DoDSER

Department of Defense Suicide Event Report

Calendar Year 2017 Annual Report

The estimated cost of this report or study for the Department of Defense is approximately $49,000 for the 2018 Fiscal Year. This includes $750 in expenses and $48,000 in DoD labor.

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OFFICE OF THE UNDER SECRETARY OF DEFENSE
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PERSONNEL AND READINESS

JUL 1 6 2019

Dear Military Leaders and Community Members:

The Department of Defense is very concerned about the prevention of suicide and suicide related behaviors among Service members of the United States Armed Forces.

Substantial efforts are underway with our Federal partners, including the Departments of Veterans Affairs and Homeland Security, to implement evidence-based programs to reduce the occurrence of suicide.

Our principal surveillance tool, the Department of Defense Suicide Event Report (DoDSER), is used to track, better understand, and communicate general and military-specific risk factors that contribute to the occurrence of suicide. The DoDSER also provides valuable information that allows us to refine our suicide prevention programs and strategies, in order to better provide for the needs of our Service members.

This comprehensive annual report contains statistical information about Service member suicides and suicide attempts that occurred within the Army, Navy, Air Force, and Marine Corps over the course of Calendar Year (CY) 2017. The report also includes data from the Reserve Components and National Guard Bureau.

I encourage you to review the CY 2017 DoDSER in detail and disseminate its findings. The information in this document has broad value for all members of the Department, from newly enlisted Service members to the highest-ranking officials responsible for developing military policies and procedures.

Thank you for your continued support of our efforts to reduce the tragic occurrence of suicide-related behaviors among our Service members.

Sincerely,

James N. Stewart
Assistant Secretary of Defense for Manpower and Reserve Affairs, Performing the Duties of the Under Secretary of Defense for Personnel and Readiness

Attention

If you, a family member, friend, peer, subordinate, or others are experiencing thoughts of suicide, please reach out for help immediately.

Dial 800-273-8255

If you are a Service member or Veteran, **Press 1** to talk to a qualified Department of Veterans Affairs (VA) responder.

- Start a confidential online chat session at **www.VeteransCrisisLine.net/chat**.
- Send a text message to **838255** to connect to a VA responder.
- If you are deaf or hard of hearing, you can connect through chat, text, or TTY.

The Calendar Year 2017 DoDSER Annual Report

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Executive Summary

This report presents data collected following death by suicide and suicide attempts of members of the United States Armed Forces. The data include cases that occurred from January 1, 2017, through December 31, 2017 (CY 2017).

The U.S. Air Force, Army, Marine Corps, and Navy are required to conduct an extensive data-collection effort—known as the Department of Defense Suicide Event Report (DoDSER)—following every death by suicide and each identified suicide attempt. This requirement also applies to the Reserve and Guard Components of the Selected Reserve (SELRES).

In accordance with Public Law 113-291 and Department of Defense Instruction 6490.16, CY 2017 data collection included cases of suicide for Service members who were not in a duty status. The aforementioned Instruction was made effective on November 7, 2017; hence, this data collection effort was not implemented for the entirety of CY 2017. As a result, the DoDSER event data in this report are restricted to Service members who were in the Active Component or were Active-Duty members of the SELRES at the time of the event. Demographic data for the non-duty status SELRES population are presented separately.

The DoDSER Annual Report organizes and analyzes the information collected by the Military Services, provides official suicide rates, and describes the risk and contextual factors that are associated with instances of suicide and suicide attempts for the specified calendar year. Each report serves as a quantitative review upon which Department of Defense (DoD) leadership can base policy, programming, and strategy decisions.

Presented below are key findings from CY 2017.

CY 2017 Suicide-Mortality Rates

The suicide-mortality rate for the Active Component, combined across all Military Services, was 21.9 deaths per 100,000 population.

The suicide mortality rates for each Active Component Service were as follows:

- Air Force: 19.3 suicides per 100,000 population;
- Army: 24.3 suicides per 100,000 population;
- Marine Corps: 23.4 suicides per 100,000 population; and
- Navy: 20.1 suicides per 100,000 population.

The CY 2017 suicide rate for the Reserve Component, combined across all Military Services and regardless of duty status, was 25.7 suicides per 100,000 population.

The CY 2017 suicide rate for the National Guard Component, combined across the Air and Army National Guard, and, regardless of duty status, was 29.1 suicides per 100,000 population.

Suicide Rates Over Time

The CY 2017 suicide-mortality rates for each Component and for the Active Component of each of the Military Services were not statistically significantly different from the CY 2014 – CY 2016 average suicide-mortality rates within each population.

There was no discernible trend over time, either increasing or decreasing, for the Active Component, the Guard Component, or the Active Components of the Army, Marine Corps, and Navy. Both the Active Component of the Air Force and the Reserve Component, all Military Services combined, had evidence of a linear increase in the suicide-mortality rate over the years available for this report (CY 2011 – CY 2017).

Expected Suicide-Mortality Rates Given U.S. Population Data

As of this writing, the CY 2016 U.S. suicide rate for adults aged 17-59 (the comparable age range of the military population) was 17.4 per 100,000 individuals. Note that the U.S. population from which this rate is derived contains civilians as well as current and former military service members. Even with the age restriction, the military population is younger and has a higher percentage of males than the US adult population. Both of these characteristics are also associated with suicide-mortality rates. After accounting for the differences in age and sex, suicide-mortality rates for the Active and Reserve Components, overall, were no different from what we would expect given the suicide-mortality rate of the general U.S. adult population. In contrast, the Guard Component suicide-mortality rate was higher than expected. These findings were consistent with analyses from previous years.

The suicide-mortality rates for the Active Component portion of each of the Military Services were consistent with the expected values given the suicide-mortality rate of the general U.S. adult population.

DoDSER Data Summary

- Personal firearms continued to be the most common mechanism of injury in suicide DoDSER forms, accounting for 65.4 percent of all CY 2017 suicides.
- Drug and alcohol overdose was the most common method of attempted suicide, accounting for 55.5 percent of recorded CY 2017 suicide attempts.
- Approximately half (50.8%) of those who died by suicide in CY 2017 did not have a documented behavioral health diagnosis.
- Approximately half (51.5%) of individuals who died by suicide in CY 2017 made contact with the Military Health System (MHS) in the 90 days prior to death.
- The prevalence of various risk factors, protective factors, and other suicide event characteristics among suicide and suicide-attempt DoDSER forms in CY 2017 were consistent with those observed over previous years.

Preface

The Department of Defense Suicide Event Report (DoDSER) has three primary components:

1. A web-based **system** for collecting, organizing, and securing case-level data about suicide and suicide attempts among members of the U.S. Air Force, Army, Marine Corps, and Navy, accessible at https://dodser.t2.health.mil/.

2. A data-collection **form** that guides trained MHS or command-level appointees on which data elements to assess and collect, as well as potential sources for required information.

3. An **annual report** of findings generated from the collected data, which are organized and analyzed to identify patterns and changes in suicide rates and select risk factors.

To distinguish between these components, *system*, *form*, or *annual report* appears after the DoDSER acronym throughout this document.

Guiding Questions

Each year, two important questions guide the development of the DoDSER Annual Report:

1. What is the rate of suicide among Service members?
2. How common are known or suspected risk factors of suicide among Service members who engaged in fatal or non-fatal suicide attempts during a given calendar year?

With respect to the first question, the Armed Forces Medical Examiner System (AFMES) provides the DoDSER team with the official rates of suicide mortality for the calendar year. These rates are then included in this report.

With respect to the second question, the DoDSER team uses data on specific risk factors collected directly by the DoDSER system to describe risk factor prevalence amongst suicide and suicide-attempt DoDSER forms.

The DoDSER Annual Report is a product of PHCoE and the Defense Health Agency (DHA).

This report was completed and submitted for review by DoD stakeholders on July 26, 2018. The final report's public release date was July 16, 2019.

Chapter 1: Background and Methodology

The Department of Defense Suicide Event Report (DoDSER) system is the official reporting system for suicide events in the U.S. Air Force, Army, Marine Corps, and Navy. The operation of the DoDSER system is the responsibility of the Psychological Health Center of Excellence (PHCoE), which is a Division of the Defense Health Agency (DHA) Research and Development (J-9) Directorate. DHA is a joint, integrated Combat Support Agency that enables the Army, Navy, and Air Force medical services to provide a medically ready force and ready medical force to Combatant Commands in both peacetime and wartime. DHA supports the delivery of integrated, affordable, and high-quality health services to Military Health System (MHS) beneficiaries and is responsible for driving greater integration of clinical and business processes across the MHS.

The DoDSER Annual Report is the culmination of a collaborative effort between PHCoE, the Suicide Prevention Program Offices of the Air Force, Army, Marine Corps, and Navy, the National Guard Bureau, Defense Suicide Prevention Office (DSPO), and the Armed Forces Medical Examiner System (AFMES). In layman's terms, the objective of the DoDSER system is to operate and refine a program for collecting and reporting a set of standardized data on every Service member who dies by suicide or makes a suicide attempt, regardless of Military Service, Component, or duty status.[1]

The result of this effort is a comprehensive, standardized characterization of suicide and suicide-related behaviors across the U.S. Military. This year's DoDSER Annual Report presents data from the U.S. Air Force, Army, Marine Corps, and Navy on the incidence of suicide and suicide attempts that occurred between January 1, 2017, and December 31, 2017. The Active and Reserve Components of the Military Services participate in suicide data surveillance, including the Army National Guard and Air National Guard.

The DoDSER Annual Report provides decision-making authorities with a tool to:

- Monitor the occurrence of suicide and suicide attempts within the U.S. Air Force, Army, Marine Corps, and Navy
- Identify risk factors and profiles associated with the occurrence of suicide and suicide attempts
- Compile objective information that informs the evaluation of DoD suicide-prevention priorities, policies, and strategies.

Calendar year (CY) 2017 was the DoDSER system's 10th year of operation. All 10 Annual Reports are available online via the PHCoE website: http://www.pdhealth.mil/research-analytics/department-defense-suicide-event-report-dodser.

Suicide Case Criteria

All cases of suicide occurring in CY 2017 are required to be included in this report if AFMES confirmed that suicide was the manner of death on or before January 31, 2018. In order to meet the DoD timeline for calculating suicide rates, cases in which the cause of death investigation had not been completed by February 1, 2018, were excluded.

Data from previous years have been updated to include any cases that were not part of the previous year's DoDSER Annual Report because of cause-of-death investigations for which a final determination was still pending.

Cases in which the Defense Manpower Data Center (DMDC) records classified the Service member as being in a permanent Absent Without Leave (AWOL) or Deserter status when the event occurred continue to be excluded from this report to conform to the definition of end-strength used in the suicide rate calculations.[1]

To protect and maintain the privacy of the individuals with information in the DoDSER system, no identifiable information or singular case-level data are presented. Instead, aggregated data for the DoD as a whole (Chapter 3), as well as for each individual branch of Service (Chapters 4–7), are presented. Data for SELRES, regardless of the individual's duty status at the time of the suicide or suicide attempt, are presented separately (Chapter 8).

Data Collection

Trained behavioral health providers or command officials on military installations and at MHS hospitals collect and input data directly into the DoDSER system's web-based data-collection form. Common data sources in cases of suicide include the following:

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

Common data sources in cases of attempted suicide include the following:

- Direct interview of the individual who was the subject of the report (with consent)
- Medical records
- Behavioral health records
- Personnel records
- Legal and/or investigative records
- Interviews with command officials
- Interviews with spouse, extended family, friends, and peers (if authorized)

DoDSER records of Active Duty suicide decedents are augmented with information from AFMES while demographic and deployment history data from the DMDC augments all DoDSER entries for suicide and suicide-attempt DoDSER forms.

The CY 2017 DoDSER form contained more than 500 data elements to provide comprehensive information about the lives of the Service members who died by suicide or who engaged in suicide attempts. Data elements encompass medical and behavioral health information, military history, legal and/or disciplinary actions, and the specific characteristics of the suicide or suicide attempt that occurred.

Processes and Procedures

Submission Process and Timeline

The DoDSER system uses a web-based form, available via a secure DoD website (https://dodser.t2.health.mil/), to collect and compile data. A DoD Risk Management Framework-approved facility at Fort Detrick, Maryland houses the servers on which the DoDSER system operates. Basic data-entry users do not have access to any DoDSER data other than those that they collect and submit themselves.

All Military Services submit completed DoDSER forms for confirmed instances of suicide that occur among Service members in the Active Component, suicides among members of the SELRES regardless of duty status, and medically identified suicide attempts. The Army also requires DoDSER forms for other non-fatal events, such as non-suicidal self-injury and suicidal ideation.

All Military Services track suicides via the offices of each Service's Suicide Prevention Program Manager (SPPM) in order to meet reporting timelines, and the AFMES maintains an official list of confirmed suicides. However, as no data collection processes are specified in DoD Instruction 6490.16, these processes can vary between Military Services. Such variations include the following:

- **Air Force:** The Integrated Resilience Office is the primary data-collection agency that receives the AFMES notification and assigns individual Air Force clinicians to complete the DoDSER form within 60 days.

- **Army:** The DoDSER Program Manager at the DHA Armed Forces Health Surveillance Branch Supporting Behavioral and Social Health Outcomes Practice receives the AFMES notification, contacts the behavioral health point of contact (POC) at the Service member's assigned Medical Treatment Facility, and requests that a behavioral health clinician complete a DoDSER form within 60 days.

- **Navy:** Following confirmation from the AFMES, the SPPM office at the Navy's 21st Century Sailor Office's (OPNAV N17) Suicide Prevention Branch (OPNAV N171) contacts the local command and requests an appropriate POC to meet the requirement 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 an appropriate POC to meet the requirement within 15 working 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. Entries are completed by the DoDSER Program Manager, SPPM, or Director of Psychological Health.

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

For CY 2017, the final reporting date—the deadline for the Military Services to submit DoDSER forms for all CY 2017 deaths determined to have been caused by suicide—was March 31, 2018. The Military Services were not required to submit DoDSER forms by this deadline for cases of suicide where the cause of death was not confirmed until after January 31, 2018; however, they did have to submit such forms in compliance with their own internal reporting timelines. When evaluating DoDSER submission compliance for each of the Military Services, the CY 2017 report uses the number of confirmed suicides as of January 31, 2018.

With respect to the dissemination of counts and rates, the most complete data available (i.e., the dataset that was locked on March 31, 2018) was used for the CY 2017 report.

DoDSER Form Items

The DoDSER form requires collection of a broad range of current and historical information about the subject of the report, including demographic information, military history, medical history, and current life stressors. The content of the DoDSER form resulted from a collaborative process including the following steps:

- Structured reviews of each Service's historical suicide surveillance systems/procedures
- Workgroup deliberations with representation from all four Military Services
- A systematic review of suicide literature
- Feedback from nationally recognized civilian and military experts
- Feedback from senior military leaders and key stakeholders.

Periodically, a workgroup comprising DoDSER program staff, the SPPM for each Service, and representatives from DSPO meets to revise the DoDSER form items based on the evolving needs of each Service. Table 1 displays the DoDSER form's content areas.

Table 1. DoDSER form content areas	
Content Area	Example Item
Personal Information	Age, sex, ethnicity, education, marital status
Military Information	Job code, duty status, permanent duty station
Event Information	Access to firearms, event method, event setting
Medical History	Behavioral health and medical history
Military History	Deployment history, disciplinary action
Personal History	Developmental and family history, current stressors
Narrative Summary	Information on data-collection strategy

Non-DoDSER Data Sources

After a DoDSER report form is submitted, additional information is obtained from enterprise sources in an effort to improve overall data completeness and accuracy. Data sources include:

- AFMES provides data on the official manner and cause of death as well as official demographic data for suicides among Service members. 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.

- DMDC provides data from the Defense Enrollment Eligibility Reporting System to deliver demographic information for all events submitted to the DoDSER system. DMDC also provides data from the Contingency Tracking System, the repository of official deployment-related information.

- The DoD Sexual Assault Prevention and Response Office (SAPRO) provides aggregated data for DoDSER cases that are identified in the Defense Sexual Assault Incident Database.

Demographic and deployment data used in reporting are based on AFMES data for suicide deaths and DMDC data for all other event reports or those for a suicide death that did not have specific data from the AFMES. Any reports where demographic and deployment data were not available from AFMES and DMDC, we relied on the data recorded in the DoDSER form itself. Any discrepancies in demographic deployment data that were identified between the AFMES and/or DMDC data and the DoDSER form were reconciled by the Services.

Changes to the DoDSER in CY 2017

In CY 2014, the DoD Inspector General's office completed an assessment of DoDSER program data quality and determined that the system fell under the provisions of the United States Paperwork Reduction Act (Pub. L. No. 96-511, 94 Stat. 2812, codified at 44 U.S.C. §§ 3501-3521). In order to comply with the Act, the DoDSER form was submitted to the Office of Management and Budget (OMB) for review and approval. Full findings of this assessment are

publically available at https://media.defense.gov/2014/Nov/14/2001713434/-1/-1/1/DODIG-2015-016.pdf.

As a result of the review, in March 2015 the DoDSER form received an OMB Control Number (0720-0058) and initial expiration date (March 31, 2018). The expiration date provided the next scheduled opportunity for revision of the form. However, to comply with recommendations made by the DoD Inspector General, the DoDSER team requested an earlier revision of the DoDSER form. OMB granted the request and the team activated the following changes to the DoDSER form on January 1, 2017:

1. Changed the "data unavailable" response option to a "no known history" response option for 92 DoDSER items. This change was required for compliance with DoDIG-2015-0116 recommendation 3.b.1.

2. Required text explanations from respondents who selected "Cannot Determine" or "Data Unavailable" response option for 34 DoDSER items. This change was required for compliance with DoDIG-2015-0116 recommendation 3.b.2.

