air Force Reserve rates/trends over time were not reported due to low counts (DoDI 6490.16).

Figure 5.

- Reserve suicide rates were similar to the U.S. population (adjusted for age and sex) between CY 2011 and CY 2021. CY 2021 U.S. population suicide data were not yet available for this report.

*Statistically significant—high confidence this is a true difference and not due to chance.

†Not statistically significant—low confidence this is a true difference. Likely due to chance or normal variation.

Figure 4. Reserve Suicide Rates per 100,000 Reserve Service Members, CY 2011–CY 2021

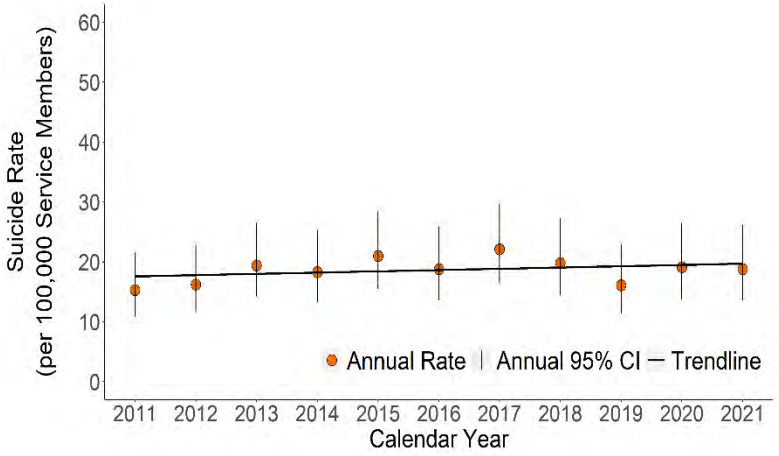
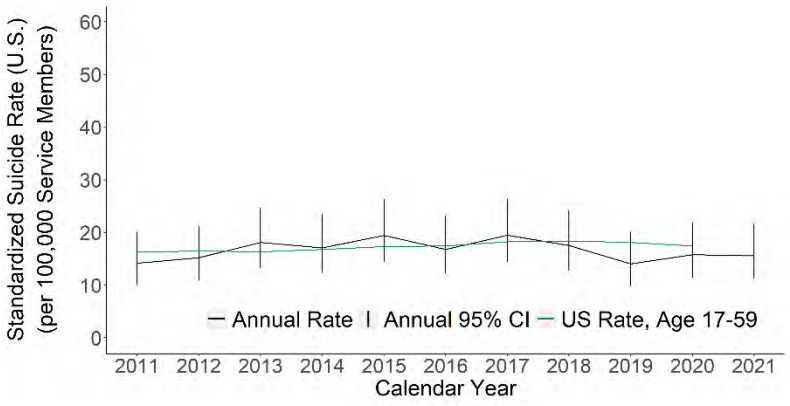


Figure 5. Reserve Suicide Rates Compared to U.S. Population Rates, CY 2011–CY 2021



NOTES. Source(s): Data from AFMES (military populations) and CDC (U.S. population), ages 17–59. Rates in figures 4–5 were adjusted for age and sex. See Appendix A for additional information on methodology.

National Guard:

Figure 6.

- The CY 2021 suicide rate appears similar to CY 2020 and higher compared to CY 2019.†
- There was no increasing† or decreasing trend in suicide rates between CY 2011 and CY 2021.

By Service

- Army Guard rates followed the same pattern as the overall Guard (data not shown). Air Guard rates/trends over time were not reported due to low counts (DoDI 6490.16).

Figure 7.

- National Guard suicide rates were similar to the U.S. population (adjusted for age and sex), except in CY 2012, CY 2013, and CY 2018, when it was higher.* CY 2021 U.S. population suicide data were not yet available for this report.

*Statistically significant—high confidence this is a true difference and not due to chance.

†Not statistically significant—low confidence this is a true difference. Likely due to chance or normal variation.

Figure 6. National Guard Suicide Rates per 100,000 Guard Members, CY 2011–CY 2021

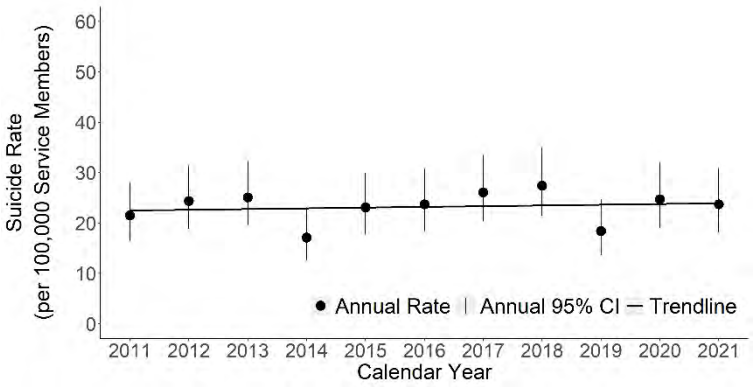
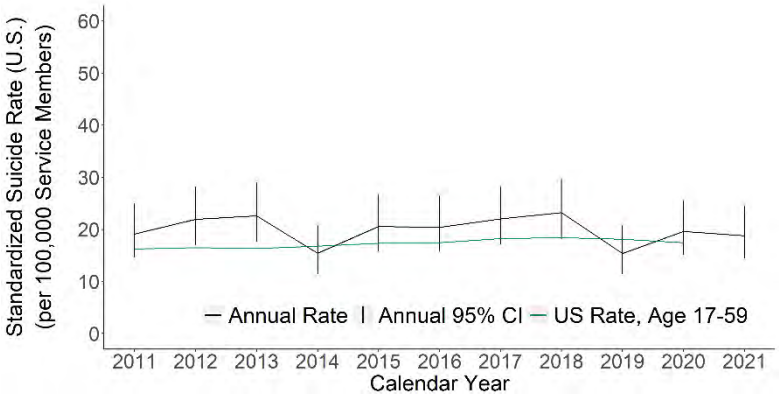


Figure 7. National Guard Suicide Rates Compared to U.S. Population Rates, CY 2011–CY 2021



NOTES. Source(s): Data from AFMES (military populations) and CDC (U.S. population), ages 17–59. Rates in figures 6–7 were adjusted for age and sex. See Appendix A for additional information on methodology.

Demographic and Military Characteristics:

Table 2. The demographic and military characteristics of Service members who died by suicide in CY 2021 were similar across the Active Component, Reserve, and National Guard. Overall, these characteristics are similar to the demographic profile of the total force (see note).

Those who died by suicide were largely enlisted, male, and under the age of 30 across the Active Component, Reserve, and National Guard. To assess risk, suicide rates for each demographic group were compared to the average suicide rate for each component (rate ratios). Over the past few years, men, enlisted Service members, and those under the age of 30 have each been at higher risk for suicide compared to the population average for the Active Component and Reserve Component (Reserve and National Guard combined). For demographics of suicide decedents by Service, see **Appendix C**.

Table 2. Service Member Suicide Rates per 100,000 Service Members, Counts, and Percentages by Demographic Characteristics, CY 2021

	Active Component			Reserve			National Guard		
	Rate	Count	Percent	Rate	Count	Percent	Rate	Count	Percent
Total	24.3	328	100%	21.2	74	100%	26.4	117	100%
Sex									
Male	27.8	309	94.2%	26.2	70	94.6%	30.6	109	93.2%
Female	--	19	5.8%	--	4	5.4%	--	8	6.8%
Age Group									
17–19	--	15	4.6%	--	3	4.1%	--	9	7.7%
20–24	32.9	144	43.9%	38.2	26	35.1%	39.6	43	36.8%
25–29	24.1	75	22.9%	--	17	23.0%	--	16	13.7%
30–34	17.4	37	11.3%	--	6	8.1%	32.3	23	19.7%
35–39	21.8	35	10.7%	--	10	13.5%	--	14	12.0%
40–44	--	13	4.0%	--	5	6.8%	--	5	4.3%
45–49	--	5	1.5%	--	2	2.7%	--	2	1.7%
50–54	--	3	0.9%	--	2	2.7%	--	4	3.4%
55–59	--	1	0.3%	--	3	4.1%	--	1	0.9%
60–74	--	0	0.0%	--	0	0.0%	--	0	0.0%
Race									
White	25.8	238	72.6%	24.0	56	75.7%	28.4	98	83.8%
Black/African American	18.2	42	12.8%	--	12	16.2%	--	11	9.4%
Am. Indian/Alaskan Native	--	7	2.1%	--	0	0.0%	--	2	1.7%
Asian/Pacific Islander	29.5	24	7.3%	--	4	5.4%	--	4	3.4%
Other/Unknown	--	17	5.2%	--	2	2.7%	--	2	1.7%
Rank									
E (Enlisted)	26.6	292	89.0%	25.4	70	94.6%	26.0	99	84.6%
E1–E4	28.2	161	49.1%	29.1	38	51.4%	29.0	58	49.6%
E5–E9	24.8	131	39.9%	22.0	32	43.2%	22.6	41	35.0%
O (Commissioned Officer)	15.7	34	10.4%	--	3	4.1%	--	12	10.3%
W (Warrant Officer)	--	2	0.6%	--	1	1.4%	--	6	5.1%
Cadet	--	0	0.0%	--	0	0.0%	--	0	0.0%
Marital Status									
Never Married	26.1	160	48.8%	31.3	50	67.6%	34.1	81	69.2%
Married	22.8	152	46.3%	14.1	23	31.1%	17.7	32	27.4%
Divorced	--	16	4.9%	--	1	1.4%	--	4	3.4%
Widowed	--	0	0.0%	--	0	0.0%	--	0	0.0%

NOTES. Source(s): AFMES; Per DoDI 6490.16, rates are not reported ("--") when the number/count of suicide deaths is under 20 because those rates are considered unstable and would not be reliable (statistical instability). The sex distribution for suicide decedents is about 95% men and 5% women, and for the total force it is about 85% men and 15% women.

Method of Suicide Death:

Table 3.

- Like in previous years, in CY 2021, **the most common method of suicide death was firearm**, followed by hanging/asphyxiation.
- The percentage of suicide deaths by firearm in the military has not changed over time.
- The percentage of Service members who died by suicide using a firearm has historically been higher compared to the U.S. population when accounting for differences in sex and age (e.g., in CY 2020 47.7% of U.S. suicide decedents died by suicide using a firearm, compared to 63.8% of Service members).
- Most (over 93%) of suicides by firearm in the military involved the use of a **personally owned firearm** (see 2020 DoDSER).

Table 3. Method of Suicide Death by Military Population, CY 2021

	Active Component		Reserve		National Guard	
	Count	Percent	Count	Percent	Count	Percent
Total	**328**	**100%**	**74**	**100%**	**117**	**100%**
Firearm	220	67.1%	55	74.3%	89	76.1%
Hanging/Asphyxiation	86	26.2%	15	20.3%	20	17.1%
Poisoning (Drugs/Alcohol/Non-drug)	7	2.1%	1	1.4%	1	0.9%
Sharp/Blunt Object	6	1.8%	0	0.0%	3	2.6%
Falling/Jumping	2	0.6%	1	1.4%	0	0.0%
Other	6	1.8%	0	0.0%	2	1.7%
Pending/Unknown	1	0.3%	2	2.7%	2	1.7%

NOTES. Source(s): CY 2021 method of death data were obtained from AFMES for active duty Service members and from the Military Service for non-duty status Reserve and National Guard. The poisoning category includes deaths unrelated to drug overdose, such as carbon monoxide poisoning.

Military Family Suicide Data

Section 567 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2015, Public Law 113-291 requires DoD to collect and report suicide data involving military family members.[4] Data sources include (1) the Defense Enrollment Eligibility Reporting System (DEERS; a database of military sponsors and dependents who have registered to receive military benefits), (2) the Military Services, and (3) the CDC National Center for Health Statistics National Death Index (NDI; a database of death record information compiled from state offices). Data from all three sources were available starting in 2017 and lag one year due to a time lag in collection of NDI data.

Military Family Members

For the purpose of this report, **military family members** are limited to spouses and dependent children (minor and non-minor) who are eligible to receive military benefits under Title 10 and who are registered in DEERS. For ease of reporting, dependent spouses are referred to as "spouses" and dependent children as "dependents."

Appendix A describes:

- Why three data sources are used
- Section 1072(2) of Title 10, U.S. Code, definition of a dependent with respect to a uniformed Service member (or former member)

CY 2020 Family Member Data Summary

Family Members:

Table 4.

- Suicide rates were similar for Active Component, Reserve, and National Guard family members.
- The CY 2020 rate (total force) was similar to CY 2019 and CY 2018 rates. The same was true when examined for spouses and dependents separately.

Table 4. Family Member Suicide Rates per 100,000 by Their Service Member's Military Population, CY 2018–CY 2020

Military Population	CY 2018		CY 2019		CY 2020	
	Rate	Count	***Rate***	Count	***Rate***	Count
Total Force	***7.2***	191	***7.7***	202	***7.7***	202
Spouse	***12.2***	126	***12.6***	130	***13.0***	133
Dependent	***4.0***	65	***4.5***	72	***4.3***	69
Active Component	***7.0***	116	***7.1***	117	***7.9***	130
Spouse	***12.2***	82	***12.6***	85	***13.0***	87
Dependent	***3.4***	34	***3.3***	32	***4.4***	43
Reserve	***6.4***	29	***8.7***	40	***8.4***	38
Spouse	***--***	18	***--***	17	***15.0***	25
Dependent	***--***	11	***7.9***	23	***--***	13
National Guard	***8.5***	46	***8.5***	45	***6.5***	34
Spouse	***13.3***	26	***14.6***	28	***11.1***	21
Dependent	***5.8***	20	***--***	17	***--***	13

NOTES. Source(s): DEERS, Military Services, NDI, Defense Manpower Data Center (DMDC; denominators only). Rates for groups with fewer than 20 suicides were not reported because of statistical instability (DoDI 6490.16). Only DoD Services are reported here; therefore, Coast Guard family member suicide rates are not included in this report (CY 2018: 2; CY 2019: 4; CY 2020: 3). Table 4 includes Service members in order to capture the full extent of suicide among military family members (13.4% currently serving in CY 2020, 20.3% in CY 2019, 17.8% in CY 2018).

Table 5. Military Spouse Suicide Counts and Percentages by Demographics, CY 2020

Demographic	Count	Percentage
Sex	**133**	**100%**
Male	65	48.9%
Female	68	51.1%
Age Group	**133**	**100%**
< 40	105	78.9%
≥ 40	28	21.1%
Service History	**133**	**100%**
Any Service History	62	46.6%
Prior Service	37	27.8%
Currently Serving	25	18.8%
No Service History	71	53.4%
Method of Death	**133**	**100%**
Firearm	80	60.2%
Hanging/Asphyxiation	28	21.1%
Poisoning (Drugs/Alcohol/Non-drug)	17	12.8%
Sharp/Blunt Object	--	<1.0%
Falling/Jumping	--	<1.0%
Other	--	<4.0%
Unknown	--	<2.0%

NOTES. Source(s): DEERS, Military Services, NDI (suicide counts); DMDC (denominators). Per CDC requirements, to protect the confidentiality of military family members, counts under 10 are suppressed and corresponding percentages are suppressed or masked (i.e., < 1.0%) to ensure low counts cannot be recreated.