3. Changed the self-harm response option for the event type item from "Self-Harm – without intent to die" to "Self-Harm – Non-suicidal Self-Directed Violence" on the Army form.

4. Changed the suicidal ideation response option for the event type item from "Ideation only – without an attempt/self-harm" to "Ideation only - Other suicidal behavior: preparatory acts" on the Army form.

5. Edited the question stem for Item 21 to clarify that this item pertains specifically to the Reserve Component.

6. Edited the response options for Item 21 to differentiate the various Reserve Component duty statuses, including Title 10, Title 32, and non-duty status.

7. Updated the drop-down list for Item 24 (Permanent Duty Assignment) to include the most current assignment options.

8. Removed Item 28 (In a Warrior Transition Unit (WTU)).

9. Changed the question stem for Item 36 from "Were there self-inflicted injuries (including poisoning)?" to "Were there intentional injuries other than those directly related to the method of suicide (including poisoning)?"

10. Changed the question stem for Item 37 from "Is there evidence the event involved death risk gambling (e.g., Russian roulette, walking railroad tracks, playing 'chicken')?" to "Is there evidence that the Service member engaged in risk-taking actions that clearly have a high chance of death (e.g., Russian roulette, walking railroad tracks, playing 'chicken')?"

11. Revised the response style for Item 42 to include a drop-down menu that lists common motivations for suicide.

12. Added a follow-up free-text response to Item 42 ("primary reason for the person's emotional pain?").

13. Changed the wording of item 45 from "Was the patient seen by a Medical Treatment Facility?" to "Was the patient seen by an inpatient/outpatient medical facility?"

14. Combined the separate items that queried each personality disorder so that the appropriate diagnosis can now be selected from a drop down list of related personality disorders.

15. Combined the separate items that queried each psychotic disorder so that the appropriate diagnosis is selected from a drop-down list of related psychotic disorders.

16. Created an additional response option for Item 60 (psychoactive medication use) to indicate whether psychoactive medication(s) were taken at the time of the suicide event.

17. Created an additional response option for Item 61 (pain medication use) to indicate whether pain medication was taken at the time of the suicide event.

18. Removed Item 62 (polypharmacy).

19. Added a follow-on question ("Was the patient/decedent reduced in rank?") that is activated when 'Yes' is selected to Item 67 ("Prior to the event, is there evidence that the patient/decedent was the subject of…Non-judicial punishment/Article 15?").

20. Changed Item 78 from "Did the patient/decedent have orders to deploy?" to "Was the patient/decedent on orders to deploy?"

21. Updated the drop-down list for Item 109 to mirror the most current and complete list of MTFs.

22. Edited the data collection logic for Item 110 on the Navy and Marine Corps forms so that non-behavioral health form completers (i.e., commanders) no longer need to include placeholder information for this item to be able to complete the DoDSER form.

23. Corrected two typographical errors in the Privacy Act Statement.

24. Added a third acknowledgment button to the Privacy Act Statement that indicates that the report will be completed using only existing documentation from the individual's medical record because the Service member declined participation in an interview.

25. Added a fourth acknowledgment button to the Privacy Act Statement to indicate that the report will be completed using only existing documentation from the individual's medical record because a Service member was not available for an interview.

Because this interim revision of the DoDSER occurred outside of the regularly planned revisions, the current expiration date for the data collection form is August 31, 2019. DoDSER program managers and SPPMs are encouraged to collect suggestions for future revisions during the period between the last OMB approval and the expected expiration date. After reviewing and discussing these suggestions, DoDSER program managers, the Military Services, and DSPO will finalize a list of desired revisions. DHA software developers will then carry out the modification of the underlying software and data collection form architecture. The revised data collection form is typically deployed on the first day of a new data collection cycle, which usually corresponds to the first working day of a new calendar year.

Data Quality

The quality of the data entered into the DoDSER system is of paramount importance as surveillance data is of little use if it is neither accurate nor complete. The DoDSER system uses several types of controls to improve the overall quality of its data. Some of these controls are:

- Form-field validation requires users to adjudicate responses that are not logically possible (e.g., date of birth must be at least 17 years in the past).

- Forms are flagged as having 'low data quality' when a high degree of missing data is detected on the data collection form (i.e., forms that are less than 80 percent complete). A flagged report warns the user that submitting the report will count against the Service's overall level of DoDSER compliance.

- Corroboration of suicide-event forms against data from AFMES ensures that a suicide event is valid and present in both independent systems. If a case is present in the DoDSER system without a corresponding AFMES report, it will not be included in the analytics of the DoDSER Annual Report.

- Reviewing all DoDSER forms ensures that only one report exists for each event. The DoDSER system identifies potential duplicates and the Military Services' DoDSER program managers select the submission that represents the most accurate and complete data record to be included in the analysis.

- Reviewing open-ended text fields or the selection of the "Other" response option allows for the identification of text responses that correspond well with the existing item coding structure.

- Data from AFMES and DMDC improve the accuracy of DoDSER data. The AFMES data inform the manner and cause of death for suicide forms. The DMDC data provide information on deployment history and demographic characteristics. If data submitted via the DoDSER form differ from the information received from AFMES or DMDC, then

the DoDSER data is replaced with the information contained in the AFMES or DMDC records.

- "Help" text informs users about the definitions and parameters relevant to each question—including relevant diagnostic codes and identification of data sources relevant to a given item. This "help" text is available as a separate "pop-up" window accessible for each item within the DoDSER system and the user does not need to navigate away from the data collection page to use the help text.

- Ten percent of the DoDSER forms submitted each month undergo data quality assessments that examine variables where users chose the "Cannot Determine" and "Data Unavailable" response options. These reviews evaluate the submission timeline and the correlation between the data collection form's qualitative and quantitative elements.

Suicide-Mortality Rate Calculations

For each DoDSER Annual Report, AFMES determines an official case list of suicides among Service members in the Active Component and in the SELRES. Duty status determination (i.e., whether a Service member was in or out of an official duty status at the time of the event) relies on information entered into the Defense Casualty Information Processing System as well as on consultations with the appropriate Service's SPPM. Cadets and midshipmen at the designated military academies (the U. S. Military Academy in West Point, New York; the U.S. Naval Academy in Annapolis, Maryland; and the U.S. Air Force Academy in Colorado Springs, Colorado) are determined to be in a duty status. This determination is relevant to validating case submission in the DoDSER system.

AFMES collates data on suicides among SELRES members not in a duty status from the Military Service-specific SPPM reports for the Air Force, Army, Marine Corps, and Navy. The SELRES suicide case numbers presented in the CY 2017 report were verified on May 31, 2018.

Rate Calculation

DoD policy states that a CY suicide rate can be calculated no sooner than 90 days after the end of the CY to allow for resolution of case determinations.[2] March 31 serves as the final reporting date for cases used in the previous CY's annual rate calculations and for the previous CY's aggregate data from the DoDSER system.

DoD Instruction 6490.16 dictates rate calculation procedures. DoD data standards prohibit reporting rates associated with fewer than 20 instances of suicide because a high degree of statistical instability occurs in rates calculated from small numerators.[2, 3] Crude and stratified rates are calculated separately for the following:

- The Active Component (in aggregate and individually for each Service)
- The Reserve Component of the SELRES (regardless of duty status; in aggregate and individually for each Service)
- The National Guard Component of the SELRES (regardless of duty status; in aggregate and individually for the Air Guard and Army Guard)

Stratified rates are calculated for sex, race, ethnicity, education, marital status, age, and rank/grade within these Components. AFMES collaborates with DMDC to identify the number of Service members in each combination of Military Service, Component, and demographic characteristic at the end of each month; these totals are the "monthly end-strengths." The average of the monthly end-strengths for the CY is the denominator for the rate calculations.

Mathematical Formula

The following formula provides a mathematical expression of the rate calculation:

$$Rate = \frac{S_g}{\frac{1}{12}\sum_{m=1}^{12} ES_{mg}} \times 100{,}000$$

In this formula, s_g represents the number of suicides in a particular population group and ES_{mg} represents the end-strength of a particular month for the same population group. The populations (g) used in each rate calculation were as follows:

1. Active Component
    a. All Military Services
    b. Air Force
    c. Army
    d. Marine Corps
    e. Navy

2. SELRES
    a. All Military Services
        i. Air Force Reserve
        ii. Army Reserve
        iii. Marine Corps Reserve
        iv. Navy Reserve

3. National Guard
    a. Air and Army Combined
        i. Air National Guard
        ii. Army National Guard

Rate Standardization

Rate standardizations for each DoDSER Annual Report are implemented using U.S. population data from the Centers for Disease Control and Prevention (CDC) Web-Based Injury Statistics Query and Reporting System (WISQARS).[4] The CDC maintains WISQARS and provides aggregate data on fatal and non-fatal injuries.

CY 2016 data were the most current population data available from CDC WISQARS for the CY 2017 DoDSER Annual Report. For CY 2016, rates of suicide in the U.S. population were jointly stratified by age group (17–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59) and sex (male, female) for each calendar year.

The technique of indirect standardization allows for calculation of the number of expected suicides in the military population given the adult U.S. population age- and sex-specific stratum rates. This technique was used to calculate the number of expected cases in each age- and sex-specific stratum of the component and Service subpopulations. Indirect standardization is preferred to direct standardization when the number of events within strata of the target population (i.e., the military) are very small.[5]

Division of the observed number of suicides by the total number of expected suicides yields the standardized mortality ratio (SMR). The mathematical formula for the SMR is:[5]

$$SMR = \frac{\sum_i p_{ia} n_{ia}}{\sum_i p_{is} n_{ia}}$$

- p_{ia} —Represents the stratum-specific rate for the study population (i.e., the specific Component or Military Service under consideration)
- n_{ia} —Represents the number of Service members in that stratum
- p_{is} —Represents the stratum-specific rate from the standard population (in this instance, the U.S. population)

The product of p_{ia} and n_{ia} gives the observed number of suicides within each stratum. The sum of the observed numbers across the strata yields the numerator for the formula. The product of p_{is} and n_{ia} yields the number of expected suicides for that stratum. The sum across the strata is the total number of expected suicides. Multiplication of the SMR by the crude rate of the standard population produces the adjusted rate for the population of interest.

Practical Example of Indirect Rate Standardization

Table 2 provides a practical example of this indirect method of rate adjustment. The data used in Table 2 are for the Active Component suicide rates from all Military Services combined for CY 2012. Data for the current calendar year are provided in Chapter 2.

The sum of the expected deaths column (the denominator of the SMR formula) is 289.782. The numerator of the SMR formula uses the same value as the total number of observed suicides for the time-period: 321. Division of 321 by 289.782 yields the SMR of 1.11. Multiplication of the SMR by the unadjusted rate for the standard population (.000165) gives the adjusted rate of .000183. This value is then multiplied by 100,000 to convert it into the more easily interpretable value of 18.3 suicides per 100,000 members of the population of interest.

Table 2. Demonstration of the calculation of the age- and sex-adjusted suicide rate using the indirect method for the Active Component, all Military Services, CY 2012

Stratum	CY 2012 Service-Aggregated Denominator (n_{ia})	CY 2012 U.S. Population Rate (p_{is})	Expected Deaths ($n_{ia}p_{is}$)
Male, 17–19	67726	.000153	10.362
Male, 20–24	375972	.000221	83.090
Male, 25–29	296051	.000240	71.052
Male, 30–34	188920	.000228	43.074
Male, 35–39	137064	.000248	33.992
Male, 40–44	87498	.000266	23.274
Male, 45–49	33105	.000288	9.534
Male, 50–54	8912	.000315	2.807
Male, 55–59	2082	.000309	0.643
Female, 17–19	13382	.000039	0.522
Female, 20–24	67558	.000049	3.310
Female, 25–29	52184	.000056	2.922
Female, 30–34	32318	.000062	2.004
Female, 35–39	20794	.000072	1.497
Female, 40–44	12161	.000082	0.997
Female, 45–49	4869	.000100	0.487
Female, 50–54	1603	.000104	0.167
Female, 55–59	513	.000091	0.047

Adjusted rates allow for comparisons between the military population and the general U.S. population after accounting for known differences in the distribution of age and sex between the two populations.

The 95 percent confidence intervals (CI) associated with the adjusted rates were calculated using the Poisson distribution. Formally, a 95 percent confidence interval relates to the probability that the end points of the interval cover the true value being estimated.[6] Assuming multiple generations of the data and subsequent analysis, 95 percent of the constructed intervals will cover the true value. If the span of the CI for the military population does not overlap with the U.S. population rate (estimated with very little random error), then one can conclude that there is a statistically significant difference between the military and the adult U.S. rates.

The use of indirect standardization limits the comparisons to just those involving the population of interest against expected rates in the adult U.S. population. Within a particular year, it is not possible to compare the SMRs, or associated adjusted rates, between Components or Military Services because the age and sex distributions will differ between the subpopulations.

A separate set of analyses used a Poisson regression model[7] to compare the rates of suicide between years and between Components and Military Services within a single year while accounting for different age and sex distributions. This model is appropriate for use with count data, such as the number of deaths in a particular group. Linear combinations of model estimates produced adjusted rates for temporal comparisons and statistical inference. Two approaches to the analysis were implemented: a comparison of CY 2017 to the three-year average suicide-mortality rate of CY 2014 – CY 2016 and a test of linear or quadratic trend over the period of CY 2011 – CY 2017.

DoDSER Data Analysis

The majority of the CY 2017 DoDSER Annual Report describes the prevalence of suspected risk factors associated with the occurrence of suicide and suicide attempts within the DoD. Statistical comparisons of a limited set of determinants have also been included to examine change over time within suicide and suicide-attempt DoDSER forms. These comparisons examine the stability of risk distributions over time. Logistic regression models were used to compare CY 2017 suicide and suicide-attempt DoDSER findings to findings from CY 2014 – CY 2016. The three-year average for CY 2014 – CY 2017 was used to provide a more stable statistical comparison than a comparison between any two single years.

The descriptive reports related to specific risk factors and/or correlates must not be interpreted as underlying causes of suicide. Causal relationships between variables cannot be identified by the methodology employed for the DoDSER system. Identifying such relationships requires an experimental approach involving the systematic and concurrent collection of data on control cases. Such an approach is outside the epidemiological purview of the DoDSER system. The specific determinants included in the comparative analyses were:

- Mechanism of injury (e.g., firearm use, asphyxiation, drug or alcohol overdose (comparative analysis only))
- Presence of a mood disorder[8]
- Presence of an anxiety disorder[8]
- Presence of adjustment disorder[8]
- History of substance abuse
- History of prior self-injury
- Use of psychotropic medications in the 90 days prior to the event
- Relationship problems in the 90 days prior to the event
- Legal/administrative problems in the 90 days prior to the event
- Workplace issues in the 90 days prior to the event

These variables were selected for the current report because of their prominence in the suicide research literature as major determinants of suicide and suicide attempts. Each model was adjusted for age and sex. Multiple imputation was used to account for missing data on determinants and demographic variables included in the models.[9] Only the most recent report was retained for analysis from individuals with multiple suicide attempts or with both an attempt and a suicide death to satisfy the assumption of independent observations in the regression model.

Interpretive Considerations

The primary goal of the DoDSER Annual Report and of the DoDSER system overall is the collection, organization, and presentation of data relevant to the occurrence of suicide and suicide attempts in the Military community. The DoDSER is not a research study but rather a surveillance system. The data collected by the DoDSER system may be used to:

- Monitor the occurrence of suicide and suicide attempts among the U.S. Armed Forces on an annual cycle
- Offer a systematic and in-depth source of information about data related to suicide and suicide attempts
- Provide leaders with key information on which to base policy and programming decisions
- Monitor important risk factors and profiles associated with suicide
- Support research toward suicide prevention
- Inform local and national suicide-prevention program development.

While it is natural to speculate about the relative contributions of specific risk and protective factors related to suicide, it is not possible to determine analytically whether any particular variable is a risk or protective factor for suicide solely from the data presented in this report. Data on the distribution of any particular variable among the broader population are required before any statistical inferences or causal statements can be determined. The DoDSER system does not systematically collect concurrent data on non-cases (i.e., control participants), as this exceeds the surveillance mandate of this program. Independently planned and executed research is required before inferring any causal roles for specific risk or protective factors.

At the outset of the CY 2017 data-collection cycle, the DoDSER form was revised to better handle missing data. Rather than providing respondents with a "Data Unavailable" response option, users now had to choose between a confirmatory "Yes," "No," or to indicate that there was no known history for a given item. For other items that have a "Cannot Determine" response option, users must now provide a free-text rationale as to why a confirmatory response could not be determined. For data presentation, responses of "No Known History" and "Cannot Determine" were combined with the "No" category. Still, there are situations where some information requested in the DoDSER form remains unknown or unavailable. For example, information about an individual's family history of mental illness may have been available for Service members who had engaged with the military's behavioral health system, but such behavioral health information may have been difficult to assess or ascertain for Service members who had not. The reader should consider the impact of missing information when interpreting the current findings.

The reader should also take into account the content area of any given DoDSER item when interpreting results. While this report reflects the best data available, some DoDSER items are objective (e.g., a Service member's rank/grade), whereas others are highly subjective (e.g., was the patient/decedent involved in community support systems?). Standardized coding guidance was available to all designated DoDSER respondents, along with technical definitions of terms

and item-by-item Help text designed to aid in accurate reporting. Nonetheless, idiosyncratic interpretation of subjective items may increase variability in the measurement of these factors.

Figures and Tables

This report includes graphical displays of data to represent the prevalence of specific variables in CY 2014 – CY 2016. The observed prevalence estimates for each year (percent) represent the proportion of "Yes" responses to a particular item relative to the total number of events with a completed case for that year. These figures also display an error bar for proportions where practicable.