Table 6. Military Spouse Suicide Rates per 100,000 Individuals by Sex, CY 2018–CY 2020

DoD Component	CY 2018		CY 2019		CY 2020	
	Male	Female	Male	Female	Male	Female
Total Force	**40.5**	**8.1**	**51.2**	**6.8**	**47.4**	**7.7**
Active Component	36.8	8.8	52.0	7.0	47.5	7.9
Reserve	--	--	--	--	--	--
National Guard	--	--	--	--	--	--

NOTES. Source(s): DEERS, Military Services, NDI (suicide counts); DMDC (denominators). Per DoDI 6490.16, rates are not reported when suicide counts are less than 20 due to statistical instability.

Spouses:

Table 5.

- About 79% of decedents were under 40 years old (similar to overall military spouses).
- Male spouses accounted for about 49% of suicides but made up 13% of military spouses.
- About 47% of decedents had any service history (75% of men and 19% of women—data not shown).
- Like in previous years, the most common method of suicide death was by firearm.
- About 50% of female military spouses used a firearm, whereas 33% of women in the U.S. population used a firearm (data not shown).

Table 6.

- CY 2020 suicide rates for male and female spouses (separately) were similar to prior years.
- The suicide rate for female spouses was similar to women in the U.S. population ages 18–60 (data not shown).
- The male spouse rate was higher* than men in the U.S. population ages 18–60 (data not shown).

Note: The CY 2020 male spouse rate appears different from prior years but was not statistically different from CY 2019 and CY 2018 rates. Suicide counts were low for this population and relatively small compared to both the military spouse and U.S. population. Small changes to male spouse suicide counts can dramatically affect the suicide rate (volatility).

*Statistically significant—high confidence this is a true difference and not due to chance.

Table 7. Military Dependent Suicide Counts and Percentages by Demographics, CY 2020

Demographic	Count	Percentage
Sex	**69**	**100%**
Male	50	72.5%
Female	19	27.5%
Age Group	**69**	**100%**
<18	43	62.3%
18 to less than 23	26	37.7%
Method of Death	**69**	**100%**
Firearm	38	55.1%
Hanging/Asphyxiation	26	37.7%
Poisoning (Drugs/Alcohol/Non-drug)	--	<8.0%
Sharp/Blunt Object	--	--
Falling/Jumping	--	--
Other	--	--
Unknown	--	--

NOTES. Source(s): DEERS, Military Services, NDI, DMDC. Per CDC requirements, to protect the confidentiality of military family members, counts under 10 are suppressed and corresponding percentages are suppressed or masked (i.e., < 1.0%) to ensure low counts cannot be recreated.

Table 8. Military Dependent Suicide Rates per 100,000 Individuals by Sex, CY 2018–CY 2020

DoD Component	CY 2018		CY 2019		CY 2020	
	Male	Female	Male	Female	Male	Female
Total Force	**5.9**	**--**	**6.7**	**--**	**6.2**	**--**
Active Component	5.2	--	4.4	--	5.9	--
Reserve	--	--	--	--	--	--
National Guard	--	--	--	--	--	--

NOTES. Source(s): DEERS, Military Services, NDI, DMDC. Per DoDI 6490.16, rates are not reported when suicide counts are less than 20 due to statistical instability.

Dependents:

Table 7.

- About 62% of dependents who died by suicide were under 18 years old.
- Male dependents accounted for about 72% of suicides deaths.
- Less than 5% of dependents who died by suicide had any service history (data not shown).
- Like in previous years, the most common method of suicide death was by firearm.

Table 8.

- The CY 2020 suicide rate for male dependents was similar to prior years.
- Suicide rates for male dependents were similar to the male rate in the U.S. population under 23 years old.
- Female dependent suicide rates were not reported due to low counts (DoDI 6490.16).

An Integrated Primary Prevention Approach to Suicide Prevention

Primary Prevention

A strategy or approach that reduces the risk or delays the onset of adverse health problems, or reduces the likelihood that an individual will engage in harmful behaviors.

Integrated Primary Prevention

Prevention activities that simultaneously address multiple self-directed harm and prohibited abusive or harmful acts.

In 2020, DoD implemented a policy for integrated primary prevention through DoDI 6400.09, "DoD Policy on Integrated Primary Prevention of Self-Directed Harm and Prohibited Abuse or Harm."[5] This policy outlines an integrated prevention effort across various programs and policies; establishes a common, research-based framework for violence prevention; and focuses prevention efforts on activities that have the greatest potential to reduce multiple forms of violence (e.g., suicide, harassment, sexual assault, domestic abuse, child abuse, substance misuse) that affect the military community. These efforts advance objectives such as those outlined in the White House strategy for suicide prevention, *Reducing Military and Veterans Suicide*, released in November 2021,[6] and the commitment to mental health and suicide prevention shared by the Secretary of Defense, the Deputy Secretary of Defense, and senior leaders across DoD. Through efforts such as these, DoD follows an integrated primary prevention approach to suicide prevention and enhances support that is responsive to the needs and experiences of our Service members and their families.

To accomplish this mission and to guide policies and programs, DoD uses the data on suicide deaths described above, as well as other data and research sources described in the next section, Understanding Suicide Risk in the Military Population. This knowledge guides data- and research-based policies described throughout the remainder of this report.

Understanding Suicide Risk in the Military Population

DoD uses a variety of data collection methods and examines multiple data sources at different organizational levels to understand the risks and needs of the military population. For example, the *Defense Organizational Climate Survey* (*DEOCS*) provides commanders with information regarding command climate, such as Service members' perceptions of cohesion, connectedness, stress, and leadership within their unit. Commander visibility of this information provides an opportunity to take steps to identify and resolve issues. In 2021, the Secretary of Defense directed On-Site Installation Evaluations (OSIE) at select installations. Throughout 2021, evaluation teams examined installation-level capabilities to prevent and effectively address factors that heighten suicide risk and other harmful behaviors through early detection of potential issues, so leaders can take proactive corrective actions and enhance prevention.

DoD also examines the context surrounding suicide and suicide attempts among Service members using the DoDSER. Through this reporting system, designated and trained DoD personnel populate a form that documents information about the suicide event and contextual factors surrounding the event, as well as the Service member's military and medical history. The DoDSER helps DoD further understand the circumstances regarding these events and who is most at risk. See Enclosure for the CY 2021 DoDSER System Data Summary.

Comprehensive surveys, such as the *Status of Forces Survey* (*SOFS*) and the *Workplace and Gender Relations Survey* (*WGR*), provide insight into Service member behaviors, attitudes, and

perceptions across a variety of topics. The *SOFS* helps DoD understand Service member experiences associated with various risk and protective factors, such as financial well-being, reasons for seeking or not seeking help, morale, and satisfaction with the military way of life. In addition to estimating the prevalence and characteristics of sexual assault, sexual harassment, and gender discrimination, the *WGR* provides information on Service member experiences and perceptions of unit culture and climate. Together, these data sources ensure DoD's suicide prevention efforts are guided by continuous and comprehensive feedback on risk and protective factors in the everyday experiences of Service members.

DoD depends on research to inform its suicide prevention efforts. In 2020, DoD published the enterprise-wide *DoD Suicide Prevention Research Strategy FY 2020 to 2030*. This strategy focuses on addressing military-specific gaps in knowledge of suicide prevention through research.[b] The strategy prioritizes military suicide research efforts that will lead to policies and programs that benefit the health and readiness of Service members and their families. To meet the goals and objectives of this strategy, DoD engages in research collaborations and data sharing, both internally and externally, with the Department of Veterans Affairs (VA), other federal government agencies, academia, and non-governmental organizations.

The U.S. Army Medical Research and Development Command's Congressionally Directed Medical Research Program (CDMRP) fills research gaps by supporting innovative and impactful research that advances the health care of Service members and the public through a number of components such as the Military Operational Medicine Research Program (MOMRP). Under the oversight of MOMRP, the Military Suicide Research Consortium (MSRC) was created as a collaboration between DoD, VA, and Florida State University to integrate and synchronize DoD and civilian research efforts into a multidisciplinary research approach to suicide prevention.

Several long-term research projects also help DoD advance understanding of suicide and behavioral health in Service members. The *Study to Assess Risk and Resilience in Service Members–Longitudinal Study* (*STARRS-LS*) is a DoD-funded, collaborative effort to identify practical, actionable information on risk reduction and resilience-building for suicidal behaviors and other mental and behavioral health issues in the military. The *Millennium Cohort Study* is another long-term study of the physical and mental health of Service members and their families that seeks to determine how military-related experiences affect long-term health.

Knowledge of the events preceding a suicidal crisis helps contextualize support needs, ensuring DoD prevention services remain relevant to the needs of at-risk Service members. This type of analysis helps identify contextual factors known to be associated with suicide risk in Service members, including relationship, financial, and legal/administrative problems; ineffective life/coping skills; reluctance to seek help; perceived stigma about suicide care/treatment; and access to lethal means. In the case of National Guard personnel, additional contextual considerations include duty status, challenges in supporting a part-time force, geographic dispersion, barriers to accessing care, and limited Service member visibility by unit leadership.

Internal and external research literature, on-going research efforts, on-site data collection, and large-scale surveys, such as the *SOFS,* help DoD ensure its policies, support programs, and resources most effectively meet the needs of Service members and their families.

[b] For additional information on the *DoD Suicide Prevention Research Strategy FY 2020 to 2030*, please access DoD's CY 2019 *Annual Suicide Report* (*ASR*) at https://www.dspo.mil/Portals/113/Documents/CY2019%20Suicide%20Report/DoD%20Calendar%20Year%20CY%202019%20Annual%20Suicide%20Report.pdf?ver=YOA4IZVcVA9mzwtsfdO5Ew%3d%3d

Suicide Prevention Policy and Oversight

DoDI 6400.09 guides DoD's integrated primary prevention framework. Specific to suicide prevention, DoD follows an enterprise-wide suicide prevention policy through DoDI 6490.16 "Defense Suicide Prevention Program," which aligns with the key elements within DoD's integrated primary prevention approach. DoDI 6490.16 provides direction to the Military Services and other DoD Components for their suicide prevention responsibilities, including fostering a command climate that encourages individuals to seek help and build resilience. This policy establishes standards for suicide prevention, intervention, and postvention efforts and requires the standardized collection and analysis of the suicide data presented in this report for Service members and their families. This policy supports the use of data in decision-making and in the application of best practices, applying these efforts to the broad population of Service members and their families.

DoD's suicide prevention efforts are led by a suicide prevention governance body that ensures a collaborative and cohesive approach. The Suicide Prevention General Officer Steering Committee (SPGOSC) is composed of senior executive leaders and general officers across DoD and addresses suicide prevention needs by employing data-driven practices that have DoD-wide applicability. The Suicide Prevention and Risk Reduction Committee (SPARRC)—an enterprise-wide, action-officer-level committee—is responsible for the coordinated implementation of the guidance provided by the SPGOSC. The SPARRC provides an opportunity for collaboration, communication, and documentation of promising suicide prevention practices across DoD.

The SPGOSC and the SPARRC work alongside the Defense Suicide Prevention Office (DSPO), other governmental agencies, external partners, and the community to reduce suicide risk and to enhance protective factors. The SPGOSC identifies focus areas to guide and promote Department-wide efforts addressing key suicide prevention needs. For FY 2021, these included promoting lethal means safety, reducing stigma and barriers to care, and understanding the needs of and efforts focused on military families.

In addition to these governance bodies established in DoD's suicide prevention policy, the Deputy Secretary of Defense established the Deputy's Workforce Council (DWC) in March 2021 to address key departmental workforce issues. The DWC is co-chaired by the Deputy and the Vice Chairman of the Joint Chiefs of Staff, and its membership includes the Secretaries of the Military Departments, the Service Chiefs, and the Under Secretaries of Defense. This group of DoD's most senior leaders provides an opportunity to discuss and coordinate responses to critical workforce and personnel issues, including suicide and mental health. The DWC advances the Secretary of Defense's priority focus on people, and its focus on suicide and mental health is consistent with the Secretary of Defense's commitment to providing care and resources while also working to reduce stigma and barriers to care.

Evidence-Informed Elements for Suicide Prevention

DoD's integrated primary prevention policy directs that suicide prevention policies, programs, and resources should incorporate seven elements:

1. **Promoting financial readiness:** providing financial readiness training and financial counseling.

2. **Strengthening access and delivery of suicide prevention and intervention:** increasing confidence and trust in services, encouraging help-seeking behaviors, and reducing stigma.
3. **Creating protective environments:** increasing social support and promoting lethal means safety.
4. **Promoting connectedness:** promoting the role of relationships and interpersonal connections.
5. **Developing coping and problem-solving skills:** teaching and promoting skills to address stress and other issues, particularly among young Service members and those undergoing transitions, such as deployment, separation, or retirement.
6. **Identifying and supporting members of the military community who are at risk:** equipping members of the military community to assess for and recognize risk factors in their peers, subordinates, clients, and families.
7. **Promoting reduction in self-harm and reducing future risk:** providing postvention, bereavement support, and education on safe reporting and messaging on suicide.

The integrated primary prevention approach focuses on reducing suicide risk by attempting to address numerous underlying risk factors and socio-demographic factors (e.g., reluctance toward help-seeking, relationship problems, financial difficulties, and access to lethal means), while also enhancing protective factors (e.g., strong social connections, problem-solving and coping skills).

Past annual suicide reports (ASRs) have described in detail DoD's various suicide prevention programs, resources, and initiatives (https://www.dspo.mil/asr; e.g., Real Warriors Campaign, Resources Exist, Asking Can Help (REACH), Suicide Prevention General Officer Steering Committee). These reports highlighted efforts that seek to address the diverse risk and protective factors associated with suicide. Additionally, the DoDSER annual reports have detailed suicide risk factors and contextual factors for suicide deaths and attempts among Service members for more than a decade (https://health.mil/Military-Health-Topics/Centers-of-Excellence/Psychological-Health-Center-of-Excellence/Department-of-Defense-Suicide-Event-Report).

In addition to the continued implementation and operation of many past efforts, DoD activity during CY 2021 focused on three key priority areas, which included fostering a supportive environment for Service members and their families, addressing stigma as a barrier to help-seeking, and promoting a culture of lethal means safety. Many of these efforts advance priorities outlined in the White House strategy for suicide prevention, "Reducing Military and Veteran Suicide," released in November 2021[6] and the commitment to promoting mental health and suicide prevention shared by the Secretary of Defense, the Deputy Secretary of Defense, and senior leaders across DoD. Although these examples are by no means an exhaustive list, it is through such efforts that DoD enhances support to our Service members and their families.

Fostering a Supportive Environment for Service Members and Families

Quality of life is not just a key focus of DoD's integrated primary prevention approach to suicide prevention, but an important component of force readiness. Service members and families can access a variety of initiatives and support resources to maintain their personal quality of life, such as peer support, relationship and financial counseling, coping and problem-solving skills building, and military chaplains. DoD places particular emphasis on

promoting knowledge about the availability and benefits of these resources to address issues early before they escalate into more serious concerns.

The earlier section, Understanding Suicide Risk in the Military Population, described how DoD gathers data to understand the behaviors, attitudes, and perceptions of Service members and their families. These sources can provide critical insight into potential quality-of-life issues within the military community. DoD continuously emphasizes the importance of collaboration and addressing shared risk and protective factors, in alignment with an integrated primary prevention approach.