This error bar is the half-width of the 95 percent confidence interval. It presents the amount of error above or below the top of the bar and can be interpreted in the same way as the error for a survey or opinion poll.

For example, a bar that extends to 50 percent with an error bar that extends to 55 percent means that the best estimate of the percent is 50, +/- 5 percentage points. The reader should note that separate tables may present separate types of information such as counts, rates, and statistical comparisons, which cannot be directly compared with one another.

References and Notes

1. For more information on the DoDSER System, see the System of Record Notice (April 15, 2016, 81 FR 22240) at https://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570683/edha-20-dod

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Chapter 2: Suicide-Mortality Rates

Suicide-mortality rates provide information on the occurrence of death by suicide over a defined period. The rates are based on both the number of suicides that occurred and the size of the population at risk for the event. The descriptive rates (which are not adjusted for any demographic characteristics) are expressed as a number of events per 100,000 persons at risk. The use of 100,000 persons at risk as the scale allows for the rate to be expressed as a whole number of deaths to ease interpretation (e.g., 20 deaths per 100,000 persons = .0002 = .02%).

The statistical analysis of the rate data is detailed in Chapter 1. There are a few interpretive considerations, however, that bear emphasizing. Specifically, suicide-mortality rates and the interpretations around temporal or between-group comparisons are impacted by:

1. *Random error*. Rate data are subject to random variation. The number of events used in calculating the rate is directly related to precision, with rates based on more events having more precision than those calculated with a smaller number of events. The 95% confidence interval provides an estimate of the precision around a particular estimate.

2. *Volatility*. Rate data based on small numbers of events may show more movement up and down over time. As an example, if a population of 100,000 individuals had 20 events in one year and 25 events the following year, the rates would appear to change dramatically, from 20 to 25 per 100,000, or a ratio of 1.25. If, instead, the rate in the first year were 200 events and in the second year were 205 events (an increase of the same number of events as the first part of the example), the difference appears much less dramatic (200 vs. 205 per 100,000, or a ratio of 1.03). In temporal comparisons, volatility is addressed in two ways:

    a. The use of a three-year average for historical comparisons. Provides a more stable estimate with more precision than relying on any single-year data point as a reference.
    b. Trend modeling. Uses the data from several years to identify a pattern (e.g., linear or quadratic) to summarize change over time.

3. *Comparability*. Rate data for any single population provide a good description of event occurrence in that population. Rate data are not generally useful by themselves for comparisons over time or between individuals. For formal statistical analysis, demographic characteristics need to be addressed using appropriate techniques. In this report, age and sex distributions are taken into account in the analysis.

This analysis and presentation of rate data attempt to account for the three considerations above. Statistical considerations and conclusions are presented specific to each type of analysis.

Descriptive Suicide-Mortality Rates

The suicide-mortality rates for each Component and each Service, CY 2015 – 2017, are displayed in Table 3. These rates (when available given the size of the event count) provide the best description of the suicide mortality for each CY in each of the defined groups. These rates should not be used for comparison between groups or between years, as they are not subject to statistical analysis to minimize the impact of the considerations mentioned above.

Table 3. Frequency and unadjusted rate1 of suicide, by Component and Service, for CY 2015 – CY 2017.

Component and Service	2015		2016		2017	
	Count	Rate	Count	Rate	Count	Rate
Active, All Military Services	266	20.2	280	21.5	284	21.9
Air Force	64	20.5	61	19.4	62	19.3
Army	120	24.4	130	27.4	114	24.3
Marine Corps	39	21.2	37	20.1	43	23.4
Navy	43	13.1	52	15.9	65	20.1
Reserve,[2] All Military Services	90	24.7	80	22.0	92	25.7
Air Force	10	---	10	---	10	---
Army	55	27.7	41	20.6	63	32.1
Marine Corps	11	---	19	---	10	---
Navy	14	---	10	---	9	---
National Guard,[2] Air Force and Army	125	27.5	123	27.3	130	29.1
Air Guard	21	19.9	14	---	12	---
Army Guard	104	29.8	109	31.6	118	34.6

[1]Unadjusted rate per 100,000 Service members. Rates for subgroups with fewer than 20 suicides are not reported because of statistical instability.
[2]Rates for the Reserve and National Guard Components of the SELRES include all Service members irrespective of duty status.

Suicide-Mortality Rates Over Time

One technique for evaluating the extent to which the observed suicide-mortality rate at one point in time is consistent with previous suicide-mortality rates is the comparison against a moving average. In this analysis, the suicide-mortality rates for CY 2017 were compared to the average suicide-mortality rate of CY 2014 – 2016. This analysis also was adjusted for age and sex to improve the quality of the comparison. None of the three Components (all Military Services combined) showed a deviation in CY 2017 from the three-year average values in excess of random error (the 95 percent CI covered the three-year average value; Figures 1-3). Specific to each Service (Active Component only), none of them had a difference from the three-year average values in excess of random error (Figures 4-7). Note that for the Navy (Figure 7), the 95 percent CI does not cover the three-year average value; however, the three-

year average is itself an estimate and is affected by uncertainty. This uncertainty prohibited a conclusion of a statistically significant difference from the historical average rate.

The trend analysis evaluated both linear and quadratic models from CY 2011 – CY 2017. The models considered a constant increase or decrease in the suicide-mortality rates over time (linear) or a curve where the rate may increase over some CYs and decrease over other CYs (quadratic). The linear model had the best fit to the data in all of the analyses. There was no evidence of either an increase or a decrease for all Military Services combined in the Active and Guard Components. There was evidence of a linear increase in the suicide-mortality rates for the Reserve Component. For the Military Services, only the Active Component of the Air Force had evidence of a linear trend over time. This trend showed an increase in the suicide-mortality rate consistent with the annual and three-year average suicide-mortality rates depicted in Figure 4.

Adjusted annual suicide-mortality rates in the Active Component, all Military Services, CY 2011 – CY 2017

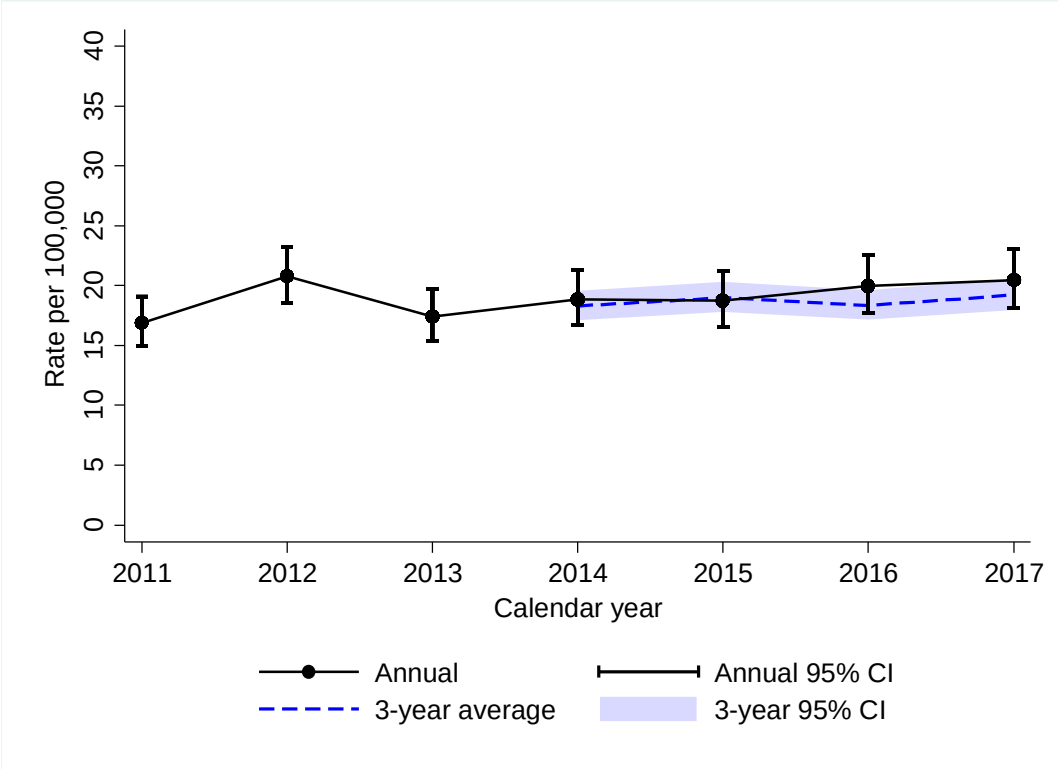

Figure 1. Adjusted annual suicide-mortality rates in the Active Component, all Military Services, CY 2011 - CY 2017
Note: CI = Confidence Interval. All rates are adjusted for age and sex. The three-year moving average for each year is the average of the three preceding calendar-year suicide mortality rates.

Adjusted annual suicide-mortality rates in the Reserve Component, all Military Services, CY 2011 – CY 2017

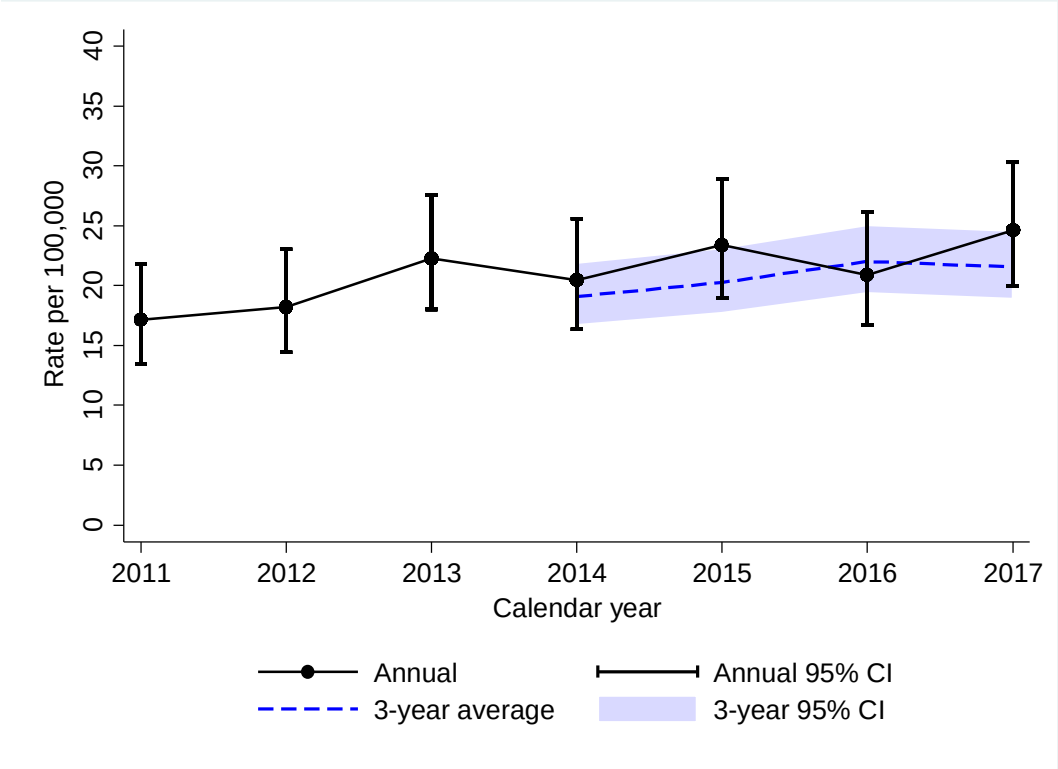

Figure 2. Adjusted annual suicide-mortality rates in the Reserve Component, all Military Services, CY 2011 - CY 2017
Note: CI = Confidence Interval. All rates are adjusted for age and sex. The three-year moving average for each year is the average of the three preceding calendar-year suicide mortality rates.

Adjusted annual suicide-mortality rates in the National Guard Component, Air Force and Army, CY 2011 – CY 2017

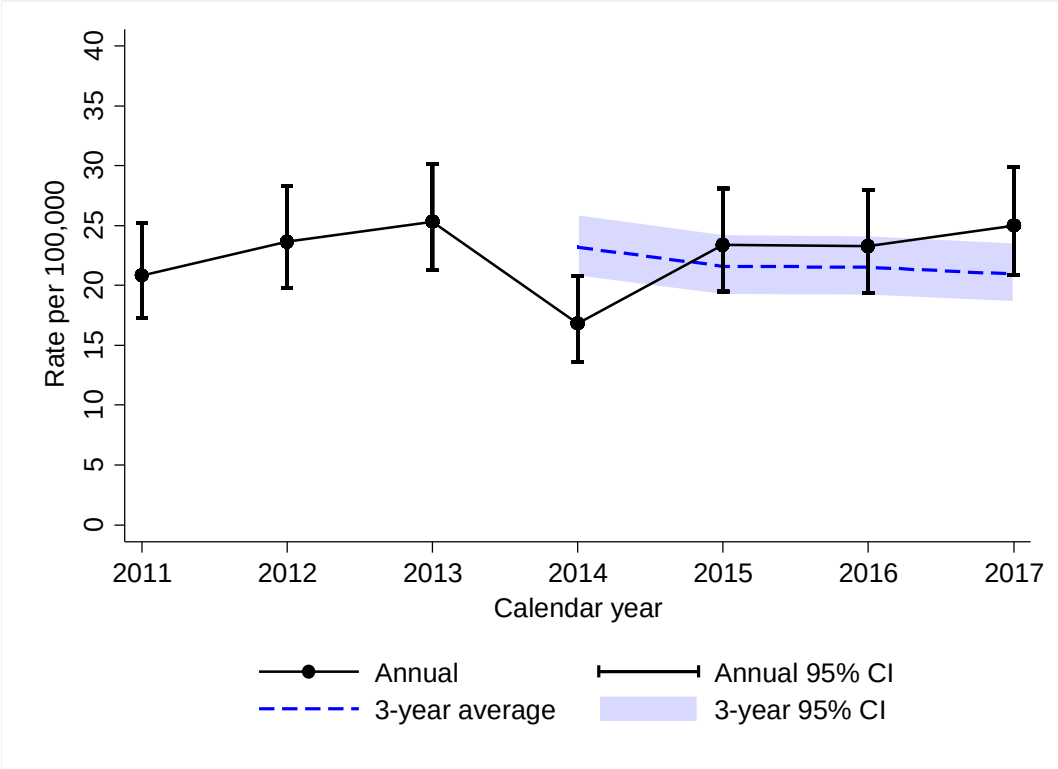

Figure 3. Adjusted annual suicide-mortality rates in the National Guard Component, Air Force and Army, CY 2011 - CY 2017
Note: CI = Confidence Interval. All rates are adjusted for age and sex. The three-year moving average for each year is the average of the three preceding calendar-year suicide mortality rates.

Adjusted annual suicide-mortality rates in the Active Component, Air Force, CY 2011 – CY 2017

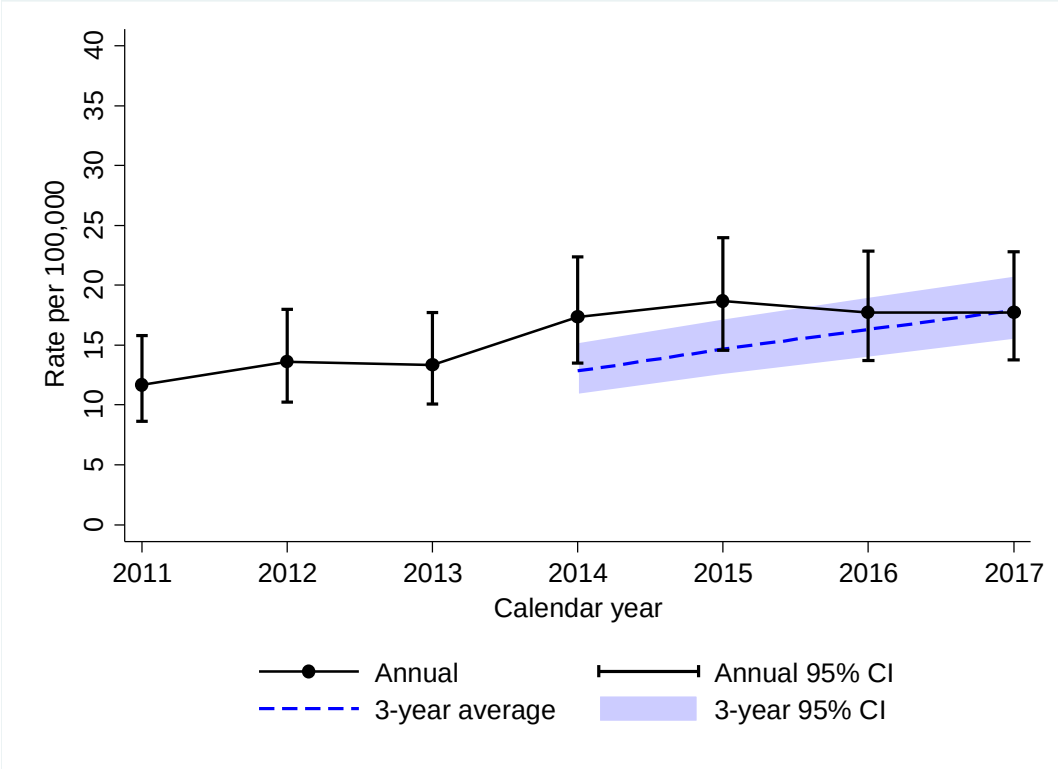

Figure 4. Adjusted annual suicide-mortality rates in the Active Component, Air Force, CY 2011 - CY 2017
Note: CI = Confidence Interval. All rates are adjusted for age and sex. The three-year moving average for each year is the average of the three preceding calendar-year suicide mortality rates.

Adjusted annual suicide-mortality rates in the Active Component, Army, CY 2011 – CY 2017

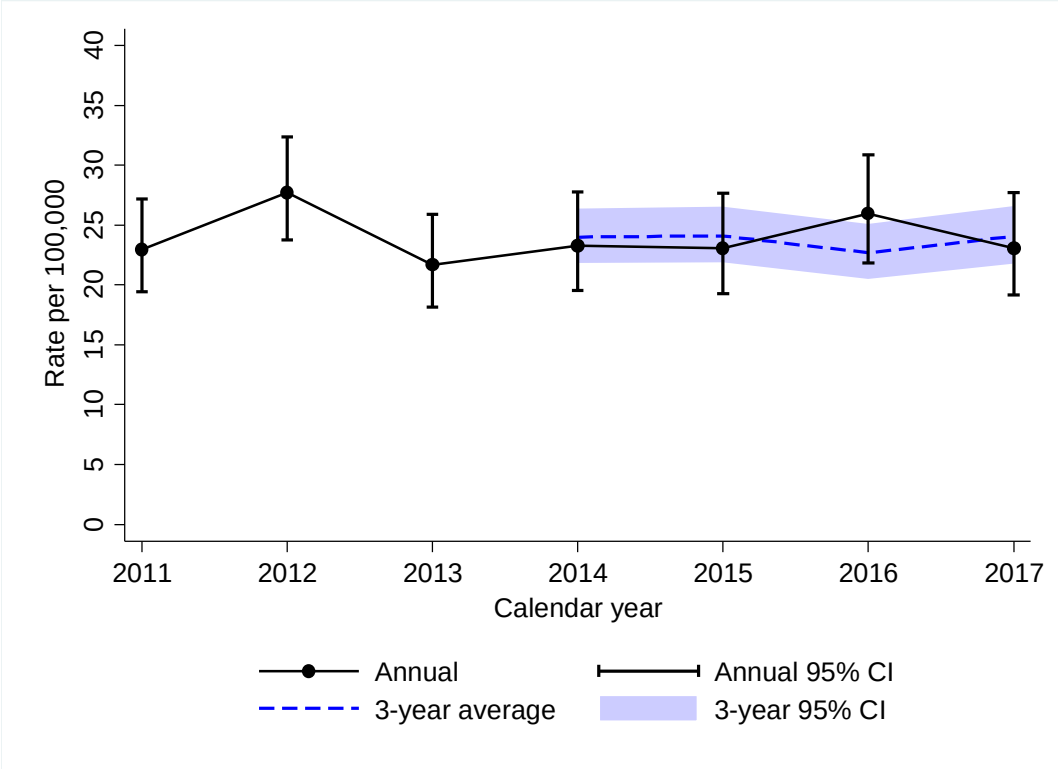

Figure 5. Adjusted annual suicide-mortality rates in the Active Component, Army, CY 2011 - CY 2017
Note: CI = Confidence Interval. All rates are adjusted for age and sex. The three-year moving average for each year is the average of the three preceding calendar-year suicide mortality rates.

Adjusted annual suicide-mortality rates in the Active Component, Marine Corps, CY 2011 – CY 2017

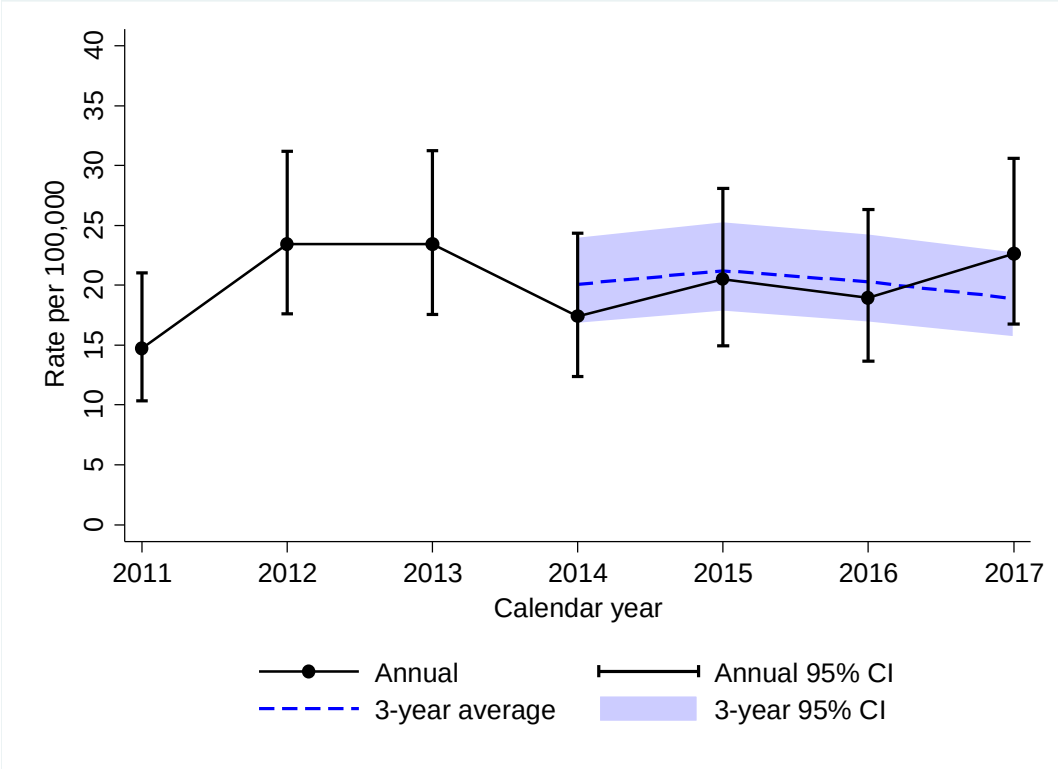

Figure 6. Adjusted annual suicide-mortality rates in the Active Component, Marine Corps, CY 2011 - CY 2017
Note: CI = Confidence Interval. All rates are adjusted for age and sex. The three-year moving average for each year is the average of the three preceding calendar-year suicide mortality rates.

Adjusted annual suicide-mortality rates in the Active Component, Navy, CY 2011 – CY 2017

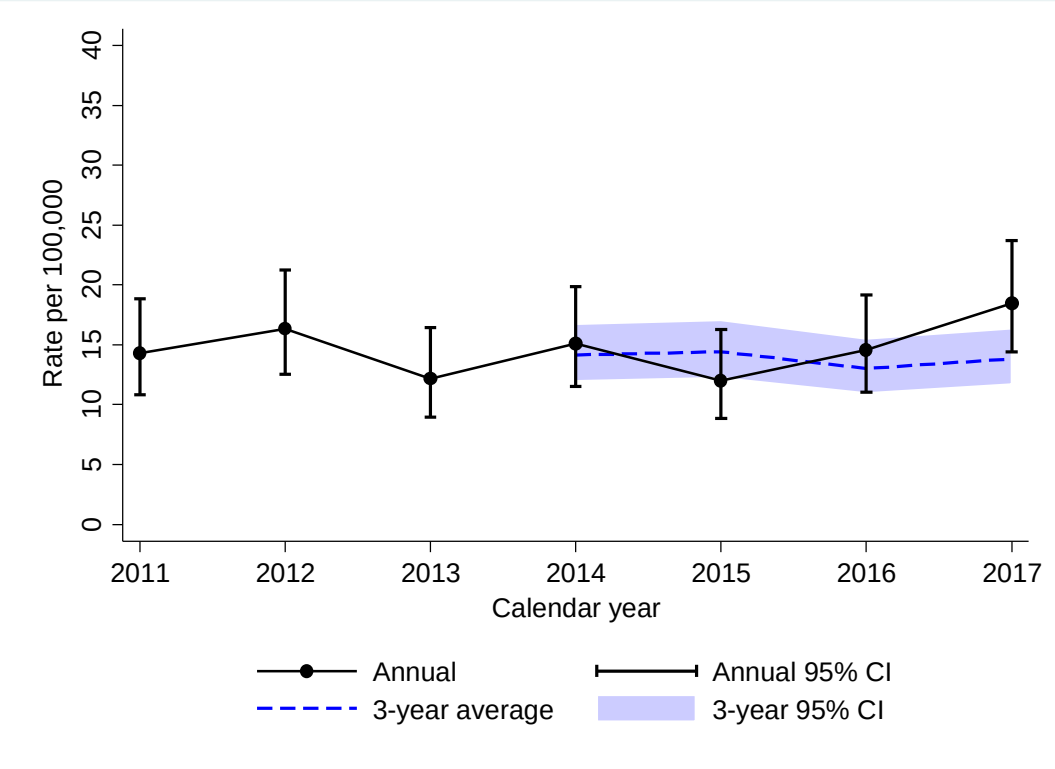

Figure 7. Adjusted annual suicide-mortality rates in the Active Component, Navy, CY 2011–CY 2017
Note: CI = Confidence Interval. All rates are adjusted for age and sex. The three-year moving average for each year is the average of the three preceding calendar-year suicide mortality rates.

Thresholds Required to Identify Rate Changes

Another way to understand the data is to think about the number of cases needed to have a statistically significant change in the suicide-mortality rate. For CY 2017, 284 suicide deaths in the Active Component, all Military Services, were observed. To conclude that the suicide-mortality rate for CY 2017 was *greater* than the three-year average suicide-mortality rate for CY 2014 – CY 2016, at least 305 suicide deaths would have to be recorded. To conclude that the suicide-mortality rate for CY 2017 was *lower* than the three-year average suicide-mortality rate for CY 2014 – CY 2016, 232 or fewer deaths would have to be recorded. Table 4 shows the observed number of suicide deaths and the number of deaths needed to provide evidence of a change for each Component and for the Active Components of each of the Military Services.

Table 4. Observed number of suicide deaths and number of suicide deaths required to increase or decrease the CY 2017 suicide-mortality rate relative to the three-year average suicide-mortality rate of CY 2014 – CY 2016

Component	Observed in CY 2017	Lower threshold, below which a decrease would be detected	Upper threshold, above which an increase would be detected
Active	**284**	**232**	**305**
Reserve	**91**	**64**	**104**
National Guard	**130**	**88**	**134**
Service (Active Component only)			
Air Force	**62**	**47**	**84**
Army	**114**	**96**	**147**
Marine Corps	**43**	**25**	**52**
Navy	**65**	**36**	**66**

Expected Rates Given the U.S. Adult Population

The CY 2016 suicide-mortality rate for the U.S. population, age 17–59, was 17.4 deaths per 100,000 individuals. These are the most recent population data available. Note that this rate value is higher than the one often cited, as the age range (17–59 years) used for this report has been restricted to make it more comparable to the age range of U.S. military populations. The total population suicide-mortality rate contains individuals of all ages; infants and children have a lower suicide-mortality rate than adult populations. Excluding those age groups produces an adult population suicide-mortality rate that is greater than the one reported for the total population.

The CY 2017 suicide-mortality rates for the Active and Reserve Components did not differ from the U.S. adult population suicide-mortality rates for CY 2016 (Figures 8–9). This suggests that the rate of suicide-mortality among sex and age groups in the military populations was consistent with what we observed in the larger U.S. adult population. The Guard Component had a higher suicide-mortality rate than expected from the U.S. adult population data (Figure 10). For CY 2017, there were no differences in the suicide-mortality rates between the Active Components of each of the Military Services and the larger U.S. adult population (Figures 11–14). Historical data suggest that the Active Component of the Army had a higher rate than expected in CY 2011 – CY 2012 (Figure 12), while the Air Force and Navy had lower rates than expected (based on the U.S. adult population suicide-mortality rate) from CY 2011 – CY 2013 (Figures 11 and 14).

U.S. adult population age- and sex-standardized suicide-mortality rates, Active Component, CY 2011 – CY 2017

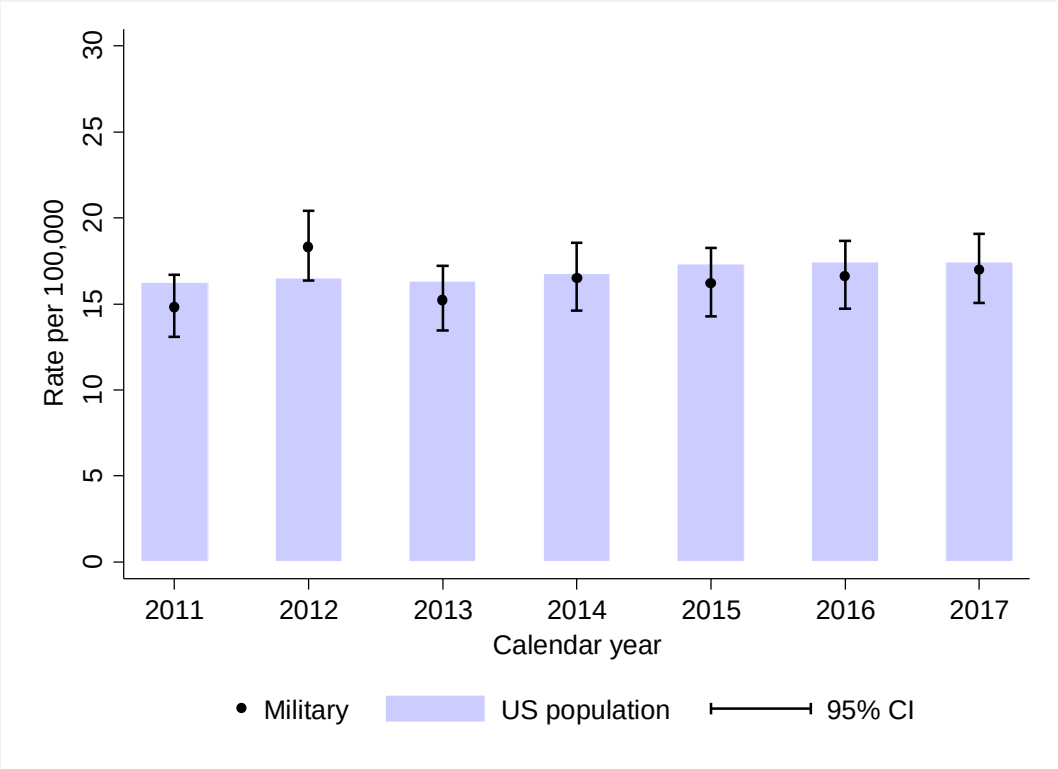

Figure 8. U.S. adult population age- and sex-standardized suicide-mortality rates, Active Component, CY 2011 - CY 2017
Note: The U.S. population data used for this comparison were obtained from the Centers for Disease Control and Prevention and include data from civilians as well as current and former military service members. The U.S. population data for CY 2017 are the data for CY 2016, which are the most recent data available at the time of this writing. Rates for the military population adjusted for age and sex using indirect adjustment.

U.S. adult population age- and sex-standardized suicide-mortality rates, Reserve Component, CY 2011 – CY 2017

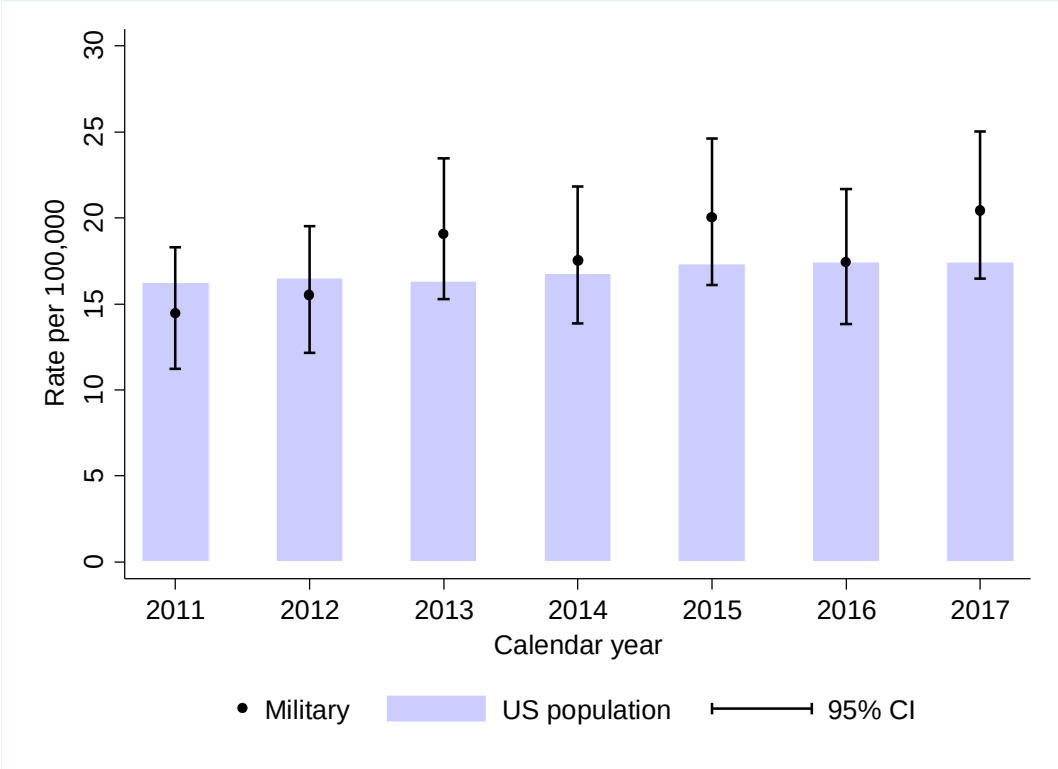

Figure 9. U.S. adult population age- and sex-standardized suicide-mortality rates, Reserve Component, CY 2011 - CY 2017
Note: The U.S. population data used for this comparison were obtained from the Centers for Disease Control and Prevention and include data from civilians as well as current and former military service members. The U.S. population data for CY 2017 are the data for CY 2016, which are the most recent data available at the time of this writing.