Financial well-being is critical to quality of life. As the COVID-19 pandemic continued into 2021, evolving economic conditions across the country may have exacerbated financial challenges experienced by some Service members and their families, particularly through the impact on employment among military spouses and increased cost of living in many locations. To address these potential issues, the Secretary of Defense issued a memorandum, "Strengthening Economic Security in the Force," in November 2021.[7] The memo directed several actions, including financial relief (e.g., increasing housing allowances for areas experiencing substantial cost increases), increased stability (e.g., extended tour and assignment lengths), and implementing, expanding, and promoting financial readiness resources. DoD has continued to emphasize such initiatives through CY 2022, supporting the financial well-being of Service members and military families and providing knowledge and skills to resolve emerging financial concerns before they become critical issues.

DoD emphasizes the critical role of relationships and interpersonal connections that contribute to a positive quality of life. "Connect to Protect" is the flagship theme for DoD's suicide prevention messaging campaign, which is aimed at reducing stigma and normalizing help-seeking in Service members, civilian staff, family, friends, and the broader community. This campaign includes personal messages from leaders who stress the importance of self-care, social connectedness, and supportive resources. This campaign also stresses how everyone has a role to play in preventing suicide. In 2021, this theme was expanded to "Connect to Protect: Support Is Within Reach," to increase awareness of suicide prevention and resources and to turn that awareness into action.[8]

These example initiatives aim to support the quality of life and well-being of Service members and their families. Together, these key focus areas and data resources compose DoD's integrated primary prevention approach to suicide prevention, which aim to enhance support that is responsive to the needs and experiences of our Service members and their families.

Addressing Stigma as a Barrier to Help-Seeking

Addressing stigma toward help-seeking and reducing barriers to care are critical areas of focus across DoD, including among its senior leadership who are making use of social media platforms to openly discuss the importance of mental health and help-seeking.

As part of its focus on suicide prevention and mental health, the Deputy Secretary of Defense, has placed special emphasis on addressing concerns that stigmatize mental health support (e.g., career implications) and ensuring access (e.g., in-person, virtual delivery) to clinical and non-clinical support services.

> "If we want to #BreakTheStigma around seeking mental health support, we need to have open & honest conversations about the real impact mental health has on the wellness of our force. #MentalHealthMatters"
>
> – Deputy Secretary of Defense Kathleen Hicks, May 6, 2021[9]

DoD works with subject matter experts from the suicide prevention, mental health, and personnel security workforces with representation from the Military Services and the National Guard Bureau. For example, for some National Guard personnel serving in a non-duty status, the challenge of addressing stigma is compounded by such issues as financial limitations, lack of insurance coverage, unfamiliarity with resources, and a shortage of accessible providers.

Stigma might also arise from misconceptions that using mental health care will result in losing one's security clearance. Yet data from the Defense Counterintelligence and Security Agency indicated that, between 2012 and 2020, just 0.00115% of all unfavorable security clearance adjudications could be attributed solely to reported past mental health treatment.[10]

Stigma

A set of negative and often untrue beliefs that a society or group of people have about something. In the military context, this is often the negative perception that seeking mental health care or other supportive services will negatively affect or end their careers.

Research has shown that language in DoD policy (e.g., how DoD discusses mental health issues and treatment) may also be a source of stigma. For this reason, the Department implemented policy review procedures in 2021 intended to identify and rectify language that may inadvertently be interpreted as stigmatizing. This process, in conjunction with other collaborative efforts across DoD, such as dedicated working groups, aims to further promote help-seeking by addressing stigma.

These efforts complement ongoing initiatives designed to combat stigma and promote help-seeking and the use of resources and support services. One example is the Resources Exist, Asking Can Help (REACH) program, which was developed to connect participants to support resources and to increase awareness of the benefits of self-care practices. The initial pilot program, conducted in 2020, showed promise in lowering perceptions of barriers, increasing Service members' comfort with seeking help, and increasing their knowledge of resources. REACH materials, including a course facilitator guide, are available via MilLife Learning, Military OneSource's web-based training platform. In addition, several installations are already implementing REACH. Given the early success of the pilot, the Department is expanding to include additional pilot efforts focused on adapting REACH to address the unique needs of military spouses and expanding the program to Service members stationed at remote Continental United States (CONUS) and Outside Continental United States (OCONUS) locations.

Promoting a Culture of Lethal Means Safety

Firearms continue to be the primary method of suicide death for Service members, their spouses, and dependents. Suicide attempts using a firearm are overwhelmingly more likely to result in death than other methods.[11] Further, research has found that Service members at risk for suicide frequently practice unsafe firearm storage, and individuals with ready access to a

firearm are at increased risk of dying by suicide.[12] In addition, putting time and space between a person in crisis and their access to lethal means has been shown to be an effective way to prevent suicide.[13] Given such evidence, promoting lethal means safety is a critical component of suicide prevention efforts within DoD and across the federal government. This is reflected in the White House strategy for military and veteran suicide, which was published in November 2021, and guides comprehensive, interagency suicide prevention efforts and draws attention to the need for identifying and promoting lethal means safety practices, such as safe storage of firearms and medication.

Within DoD, the Deputy Secretary of Defense directed a DoD-wide effort to promote lethal means safety through plans developed by each of the Military Services, tailored to the needs of their Service members. These plans were built around the *Lethal Means Safety suite of tools* and highlight the importance of safe firearm and medication storage practices in mitigating suicide risk through messaging and resources. This suite includes a guide to lethal means safety for Service members and their families, sample public messaging, communications guidance for leaders and service providers, and a toolkit intended to help support collaborations with firearm retailers, disseminate suicide prevention information, and promote safe firearm storage.

In 2021, the SPGOSC also promoted DoD-wide efforts to address lethal means safety as one approach to reduce suicide risk. A key component of this effort was continued implementation, monitoring, and evaluation of Counseling on Access to Lethal Means (CALM) training. CALM training aims to increase awareness of risk factors for suicide and to increase safe storage practices of lethal means among Service members. CALM prepares non-medical military support providers with counseling strategies to promote safe use and storage of firearms for individuals at risk for suicide. Since 2019, more than 2,000 non-medical providers, including Military and Family Life Counselors, have participated in CALM training. DoD is further developing a modified version of CALM training that will be available online. In addition, in August 2022, the Defense Health Agency developed and mandated training on lethal means safety for all of its health care providers—those in behavioral health as well those in other specialties.

By promoting lethal means safety early in a Service member's career, DoD aims to enhance early adoption of safe firearm storage practices. To this end, DoD is sponsoring research to identify best practices for integrating lethal means safety into early military career training, such as basic recruit training and Officer Candidate School. DoD is also conducting a needs assessment and feasibility analysis for firearm safety training for all Service members. Taken together, these initiatives aim to create and maintain protective environments through lethal means education and resources.

Way Forward

DoD continues to enhance its suicide prevention program with a number of ongoing efforts. Among others, this includes assessing current DoD and Service-level lethal means safety (LMS) policies. Such policies are intended to put time and space between a person in crisis and their access to lethal means (e.g., firearms, prescription and non-prescription drugs). Understanding how such policies are implemented at the Service, component, and installation level will allow DoD to identify and resolve any gaps, ensuring consistency throughout organizational levels.

Other efforts focus on approaching the complex issue of suicide prevention with fresh perspectives. One such effort, mandated by the NDAA for FY 2022, was the Suicide Prevention and Response Independent Review Committee (SPRIRC), launched in CY 2022. The SPRIRC is tasked with reviewing the Department's efforts to address and prevent suicide, visit multiple installations, conduct additional information gathering, and make recommendations to reduce suicide at the installations reviewed. The SPRIRC leverages the work of subject matter experts as well as other outside views and opinions, all with the aim of taking a new, fresh look at how DoD can improve and enhance its suicide prevention program. This includes increasing DoD's understanding of Service member needs spread across various locations, including remote & OCONUS areas. The SPRIRC's report will be released in February 2023.

Appendix A: Methodology Approach

This appendix describes common questions about suicide surveillance in the military and briefly overviews the analytic methods used within this report to answer them.

Suicide Data and Interpretation

Reporting Suicide Deaths for Service Members

By policy, the Armed Forces Medical Examiner System (AFMES) determines the counts and rates for Service member suicide deaths. AFMES verifies and reports suicide deaths for all Active Component Service members and Reserve Component Service members that are on active duty at the time of death.[c] Reserve Component Service members not on active duty status at the time of death are reported to AFMES by individual Service branches. Suicide counts and rates for the Reserve and National Guard include members of the Selected Reserve (SELRES) both with active duty status and non-duty status.

Reporting Suicide Deaths for Military Family Members

The Defense Suicide Prevention Office (DSPO) compiles data from three data sources to determine the counts and rates for military family member suicide deaths. Data sources include (1) the Defense Enrollment Eligibility Reporting System (DEERS; a database of military sponsors and dependents who have registered to receive military benefits), (2) the Military Services, and (3) the Centers for Disease Control (CDC) National Center for Health Statistics National Death Index (NDI; a database of death record information compiled from state offices). Data from all three sources were available starting in 2017 and lag one year due to the time lag in collection of NDI data. No single data source fully captures suicide deaths. The majority of military family members are civilians whose deaths do not occur on a military installation, and DoD does not have visibility of or jurisdiction over these deaths. Therefore, it is necessary to combine multiple data sources for DoD to ensure it is capturing the most complete dependent information possible from both military and civilian data sources. This may not account for all dependent suicide deaths included in the 10 U.S.C. 1072(2) definition, and suicide counts and rates presented in this report may be underestimated for this population.

Defining Military Family Member

The definition of "dependent" (also referred to as "military family members") for the purposes of this report is individuals who are sponsored by a Service member, who are enrolled in DEERS, and who meet the requirement for a military dependent as defined by Section 1072(2) of Title 10, U.S. Code, which defines a dependent with respect to a uniformed Service member (or former member) as a/an:

1. Spouse;
2. Un-remarried widow or widower;
3. A biological, step-, foster, ward, pre-adoptive, or adopted child who is:
    a. Unmarried and under the age of 21;
    b. Physically or mentally incapable of self-support (regardless of age); or

[c] Service member deaths occur in both military and civilian jurisdictions. AFMES conducts about 15%–20% of all death investigations (for suicide and all other causes). All other investigations are completed by civilian medical and legal authorities and are reported to AFMES by the Military Services.

   c. Enrolled in full-time course of study at an institution of higher learning, dependent on the Service member for over one-half of their support, and under the age of 23;
4. Un-remarried former spouse of a current or former Service member;
5. Unmarried person who is placed in the legal custody of the Service member as a result of a court order (e.g., a sibling);[d] and
6. Parent or parent-in-law who is dependent on the Service member for over one-half of his/her support and residing in his/her household.

In this report, "dependent spouses" are referred to as "spouses" and "dependent children" as "dependents."

Counts versus Rates

Suicide death counts represent the number of people that died by suicide (also known as absolute magnitude). Suicide death rates represent the number of people that died for every 100,000 people in that group/population in a year. Counts alone are not enough to compare two groups or to understand if suicide is changing over time—in fact, counts can be misleading. Using a rate ensures that any observed differences in suicide are not the result of one group being larger than the other. For this report, to calculate a crude rate, the number of deaths was divided by the size of the group and multiplied by 100,000. Although rates account for differences in size, they do not explain why changes occur over time and do not account for many other factors that may affect suicide rates. Comparing suicide rates between groups that do not have the same proportion of people with those characteristics would be misleading. To fix that, suicide rates are adjusted during analysis to make the two groups more like each other based on the chosen characteristics. A rate that is not adjusted is called an unadjusted or crude rate.

Understanding Variability in Suicide Rates

All data related to human behavior have some natural variability. This can include, for example, a basic change in the frequency of the behavior or outcome (e.g., decrease in suicide deaths in a given year). It can also reflect variability in how standardized criteria are applied in examining the behavior (e.g., medical examiners determining suicide as the cause of death). This results in natural variability from year to year in the rates being examined. Variability can happen in either direction, resulting in adding or removing suicide deaths. If adding or removing a small number of suicide deaths (e.g., two or three) changes the rate noticeably (at least within one decimal place), then the rate is considered volatile. This is true for suicide rates in the military for which the number of suicide deaths is (mathematically) small compared to the size of the entire military population.

Both of these situations can apply to suicide rates in the military and, in certain instances, make it difficult to reliably understand what is real change ("signal") and what is a natural variation in data ("noise"). This does not automatically mean that suicide rate data are unreliable or unusable. It means that interpretation of this data, especially for short timeframes or smaller groups, should be made with caution and with as much context as

[d] Additional criteria may apply (see section 1072(2) of Title 10, U.S. Code).

possible in order to inform policy, programs, or decision-making.

Understanding Statistical Significance

Statistical significance is a scientific term that describes how confident we are that a result of a comparison is not purely due to chance. A statistically significant result does *not* tell the reader whether a result is subjectively important.

A result can be statistically significant while still only representing a *small* difference or effect; on the other hand, an observation may suggest a *large* difference or effect, but the data may be too limited to say that the result is statistically significant—in these cases, more data or observations may be required to confirm the findings.

Statistical tests—as part of larger study design, sampling, and conceptual considerations—help researchers answer a variety of questions. For example, some tests can help us determine the extent to which findings are generalizable (e.g., whether a survey about the attitudes of young, male Service members can be generalized to all Service members). Statistical tests can also tell us about the strength of particular relationships (e.g., how strong the relationship is between adverse childhood experiences and risk for mental illness) or how meaningful these relationships are (e.g., how well a medication works at reducing depression symptoms).

In this report, statistical significance is determined in two ways: (1) by interpreting results using *p* values—a predetermined level of probability, and (2) by examining whether 95% confidence intervals do not overlap.

What are *p* values?

The probability with which the result could have occurred due to chance. A common threshold for determining significance is $p < 0.05$. This means, if a result is significant (or in other words $p < 0.05$), the chances of obtaining this result when no real difference exists is less than 5%.

What are 95% confidence intervals?

A level of uncertainty is associated with suicide rates due to random error and volatility, such as the misclassification of a suicide. Confidence intervals provide a range of possible values for the suicide rate that account for this uncertainty. With a 95% confidence interval, one can be 95% confident that the range of values covers the true suicide rate.

Analysis

Calculating Unadjusted and Adjusted Suicide Rates

In this report, anytime suicide rates were compared, an **adjusted suicide rate** was used. Unadjusted suicide death rates represent the number of people that died for every 100,000 people in that group/population in a year. Adjusted rates are estimated using a generalized log-linear regression model based on the Poisson distribution (i.e., change is linear in the log of the rate) and a large matrix or contingency table with decedent and population totals by strata (e.g., year, age category, sex, Component or Service). When adjusting for age and sex, the model also uses weighted effects coding.[e] A Poisson distribution is well suited to estimate counts or

[e] Description of weighted effects coding: https://journal.r-project.org/archive/2017/RJ-2017-017/RJ-2017-017.pdf

rates for rare events. See **Figure 1** for an example showing age and sex adjusted rates for each year.

Estimating Change Over Time in Suicide Rates

A line of best fit using **log-linear modeling** that is well suited for rate data with a low base rate was calculated to describe trends in suicide rates over time. This approach models the observed event count, with consideration for the population size, and uses the distribution as a weight, which is well suited to account for high variance in low-count data. More specifically, the log-linear model is achieved by using a generalized linear model (GLM) with a log-link function and is used to account for population size as well as suicide death counts. The estimated rates are obtained by exponentiating the log rates from the trend analysis, and the trend of the rates is then a slight curve. This approach assumes that change over time is log-linear in nature and that it follows a Poisson distribution. A Poisson distribution is used to determine the probability of rare events and allows for contingency tables or a matrix to adjust for multiple variables, such as age and sex. This method was applied to describe trends from CY 2011 to CY 2021 (see the Service Member Suicide Data section) and was the same analytic approach that was used in CY 2019 and the prior Department of Defense Suicide Event Report (DoDSER) annual reports. In order to describe shorter or more near-term changes, this report compared the rate for a given year to each of those for the last two years using a pair-wise comparison approach. The result of the trend analysis, for both the near and long term, was a single estimated rate of change for the period, also known as the incidence rate ratio. A statistical test was then performed to determine if the trend direction (increasing or decreasing) was statistically significant for the period of interest. Rates were adjusted to account for age and sex differences across the period of interest.

Assessing Risk for Death by Suicide Among Specific Demographics Groups

Rate ratios between the rate for each demographic group (listed in **Table 2**) and the average population rate were calculated to assess suicide risk for specific demographic groups. A generalized log-linear regression model based on the Poisson distribution was used to obtain the rate estimates for each group that was compared. Weighted effects coding was applied to each of the demographic groups to ensure the rate ratios reflected a risk relative to the population average. The model's parameter estimates (regression coefficients) describe the ratio of the suicide rate of any given demographic group to that of the population average (i.e., the rate ratio). For example, see the Demographic and Military Characteristics section within the Service Member Suicide Data section of this report for an assessment of whether male Service members have a higher risk for suicide in the military population.

Comparing Military Suicide Rates to the U.S. Population

Accounting for sex and age is vital when comparing suicide rates between the military and the U.S. population because the military has more men and more young people (under 30). Without standardizing for age or sex differences between the military and the U.S. population and then adjusting for age and sex differences in suicide rates within the military, the comparisons between the unadjusted or crude rates in the military and the U.S. population suicide rates would be misleading or distorted. When making comparisons between the military and U.S. populations, this report used **indirect standardization** to account for differences in the demographic makeup, because the number of suicide deaths within subsets of the military population are very small. A Poisson distribution along with the military age- and sex-specific stratum population size was then used to estimate the standardized mortality ratio between the military and U.S. populations. This approach mirrored the approach used in CY 2019 and prior

DoDSER annual reports. For more details, see CY 2019 DoDSER Appendix D (DoD, USD[P&R], 2021).

An indirectly standardized rate for the military can be compared with the U.S. population rate, but not to another indirectly standardized rate. The 95% confidence interval associated with the indirectly standardized rate was used to test for a significant difference between the military and U.S. populations. If the span of the confidence interval for the military population did not cover the U.S. population rate, then the probability of observing no true difference was less than 5%—in other words, one can be 95% confident that the two rates are statistically different. For an example of this analysis, see the Suicide Rates Over Time section within the Service Member Suicide Data section of this report. U.S. population data were obtained from the CDC Web-Based Injury Statistics Query and Reporting System (WISQARS)[14]

Appendix B: Unadjusted and Adjusted Rates Over Time

Tables 9–11 present unadjusted and adjusted rates for the CY 2011–CY 2021 trend analyses presented in the Service Member Suicide Data section of this report. A rate is considered unadjusted when it is calculated using only the raw number of suicide deaths that occurred and the total size of the population. However, Service member populations fluctuate over time. The number of Service members of a certain age or sex can vary across years (e.g., 2019 compared to 2020). Since both age and sex are associated with suicide risk, when making comparisons across years, it is important to adjust rates for age and sex differences (i.e., adjusted rates). This avoids potentially misleading comparisons of unadjusted rates.

Suicide rates from the CY 2011–CY 2021 trend analyses were adjusted for age and sex over the defined time period. The unadjusted rates, presented below, may not match the unadjusted rates in **Table 1** of the report because the unadjusted suicides rates for the CY 2011–CY 2021 trend analyses were limited to ages 17–59 for the purpose of these analyses. Additionally, as new years of data are added to the analysis (e.g., CY 2022), the adjusted rates will change to incorporate the population (and their associated demographic characteristics) from that year. See **Appendix A** for more information about adjusting for age and sex.

Table 9. Service Member Suicide Rates by Component, Rates per 100,000 Service Members, CY 2011–CY 2021

	Active Component		Reserve		National Guard	
Year	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
2011	18.7	17.1	18.1	15.3	24.9	21.5
2012	22.9	21.0	19.3	16.2	28.2	24.4
2013	18.4	17.0	23.1	19.4	28.9	25.1
2014	20.2	18.6	21.6	18.3	19.6	17.1
2015	20.2	18.7	24.8	21.0	26.4	23.1
2016	21.5	20.0	22.0	18.8	27.1	23.7
2017	22.2	20.6	25.8	22.1	29.6	26.1
2018	24.9	23.2	22.9	19.8	30.8	27.4
2019	26.3	24.5	18.5	16.1	20.5	18.4
2020	28.6	26.8	21.7	19.1	27.5	24.7
2021	24.4	22.8	21.3	18.8	26.4	23.7

NOTES. Source(s): Armed Forces Medical Examiner System (AFMES). Unadjusted rates were age bound to 17–59. Adjusted rates were age bound to 17–59 and adjusted for age and sex.

Table 10. Active Component Service Member Suicide Counts by Service, Rates per 100,000 Service Members and Percentages, CY 2011–CY 2021 [1–3]

	Army		Marine Corps		Navy		Air Force	
Year	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
2011	24.8	22.8	15.4	14.7	16.0	13.9	12.9	11.5
2012	29.8	27.6	24.3	23.4	18.1	15.9	15.0	13.4
2013	22.5	20.9	23.6	22.9	12.8	11.3	14.4	12.9
2014	24.4	22.8	17.9	17.4	16.6	14.7	18.5	16.6
2015	24.4	22.9	21.2	20.5	13.1	11.7	20.6	18.4
2016	27.4	25.7	20.1	19.5	15.9	14.2	19.4	17.5
2017	24.9	23.4	23.4	22.7	20.1	18.0	19.6	17.7
2018	29.9	28.0	30.8	29.9	20.7	18.8	18.5	16.7
2019	30.5	28.5	25.3	24.6	22.1	20.1	25.1	22.8
2020	36.2	33.8	34.5	33.6	19.0	17.4	24.3	22.1
2021	36.3	34.0	23.9	23.2	16.7	15.3	15.3	13.9

NOTES. Source(s): AFMES. Unadjusted rates were age bound to 17–59. Adjusted rates were age bound to 17–59 and adjusted for age and sex.

Table 11. Service Member Suicide Counts by Component and Service, Rates per 100,000 Service Members and Percentages, CY 2011–CY 2021

	Army Reserve		Army National Guard	
Year	Unadjusted	Adjusted	Unadjusted	Adjusted
2011	21.4	18.3	27.4	23.7
2012	24.7	21.0	30.8	26.7
2013	29.6	25.2	33.7	29.3
2014	21.4	18.3	21.5	18.8
2015	27.2	23.3	28.7	25.0
2016	20.6	17.7	31.3	27.4
2017	32.1	27.8	35.5	31.2
2018	25.3	22.2	35.6	31.5
2019	19.4	17.1	22.9	20.5
2020	22.2	19.7	31.5	28.3
2021	24.3	21.7	30.4	27.2

NOTES. Source(s): AFMES. Unadjusted rates were age bound to 17–59. Adjusted rates were age bound to 17–59 and adjusted for age and sex.

Appendix C: Demographics of Suicide Decedents by Service

Tables 12–14 present the counts, percentages, and rates of suicide decedents by demographic subgroups for each Service and Component. All data were sourced from the Armed Forces Medical Examiner System (AFMES).

Table 12. Active Component Service Member Suicide Counts by Service, Rates per 100,000 Service Members and Percentages, CY 2021

	Army			Marine Corps			Navy			Air Force		
	Rate	Count	Percent	Rate	Count	Percent	Rate	Count	Percent	Rate	Count	Percent
Total	36.3	176	100%	23.9	43	100%	16.7	58	100%	15.3	51	100%
Sex												
Male	39.8	163	92.6%	25.0	41	95.3%	20.6	57	98.3%	18.3	48	94.1%
Female	--	13	7.4%	--	2	4.7%	--	1	1.7%	--	3	5.9%
Age Group												
17–19	--	8	4.5%	--	4	9.3%	--	1	1.7%	--	2	3.9%
20–24	53.8	81	46.0%	26.7	23	53.5%	21.1	22	37.9%	--	18	35.3%
25–29	31.3	36	20.5%	--	8	18.6%	--	16	27.6%	--	15	29.4%
30–34	27.7	21	11.9%	--	3	7.0%	--	8	13.8%	--	5	9.8%
35–39	--	18	10.2%	--	5	11.6%	--	7	12.1%	--	5	9.8%
40–44	--	7	4.0%	--	0	0.0%	--	3	5.2%	--	3	5.9%
45–49	--	3	1.7%	--	0	0.0%	--	1	1.7%	--	1	2.0%
50–54	--	1	0.6%	--	0	0.0%	--	0	0.0%	--	2	3.9%
55–59	--	1	0.6%	--	0	0.0%	--	0	0.0%	--	0	0.0%
60–74	--	0	0.0%	--	0	0.0%	--	0	0.0%	--	0	0.0%
Race												
White	38.9	128	72.7%	22.2	32	74.4%	17.1	37	63.8%	17.6	41	80.4%
Black or African American	25.3	26	14.8%	--	5	11.6%	--	8	13.8%	--	3	5.9%
American Indian/ Alaska Native	--	3	1.7%	--	1	2.3%	--	2	3.4%	--	1	2.0%
Asian/Pacific Islander	--	11	6.2%	--	2	4.7%	--	7	12.1%	--	4	7.8%
Other/Unknown	--	8	4.5%	--	3	7.0%	--	4	6.9%	--	2	3.9%
Rank												
E (Enlisted)	40.6	157	89.2%	27.1	43	100%	16.7	48	82.8%	16.5	44	86.2%
E1–E4	42.0	87	49.4%	23.3	25	58.1%	20.9	27	46.6%	17.4	22	43.1%
E5–E9	38.9	70	39.8%	--	18	41.9%	13.3	21	36.2%	15.8	22	43.1%
O (Commissioned Officer)	--	17	9.7%	--	0	0.0%	--	10	17.2%	--	7	13.7%
W (Warrant Officer)	--	2	1.1%	--	0	0.0%	--	0	0.0%	--	0	0.0%
Cadet	--	0	0.0%	--	0	0.0%	--	0	0.0%	--	0	0.0%
Marital Status												
Never Married	37.6	78	44.3%	20.3	21	48.8%	18.7	31	53.4%	21.9	30	58.8%
Married	35.8	90	51.1%	29.4	21	48.8%	13.8	23	39.7%	--	18	35.3%
Divorced	--	8	4.5%	--	1	2.3%	--	4	6.9%	--	3	5.9%
Widowed	--	0	0.0%	--	0	0.0%	--	0	0.0%	--	0	0.0%

Table 13. Reserve Service Member Suicide Counts by Service, Rates per 100,000 Service Members and Percentages, CY 2021

	Army Reserve			Marine Corps Reserve			Navy Reserve			Air Force Reserve		
	Rate	Count	Percent	Rate	Count	Percent	Rate	Count	Percent	Rate	Count	Percent
Total	**24.2**	**45**	**100%**	**--**	**14**	**100%**	**--**	**10**	**100%**	**--**	**5**	**100%**
Sex												
Male	30.2	42	93.3%	--	13	92.9%	--	10	100%	--	5	100%
Female	--	3		--	1	7.1%	--	0	0.0%	--	0	0.0%
Age Group												
17–19	--	2	4.4%	--	1	7.1%	--	0	0.0%	--	0	0.0%
20–24	--	14	31.1%	--	8	57.1%	--	3	30.0%	--	1	20.0%
25–29	--	12	26.7%	--	3	21.4%	--	2	20.0%	--	0	0.0%
30–34	--	5	11.1%	--	1	7.1%	--	0	0.0%	--	0	0.0%
35–39	--	6	13.3%	--	1	7.1%	--	1	10.0%	--	2	40.0%
40–44	--	3	6.7%	--	0	0.0%	--	1	10.0%	--	1	20.0%
45–49	--	1	2.2%	--	0	0.0%	--	0	0.0%	--	1	20.0%
50–54	--	0	0.0%	--	0	0.0%	--	2	20.0%	--	0	0.0%
55–59	--	2	4.4%	--	0	0.0%	--	1	10.0%	--	0	0.0%
60–74	--	0	0.0%	--	0	0.0%	--	0	0.0%	--	0	0.0%
Race												
White	26.6	32	71.1%	--	11	78.6%	--	8	80.0%	--	5	100.0%
Black or African American	--	9	20.0%	--	1	7.1%	--	2	20.0%	--	0	0.0%
American Indian/ Alaska Native	--	0	0.0%	--	0	0.0%	--	0	0.0%	--	0	0.0%
Asian/Pacific Islander	--	3	6.7%	--	1	7.1%	--	0	0.0%	--	0	0.0%
Other/Unknown	--	1	2.2%	--	1	7.1%	--	0	0.0%	--	0	0.0%
Rank												
E (Enlisted)	28.1	41	91.2%	--	14	100.0%	--	10	100.0%	--	5	100.0%
E1–E4	31.8	25	55.6%	--	10	71.4%	--	2	20.0%	--	1	20.0%
E5–E9	--	16	35.6%	--	4	28.6%	--	8	80.0%	--	4	80.0%
O (Commissioned Officer)	--	3	6.7%	--	0	0.0%	--	0	0.0%	--	0	0.0%
W (Warrant Officer)	--	1	2.2%	--	0	0.0%	--	0	0.0%	--	0	0.0%
Cadet	--	0	0.0%	--	0	0.0%	--	0	0.0%	--	0	0.0%
Marital Status												
Never Married	34.1	30	67%	--	13	93%	--	5	50%	--	2	40%
Married	--	14	31.1%	--	1	7.1%	--	5	50.0%	--	3	60.0%
Divorced	--	1	2.2%	--	0	0.0%	--	0	0.0%	--	0	0.0%
Widowed	--	0	0.0%	--	0	0.0%	--	0	0.0%	--	0	0.0%

Table 14. National Guard Service Member Suicide Counts by Service, Rates per 100,000 Service Members and Percentages, CY 2021