U.S. adult population age- and sex-standardized suicide-mortality rates, Guard Component, CY 2011 – CY 2017

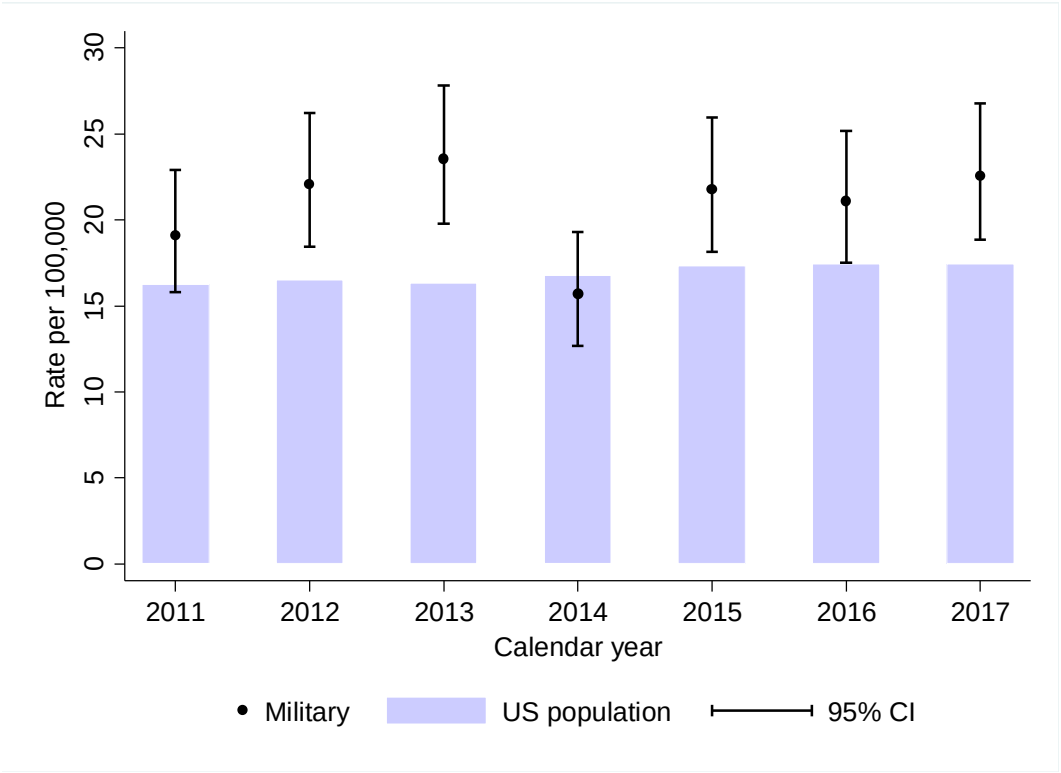

Figure 10. U.S. adult population age- and sex-standardized suicide-mortality rates, Guard Component, CY 2011 - CY 2017
Note: The U.S. population data used for this comparison were obtained from the Centers for Disease Control and Prevention and include data from civilians as well as current and former military service members. The U.S. population data for CY 2017 are the data for CY 2016, which are the most recent data available at the time of this writing.

U.S. adult population age- and sex-standardized suicide-mortality rates, Active Component Air Force, CY 2011 – CY 2017

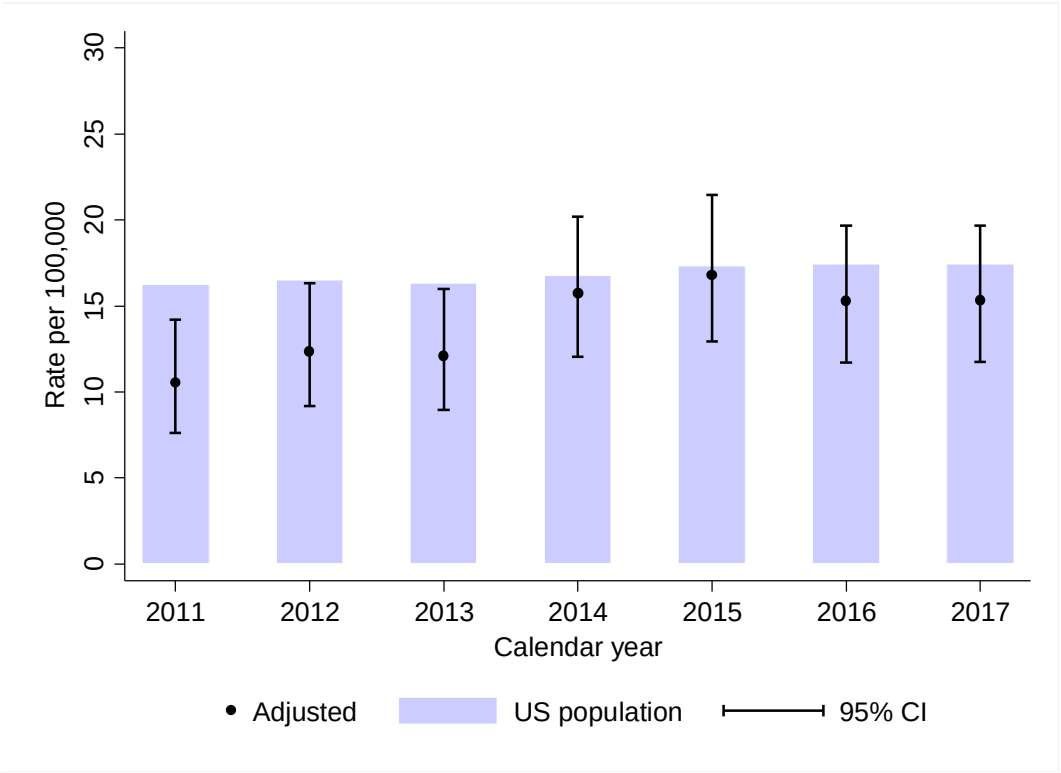

Figure 11. U.S. adult population age- and sex-standardized suicide-mortality rates, Active Component Air Force, CY 2011 - CY 2017
Note: The U.S. population data used for this comparison were obtained from the Centers for Disease Control and Prevention and include data from civilians as well as current and former military service members. The U.S. population data for CY 2017 are the data for CY 2016, which are the most recent data available at the time of this writing.

Suicide-mortality rate relative to the U.S. adult population (ages 17-59), Active Component Army, CY 2011 – CY 2017

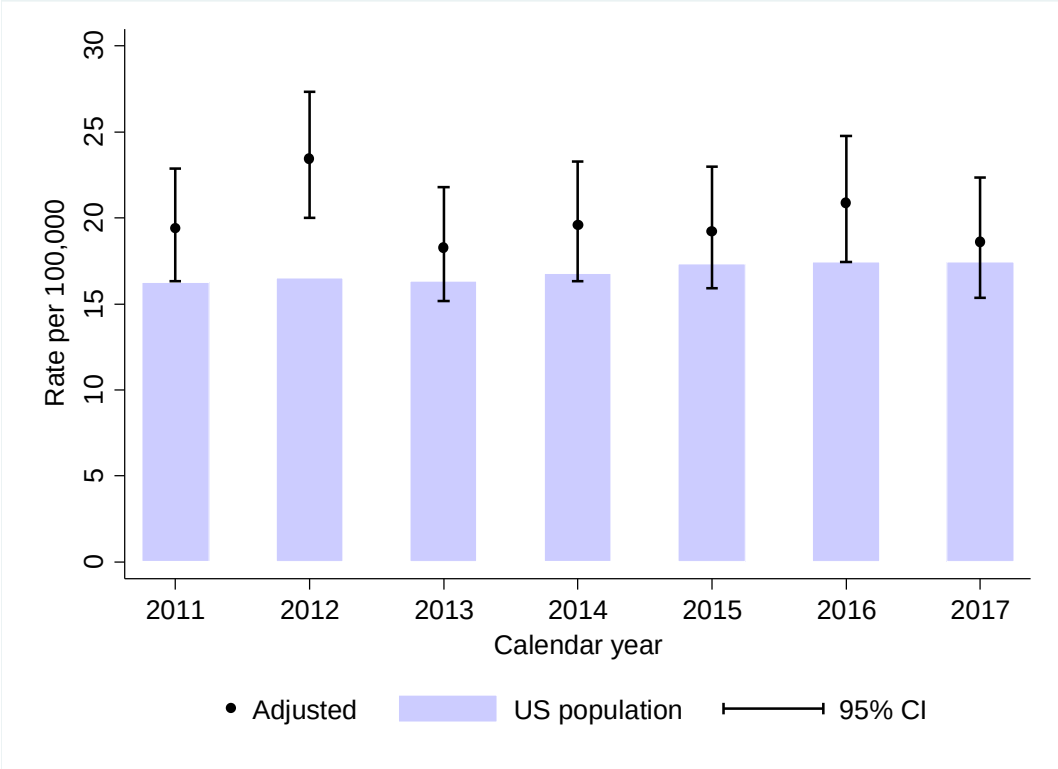

Figure 12. Suicide-mortality rate relative to the U.S. adult population (age 17 – 59), Active Component Army, CY 2011 – CY 2017
Note: The U.S. population data used for this comparison were obtained from the Centers for Disease Control and Prevention and include data from civilians as well as current and former military service members. The U.S. population data for CY 2017 are the data for CY 2016, which are the most recent data available at the time of this writing.

Suicide-mortality rate relative to the U.S. adult population (age 17-59), Active Component Marine Corps, CY 2011 – CY 2017

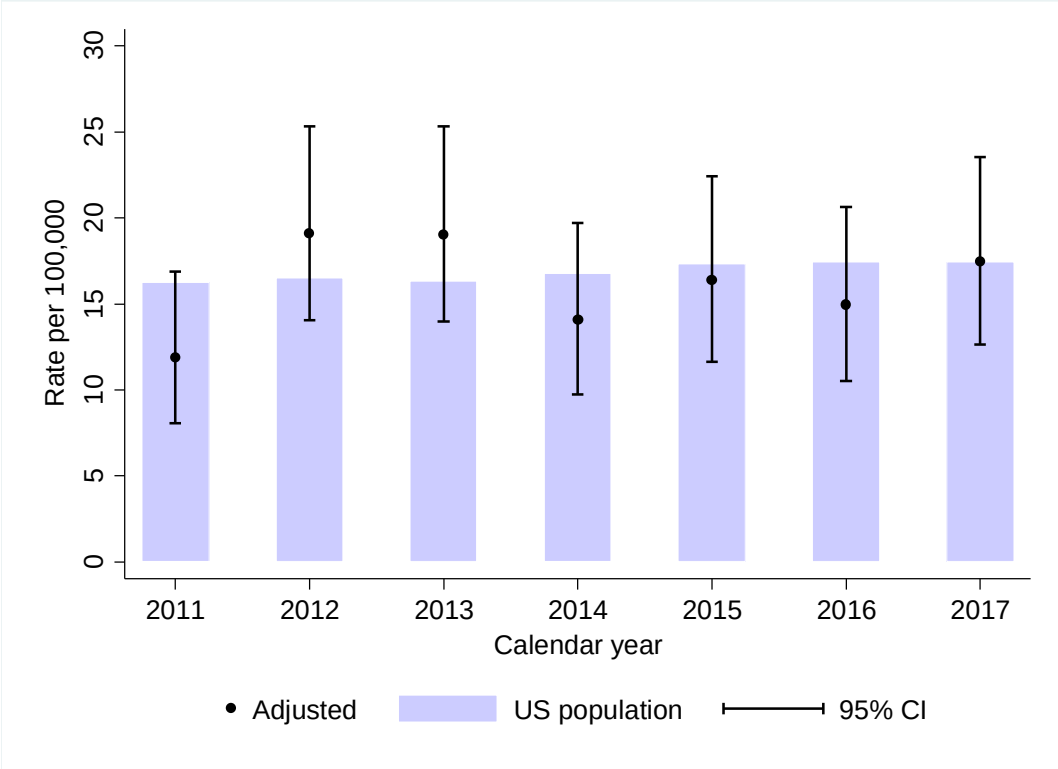

Figure 13. Suicide-mortality rate relative to the U.S. adult population (age 17 – 59), Active Component Marine Corps, CY 2011 – CY 2017
Note: The U.S. population data used for this comparison were obtained from the Centers for Disease Control and Prevention and include data from civilians as well as current and former military service members. The U.S. population data for CY 2017 are the data for CY 2016, which are the most recent data available at the time of this writing.

Suicide-mortality rate relative to the U.S. adult population (age 17-59), Active Component Navy, CY 2011 – CY 2017

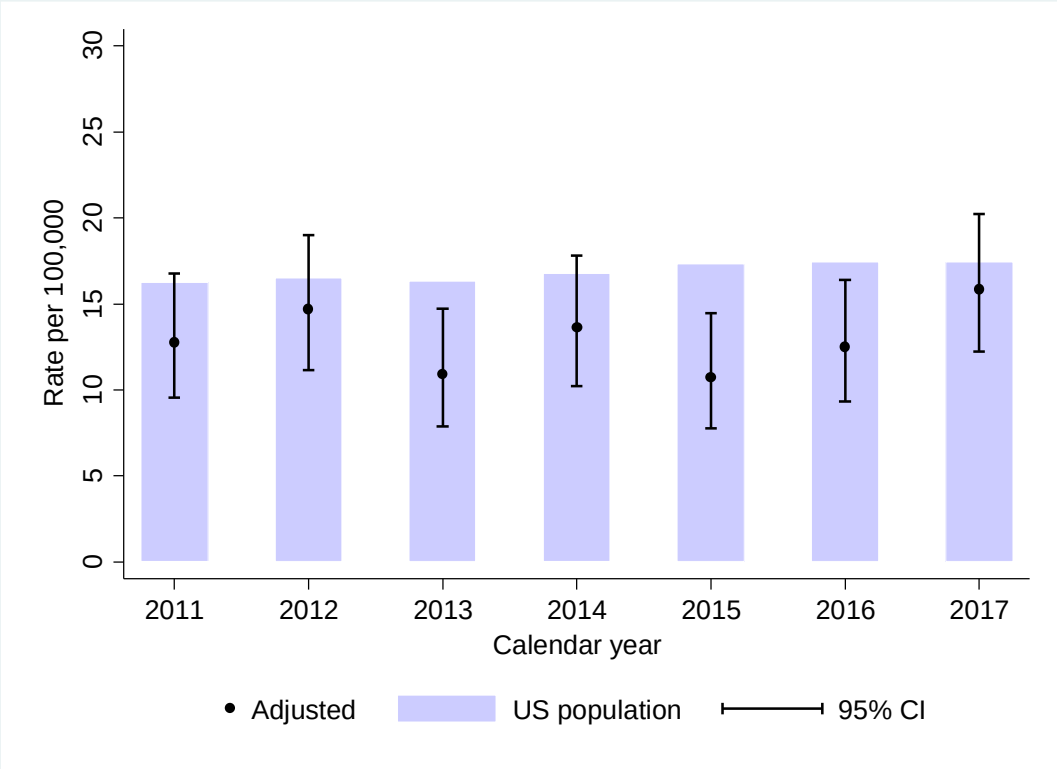

Figure 14. Suicide-mortality rate relative to the U.S. adult population (age 17 – 59), Active Component Navy, CY 2011 – CY 2017
Note: The U.S. population data used for this comparison were obtained from the Centers for Disease Control and Prevention and include data from civilians as well as current and former military service members. The U.S. population data for CY 2017 are the data for CY 2016, which are the most recent data available at the time of this writing.

Suicide-Mortality Rate Tables

Tables 5 – 11 provide a demographic breakdown of the suicide deaths identified in each Component and in the Active Components of each Military Service. Where possible, an unadjusted rate is provided. Formal comparisons of suicide rates between demographic groups were not made. As such, no formal comparisons or conclusions are provided.

References

Montgomery DC, Jennings CL, Kulahci M. (2008). *Introduction to time series analysis and forecasting.* Hoboken, NJ: John Wiley.

Table 5. Rates of suicide among Service members in the Active Component, all Military Services, CY 2015 - CY 2017, overall and by demographic characteristics

	2015		2016		2017	
Group	Count	Rate[1]	Count	Rate[1]	Count	Rate[1]
Total	**266**	**20.2**	**280**	**21.5**	**284**	**21.9**
Sex						
Male	**252**	**22.7**	**260**	**23.7**	**268**	**24.6**
Female	**14**	**---**	**20**	**9.7**	**16**	**---**
Race						
American Indian/Alaska Native	**4**	**---**	**6**	**---**	**2**	**---**
Asian/Pacific Islander	**12**	**---**	**9**	**---**	**13**	**---**
Black/African American	**44**	**19.4**	**33**	**14.7**	**28**	**12.5**
White/Caucasian	**186**	**20.7**	**215**	**24.2**	**219**	**24.7**
Other/Unknown	**20**	**19.1**	**17**		**22**	**21.7**
Ethnicity						
Hispanic	**29**	**18.2**	**29**	**15.7**	**41**	**20.6**
Non-Hispanic	**231**	**20.7**	**245**	**23.0**	**235**	**22.7**
Unknown	**6**	**---**	**6**	**---**	**8**	**---**
Age						
17–19	**13**	**---**	**14**	**---**	**16**	**---**
20–24	**94**	**22.4**	**113**	**27.1**	**104**	**24.9**
25–29	**62**	**20.0**	**67**	**22.2**	**75**	**25.2**
30–34	**45**	**21.1**	**36**	**17.1**	**38**	**18.3**
35–39	**32**	**21.7**	**26**	**17.6**	**21**	**14.1**
40–44	**15**	**---**	**13**	**---**	**24**	**30.6**
45–49	**4**	**---**	**8**	**---**	**6**	**---**
50–54	**1**	**---**	**1**	**---**	**0**	**---**
55–59	**0**	**---**	**1**	**---**	**0**	**---**
Unknown	**0**	**---**	**1**	**---**	**0**	**---**
Rank/Grade						
Cadet/Midshipman	**2**	**---**	**0**	**---**	**0**	**---**
E1–E4	**127**	**22.5**	**137**	**24.3**	**141**	**25.1**
E5–E9	**114**	**22.5**	**106**	**21.3**	**125**	**25.2**
Officer	**18**	**---**	**33**	**15.7**	**16**	**---**
Warrant Officer	**5**	**---**	**4**	**---**	**2**	**---**
Education						
Some high school	**1**	**---**	**0**	**---**	**1**	**---**
Alternative high school certification	**18**	**---**	**20**	**55.9**	**12**	**---**
High school graduate	**179**	**22.4**	**189**	**24.1**	**206**	**26.4**
Some college, no degree	**19**	**---**	**18**	**---**	**15**	**---**
Associate's degree or technical certification	**21**	**19.9**	**8**	**---**	**21**	**18.3**
Four-year college degree	**17**	**---**	**24**	**14.0**	**22**	**12.7**
Master's degree or greater	**6**	**---**	**19**	**---**	**7**	**---**
Unknown	**5**	**---**	**2**	**---**	**0**	**---**
Marital Status						
Never married	**116**	**21.1**	**120**	**21.6**	**115**	**20.7**
Married	**132**	**18.6**	**135**	**19.5**	**140**	**20.5**
Legally separated	**0**	**---**	**2**	**---**	**0**	**---**
Divorced	**17**	**---**	**22**	**44.1**	**28**	**46.7**
Widowed	**1**	**---**	**1**	**---**	**1**	**---**

[1]Rate per 100,000 Service members. Rates for strata with fewer than 20 suicides were not reported because of statistical instability.

Table 6. Rates of suicide among Service members in the Reserve Component of the Selected Reserve irrespective of duty status, all Military Services, CY 2015 - CY 2017, overall and by demographic characteristics

	2015		2016		2017	
Group	Count	Rate[1]	Count	Rate[1]	Count	Rate[1]
Total	**90**	**24.7**	**80**	**22.0**	**93**	**25.7**
Sex						
Male	**79**	**27.7**	**76**	**26.7**	**87**	**30.8**
Female	**11**	---	**4**	---	**6**	---
Race						
American Indian/Alaska Native	**0**	---	**1**	---	**0**	---
Asian/Pacific Islander	**6**	---	**5**	---	**5**	---
Black/African American	**10**	---	**7**	---	**9**	---
White/Caucasian	**72**	**29.0**	**63**	**25.7**	**75**	**30.9**
Other/Unknown	**2**	---	**4**	---	**4**	---
Ethnicity						
Hispanic	**14**	---	**7**	---	**14**	---
Non-Hispanic	**75**	**24.5**	**73**	**24.0**	**78**	**26.5**
Unknown	**1**	---	**0**	---	**1**	---
Age						
17–19	**2**	---	**3**	---	**0**	---
20–24	**25**	**33.0**	**26**	**35.4**	**33**	**46.2**
25–29	**25**	**33.7**	**26**	**34.5**	**23**	**31.0**
30–34	**21**	**34.7**	**10**	---	**13**	---
35–39	**4**	---	**5**	---	**11**	---
40–44	**7**	---	**4**	---	**4**	---
45–49	**3**	---	**2**	---	**3**	---
50–54	**3**	---	**1**	---	**6**	---
55–59	**0**	---	**3**	---	**0**	---
Rank/Grade						
Cadet/Midshipman	**0**	---	**0**	---	**0**	---
E1–E4	**47**	**31.2**	**44**	**30.3**	**56**	**39.3**
E5–E9	**33**	**22.9**	**31**	**20.9**	**31**	**20.9**
Officer	**8**	---	**5**	---	**5**	---
Warrant Officer	**2**	---	**0**	---	**1**	---
Education						
Some high school	**4**	---	**1**	---	**2**	---
Alternative high school certification	**5**	---	**6**	---	**6**	---
High school graduate	**60**	**29.4**	**59**	**29.5**	**62**	**32.2**
Some college, no degree	**3**	---	**2**	---	**3**	---
Associate's degree or technical certification	**5**	---	**4**	---	**4**	---
Four-year college degree	**7**	---	**6**	---	**13**	---
Master's degree or greater	**5**	---	**2**	---	**1**	---
Unknown	**1**	---	**0**	---	**2**	---
Marital Status						
Never married	**49**	**29.6**	**48**	**28.8**	**48**	**29.0**
Married	**32**	**18.8**	**28**	**16.5**	**38**	**22.5**
Legally separated	**0**	---	**0**	---	**0**	---
Divorced	**8**	---	**4**	---	**7**	---
Widowed	**1**	---	**0**	---	**0**	---

[1]Rate per 100,000 Service members. Rates for strata with fewer than 20 suicides were not reported because of statistical instability.

Table 7. Rates of suicide among Service members in the Guard Component of the SELRES, Air Force and Army, CY 2015 - CY 2017, overall and by demographic characteristics

Group	2015		2016		2017	
	Count	Rate[1]	Count	Rate[1]	Count	Rate[1]
Total	**125**	**27.5**	**123**	**27.3**	**130**	**29.1**
Sex						
Male	**118**	**31.3**	**117**	**31.4**	**124**	**33.8**
Female	**7**	---	**6**	---	**6**	---
Race						
American Indian/Alaska Native	**1**	---	**3**	---	**2**	---
Asian/Pacific Islander	**4**	---	**7**	---	**2**	---
Black/African American	**10**	---	**9**	---	**14**	---
White/Caucasian	**105**	**29.3**	**101**	**28.3**	**111**	**31.4**
Other/Unknown	**5**	---	**3**	---	**1**	---
Ethnicity						
Hispanic	**9**		**4**		**6**	
Non-Hispanic	**116**	**27.9**	**119**	**29.0**	**124**	**30.7**
Unknown	**0**		**0**		**0**	
Age						
17–19	**8**	---	**8**	---	**8**	---
20–24	**44**	**39.6**	**40**	**36.2**	**42**	**38.9**
25–29	**25**	**27.1**	**41**	**43.9**	**28**	**30.4**
30–34	**23**	**32.6**	**14**	---	**14**	---
35–39	**12**	---	**5**	---	**18**	---
40–44	**4**	---	**8**	---	**7**	---
45–49	**6**	---	**4**	---	**9**	---
50–54	**2**	---	**3**	---	**4**	---
55–59	**1**	---	**0**	---	**0**	---
Rank/Grade						
Cadet/Midshipman	**0**	---	**0**	---	**0**	---
E1–E4	**70**	**35.0**	**74**	**37.4**	**62**	**31.3**
E5–E9	**46**	**23.7**	**40**	**20.8**	**56**	**29.9**
Officer	**9**	---	**8**	---	**11**	---
Warrant Officer	**0**	---	**1**	---	**1**	---
Education						
Some high school	**2**	---	**4**	---	**2**	---
Alternative high school certification	**12**	---	**14**	---	**15**	---
High school graduate	**67**	**36.4**	**66**	**35.9**	**71**	**39.0**
Some college, no degree	**25**	**22.6**	**19**	---	**20**	**18.6**
Associate's degree or technical certification	**5**	---	**2**	---	**7**	---
Four-year college degree	**12**	---	**15**	---	**11**	---
Master's degree or greater	**2**	---	**1**	---	**3**	---
Unknown	**0**	---	**2**	---	**1**	---
Marital Status						
Never married	**68**	**29.5**	**81**	**35.1**	**77**	**33.5**
Married	**51**	**26.2**	**37**	**19.4**	**40**	**21.3**
Legally separated	**0**	---	**0**	---	**1**	---
Divorced	**6**	---	**5**	---	**11**	---
Widowed	**0**	---	**0**	---	**1**	---

[1]Rate per 100,000 Service members. Rates for strata with fewer than 20 suicides were not reported because of statistical instability.

Table 8. Rates of suicide among Service members in the Active Component, Air Force, CY 2015 - CY 2017, overall and by demographic characteristics

Group	2015		2016		2017	
	Count	Rate[1]	Count	Rate[1]	Count	Rate[1]
Total	**64**	**20.5**	**61**	**19.4**	**62**	**19.3**
Sex						
Male	**62**	**24.6**	**56**	**22.0**	**60**	**23.3**
Female	**2**	**---**	**5**	**---**	**2**	**---**
Race						
American Indian/Alaska Native	**0**	**---**	**0**	**---**	**0**	**---**
Asian/Pacific Islander	**5**	**---**	**0**	**---**	**2**	**---**
Black/African American	**7**	**---**	**6**	**---**	**7**	**---**
White/Caucasian	**48**	**21.5**	**52**	**23.2**	**48**	**21.1**
Other/Unknown	**4**	**---**	**3**	**---**	**5**	**---**
Ethnicity						
Hispanic	**2**	**---**	**5**	**---**	**6**	**---**
Non-Hispanic	**60**	**20.7**	**55**	**20.7**	**55**	**21.1**
Unknown	**2**	**---**	**1**	**---**	**1**	**---**
Age						
17–19	**1**	**---**	**4**	**---**	**1**	**---**
20–24	**25**	**29.1**	**14**	**---**	**18**	**---**
25–29	**16**	**---**	**17**	**---**	**25**	**30.9**
30–34	**10**	**---**	**10**	**---**	**7**	**---**
35–39	**5**	**---**	**9**	**---**	**4**	**---**
40–44	**5**	**---**	**4**	**---**	**5**	**---**
45–49	**2**	**---**	**3**	**---**	**2**	**---**
50–54	**0**	**---**	**0**	**---**	**0**	**---**
55–59	**0**	**---**	**0**	**---**	**0**	**---**
Rank/Grade						
Cadet/Midshipman	**1**	**---**	**0**	**---**	**0**	**---**
E1–E4	**30**	**25.9**	**22**	**18.4**	**28**	**22.8**
E5–E9	**29**	**22.2**	**27**	**20.6**	**27**	**20.3**
Officer	**4**	**---**	**12**	**---**	**7**	**---**
Warrant Officer	**0**	**---**	**0**	**---**	**0**	**---**
Education						
Some high school	**0**	**---**	**0**	**---**	**0**	**---**
Alternative high school certification	**0**	**---**	**0**	**---**	**0**	**---**
High school graduate	**43**	**26.6**	**40**	**24.9**	**35**	**21.3**
Some college, no degree	**0**	**---**	**0**	**---**	**0**	**---**
Associate's degree or technical certification	**16**	**---**	**6**	**---**	**18**	**---**
Four-year college degree	**2**	**---**	**5**	**---**	**5**	**---**
Master's degree or greater	**1**	**---**	**9**	**---**	**4**	**---**
Unknown	**2**	**---**	**1**	**---**	**0**	**---**
Marital Status						
Never married	**37**	**32.6**	**27**	**22.7**	**22**	**17.6**
Married	**22**	**12.4**	**25**	**14.2**	**29**	**16.4**
Legally separated	**0**	**---**	**0**	**---**	**0**	**---**
Divorced	**5**	**---**	**8**	**---**	**11**	**---**
Widowed	**0**	**---**	**1**	**---**	**0**	**---**

[1]Rate per 100,000 Service members. Rates for strata with fewer than 20 suicides were not reported because of statistical instability.

Table 9. Rates of suicide among Service members in the Active Component, Army, CY 2015 - CY 2017, overall and by demographic characteristics						
	2015		2016		2017	
Group	Count	Rate[1]	Count	Rate[1]	Count	Rate[1]
Total	**120**	**24.4**	**130**	**27.4**	**114**	**24.3**
Sex						
Male	**113**	**26.8**	**120**	**29.6**	**108**	**27.0**
Female	**7**	**---**	**10**	**---**	**6**	**---**
Race						
American Indian/Alaska Native	**3**	**---**	**3**	**---**	**0**	**---**
Asian/Pacific Islander	**4**	**---**	**5**	**---**	**6**	**---**
Black/African American	**26**	**24.3**	**18**	**---**	**15**	**---**
White/Caucasian	**78**	**23.6**	**99**	**31.2**	**88**	**28.0**
Other/Unknown	**9**	**---**	**5**	**---**	**5**	**---**
Ethnicity						
Hispanic	**14**	**---**	**16**	**---**	**19**	**---**
Non-Hispanic	**105**	**24.9**	**114**	**28.1**	**95**	**23.9**
Unknown	**1**	**---**	**0**	**---**	**0**	**---**
Age						
17–19	**4**	**---**	**3**	**---**	**7**	**---**
20–24	**31**	**21.6**	**51**	**36.2**	**47**	**33.0**
25–29	**30**	**27.0**	**33**	**31.1**	**21**	**20.1**
30–34	**30**	**36.3**	**19**	**---**	**14**	**---**
35–39	**19**	**---**	**11**	**---**	**12**	**---**
40–44	**4**	**---**	**8**	**---**	**11**	**---**
45–49	**2**	**---**	**4**	**---**	**2**	**---**
50–54	**0**	**---**	**0**	**---**	**0**	**---**
55–59	**0**	**---**	**1**	**---**	**0**	**---**
Rank/Grade						
Cadet/Midshipman	**1**	**---**	**0**	**---**	**0**	**---**
E1–E4	**45**	**21.4**	**61**	**29.3**	**61**	**29.4**
E5–E9	**59**	**32.5**	**47**	**27.6**	**48**	**28.7**
Officer	**10**	**---**	**18**	**---**	**3**	**---**
Warrant Officer	**5**	**---**	**4**	**---**	**2**	**---**
Education						
Some high school	**1**	**---**	**0**	**---**	**1**	**---**
Alternative high school certification	**15**	**---**	**13**	**---**	**10**	**---**
High school graduate	**68**	**25.4**	**77**	**30.1**	**79**	**31.3**
Some college, no degree	**17**	**---**	**16**	**---**	**12**	**---**
Associate's degree or technical certification	**4**	**---**	**1**	**---**	**2**	**---**
Four-year college degree	**9**	**---**	**13**	**---**	**10**	**---**
Master's degree or greater	**4**	**---**	**10**	**---**	**0**	**---**
Unknown	**2**	**---**	**0**	**---**	**0**	**---**
Marital Status						
Never married	**39**	**21.8**	**48**	**26.8**	**42**	**22.8**
Married	**71**	**24.9**	**66**	**24.4**	**61**	**23.4**
Legally separated	**0**	**---**	**2**	**---**	**0**	**---**
Divorced	**9**	**---**	**14**	**---**	**10**	**---**
Widowed	**1**	**---**	**0**	**---**	**1**	**---**

[1]Rate per 100,000 Service members. Rates for strata with fewer than 20 suicides were not reported because of statistical instability.

Table 10. Rates of suicide among Service members in the Active Component, Marine Corps, CY 2015 - CY 2017, overall and by demographic characteristics

	2015		2016		2017	
Group	Count	Rate[1]	Count	Rate[1]	Count	Rate[1]
Total	**39**	**21.2**	**37**	**20.1**	**43**	**23.4**
Sex						
Male	**37**	**21.8**	**36**	**21.3**	**40**	**23.7**
Female	**2**	---	**1**	---	**3**	---
Race						
American Indian/Alaska Native	**1**	---	**3**	---	**0**	---
Asian/Pacific Islander	**1**	---	**2**	---	**3**	---
Black/African American	**3**	---	**4**	---	**3**	---
White/Caucasian	**34**	**23.3**	**26**	**17.8**	**35**	**23.9**
Other/Unknown	**0**	---	**2**	---	**2**	---
Ethnicity						
Hispanic	**5**	---	**1**	---	**6**	---
Non-Hispanic	**34**	**22.6**	**36**	**24.3**	**37**	**25.2**
Unknown	**0**	---	**0**	---	**0**	---
Age						
17–19	**5**	---	**4**	---	**5**	---
20–24	**22**	**25.5**	**23**	**26.3**	**20**	**22.7**
25–29	**5**	---	**4**	---	**12**	---
30–34	**2**	---	**1**	---	**3**	---
35–39	**4**	---	**2**	---	**0**	---
40–44	**1**	---	**1**	---	**2**	---
45–49	**0**	---	**1**	---	**1**	---
50–54	**0**	---	**0**	---	**0**	---
55–59	**0**	---	**0**	---	**0**	---
Unknown	**0**	---	**1**	---	**0**	---
Rank/Grade						
Cadet/Midshipman	**0**	---	**0**	---	**0**	---
E1–E4	**28**	**25.8**	**23**	**21.2**	**27**	**24.9**
E5–E9	**9**	---	**13**	---	**14**	---
Officer	**2**	---	**1**	---	**2**	---
Warrant Officer	**0**	---	**0**	---	**0**	---
Education						
Some high school	**0**	---	**0**	---	**0**	---
Alternative high school certification	**0**	---	**3**	---	**0**	---
High school graduate	**36**	**23.8**	**32**	**21.2**	**41**	**27.1**
Some college, no degree	**0**	---	**1**	---	**0**	---
Associate's degree or technical certification	**1**	---	**0**	---	**1**	---
Four-year college degree	**2**	---	**1**	---	**1**	---
Master's degree or greater	**0**	---	**0**	---	**0**	---
Unknown	**0**	---	**0**	---	**0**	---
Marital Status						
Never married	**19**	---	**19**	---	**26**	**25.8**
Married	**17**	---	**18**	---	**15**	---
Legally separated	**0**	---	**0**	---	**0**	---
Divorced	**3**	---	**0**	---	**2**	---
Widowed	**0**	---	**0**	---	**0**	---

[1]Rate per 100,000 Service members. Rates for strata with fewer than 20 suicides were not reported because of statistical instability.