	Army National Guard			Air National Guard		
	Rate	Count	Percent	Rate	Count	Percent
Total	**30.3**	**102**	**100%**	**--**	**15**	**100%**
Sex						
Male	34.9	95	93.1%	--	14	93.3%
Female	--	7	6.9%	--	1	6.7%
Age Group						
17–19	--	9	8.8%	--	0	0.0%
20–24	40.9	38	37.3%	--	5	33.3%
25–29	--	14	13.7%	--	2	13.3%
30–34	--	19	18.6%	--	4	26.7%
35–39	--	11	10.8%	--	3	20.0%
40–44	--	5	4.9%	--	0	0.0%
45–49	--	2	2.0%	--	0	0.0%
50–54	--	4	3.9%	--	0	0.0%
55–59	--	0	0.0%	--	1	6.7%
60–74	--	0	0.0%	--	0	0.0%
Race						
White	33.3	86	84.3%	--	12	80.0%
Black or African American	--	9	8.8%	--	2	13.3%
American Indian/ Alaska Native	--	2	2.0%	--	0	0.0%
Asian/Pacific Islander	--	3	2.9%	--	1	6.7%
Other/Unknown	--	2	2.0%	--	0	0.0%
Rank						
E (Enlisted)	29.7	86	84.3%	--	13	86.7%
E1–E4	32.1	55	53.9%	--	3	20.0%
E5–E9	26.2	31	30.4%	--	10	66.7%
O (Commissioned Officer)	--	10	9.8%	--	2	13.3%
W (Warrant Officer)	--	6	5.9%	--	0	0.0%
Cadet	30.4	0	0.0%	--	0	0.0%
Marital Status						
Never Married	22.3	72	70.6%	--	9	60.0%
Married	--	27	26.5%	--	5	33.3%
Divorced	--	3	2.9%	--	1	6.7%
Widowed	--	0	0.0%	--	0	0.0%

Appendix D: Glossary

Abbreviations

AFMES – Armed Forces Medical Examiner System

ASR – Annual Suicide Report

CALM – Counseling on Access to Lethal Means

CDC – Centers for Disease Control and Prevention

CDMRP – Congressionally Directed Medical Research Program

CONUS/OCONUS – Continental United States/Outside Continental United States

CY – Calendar Year

DEERS – Defense Enrollment Eligibility Reporting System

DEOCS – Defense Organizational Climate Survey

DHRA – Defense Human Resources Activity

DMDC – Defense Manpower Data Center

DoD – Department of Defense

DoDI – Department of Defense Instruction

DoDSER – Department of Defense Suicide Event Report

DSPO – Defense Suicide Prevention Office

DWC – Deputy's Workforce Council

FY – Fiscal Year

GLM – Generalized Linear Model

MCL – Military Crisis Line

MOMRP – Military Operational Medicine Research Program

MSRC – Military Suicide Research Consortium

NDAA – National Defense Authorization Act

NDI – National Death Index

OSIE – On-Site Installation Evaluation

REACH – Resources Exist, Asking Can Help

SELRES – Selected Reserve

SOFS – Status of Forces Surveys

SPARRC – Suicide Prevention and Risk Reduction Committee

SPGOSC – Suicide Prevention General Officer Steering Committee

STARRS-LS – Study to Assess Risk and Resilience in Service Members–Longitudinal Study

USD(P&R) – Under Secretary of Defense for Personnel and Readiness

VA – Department of Veterans Affairs

WGR – Workplace and Gender Relations Survey

WISQARS – Web-Based Injury Statistics Query and Reporting System

Terms and Definitions[f]

Active Component: Refers collectively to the active duty segments of the Army, Navy, Air Force, and Marine Corps that are funded directly from DoD active duty military personnel appropriations pursuant to" Section 115(a), Title 10, U.S. Code (DoDI 1120.11[15]).

Active Duty: Full-time duty in the active military service of the United States. Such term includes full-time training duty, annual training duty, and attendance, while in the active military service, at a school designated as a service school by law or by the secretary of the military department concerned. Such term does not include full-time National Guard duty (10 U.S. Code § 101(d)(1)).

Adjusted and Unadjusted Suicide Rates: A rate is considered *unadjusted* when it is calculated using only the raw number of suicide deaths that occurred and the total size of the population. However, Service member populations fluctuate over time. For this reason, to ensure accurate comparisons across years or subpopulations, it is important to account or *adjust* for differences between the groups being compared. In this report, rates were adjusted for sex and age.

Armed Forces Medical Examiner System (AFMES): The AFMES is established as a subordinate element of the Defense Health Agency (DHA) to (1) perform forensic pathology investigations in accordance with Section 1471 of Title 10, U.S.C. and (2) to exercise DoD scientific authority for the identification of remains of DoD-affiliated personnel in deaths from past conflicts and other designated conflicts as provided in Section 1509 of Title 10, U.S.C. (DoDI 5154.30).[g]

Defense Enrollment Eligibility System (DEERS): A computerized database of military sponsors (active duty, retired, or member of the Reserve Component) and their eligible family members. DEERS registration is required for certain military benefits, including TRICARE (https://www.tricare.mil/deers/).

Department of Defense Suicide Event Report (DoDSER) System Data Summary: A report that characterizes Service member suicide data through a coordinated, web-based data collection system (DoDI 6490.16).

[f] Definitions lacking a parenthetical source reference were developed by the authors for the purposes of this report.

[g] Under Secretary of Defense. (2017, December 21). Armed Forces Medical Examiner System (AFMES) Operations (DoD Instruction 5154.30). https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/515430p.pdf?ver=2019-01-24-095040-220

Integrated Primary Prevention: Refers to prevention activities that simultaneously address multiple self-directed harm and prohibited abusive or harmful acts or the inclusion of prevention activities across self-directed harm and prohibited abusive or harmful acts into a cohesive, comprehensive approach that promotes unity of effort, avoids unnecessary duplication, and lessens training fatigue (DoDI 6400.09).

Military Family Members (or Military Dependents): For the purpose of this report, military family members (also known as military dependents) are those who are sponsored by a Service member, are enrolled in DEERS, and meet the requirement for a military dependent as defined by Title 10 U.S. Code, Section 1072(2). In this report, "dependent spouses" are referred to as "spouses" and "dependent children" as "dependents" (DoDI 6490.16).

National Death Index (NDI): A centralized database of death record information on file in state vital statistics offices (DoDI 6490.16).

Postvention: Response activities that should be undertaken in the immediate aftermath of a suicide that has impacted the unit. Postvention has two purposes (1) to help suicide attempt survivors cope with their grief and (2) to prevent additional suicides. It also may provide an opportunity to disseminate accurate information about suicide, encourage help-seeking behavior, and provide messages of resilience, hope, and healing. Also known as "tertiary prevention" (DoDI 6490.16).

Primary Prevention: Stopping a self-directed harm and prohibited abusive or harmful act before it occurs. It can be implemented for an entire group or population without regard to risk (universal primary prevention) or can be implemented for individuals, groups, or a population that is at risk (selected primary prevention; DoDI 6400.09).

Protective Factors: Individual or environmental characteristics, conditions, or behaviors that reduce the effects of stressful life events (e.g., inclusion, help-seeking behavior, financial literacy). These factors increase the ability to avoid risks and promote healthy behaviors to thrive in all aspects of life (DoDI 6400.09).

Public Health Approach: A prevention approach that impacts groups or populations of people versus treatment of individuals. Public health focuses on preventing suicidal behavior before it ever occurs (primary prevention) and addresses a broad range of risk and protective factors. The public health approach values multidisciplinary collaboration, which brings together many different perspectives and experience to enrich and strengthen the solutions for the many diverse communities (DoDI 6490.16).

Reserve Component (Reserves): Refers collectively to the Army National Guard, the Army Reserve, the Navy Reserve, the Marine Corps Reserve, the Air National Guard, the Air Force Reserve, and the Coast Guard Reserve, when the Coast Guard is operating as a Service of the Department of the Navy (DoDI 1225.08[16]).

Risk Factors: Factors caused by stress, trauma, or other circumstances that cause a schism in protective factors. Factors that make it more likely those individuals will develop a disorder or predispose one to high risk for self-injurious behaviors. Risk factors may encompass biological, psychological, or social factors in the individual, family, and environment (DoDI 6490.16).

Selected Reserve (SELRES): Those units and individuals within the Ready Reserve designated by their respective Services and approved by the Joint Chiefs of Staff as so essential to initial wartime missions that they have priority over all other Reserves (DoDI 6490.16).

Statistically Significant: A comparison is considered statistically significant if the probability of observing that difference, or a more extreme difference, is less than 5% if there is no actual difference in the population.

Stigma: The negative perception that seeking mental health care or other supportive services will negatively affect or end their careers; a set of negative and often untrue beliefs that a society or group of people have about something (DoDI 6400.09). In the military context, this is often the negative perception that seeking mental health care or other supportive services will negatively affect or end their careers (DoDI 6490.16).

Suicidal Behaviors: Behaviors related to suicide, including preparatory acts, as well as suicide attempts and death (DoDI 6490.16).

Suicide: Death caused by self-directed injurious behavior with an intent to die as a result of the behavior (DoDI 6490.16).

Suicide Attempt: A non-fatal, self-directed, potentially injurious behavior with any intent to die as a result of the behavior (DoDI 6490.16).

Suicide Decedent: An individual who died by suicide.

Suicide Event Status (Pending and Confirmed; DoDI 6490.16):

- **Pending Confirmation of Suicide:** A designation by AFMES as the manner of death when the circumstances are consistent with suicide, but the determination is not yet final. Final determination may take many months. Importantly, suspected suicides are included by DSPO and AFMES when reporting suicide counts.
- **Confirmed Suicide:** A designation by AFMES that assigns suicide as the final determination of the manner of death.

Suicide Rate: The average number of deaths by suicide in a fixed population per unit of time. As suicide is relatively rare, the suicide rate is commonly standardized to deaths per 100,000 persons per year. As presented in this report, suicide rates are calculated by dividing the number of deaths by suicide in the unit of time (in DoD, typically a calendar year) by the size of the population (in DoD, the average of 12 monthly totals of the number of personnel in that population [i.e., end-strengths]).

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Enclosure: Calendar Year 2021 DoDSER System Data Summary

Table of Contents

Prepared by the Psychological Health Center of Excellence, Research Portfolio Management Division, Research and Engineering Directorate, Defense Health Agency

Executive Summary

The Department of Defense Suicide Event Report (DoDSER) is the official data collection system for contextual information on deaths by suicide and suicide attempts among Service members in the Army, Marine Corps, Navy, Air Force, and Space Force. The DoDSER annual report presents aggregated data submitted by the Military Services during calendar year 2021 (CY 2021). Data are presented separately for the Active and Reserve Components. Data for the Active Component are presented in aggregate and separately for each Service. Data for the Reserve Component are presented separately for the National Guard and the Reserve.

Data presented in this report are specific to events submitted to the DoDSER system. Total numbers of reported suicide deaths may not equal the official event counts for CY 2021. The electronic data collection form was updated in October 2021. Data presented in this report are restricted to items that could be aligned between the old and new versions of the form. Even with alignment, the change in data collection could affect comparisons to data collected under the old form. We present these comparisons in keeping with the established format of the report. However, we caution that any differences identified between CY 2021 and previous years cannot be interpreted as reflecting a meaningful change since observed differences may simply be artifacts of changes to the reporting system.

Active Component Data Summary

- Firearm use was the most common mechanism of injury cited in suicide DoDSER forms (69%).
- Poisoning was the most common method of attempted suicide cited in DoDSER forms.
- Intimate relationship problems in the last year was the most common interpersonal stressor identified in both suicide and suicide-attempt forms.

Reserve Component Data Summary

- Firearm use was the most common mechanism of injury cited in National Guard (72%) and Reserve (82%) suicide forms.
- Poisoning was the most common mechanism of injury cited in National Guard (63%) and Reserve (53%) suicide attempt forms.
- Intimate relationship problems in the last year was the most common interpersonal stressor identified in both suicide and suicide attempt forms.

Introduction

The DoDSER is the official data collection system for contextual information on deaths by suicide and suicide attempts among Service members in the Army, Marine Corps, Navy, Air Force, and Space Force.[1] The DoDSER annual report presents aggregated data submitted by the Military Services during CY 2021.[2] The Psychological Health Center of Excellence, part of the Defense Health Agency, is responsible for the operation of the DoDSER, which has three primary elements:

1. A data-collection *form* that identifies the data elements for designated and trained DoD personnel to complete. The revised DoDSER form became available to system users in October 2021. Revisions to the form focused on improving the specificity of DoDSER data elements and removing obsolete data elements. Below, we identify content areas of the revised DoDSER form and highlight major changes to the content from the previous version.

    a. Demographic information

    b. Event information

        - Items on the nature and mechanism of the injury were changed to align to the Centers for Disease Control and Prevention standardized surveillance definitions (CDC self-directed violence).
        - U.S. military installations were included in drop-down menus to improve information on the potential event location. The previous version did not provide a list of installations for Navy forms.

    c. Military history

        - Content on deployment history was removed.
        - U.S. military installations were included in drop-down menus to improve information on the assigned duty station. The previous version did not provide a list of installations for Navy forms.

    d. Medical history

        - Items on medical or support service accession were revised for clarity and to include time bounds. Primary care or family medicine was added as a type of provider. The old item on visits to a military treatment facility was removed.
        - Prescription medications on a medical record at the time of the event were listed out in the new form. This replaced the items on the old form that asked about specific classes of psychotropic medications.
        - Behavioral health diagnoses were updated to align with the American Psychiatric Association's Diagnostic and Statistical Manual, 5th Revision.
        - Follow-up questions for behavioral health diagnoses asked about active treatment at the time of the event.

    e. Contextual factors

- Data collected on intimate relationship problems, financial distress, legal/administrative issues, and work problems were expanded to understand specific contexts or circumstances. These expanded items are not reported here since the data are not complete for the entire CY.
- Items were rephrased to include a time bound. Most items asked about the one-year period prior to the event and then asked about the 30-day period prior to the incident as a follow-up item. In previous reports, we used the 90-day period prior to the event for reporting. In this report, we use the one-year period to align data from the old and new forms.
- Items related to experiences of abuse or assault were updated to separate abuse from assault and to improve clarity on when abuse/assault events occurred (e.g., before or after 18 years of age). The new items could not be reconciled with the content collected in the old form, so these data are not presented.

2. A secure, web-based *system* for collecting standard data for every Service member who died by suicide or made a suicide attempt. The portal for the system is DoDSER.

3. An annual *summary* of aggregated data.

Interpretation of DoDSER Data

The reader is advised that this report's descriptions of specific risk and contextual factors must not be interpreted as underlying causes of suicide. It is not possible to determine whether any variable is a causal factor for suicide solely from the data presented in this report. Identifying such relationships requires formal research that includes individuals who do not die by suicide or who engage in a suicide attempt. This type of research is outside the surveillance function of DoDSER.

The electronic data collection form was updated in October 2021. Data presented in this report are restricted to items that could be aligned between the old and new versions of the form. Even with alignment, the change in data collection could affect comparisons to data collected under the old form. We present these comparisons in keeping with the established format of the report. However, we caution that any differences identified between CY 2021 and previous years cannot be interpreted as reflecting a meaningful change since observed differences may simply be artifacts of changes to the reporting system.

Although this report reflects the best data available, several items address contextual factors that may not be precisely determined using data from existing databases or from evidence collected following the event. As a result, these types of items include response options of "no known history" or "cannot determine." In this report, these response options are combined with "no" responses. See the Methods section at the end of this report for more information about DoDSER data processes.

Changes to the CY 2021 DoDSER Summary

In addition to the content-specific changes outlined above, the data tables in this report differ from previous iterations. Data elements that were unchanged or that could be equated between

the two forms are presented. New data elements in the DoDSER form are not reported since they were not available for most of the data collection period. Fields with low "yes" response counts (fewer than 20 in aggregate across the Services, by event type, for the Active Component; overall for the Reserve Component) are not reported or are combined to maintain privacy and to minimize misleading interpretations. Finally, the data tables historically reported both event counts and percentages. In this report, column headings in the tables include the total number of submitted forms and the table cells present percentages corresponding to specific item-level response options. This was done to improve readability of the tables.