Table 11. Rates of suicide among Service members in the Active Component, Navy, CY 2015 - CY 2017, overall and by demographic characteristics

	2015		2016		2017	
Group	Count	Rate[1]	Count	Rate[1]	Count	Rate[1]
Total	**43**	**13.1**	**52**	**15.9**	**65**	**20.1**
Sex						
Male	**40**	**14.9**	**48**	**18.0**	**60**	**22.9**
Female	**3**	---	**4**	---	**5**	---
Race						
American Indian/Alaska Native	**0**	---	**0**	---	**2**	---
Asian/Pacific Islander	**2**	---	**2**	---	**2**	---
Black/African American	**8**	---	**5**	---	**3**	---
White/Caucasian	**26**	**13.1**	**38**	**19.1**	**48**	**24.2**
Other/Unknown	**7**	---	**7**	---	**10**	---
Ethnicity						
Hispanic	**8**	---	**7**	---	**10**	---
Non-Hispanic	**32**	**12.7**	**40**	**16.4**	**48**	**20.6**
Unknown	**3**	---	**5**	---	**7**	---
Age						
17–19	**3**	---	**3**	---	**3**	---
20–24	**16**	---	**25**	**24.4**	**19**	---
25–29	**11**	---	**13**	---	**17**	---
30–34	**3**	---	**6**	---	**14**	---
35–39	**4**	---	**4**	---	**5**	---
40–44	**5**	---	**0**	---	**6**	---
45–49	**0**	---	**0**	---	**1**	---
50–54	**1**	---	**1**	---	**0**	---
55–59	**0**	---	**0**	---	**0**	---
Rank/Grade						
Cadet/Midshipman	**0**	---	**0**	---	**0**	---
E1–E4	**24**	**18.6**	**31**	**24.4**	**25**	**20.3**
E5–E9	**17**	---	**19**	---	**36**	**25.4**
Officer	**2**	---	**2**	---	**4**	---
Warrant Officer	**0**	---	**0**	---	**0**	---
Education						
Some high school	**0**	---	**0**	---	**0**	---
Alternative high school certification	**3**	---	**4**	---	**2**	---
High school graduate	**32**	**14.7**	**40**	**18.6**	**51**	**24.2**
Some college, no degree	**2**	---	**1**	---	**3**	---
Associate's degree or technical certification	**0**	---	**1**	---	**0**	---
Four-year college degree	**4**	---	**5**	---	**6**	---
Master's degree or greater	**1**	---	**0**	---	**3**	---
Unknown	**1**	---	**1**	---	**0**	---
Marital Status						
Never married	**21**	**13.1**	**26**	**16.3**	**25**	**17.2**
Married	**22**	**13.2**	**26**	**15.6**	**35**	**21.1**
Legally separated	**0**	---	**0**	---	**0**	---
Divorced	**0**	---	**0**	---	**5**	---
Widowed	**0**	---	**0**	---	**0**	---

[1]Rate per 100,000 Service members. Rates for strata with fewer than 20 suicides were not reported because of statistical instability.

Chapter 3: Joint Results Summary–All Military Services

Summary

The characteristics associated with cases of suicide and suicide attempt for CY 2017, across the Active Component, were largely consistent with DoDSER findings from CY 2014 – CY 2016.

Introduction

This chapter presents a joint, aggregated overview of the combined Air Force, Army, Marine Corps, and Navy data. An examination of each of these Military Services, individually, follows in Chapters 4 – 7. The DoDSER system collects data on demographic, contextual, behavioral health, historical, and risk-related factors for all deaths that the AFMES determined to be attributable to suicide as well as all medically identified suicide attempts. Data for cases involving both Active Component Service members and SELRES Service members who were in a duty status at the time of the event are presented in this chapter.

Variables of particular interest are presented in the following text; however, the reader is encouraged to review the DoDSER data tables that follow each chapter's text for the full data, presented separately by suicide and suicide attempt event types.

This chapter presents case counts and proportions of the total number of cases observed; it does not present suicide rates, which are covered in Chapter 2 of this report.

Occurrence of Suicide Mortality

As of March 31, 2018, the AFMES had identified 317 confirmed or pending cases of suicide among active-duty Service members that occurred during CY 2017. A total of 284 of these deaths occurred among members of the Active Component. The remaining 33 deaths occurred among SELRES Service members who were in a duty status at the time of their death. A DoDSER form was submitted for 309 (97.48%) of these deaths. The remaining deaths were identified or confirmed after the suspense date for data analysis. The data on the 309 submitted forms were used to populate the tables included in this chapter.

Occurrence of Non-Fatal Suicide Attempts

Over the course of CY 2017, 1,397 non-fatal suicide attempts were identified. The associated DoDSER forms provided data on suicide attempts for 1,342 unique individuals since more than one attempt per individual could have occurred.

Note that only attempt events that are reported to the DoDSER system are able to be counted. It is likely that the true number of attempt events is higher.

Occurrence of Multiple Instances of Suicidal Behavior

A total of six deaths were associated with one or more previously reported suicide attempt(s) that occurred between CY 2010 (CY 2008 for Army) and CY 2017. The median number of days between the most recent suicide attempt and the date of death was 157.

Dating back to 2010, a total of 80 suicide-attempt DoDSER forms had one or more previous suicide attempt(s) recorded in the DoDSER system. The median number of days between the most recent suicide attempt and the penultimate attempt was 63 days.

Demographic Characteristics

The characteristics most commonly associated with suicide among Service members closely resembled the makeup of the Military Services overall. The most common demographics included:

- Non-Hispanic ethnicity
- White racial identity
- Male biological sex
- Age between 20 and 24 years
- Rank/grade of E1-E4
- No more than a high school education

In combination, this profile represented 18.72 percent of all CY 2017 suicide DoDSER forms.

The proportion of male (293 deaths, 976 attempts) and female (16 deaths, 421 attempts) Service members identified in each event type produced a demographic distinction between cases of suicide and cases of suicide attempt. Females accounted for 5.2 percent of suicide DoDSER forms and 30.1 percent of suicide-attempt DoDSER forms. For context, 16.2 percent of the total force is female and 83.4 percent is male. Demographic and military service characteristics for all suicide and suicide-attempt DoDSER forms are detailed in Tables 12 and 13.

Method of Injury

Firearms were the most common (65.4%) method of injury resulting in death due to suicide.

The majority (89.6%) of the firearms used were personal possessions. Relatively few firearm deaths (9.9%) result from the self-directed use of a military-issued weapon.

Figure 15 identifies the two most common methods of injury and the proportion of deaths that are due to those methods. These findings are consistent with the data from CY 2014 – CY 2016.

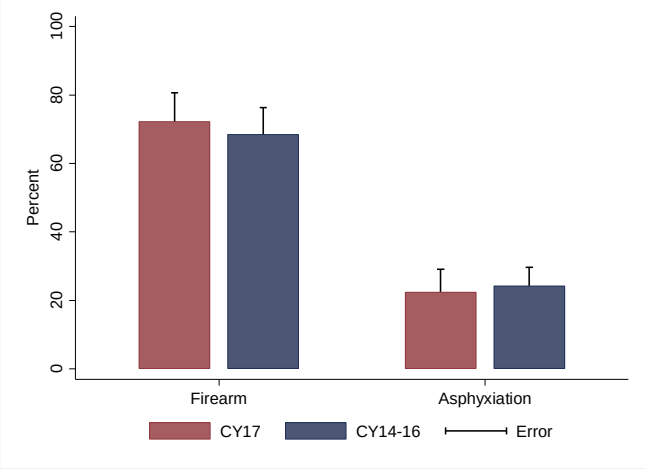

Figure 15. Percent of suicide DoDSER forms, by injury mechanism, CY 2014 - CY 2017

Regarding suicide attempts, drug and/or alcohol overdose remains the most frequently reported mechanism of injury among Suicide-attempt DoDSER forms (55.5%; Figure 16). In addition, other frequently reported mechanisms of injury included trauma from a fall or sharp/blunt object (20.3%) and hanging/asphyxiation (14.8%). The prevalence of trauma as the method of suicide attempt was statistically higher for CY 2017, compared to the data from CY 2014 – CY 2016. Additional data about events are provided in Table 14.

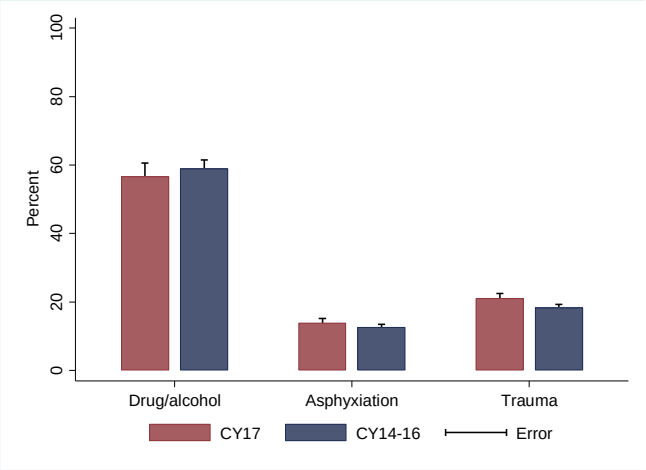

Figure 16. Percent of suicide-attempt DoDSER forms, by injury mechanism, CY 2014 - CY 2017

Behavioral Health History

Of those individuals who died by suicide in CY 2017, 48.5 percent had met criteria for at least one current or past behavioral health diagnosis. Adjustment disorders (25.2%), substance use (21.7%), and mood disorders (19.4%) were the most common diagnoses. Among suicide-attempt DoDSER forms, 58.6 percent had at least one current or past behavioral health diagnosis present in their medical record. Mood disorders (29.6%), adjustment disorders (24.6%), and anxiety disorders (23.7%) were the most common diagnoses.

Table 15 provides data on behavioral health variables related to both common diagnoses and treatment utilization. Figure 17 displays the prevalence of various diagnoses, previous self-harm, and the use of psychotropic medication in the 90 days prior to a death by suicide. These variables for CY 2017 were consistent with the data from the previous three calendar years.

Figure 18 displays the prevalence of the same factors among suicide-attempt DoDSER forms. There was a significant decrease in the prevalence of mood and substance-use disorders and psychotropic medication in CY 2017 compared to the three-year averages for CY 2014 – CY 2016.

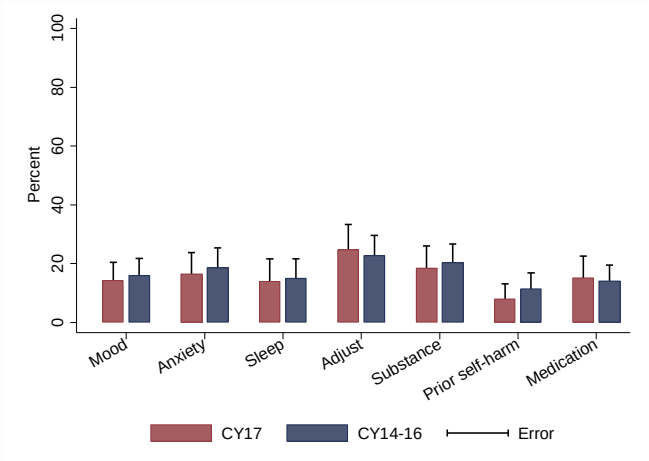

Figure 17. Percent of suicide DoDSER forms, by behavioral health factor, CY 2014 - CY 2017

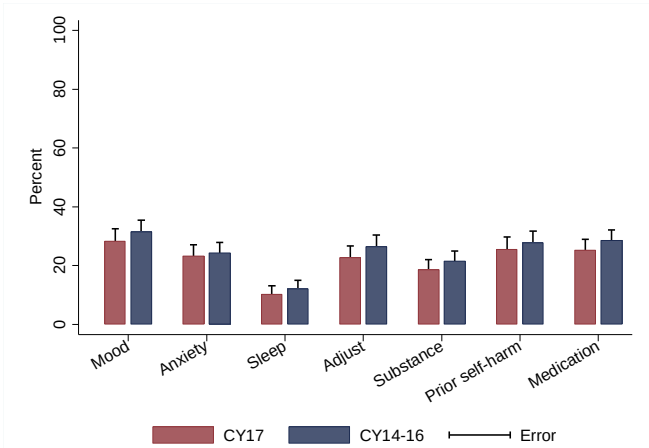

Figure 18. Percent of suicide-attempt DoDSER forms, by behavioral health factor, CY 2014 - CY 2017

Health Care Utilization

Regardless of whether or not an individual voluntarily disclosed—or was assessed for—suicidal thoughts, feelings, and behavior, 51.5 percent of the Service members who died by suicide in CY 2017 had been in contact with the MHS in the 90 days prior to their death (Table 15). In total, 29.4 percent of cases had received either inpatient (4.8%) or outpatient (29.4%) behavioral health services. Substance abuse services and family assistance programs were utilized less at 8.1 and 2.9 percent, respectively.

A similar pattern was observed for suicide-attempt DoDSER forms. In total, 59.3 percent of the forms indicated contact with the MHS in the 90 days prior to the behavior. This included both general visits (50.0%) and behavioral-health visits (45.7%). Of the latter, 14.2 percent of visits were for inpatient behavioral health and 43.8 percent were for outpatient behavioral health services. Additionally, 9.9 percent of forms indicated participation in substance-abuse services and 4.1 percent identified participation with family assistance programs.

Sentinel Events

The Military Health System tracks "sentinel events" in accordance with The Joint Commission's accreditation requirements[2] and the National Quality Forum's serious reportable event definitions[3]. The Joint Commission defines “sentinel events” as a patient safety event that reaches an individual and results in death, permanent harm, or severe temporary harm, and is not primarily related to the natural course of the patient's illness or underlying condition. The Joint Commission definition includes any suicide or suicide attempt by any patient receiving care, treatment, or services in a staffed, around-the-clock care setting or within 72 hours of discharge, including from a hospital's Emergency Department. The National Quality Forum’s Serious

Reportable Event definition includes any patient suicide, attempted suicide, or self-harm that results in serious injury while being cared for in a healthcare setting. Across the Military Services, four cases of suicide (1 Air Force, 2 Army, 0 Marine Corps, 1 Navy) and 71 suicide-attempt DoDSER forms (22 Air force, 26 Army, 19 Marine Corps, 4 Navy) met this definition of a sentinel event over the course of CY 2017. Therefore, about 1.2 percent of those who died by suicide had a recent (past 72 hours) hospital discharge, as did 5 percent of those who engaged in a suicide attempt. Overall, 4.3 percent of all suicide and suicide-attempt records for 2017 represent sentinel events.

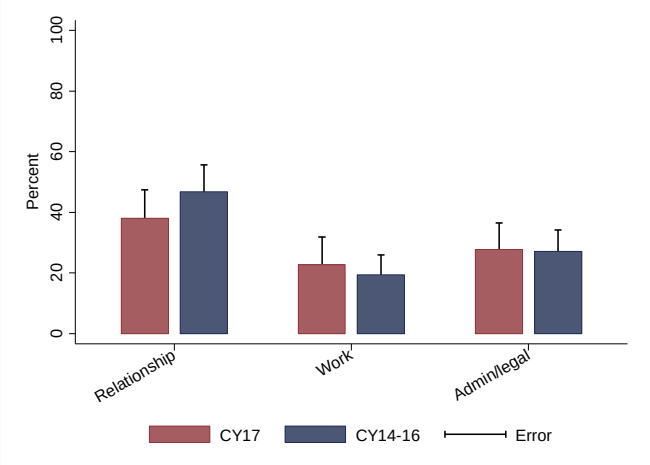

Figure 19. Percent of suicide DoDSER forms, by social stressor in the 90 days prior to the event, CY 2014 - CY 2017

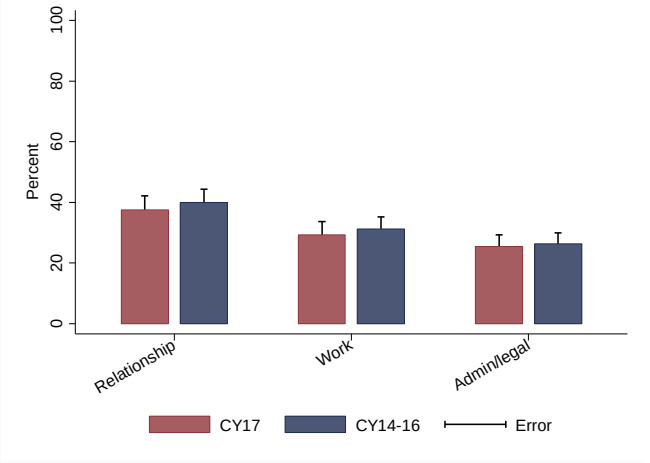

Figure 20. Percent of suicide-attempt DoDSER forms, by social stressor in the 90 days prior to the event, CY 2014 - CY 2017

Stressors

Figures 19 and 20 display the prevalence of the most common stressors queried in the DoDSER system from CY 2017 compared to the three-year average from CY 2014 – CY 2016. Table 16 also provides data for stressors pertaining to relationships, family issues, legal or administrative problems, work and financial difficulties, and abuse victimization or perpetration. The prevalence of these factors was consistent over time for both suicide and suicide-attempt forms with the exception of a decrease in the prevalence of relationship stressors among suicide DoDSER forms.