References and Notes

1. For more information on the DoDSER system, see the System of Record Notice (April 15, 2016, 81 FR 22240).

2. For more information on suicide death and attempt reporting via the DoDSER system, see DoD Instruction 6490.16, "Defense Suicide Prevention Program," effective on September 11, 2020.

Active Component

Introduction

This chapter presents an overview of the data for submitted Active Component suicide and suicide attempt forms. The data summary uses the combined data from the Army, Marine Corps, Navy, and Air Force. No suicide deaths were reported for Space Force in CY 2021; however, there were four reported suicide attempts. Data for the Space Force are not presented separately because of the small event count and are not included in the across-Service aggregate. Data tables for suicide and suicide-attempt cases are presented separately. Data tables are organized by the following variable categories: demographic and military characteristics (tables 1 and 2), suicide event characteristics (tables 3 and 4), behavioral health characteristics (tables 5 and 6), and contextual factors (tables 7 and 8). Data are displayed separately for each Service and in the aggregate. Variables or categories of a variable with fewer than 20 events across the Services are not reported. A subset of variables of particular interest are presented in the text of this chapter.

Suicide Mortality

The descriptive data used in this report comprise forms submitted by March 31, 2022, to the DoDSER system. All deaths that were confirmed as suicide by the Armed Forces Medical Examiner System (AFMES) by January 31, 2022, were required to be submitted in DoDSER by March 31, 2022, for inclusion in the report. Deaths that were not confirmed as suicide by January 31, 2022, but were confirmed or considered suspected suicide by March 31, 2022, were included in this report if submitted to the DoDSER system. Below, the total and required numbers of forms submitted by each Service are reported.

- Army: 170 total forms, including 167 of 167 required forms.
- Marine Corps: 34 total forms, including 33 of 35 required forms.
- Navy: 55 total forms, including 52 of 53 required forms.
- Air Force: 44 total forms, including 36 of 41 required forms.
- Space Force: 0 forms; 0 required forms.

Suicide Attempts

DoDSER forms were submitted for 1,329 suicide attempts among 1,262 unique individuals. These numbers include the four events submitted by the Space Force. The Space Force events are not included in the tables and figures below because of the small event counts. A total of 67 individuals had two or more reported attempts.

Occurrence of Previous Suicide Attempt(s) Reported via the DoDSER System

Six suicides were associated with one or more previously reported suicide attempts that occurred since CY 2010 (when attempts were first entered into the DoDSER system; CY 2008 for the Army). The median number of days between the earlier attempt and death by suicide was 394.

Thirty-nine individuals with a submitted suicide-attempt DoDSER form had one or more previous suicide attempt(s) recorded in the DoDSER system since CY 2010 (CY 2008 for the Army). The median number of days between the first reported suicide attempt in CY 2021 and the most recent attempt was 321 days.

Demographic Characteristics

Tables 1 and 2 present demographic characteristics for submitted suicide and suicide attempt forms, respectively. The distributions of demographic characteristics were like those observed in previous years. Suicide-attempt forms indicated more attempts among women, proportionally, compared to suicide forms.

Mechanism of Injury

Firearm use (69%) and asphyxiation (25%) were the most common mechanisms of injury reported for deaths by suicide. This represents a small change from the observed average from CY 2018 to CY 2020 of 61% for firearms and 27% for asphyxiation. Poisoning (57%) and asphyxia (15%) were the most common mechanisms of injury identified in suicide-attempt forms. This represents a small change from the observed average from CY 2018 to CY 2020 of 52% for poisoning and 13% for asphyxia.

Behavioral Health History

A history of any behavioral health diagnosis, excluding nicotine use disorders, was identified in 46% of suicide forms. Trauma- or stressor-related (26%), alcohol use (18%), and depressive disorder (18%) were the most common diagnoses. A behavioral health diagnosis history was identified in 54% of suicide-attempt DoDSER forms. Trauma- or stressor-related (28%) and depressive disorder (27%) were the most common diagnoses.

Figure 1 displays the prevalence of behavioral health diagnoses and prior self-harm in suicide and suicide-attempt forms submitted for CY 2021 and the three-year average over CY 2018 to CY 2020. The estimates between the two time periods among suicide forms were very consistent. For suicide attempts, there was a small decrease in the percentage of forms indicating a behavioral health diagnostic history in CY 2021 (54%) relative to the three-year average from CY 2018 to CY 2020 (58%).

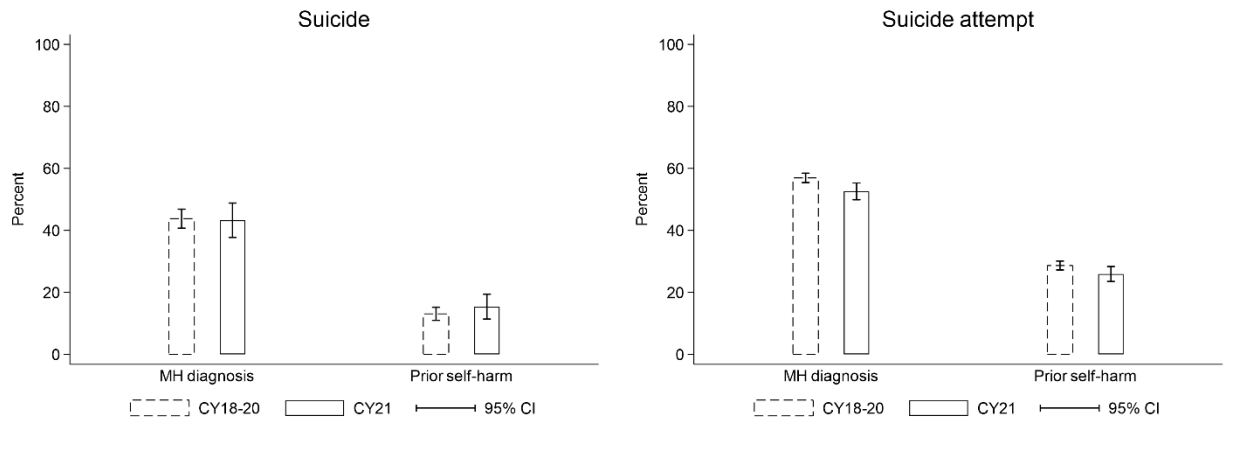

Figure 1. Prevalence of behavioral health characteristics for CY 2021 (last year) and the average from CY 2018 to CY 2020.

Contextual factors

The most common contextual factor identified in both suicide and suicide-attempt forms were difficulties with an intimate relationship in the year prior to the event. Figure 2 shows the CY 2021 percentages of suicide and suicide-attempt forms that indicated relationship, legal/administrative, or work-related problems in the year before the event along with the three-year average estimates from CY 2018 to CY 2020. For suicide forms, the prevalence of relationship and work stressors was consistent over time. There was a small reduction in the prevalence of legal/administrative stressors in CY 2021 (23%) relative to the average from CY 2018 to CY 2020 (28%). The prevalence of relationship and work stressors indicated in suicide-attempt forms was also consistent over time. There was a small decrease in legal/administrative stressors in CY 2021 (20%) relative to the average from CY 2018 to CY 2020 (24%).

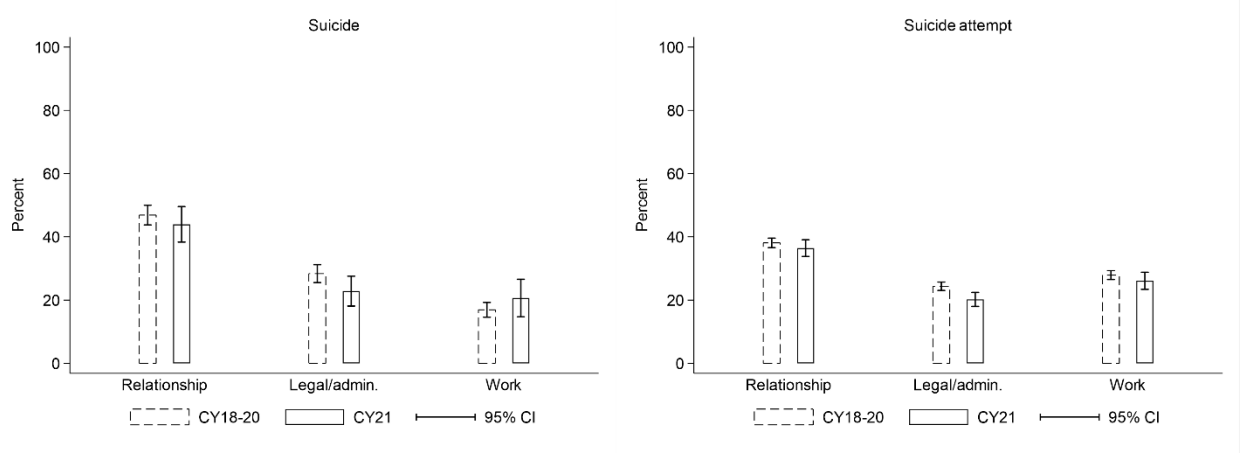

Figure 2. Prevalence of contextual factors for CY 2021 (last year) and the average from CY 2018 to CY 2020. Legal/admin = legal and/or administrative.

Table 1. Demographic characteristics, Active Component suicide forms, percentage

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	303	170	34	55	44
Sex					
Female	6.3	7.6	5.9	1.8	6.8
Male	93.7	92.4	94.1	98.2	93.2
Age					
20–24	49.2	51.8	64.7	40.0	38.6
25–29	22.4	20.6	17.6	27.3	27.3
30–34	11.6	11.8	5.9	14.5	11.4
35–39	10.2	10.0	11.8	10.9	9.1
40–59	6.6	5.9	0.0	7.3	13.6
Race					
Black/African American	13.5	15.3	14.7	12.7	6.8
White/Caucasian	74.3	73.5	76.5	67.3	84.1
Other/Unknown	12.2	11.2	8.8	20.0	9.1
Hispanic ethnicity					
Yes	18.2	19.4	17.6	18.2	13.6
No	80.9	80.6	82.4	78.2	84.1
Unknown	1.0	0.0	0.0	3.6	2.3
Education					
Some college	85.5	86.5	100.0	76.4	81.8
Four-year degree	12.9	13.5	0.0	16.4	15.9
Unknown	1.7	0.0	0.0	7.3	2.3
Marital status					
Never married	49.2	45.3	50.0	54.5	56.8
Married	46.5	50.0	50.0	38.2	40.9
Separated/divorced/widowed	4.3	4.7	0.0	7.3	2.3
Rank/grade					
E1–E4	49.2	48.8	61.8	47.3	43.2
E5–E9	39.6	40.6	38.2	36.4	40.9
Officer	11.2	10.6	0.0	16.4	15.9

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	303	170	34	55	44
Enlisted DoD occupation group[a]					
Infantry, gun crews, and seamanship specialists	21.5	30.6	17.6	10.9	2.3
Electronic equipment repairers	7.9	4.7	8.8	16.4	9.1
Communications and intelligence specialists	10.9	11.8	11.8	9.1	9.1
Functional support and administration	10.2	8.8	23.5	7.3	9.1
Electrical/mechanical equipment repairers	15.8	13.5	11.8	16.4	27.3
Service and supply handlers	8.9	9.4	11.8	1.8	13.6
Other enlisted	12.9	9.4	14.7	21.8	13.6
Unknown	0.7	1.2	0.0	0.0	0.0
Number of contingency operations[b]					
0	52.1	52.4	73.5	45.5	43.2
1	22.4	21.8	11.8	34.5	18.2
2 or more	25.4	25.9	14.7	20.0	38.6
Time since end of last contingency operation					
0–12 months	12.2	10.6	2.9	14.6	22.7
13–24 months	9.2	10.6	5.9	9.1	6.8
25 or more months	26.4	26.5	17.6	30.9	27.3

[a]Occupation grouping descriptions and linkages between Military Service occupations and these groupings are available in (DoD 1312.1-I).
[b]Number of contingency operations outside the United States based on the Contingency Tracking System.

Table 2. Demographic characteristics, Active Component suicide-attempt forms, percentage

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	1325	432	254	243	396
Sex					
Female	31.6	29.6	15.7	41.2	38.1
Male	68.4	70.4	84.3	58.8	61.9
Age					
17–19	12.4	16.4	18.1	6.2	8.1
20–24	54.4	52.8	59.8	54.3	52.8
25–29	19.8	17.4	15.4	25.5	22.0
30–34	7.0	7.4	2.8	7.8	8.8
35–39	4.5	3.5	3.5	4.9	6.1
40–59	1.7	2.3	0.4	1.2	2.3
Unknown	0.1	0.2	0.0	0.0	0.0
Race					
Black/African American	24.8	30.6	15.7	27.2	23.0
White/Caucasian	63.4	60.4	72.4	58.4	63.9
Other/Unknown	11.8	9.0	11.8	14.4	13.1
Hispanic ethnicity					
Yes	19.5	16.2	20.5	22.2	20.7
No	79.9	83.8	79.5	76.1	78.3
Unknown	0.6	0.0	0.0	1.6	1.0
Education					
Some college	93.5	93.1	97.6	94.2	90.9
Four-year degree	6.4	6.9	2.4	5.8	8.8
Unknown	0.1	0.0	0.0	0.0	0.3
Marital status					
Never married	59.7	62.3	65.4	56.0	55.6
Married	35.4	33.6	30.7	40.7	37.1
Separated/divorced/widowed	4.9	4.2	3.9	3.3	7.3
Rank/grade					
E1–E4	73.7	78.2	81.1	66.7	68.2
E5–E9	20.7	18.5	14.6	28.8	22.0
Officer	3.5	2.3	2.8	3.3	5.3
Unknown	2.2	0.9	1.6	1.2	4.5

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	1325	432	254	243	396
Enlisted DoD occupation group[a]					
Infantry, gun crews, and seamanship specialists	15.1	27.1	22.4	9.9	0.5
Electronic equipment repairers	8.2	7.2	4.7	15.6	7.1
Communications and intelligence specialists	8.0	8.8	7.5	9.1	6.8
Health care specialists	8.3	9.0	0.0	13.6	9.6
Other technical and allied specialists	2.4	3.5	3.9	0.0	1.8
Functional support and administration	13.2	14.1	16.5	6.6	14.1
Electrical/mechanical equipment repairers	18.3	10.2	18.1	23.0	24.5
Craftsworkers	2.3	1.9	2.4	2.9	2.5
Service and supply handlers	13.5	15.0	8.7	9.5	17.4
Non-occupational	4.9	0.0	11.4	5.3	5.8
Number of contingency operations[b]					
0	72.7	70.8	86.6	70.4	67.2
1	15.3	18.5	10.6	20.2	11.9
2 or more	12.0	10.6	2.8	9.5	21.0
Time since end of last contingency operation					
0–12 months	9.7	11.8	2.8	8.6	12.6
13–24 months	5.3	6.3	2.0	7.4	5.1
25 or more months	12.3	11.1	8.7	13.6	15.2

Note: Four Space Force events are not included in this table because of small event counts.
[a]Occupation grouping descriptions and linkages between Military Service occupations and these groupings are available in (DoD 1312.1-I).
[b]Number of contingency operations outside the United States based on the Contingency Tracking System.

Table 3. Event characteristics, Active Component suicide forms, percentages

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	303	170	34	55	44
Event location					
Continental United States	85.8	82.9	97.1	89.1	84.1
Outside continental United States	13.9	16.5	2.9	10.9	15.9
Unknown	0.3	0.6	0.0	0.0	0.0
Event setting					
Barracks/berthing	15.5	20.6	20.6	3.6	6.8
Other on-post/base/installation housing	22.1	21.8	5.9	21.8	36.4
Off post/base/installation residence	26.1	25.9	29.4	25.5	25.0
Off-post/base/installation residence of friend/family	7.6	8.2	5.9	10.9	2.3
Other/unknown	28.7	23.5	38.2	38.2	29.5
Mechanism of injury					
Firearm	69.3	70.0	73.5	65.5	68.2
Suffocation/asphyxiation/hanging	24.8	24.7	20.6	25.5	27.3
Other	4.6	4.7	5.9	5.5	2.3
Unknown	1.3	0.6	0.0	3.6	2.3
Communicated intent for self-harm					
Yes[a]	32.0	30.6	44.1	27.3	34.1
Mental health staff	6.6	5.3	14.7	1.8	11.4
Friend	10.6	9.4	11.8	9.1	15.9
Spouse/partner	11.9	13.5	11.8	9.1	9.1
Other	11.2	10.0	20.6	10.9	9.1
No	67.7	68.8	55.9	72.7	65.9
Unknown	0.3	0.6	0.0	0.0	0.0
Evidence event was planned and/or premeditated?					
Yes	31.7	31.2	32.4	30.9	34.1
No	66.7	68.2	64.7	69.1	59.1
Unknown	1.7	0.6	2.9	0.0	6.8
Event observable					
Yes	20.5	20.6	14.7	25.5	18.2
No	75.9	76.5	82.4	67.3	79.5
Unknown	3.6	2.9	2.9	7.3	2.3
Left a suicide note					
Yes	26.1	24.7	23.5	30.9	27.3
No	66.0	68.2	64.7	61.8	63.6
Unknown	7.9	7.1	11.8	7.3	9.1
Residence at the time of event					
Barracks/berthing	28.4	32.4	44.1	20.0	11.4
Other on-post/installation/base housing	10.9	12.9	14.7	5.5	6.8
Off post/installation/base	53.8	47.1	41.2	61.8	79.5
Other/unknown	6.9	7.6	0.0	12.7	2.3

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	303	170	34	55	44
Duty environment[a]					
Garrison	76.6	83.5	70.6	50.9	86.4
Training	7.9	4.7	11.8	20.0	2.3
Other	21.5	15.3	32.4	43.6	9.1
Unknown	2.3	0.6	2.9	7.3	2.3

[a]Subcategories are not mutually exclusive.

Table 4. Event characteristics, Active Component suicide-attempt forms, percentages

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	1325	432	254	243	396
Event location					
Continental United States	70.6	69.4	67.7	64.6	77.3
Outside continental Unites States	20.0	21.3	22.0	13.6	21.2
Unknown	9.4	9.3	10.2	21.8	1.5
Event setting					
Barracks/berthing	39.0	51.9	56.7	26.7	21.2
Other on-post/base/installation housing	11.9	7.4	7.5	13.2	18.9
Off post/base/installation residence	28.2	23.6	16.1	36.2	35.9
Off-post/base/installation residence of friend/family	3.1	1.9	2.4	2.9	5.1
Other/unknown	17.8	15.3	17.3	21.0	18.9
Mechanism of injury					
Cutting/piercing	13.1	12.0	10.6	16.0	13.9
Falling	2.0	0.9	2.4	2.9	2.3
Firearm	5.1	3.7	5.9	4.5	6.6
Transportation	3.5	2.8	2.8	2.1	5.8
Poisoning	57.1	58.1	53.1	62.6	55.1
Suffocation/asphyxiation/hanging	14.1	15.7	18.1	9.1	12.9
Other	2.6	1.6	3.9	1.2	3.5
Unknown	2.6	5.1	3.1	1.6	0.0
Communicated intent for self-harm					
Yes[a]	18.8	19.0	16.5	18.9	19.9
Supervisor	2.5	3.0	1.6	3.3	2.0
Mental health staff	3.4	3.9	1.6	2.9	4.3
Medical staff	3.1	3.7	2.4	3.3	2.8
Friend	8.1	7.9	6.3	8.6	9.1
Spouse/partner	5.5	5.3	6.3	5.3	5.3
Other	2.6	2.3	3.9	3.3	1.8
No	78.0	76.4	80.7	75.3	79.8
Unknown	3.2	4.6	2.8	5.8	0.3
Evidence event was planned and/or premeditated?					
Yes	21.9	20.6	27.6	19.3	21.2
No	74.6	74.1	70.1	73.7	78.5
Unknown	3.5	5.3	2.4	7.0	0.3
Event observable					
Yes	34.0	31.3	43.7	30.5	33.1
No	61.0	61.6	53.5	59.7	65.9
Unknown	5.0	7.2	2.8	9.9	1.0
Left a suicide note					
Yes	11.0	13.0	7.5	8.2	12.9
No	84.5	81.0	88.2	84.4	85.9
Unknown	4.5	6.0	4.3	7.4	1.3

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	1325	432	254	243	396
Residence at the time of event					
Barracks/berthing	43.8	56.7	64.2	28.8	26.0
Other on-post/installation/base housing	9.4	10.2	7.1	5.8	12.4
Off post/installation/base	36.6	24.1	21.7	45.3	54.5
Other/unknown	10.1	9.0	7.1	20.2	7.1
Duty environment[a]					
Garrison	73.7	72.2	63.4	66.7	86.1
Training	6.3	8.6	11.0	2.5	3.3
Other	10.3	9.5	7.9	12.3	11.6
Unknown	14.5	14.6	22.8	22.6	4.0

Note: Four Space Force events are not included in this table because of small event counts.
[a]Subcategories are not mutually exclusive.

Table 5. Behavioral health characteristics, Active Component suicide forms, percentages

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	303	170	34	55	44
Any behavioral health diagnosis					
Yes[a]	43.9	45.9	44.1	41.8	38.6
Alcohol-related disorder	17.8	19.4	11.8	14.5	20.5
Depressive disorder	17.8	14.7	23.5	25.5	15.9
Anxiety disorder	14.2	13.5	14.7	18.2	11.4
Trauma- or stressor-related disorder	25.7	28.8	20.6	20.0	25.0
Other disorder	8.6	11.8	0.0	7.3	4.5
No/no known history	56.1	54.1	55.9	58.2	61.4
Psychotropic medication prescription at time of event					
Yes[a]	12.9	14.7	5.9	7.3	18.2
Antidepressant	11.9	12.9	5.9	7.3	18.2
Other medication	6.6	7.1	0.0	7.3	9.1
No/no known history	87.1	85.3	94.1	92.7	81.8
Family history of mental illness					
Yes	12.5	17.1	5.9	1.8	13.6
No/no known history	87.5	82.9	94.1	98.2	86.4
Prior self-harm					
Yes	15.5	15.3	14.7	16.4	15.9
One prior event	9.2	6.5	11.8	14.5	11.4
More than one prior event	5.0	7.1	2.9	1.8	2.3
Unknown number of events	1.0	1.2	0.0	0.0	2.3
No/no known history	84.5	84.7	85.3	83.6	84.1
Ever an inpatient for mental health					
Yes	15.5	14.7	20.6	16.4	13.6
No/no known history	84.5	85.3	79.4	83.6	86.4
Outpatient mental health services, last year					
Yes	41.6	47.1	41.2	30.9	34.1
No/no known history	58.4	52.9	58.8	69.1	65.9

[a]Subcategories are not mutually exclusive.

Table 6. Behavioral health characteristics, Active Component suicide-attempt forms, percentages

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	1325	432	254	243	396
Any behavioral health diagnosis					
Yes[a]	53.4	44.2	46.5	53.5	67.7
Alcohol-related disorder	15.3	14.6	18.9	17.3	12.6
Other substance-related disorder	4.8	5.1	5.5	4.1	4.3
Depressive disorder	26.6	20.1	22.8	27.2	35.6
Anxiety disorder	13.9	11.1	9.8	13.2	19.9
Trauma- or stressor-related disorder	28.0	24.1	18.9	28.4	37.9
Bipolar disorder	2.0	2.1	1.6	2.5	1.8
Personality disorder	5.9	1.9	6.7	9.1	7.8
Other disorder	0.9	0.7	0.0	0.8	1.8
No/no known history	42.1	50.5	49.2	36.2	32.1
Unknown	4.5	5.3	4.3	10.3	0.3
Psychotropic medication prescription at time of event					
Yes[a]	23.3	15.0	21.3	23.9	33.3
Antidepressant	20.4	12.5	18.9	20.6	29.8
Anxiolytic	6.1	3.0	5.5	6.6	9.6
Anticonvulsant	2.5	1.4	3.5	1.2	3.8
Antipsychotic	2.8	1.4	2.4	2.1	5.1
Sleep medication	5.8	3.9	5.9	8.6	6.1
Other medication	1.5	0.7	1.6	0.8	2.8
No/no known history	76.7	85.0	78.7	76.1	66.7
Family history of mental illness					
Yes	32.3	29.6	28.7	36.2	35.1
No/no known history	62.3	64.4	65.7	52.7	63.6
Unknown	5.4	6.0	5.5	11.1	1.3
Prior self-harm					
Yes	26.4	24.1	21.7	29.2	30.3
One prior event	12.8	10.2	10.6	16.5	14.9
More than one prior event	12.8	12.5	10.2	12.3	14.9
Unknown number of events	0.2	0.2	0.4	0.0	0.3
No/no known history	68.6	69.7	74.0	60.5	68.9
Unknown	5.0	6.3	4.3	10.3	0.8
Ever an inpatient for mental health					
Yes	22.8	19.2	21.3	20.6	29.0
No	73.0	76.2	74.0	70.0	70.7
Unknown	4.2	4.6	4.7	9.5	0.3
Outpatient mental health services, last year					
Yes	51.3	50.5	42.1	47.3	60.6
No/no known history	44.7	45.8	53.1	43.2	38.9
Unknown	4.0	3.7	4.7	9.5	0.5

Note: Four Space Force events are not included in this table because of small event counts.
[a]Subcategories are not mutually exclusive.

Table 7. Contextual factors, Active Component suicide forms, percentages

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	303	170	34	55	44
Intimate relationship problems, last year					
Yes	44.2	47.6	44.1	34.5	43.2
No/no known history	55.8	52.4	55.9	65.5	56.8
Death of friend or family member, last year					
Yes	14.5	10.6	20.6	14.5	25.0
No/no known history	85.5	89.4	79.4	85.5	75.0
Administrative/legal problems, last year					
Yes[a]	23.1	24.7	29.4	18.2	18.2
Nonjudicial punishment	7.9	8.8	11.8	5.5	4.5
Under investigation	12.9	14.1	11.8	7.3	15.9
Civil legal proceedings	8.6	10.6	5.9	5.5	6.8
Other	7.9	6.5	14.7	7.3	9.1
No/no known history	76.9	75.3	70.6	81.8	81.8
Financial difficulties, last year					
Yes	7.6	7.1	2.9	10.9	9.1
No/no known history	92.1	92.4	97.1	89.1	90.9
Unknown	0.3	0.6	0.0	0.0	0.0
Workplace difficulties, last year					
Yes	12.5	12.4	17.6	7.3	15.9
No/no known history	87.1	87.1	82.4	92.7	84.1
Unknown	0.3	0.6	0.0	0.0	0.0

[a]Subcategories are not mutually exclusive.

Table 8. Contextual factors, Active Component suicide-attempt forms, percentages

Item	Total	Army	Marine Corps	Navy	Air Force
Number of submitted forms	1325	432	254	243	396
Intimate relationship problems, last year					
Yes	36.3	31.5	32.3	31.3	47.2
No/no known history	58.2	62.5	61.0	57.6	52.0
Unknown	5.5	6.0	6.7	11.1	0.8
Death of friend or family member, last year					
Yes	18.0	22.7	16.9	13.6	16.4
By suicide	7.9	11.1	6.3	5.3	7.1
No/no known history	76.8	71.5	77.6	75.3	82.8
Unknown	5.2	5.8	5.5	11.1	0.8
Administrative/legal problems, last year					
Yes[a]	20.2	21.3	19.7	18.9	19.9
Courts martial proceedings	1.5	0.7	1.2	1.2	2.8
Nonjudicial punishment	8.6	9.3	10.2	8.6	6.8
Under investigation	8.5	8.3	7.9	7.4	9.6
Administrative separation proceedings	7.0	8.3	7.1	6.2	6.1
Civil legal proceedings	4.5	4.6	4.3	3.7	4.8
Other	1.4	1.4	1.2	1.6	1.3
No/no known history	75.4	75.5	74.0	70.0	79.5
Unknown	4.5	3.2	6.3	11.1	0.5
Financial difficulties, last year					
Yes	6.6	5.6	5.9	7.8	7.6
No/no known history	88.1	88.7	87.8	81.1	91.9
Unknown	5.3	5.8	6.3	11.1	0.5
Workplace difficulties, last year					
Yes[a]	21.1	21.5	18.9	18.9	23.5
Not selected for promotion	2.9	1.9	3.1	2.9	3.8
Poor performance review	7.3	6.9	8.7	5.8	7.8
Supervisor/coworker issues	16.1	15.5	11.0	15.2	20.5
Unit/workplace hazing	3.1	5.1	3.1	3.7	0.5
No/no known history	73.6	73.1	74.8	69.5	75.8
Unknown	5.3	5.3	6.3	11.5	0.8
Sexual harassment victim, last year					
Yes	5.1	3.7	2.8	8.2	6.1
No	89.8	90.5	92.1	80.7	93.2
Unknown	5.1	5.8	5.1	11.1	0.8

Note: Four Space Force events are not included in this table because of small event counts.
[a]Subcategories are not mutually exclusive.

Reserve Component

Introduction

This chapter presents an overview of Reserve Component suicide and suicide-attempt DoDSER data. Data for all events with a submitted DoDSER form, regardless of duty status at the time of the event, are included in the descriptive summary and the data tables (Tables 9–12). Variables or categories of a variable with fewer than 20 events across the National Guard and Reserve are not reported.

Suicide Mortality

The descriptive data used in this report comprise forms submitted by March 31, 2022, to the DoDSER system. All active duty deaths that were confirmed as suicide by the AFMES by January 31, 2022, were required to be submitted in DoDSER by March 31, 2022, for inclusion in the report. Deaths that were not confirmed as suicide by January 31, 2022, but were confirmed or considered suspected suicide by March 31, 2022, were included in this report if submitted to the DoDSER system. Below, the total and required numbers of forms submitted by the National Guard and the Reserves are reported.

- National Guard: 67 total forms, including 21 of 21 required.
- Reserve: 22 total forms, including 10 of 10 required.

Suicide Attempts

DoDSER forms were submitted for 57 National Guard suicide attempts that occurred among 55 individuals. There were 45 submitted forms for the Reserves that occurred among 41 individuals.

Mechanism of Injury

Firearms use was the most common mechanism of injury identified in both National Guard (72%) and Reserve (82%) suicide forms. Poisoning was the most common mechanism of injury identified in both National Guard (63%) and Reserve (53%) suicide attempt forms. Additional data are presented in Table 10.

Behavioral Health History

A history of a behavioral health diagnosis was identified in 33% of National Guard and 46% of Reserve suicide forms. A history of a behavioral health diagnosis was identified in 56% of National Guard and 73% of Reserve suicide-attempt forms. Additional data are presented in Table 11.

Stressors

Data on stressors are presented in Table 12. The most common stressor identified in National Guard (42%) and Reserve (32%) suicide forms was intimate relationship problems in the last year. A problem with an intimate relationship was also the most identified stressor in National Guard (44%) and Reserve (40%) suicide attempt forms.

Table 9. Demographic characteristics, Reserve Component forms, percentages

Item	National Guard, Suicide	Reserve, Suicide	National Guard, Suicide Attempt	Reserve, Suicide Attempt
Number of submitted forms	67	22	57	45
Service				
Army	80.6	27.3	50.9	26.7
Marine Corps	--	22.7	--	20.0
Navy	--	36.4	--	15.6
Air Force	19.4	13.6	49.1	37.8
In a duty status at the time of the event				
Yes	44.8	50.0	70.2	82.2
No	55.2	50.0	29.8	17.8
Sex				
Female	7.5	4.5	43.9	37.8
Male	92.5	95.5	56.1	62.2
Age				
17–19	7.5	0.0	21.1	13.3
20–24	40.3	36.4	22.8	28.9
25–29	13.4	13.6	17.5	22.2
30–34	19.4	0.0	8.8	13.3
35–39	10.4	18.2	14.0	13.3
40–59	9.0	31.8	15.8	8.9
Race				
Black/African American	14.9	13.6	15.8	31.1
White/Caucasian	79.1	77.3	77.2	51.1
Other/Unknown	6.0	9.1	7.0	17.8
Hispanic ethnicity				
Yes	13.4	4.5	10.5	20.0
No	86.6	90.9	87.7	77.8
Unknown	0.0	4.5	1.8	2.2
Education				
Some college	80.6	81.8	89.5	84.4
Four-year degree	14.9	18.2	10.5	15.6
Unknown	4.5	0.0	0.0	0.0
Marital status				
Never married	73.1	63.6	59.6	48.9
Married	22.4	36.4	36.8	48.9
Separated/divorced/widowed	4.5	0.0	3.5	2.2
Rank/grade				
E1–E4	47.8	36.4	50.9	57.8
E5–E9	37.3	54.5	42.1	31.1
Officer	14.9	9.1	3.5	11.1
Unknown	0.0	0.0	3.5	0.0

Item	National Guard, Suicide	Reserve, Suicide	National Guard, Suicide Attempt	Reserve, Suicide Attempt
Number of submitted forms	67	22	57	45
Enlisted DoD occupation group[a]				
Infantry, gun crews, and seamanship specialists	20.9	9.1	5.3	4.4
Functional support and administration	3.0	13.6	14.0	20.0
Electrical/mechanical equipment repairers	10.4	18.2	10.5	15.6
Service and supply handlers	16.4	13.6	17.5	11.1
Non-occupational	10.4	0.0	28.1	15.6
Other enlisted	23.9	31.8	17.5	22.2
Unknown	0.0	4.5	3.5	0.0
Number of contingency operations[b]				
0	56.7	59.1	56.1	64.4
1	17.9	13.6	15.8	6.7
2 or more	25.4	27.3	28.1	28.9
Time since end of last contingency operation				
0–12 months	9.0	0.0	10.5	13.3
13–24 months	9.0	0.0	5.3	6.7
25 or more months	25.4	40.9	28.1	15.6

[a]Occupation grouping descriptions and linkages between Military Service occupations and these groupings are available in (DoD 1312.1-I).

[b]Number of contingency operations outside the United States based on the Contingency Tracking System.

Table 10. Event characteristics, Reserve Component forms, percentages

Item	National Guard, Suicide	Reserve, Suicide	National Guard, Suicide Attempt	Reserve, Suicide Attempt
Number of submitted forms	67	22	57	45
Event setting				
Barracks/berthing	4.5	0.0	35.1	26.7
Other on-post/base/installation housing	32.8	18.2	17.5	4.4
Off-post/base/installation residence	16.4	31.8	26.3	37.8
Off-post/base/installation residence of friend/family	14.9	9.1	3.5	4.4
Other/unknown	31.3	40.9	17.5	26.7
Mechanism of injury				
Firearm	71.6	81.8	8.8	6.7
Poisoning	3.0	0.0	63.2	53.4
Suffocation/asphyxiation/hanging	20.9	18.2	12.3	15.6
Other	3.0	0.0	15.8	24.4
Unknown	1.5	0.0	0.0	0.0
Communicated intent for self-harm				
Yes[a]	49.3	31.8	24.6	24.4
Friend	14.9	9.1	12.3	8.9
Spouse/partner	20.9	13.6	7.0	8.9
Other	26.9	13.6	12.3	13.3
No	49.3	68.2	73.7	73.3
Unknown	1.5	0.0	1.8	2.2
Evidence event was planned and/or premeditated?				
Yes	31.3	18.2	28.1	20.0
No	68.7	81.8	71.9	77.8
Unknown	0.0	0.0	0.0	2.2
Event observable				
Yes	32.8	22.7	43.9	51.1
No	65.7	63.6	54.4	40.0
Unknown	1.5	13.6	1.8	8.9
Left a suicide note				
Yes	26.9	9.1	7.0	17.8
No	70.1	77.3	89.5	71.1
Unknown	3.0	13.6	3.5	11.1
Residence at the time of event				
Barracks/berthing	6.0	9.1	40.4	28.9
Off post/installation/base	85.1	68.2	50.9	57.8
Other/unknown	9.0	22.7	8.8	13.3

[a]Subcategories are not mutually exclusive.

Table 11. Behavioral health characteristics, Reserve Component forms, percentages

Item	National Guard, Suicide	Reserve, Suicide	National Guard, Suicide Attempt	Reserve, Suicide Attempt
Number of submitted forms	67	22	57	45
Any behavioral health diagnosis				
Yes[a]	32.8	40.9	54.4	71.1
Alcohol-related disorder	14.9	22.7	10.5	26.7
Depressive disorder	14.9	13.6	33.3	35.6
Anxiety disorder	14.9	13.6	28.1	13.3
Trauma- or stressor-related disorder	11.9	9.1	29.8	26.7
Personality disorder	0.0	9.1	0.0	11.1
Other disorder	11.9	9.1	3.5	24.4
No/no known history	67.2	54.5	43.9	26.7
Unknown	0.0	4.5	1.8	2.2
Psychotropic medication prescription at time of event				
Yes[a]	10.4	9.1	19.3	24.4
Antidepressant	9.0	9.1	15.8	22.2
Other medication	10.4	4.5	12.3	20.0
No/no known history	89.6	90.9	80.7	75.6
Family history of mental illness				
Yes	13.4	4.5	35.1	44.4
No/no known history	86.6	86.4	63.2	53.3
Unknown	0.0	9.1	1.8	2.2
Prior self-harm				
Yes	16.4	9.1	22.8	44.4
One prior event	13.4	4.5	3.5	13.3
More than one prior event	1.5	0.0	12.3	28.9
Unknown number of events	1.5	0.0	3.5	2.2
No/no known history	82.1	86.4	75.4	53.3
Unknown	1.5	4.5	1.8	2.2
Ever inpatient for mental health				
Yes	13.4	18.2	14.0	24.4
No	83.6	77.3	86.0	73.3
Unknown	3.0	4.5	0.0	2.2
Outpatient mental health services, last year				
Yes	22.4	22.7	50.9	53.3
No/no known history	77.6	72.7	49.1	44.4
Unknown	0.0	4.5	0.0	2.2

[a]Subcategories are not mutually exclusive.

Table 12. Contextual factors, Reserve Component forms, percentages

Item	National Guard, Suicide	Reserve, Suicide	National Guard, Suicide Attempt	Reserve, Suicide Attempt
Number of submitted forms	67	22	57	45
Intimate relationship problems, last year				
Yes	41.8	31.8	43.9	40.0
No/no known history	58.2	63.6	54.4	57.8
Unknown	0.0	4.5	1.8	2.2
Death of friend or family member, last year				
Yes	13.4	13.6	12.3	15.6
No/no known history	86.6	81.8	86.0	82.2
Unknown	0.0	4.5	1.8	2.2
Administrative/legal problems, last year				
Yes	20.9	13.6	22.8	28.9
No/no known history	79.1	86.4	77.2	68.9
Unknown	0.0	0.0	0.0	2.2
Financial difficulties, last year				
Yes	10.4	9.1	10.5	15.6
No/no known history	89.6	81.8	87.7	82.2
Unknown	0.0	9.1	1.8	2.2
Workplace difficulties, last year				
Yes	11.9	9.1	17.5	17.8
No/no known history	88.1	86.4	80.7	80.0
Unknown	0.0	4.5	1.8	2.2

Methods

Case Definitions

Suicide Case Definition

Any suicide death of a Service member in the Active Component or the selected Reserve, irrespective of duty status, was eligible for inclusion in this report. This includes deaths for which the official manner of death determination was suicide or for which suicide was strongly suspected but the final manner of death determination was not made by March 31, 2022. Suicide cases of Service members in a permanent absent-without-leave or deserter status were excluded from this report.[1]

The AFMES develops an official case list of suicides among Service members in the Active Component and in the selected Reserve. This office also collates data for suicides among selected Reserve Service members not in a duty status from the Military Service-specific Suicide Prevention Program Manager reports for the Services. This list is used to validate submitted forms for deaths by suicide.

Suicide Attempt Case Definition

To be included in the CY2021 DoDSER Annual Report, each suicide attempt case must have:

1. Occurred between January 1, 2021, and December 31, 2021, and
2. Met the definition of a suicide attempt, which is a self-inflicted, potentially injurious behavior with a nonfatal outcome for which there was evidence (either explicit or implicit) of an intent to die.

Data Collection and Entry

Common Sources for Data Collection

Trained behavioral health providers and command officials on military installations and at military medical treatment facilities collect data for each case of suicide and suicide attempt. Common sources of data for these cases include:

- Medical records
- Behavioral health records
- Personnel records
- Legal and/or investigative records
- Interviews with command officials
- Interviews with spouses, extended family, friends, and/or peers (if authorized)

For cases of suicide attempt, informed consent is sought to conduct a direct interview of the Service member who made the attempt. Data are submitted to the DoDSER system.

Data Entry for DoDSER Forms

Users input data directly into the DoDSER system via a web-based form. Standardized coding guidance was available during data entry, along with technical definitions of terms and item-by-item help text designed to aid in accurate reporting.

Reporting Timelines for Suicides

The Military Services must report and update suicide data within designated timelines in accordance with procedures established in DoDI 6490.16. The instruction allows for flexibility in how the Military Services complete their internal data collection processes pursuant to Service-specific policy guidance.[2] The basic processes for the Active and Reserve Components of each Service are as follows:

- Army: The DoDSER program manager at the Defense Health Agency Armed Forces Health Surveillance Branch that supports the Behavioral and Social Health Outcomes Practice receives the AFMES notification, contacts the behavioral health point of contact at the Service member's assigned medical treatment facility, and requests that a behavioral health clinician complete and submit a form within 60 days.

- Marine Corps: The DoDSER program manager, located within the Marine Corps Headquarters' Suicide Prevention Section and Behavioral Health Branch, contacts the local command and requests that an appropriate point of contact complete and submit a form within 30 working days.

- Navy: Following confirmation of a death by suicide, the 21st Century Sailor Office's Suicide Prevention Branch contacts the local command and requests that an appropriate point of contact complete and submit a form within 60 days.

- Air Force: The Integrated Resilience Office receives the notification for a suicide death and contacts the corresponding major command's behavioral health consultant. The consultant then contacts the responsible Air Force mental health clinic and requests that a clinician complete and submit the form within 60 days.

- National Guard Bureau: Upon identification or acknowledgment that a suicide has occurred, information related to the suicide event is gathered and entered into the DoDSER system. Forms are completed and submitted by the suicide prevention program manager or the director of psychological health.

Reporting Timelines for Suicide Attempts

In cases involving nonfatal events, such as suicide attempts, the Military Services complete a suicide-attempt form within 30 days of the date when the attempt was identified.

Data Augmentation

After a form is submitted, additional information is obtained from enterprise sources to improve overall data completeness and accuracy. Data sources and the types of data they provide include the following:

- The AFMES provides data about the official manner and cause of death as well as official demographics for suicide deaths. These data come from military or civilian autopsy reports, death certificates, written reports from military investigative agencies, or a verbal report from a civilian death investigator or coroner.

- The Defense Manpower Data Center (DMDC) provides demographic data from the Defense Enrollment Eligibility Reporting System (DEERS) for all events submitted to the DoDSER system. DMDC also provides contingency operations data from the Contingency Tracking System, the repository of official deployment-related information.

Data Quality

The system uses several types of controls to improve data quality. Some of these controls are:

- Form-field validation that requires users to adjudicate responses that are not logically possible (e.g., date of birth must be at least 17 years in the past).
- Indicators for items with incomplete data entry prior to form submission.
- Double entry of unique identification numbers.
- Identification of potential duplicate form submissions. These are reconciled with the Military Services.

Finalization of the Dataset

All forms submitted in the DoDSER system by March 31, 2022, were eligible for inclusion in this report. This allowed for time for data cleaning, data harmonization with external data sources, and generation of the report.

Data Analyses for DoDSER Variables

Statistical comparisons of a limited set of variables for Active Component events have been included to examine change over time within suicide and suicide-attempt forms. Reserve Component events were not analyzed statistically given the smaller number of submitted forms. Poisson regression models were used to compare CY2021 suicide and suicide-attempt data to average data from CY2018 to CY2020. The three-year average from CY2018 to CY2020 was used to provide a more stable statistical comparison. The Poisson model was used instead of the more commonly employed logistic regression model to yield a direct estimate of the prevalence ratio as opposed to the odds ratio. Since the outcomes described below were generally common (>10% prevalence) in the case groups, the odds ratio would overestimate the prevalence ratio.[3] A robust variance estimator was used to correct the standard error estimation that occurs when using the Poisson model with dichotomous outcomes. All outcomes were simultaneously estimated separately for deaths and suicide attempts. All models were adjusted for age, sex, and Military Service.

The specific variables included in the comparative analyses were:

- Presence of any behavioral health diagnosis
- History of prior self-harm
- Relationship problems in the year before the event

- Legal/administrative problems in the year prior to the event
- Workplace issues in the year prior to the event

These variables were selected for the current report because of their prominence in the suicide research literature as major factors associated with suicide and suicide attempts. For individuals with multiple suicide attempts or with both an attempt and a suicide death from CY2018 to CY2021, only the most recent report was retained for analysis to satisfy the assumption of independent observations in the regression model.

References and Notes

1. For more information on the DoDSER system, see the System of Record Notice (April 15, 2016, 81 FR 22240).

2. For more information on suicide death and attempt reporting via the DoDSER system, see DoD Instruction 6490.16, "Defense Suicide Prevention Program," September 11, 2020.

3. Knol, M. J., Cessie, S. L., Algra, A., Vandenbroucke, J. P., Groenwold, R. H. H. (2012). Overestimation of risk ratios by odds ratios in trials and cohort studies: alternatives to logistic regression. *CMAJ*, 184(8).