Sexual Abuse, Assault, and Harassment

To better assess and understand any potential association between sexual assault/ harassment and the occurrence of suicide and suicide attempts, cases with records in the DoDSER system were matched against unrestricted sexual assault report records maintained by SAPRO.[1]

Overall, there were 49 unrestricted reports of sexual assault that matched identifying information with cases of suicide and suicide attempt received by the DoDSER system during CY 2017. There were 46 suicide-attempt case matches and three matches of deaths by suicide. Therefore, about three percent of the 1,706 DoDSER forms in 2017 were matched to unrestricted reports of sexual assault received by SAPRO.

While 49 suicide-event DoDSER forms matched a SAPRO record, 44 of these represent unique individuals. That is, five of the matched suicide-event records were for individuals who attempted suicide more than once, thus leading to multiple records per individual.

Table 16 provides the number of sexual assaults recorded directly by the DoDSER system. Sexual abuse and assault data in Table 16 are based on information recorded in MHS' healthcare databases. This data may or may not match data from official reports of sexual assault, such as those captured in the Defense Sexual Assault Incident Database.

References and Notes

1. A detailed report of the methodology employed to match cases between the DoDSER and SAPRO databases may be provided upon request.
2. Joint Commission on Accreditation of Healthcare Organizations. (2013). *Comprehensive accreditation manual: CAMH for hospitals: The official handbook*. Joint Commission on Accreditation of Healthcare Organizations.
3. Information on the National Quality Forum's Serious Reportable Events can be found at http://www.qualityforum.org/Topics/SREs/List_of_SREs.aspx.

Table 12. Demographic characteristics[1] of suicide and suicide-attempt DoDSER forms submitted for CY 2017, all Military Services

	Suicide (n = 309)		Suicide Attempt (n = 1,397)	
	No.	%	No.	%
Sex				
Male	**293**	**94.8**	**976**	**69.9**
Female	**16**	**5.2**	**421**	**30.1**
Age				
17–19	**15**	**4.9**	**140**	**10.0**
20–24	**107**	**34.6**	**754**	**54.0**
25–29	**80**	**25.9**	**276**	**19.8**
30–34	**43**	**13.9**	**115**	**8.2**
35–39	**27**	**8.7**	**60**	**4.3**
40–44	**27**	**8.7**	**33**	**2.4**
45–59	**10**	**3.2**	**18**	**1.3**
Unknown	**0**	**0.0**	**1**	**0.1**
Race				
American Indian/Alaska Native	**2**	**0.6**	**27**	**1.9**
Asian/Pacific Islander	**17**	**5.5**	**71**	**5.1**
Black/African American	**36**	**11.7**	**308**	**22.0**
White/Caucasian	**251**	**81.2**	**978**	**70.0**
Other/Unknown	**3**	**1.0**	**13**	**0.9**
Ethnicity				
Hispanic	**43**	**13.9**	**254**	**18.2**
Not Hispanic	**266**	**86.1**	**1,139**	**81.5**
Unknown	**0**	**0.0**	**4**	**0.3**
Education				
Less than high school	**1**	**0.3**	**4**	**0.3**
Alternative high school	**13**	**4.2**	**58**	**4.2**
High school graduate	**213**	**68.9**	**1,152**	**82.5**
Associate's or technical degree	**43**	**13.9**	**91**	**6.5**
Four-year degree	**28**	**9.1**	**63**	**4.5**
Postgraduate	**10**	**3.2**	**28**	**2.0**
Unknown	**1**	**0.3**	**1**	**0.1**
Marital Status				
Never married	**122**	**39.5**	**771**	**55.2**
Married	**154**	**49.8**	**527**	**37.7**
Legally separated	**1**	**0.3**	**2**	**0.1**
Divorced	**31**	**10.0**	**93**	**6.7**
Widowed	**1**	**0.3**	**2**	**0.1**
Other/Unknown	**0**	**0.0**	**2**	**0.1**

[1]Data on demographic characteristics primarily provided by DMDC.

Table 13. Military characteristics[1] of suicide and suicide-attempt DoDSER forms, CY 2017, all Military Services				
	Suicide (n = 309)		Suicide Attempt (n = 1,397)	
	No.	%	No.	%
Component				
Active	**277**	**89.6**	**1,299**	**93.0**
Reserve	**13**	**4.2**	**57**	**4.1**
Guard	**19**	**6.1**	**41**	**2.9**
Rank/Grade				
Cadet/Midshipman	**1**	**0.3**	**4**	**0.3**
E1–E4	**141**	**45.6**	**1,024**	**73.3**
E5–E9	**143**	**46.3**	**319**	**22.8**
Warrant Officer	**3**	**1.0**	**5**	**0.4**
Officer	**21**	**6.8**	**41**	**2.9**
Unknown	**0**	**0.0**	**4**	**0.3**
Enlisted Occupational Group				
Infantry, gun crews, and seamanship specialists	**53**	**17.2**	**198**	**14.2**
Electronic equipment repairers	**36**	**11.7**	**87**	**6.2**
Communications and intelligence specialists	**35**	**11.3**	**136**	**9.7**
Healthcare specialists	**20**	**6.5**	**132**	**9.4**
Other technical and allied specialists	**12**	**3.9**	**39**	**2.8**
Functional support and administration	**35**	**11.3**	**219**	**15.7**
Electrical/mechanical equipment repairers	**54**	**17.5**	**224**	**16.0**
Craftsworkers	**8**	**2.6**	**43**	**3.1**
Service and supply handlers	**28**	**9.1**	**184**	**13.2**
Non-occupational	**4**	**1.3**	**88**	**6.3**
Unknown	**0**	**0.0**	**1**	**0.1**
Officer Occupational Group				
General officers and executives	**0**	**0.0**	**0**	**0.0**
Tactical operations officers	**11**	**3.6**	**16**	**1.1**
Intelligence officers	**0**	**0.0**	**4**	**0.3**
Engineering and maintenance officers	**4**	**1.3**	**6**	**0.4**
Scientists and professionals	**1**	**0.3**	**3**	**0.2**
Health care officers	**2**	**0.6**	**10**	**0.7**
Administrators	**2**	**0.6**	**3**	**0.2**
Supply, procurement, and allied officers	**2**	**0.6**	**3**	**0.2**
Non-occupational	**2**	**0.6**	**1**	**0.1**
Unknown	**0**	**0.0**	**0**	**0.0**
History of Deployment				
Yes	**178**	**57.6**	**442**	**31.6**
Number of deployments				
1	90	29.1	255	18.3
2	46	14.9	116	8.3
3 or more	42	13.6	71	5.1
Specific deployment locations[2]				
Afghanistan	76	24.6	171	12.2
Iraq	61	19.7	130	9.3
Kuwait	65	21.0	163	11.7
No	**129**	**41.7**	**950**	**68.0**
Unknown	**2**	**0.6**	**5**	**0.4**

[1]Data on military characteristics primarily provided by DMDC.
[2]Subcategories are not mutually exclusive.

Table 14. Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, all Military Services

	Suicide (n = 309)		Suicide Attempt (n = 1,397)	
	No.	%	No.	%
Event Location Country				
United States	**282**	**91.3**	**1,190**	**85.2**
Iraq	**3**	**1.0**	**1**	**0.1**
Afghanistan	**0**	**0.0**	**3**	**0.2**
Kuwait	**1**	**0.3**	**12**	**0.9**
Korea	**2**	**0.6**	**30**	**2.1**
Other Europe	**3**	**1.0**	**11**	**0.8**
North America	**1**	**0.3**	**3**	**0.2**
Central or South America	**0**	**0.0**	**1**	**0.1**
Japan	**10**	**3.2**	**67**	**4.8**
Germany	**4**	**1.3**	**32**	**2.3**
United Kingdom	**0**	**0.0**	**7**	**0.5**
Other	**2**	**0.6**	**14**	**1.0**
Unknown	**1**	**0.3**	**26**	**1.9**
Event Setting				
Own residence	**141**	**45.6**	**540**	**38.7**
Barracks	**48**	**15.5**	**601**	**43.0**
Residence of friend or family	**27**	**8.7**	**54**	**3.9**
Work/jobsite	**20**	**6.5**	**35**	**2.5**
Automobile	**30**	**9.7**	**66**	**4.7**
Inpatient medical facility	**2**	**0.6**	**8**	**0.6**
Hotel	**6**	**1.9**	**16**	**1.1**
Other	**34**	**11.0**	**67**	**4.8**
Unknown	**1**	**0.3**	**10**	**0.7**
Event Method[1]				
Drugs/alcohol	**8**	**2.6**	**775**	**55.5**
Hanging/asphyxiation	**81**	**26.9**	**207**	**14.8**
Poisoning	**11**	**3.6**	**48**	**3.4**
Firearm	**202**	**65.4**	**56**	**4.0**
Military firearm	20	6.5	5	0.4
Non-military firearm	181	58.6	50	3.6
Firearm of unknown origin	1	0.3	1	0.1
Trauma, sharp or blunt force	**7**	**1.6**	**283**	**20.3**
Other	**0**	**0.0**	**21**	**1.5**
Pending/unknown	**0**	**0.0**	**7**	**0.5**
Used Alcohol During Event				
Yes	**71**	**23.0**	**463**	**33.1**
No	**130**	**42.1**	**890**	**63.7**
Unknown	**108**	**35.0**	**44**	**3.1**

Table 14 (cont). Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, all Military Services

	Suicide (n = 309)		Suicide Attempt (n = 1,397)	
	No.	%	No.	%
Used Drugs During Event				
Yes[2]	**19**	**6.1**	**697**	**49.9**
Illegal drugs				
Used, overdose	0	0.0	44	3.1
Used, no overdose	5	1.6	33	2.4
Prescription drugs				
Used, overdose	6	1.9	379	27.1
Used, no overdose	5	1.6	69	4.9
Non-prescription drugs				
Used, overdose	4	1.3	259	18.5
Used, no overdose	7	2.3	55	3.9
No	**170**	**55.0**	**675**	**48.3**
Unknown	**120**	**38.8**	**25**	**1.8**
Death-Risk Gambling				
Yes	**9**	**2.9**	**74**	**5.3**
No	**277**	**89.6**	**1,294**	**92.6**
Unknown	**23**	**7.4**	**29**	**2.1**
Planned/Premeditated				
Yes	**132**	**42.7**	**378**	**27.1**
No	**117**	**37.9**	**951**	**68.1**
Unknown	**60**	**19.4**	**68**	**4.9**
Observable				
Yes	**68**	**22.0**	**608**	**43.5**
No	**230**	**74.4**	**751**	**53.8**
Unknown	**11**	**3.6**	**38**	**2.7**
Suicide Note Left				
Yes	**72**	**23.3**	**175**	**12.5**
No	**202**	**65.4**	**1,191**	**85.3**
Unknown	**35**	**11.3**	**31**	**2.2**
Communicated Potential for Self-Harm (Other Than Suicide Note)				
Yes	**102**	**33.0**	**332**	**23.8**
How communicated[2]				
Written	4	1.3	21	1.5
Verbal	58	18.8	195	14.0
Electronic	46	14.9	142	10.2
Other	3	1.0	5	0.4
To whom communicated[2]				
Supervisor	16	5.2	41	2.9
Chaplain	3	1.0	6	0.4
Mental health staff	19	6.1	68	4.9
Friend	23	7.4	131	9.4
Spouse	45	14.6	127	9.1
Family	8	2.6	38	2.7
Other	11	3.6	18	1.3
No	**206**	**66.7**	**1,058**	**75.7**
Unknown	**1**	**0.3**	**7**	**0.5**

Table 14 (cont). Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, all Military Services

	Suicide (n = 309)		Suicide Attempt (n = 1,397)	
	No.	%	No.	%
Residence at Time of Event				
Barracks	**70**	**22.7**	**658**	**47.1**
Bachelor Enlisted/Officer Quarters	**19**	**6.1**	**36**	**2.6**
On-base family housing	**35**	**11.3**	**117**	**8.4**
Off-base	**170**	**55.0**	**513**	**36.7**
Ship	**2**	**0.6**	**19**	**1.4**
Other	**12**	**3.9**	**42**	**3.0**
Unknown	**1**	**0.3**	**12**	**0.9**
Reside Alone at Time of Event				
Yes	**101**	**32.7**	**484**	**34.6**
No	**191**	**61.8**	**888**	**63.6**
Unknown	**17**	**5.5**	**25**	**1.8**
Gun in Home/Immediate Environment				
Yes	**191**	**61.8**	**119**	**8.5**
No	**89**	**28.8**	**1,219**	**87.3**
Unknown	**29**	**9.4**	**59**	**4.2**
Duty Environment[2]				
Garrison/permanent duty station	**215**	**69.6**	**1,115**	**79.8**
Leave	**31**	**10.0**	**29**	**2.1**
Temporary duty	**14**	**4.5**	**14**	**1.0**
Training	**17**	**5.5**	**112**	**8.0**
Other/unknown	**53**	**17.2**	**113**	**8.1**
Deployed at Time of Event				
Yes	**8**	**2.6**	**54**	**3.9**
Location				
Afghanistan	0	0.0	8	0.6
Kuwait	2	0.6	16	1.1
Other	6	1.9	30	2.1
No	**301**	**97.4**	**1,343**	**96.1**

[1]Data on the cause of the death were provided by AFMES.
[2]Subcategories are not mutually exclusive.

Table 15. Medical and behavioral characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, all Military Services

	Suicide (n = 309)		Suicide Attempt (n = 1,397)	
	No.	%	No.	%
Any Mental Health Diagnosis				
Yes[1]	**150**	**48.5**	**819**	**58.6**
Mood disorder	60	19.4	414	29.6
Anxiety disorder[2]	56	18.1	331	23.7
Personality disorder	5	1.6	81	5.8
Psychotic disorder	0	0.0	15	1.1
Adjustment disorder	78	25.2	344	24.6
Substance abuse disorder	67	21.7	301	21.5
No	**157**	**50.8**	**574**	**41.1**
Unknown	**2**	**0.6**	**4**	**0.3**
Sleep Disorder				
Yes	**39**	**12.6**	**135**	**9.7**
No	**268**	**86.7**	**1,255**	**89.8**
Unknown	**2**	**0.6**	**7**	**0.5**
History of Traumatic Brain Injury				
Yes	**21**	**6.8**	**51**	**3.7**
No	**286**	**92.6**	**1338**	**95.8**
Unknown	**2**	**0.6**	**8**	**0.6**
Family History of Mental Illness				
Yes	**41**	**13.3**	**458**	**32.8**
No	**266**	**86.1**	**930**	**66.6**
Unknown	**2**	**0.6**	**9**	**0.6**
Previous Self-Injury				
Yes	**28**	**9.1**	**383**	**27.4**
Number of previous self-injuries				
One	12	3.9	157	11.2
More than one	15	4.9	222	15.9
Unknown	1	0.3	4	0.3
Current event similar to previous	8	2.6	190	13.6
No	**279**	**90.3**	**927**	**66.4**
Unknown	**2**	**0.6**	**8**	**0.6**
Psychotropic Medications, Previous 90 Days				
Yes[1]	**51**	**16.5**	**426**	**30.5**
Antidepressant	37	12.0	369	26.4
Antianxiety	20	6.5	178	12.7
Antimanic	0	0.0	9	0.6
Anticonvulsant	3	1.0	26	1.9
Antipsychotic	1	0.3	33	2.4
Sleep medication	20	6.5	202	14.5
No	**255**	**82.5**	**963**	**68.9**
Unknown	**3**	**1.0**	**8**	**0.6**

Table 15 (cont). Medical and behavioral characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, all Military Services

	Suicide (n = 309)		Suicide Attempt (n = 1,397)	
	No.	%	No.	%
Pain Medication at Time of Event				
Yes	**35**	**11.3**	**203**	**14.5**
Opioid medication	9	2.9	42	3.0
No	**272**	**88.0**	**1,188**	**85.0**
Unknown	**2**	**0.6**	**6**	**0.4**
Health/Social Services, Previous 90 Days				
Yes[1]	**159**	**51.5**	**828**	**59.3**
Medical treatment facility	139	45.0	698	50.0
Substance Abuse Services	25	8.1	138	9.9
Family Assistance Program	9	2.9	57	4.1
Outpatient mental health	91	29.4	612	43.8
Inpatient mental health	15	4.9	199	14.2
No	**148**	**47.9**	**565**	**40.4**
Unknown	**2**	**0.6**	**4**	**0.3**

[1]Subcategories are not mutually exclusive.
[2]Data collection form used for this CY used DSM-IV taxonomy for behavioral health diagnoses; thus, posttraumatic stress disorder is subsumed under the "Anxiety disorder" category.

Table 16. Psychosocial determinants described in suicide and suicide-attempt DoDSER forms submitted for CY 2017, all Military Services

	Suicide (n = 309)		Suicide Attempt (n = 1,397)	
	No.	%	No.	%
Failed or Failing Relationship, Previous 90 Days				
Yes[1]	**114**	**36.9**	**551**	**39.4**
Intimate relationship	99	32.0	494	35.4
Other relationship	26	8.4	131	9.4
No	**193**	**62.5**	**842**	**60.3**
Unknown	**2**	**0.6**	**4**	**0.3**
Family/Friend Stressors, Previous 90 Days				
Yes[1]	**18**	**5.8**	**121**	**8.7**
Death of spouse or other family member (not suicide)	7	2.3	49	3.5
Death of friend (not suicide)	2	0.6	22	1.6
Serious illness of friend or family member	9	2.9	62	4.4
No	**289**	**93.5**	**1,272**	**91.1**
Unknown	**2**	**0.6**	**4**	**0.3**
History of Family/Friend Death by Suicide				
Yes[1]	**31**	**10.0**	**197**	**14.1**
Spouse	1	0.3	10	0.7
Family other than spouse	15	4.9	83	5.9
Friend	15	4.9	130	9.3
No	**276**	**89.3**	**1,196**	**85.6**
Unknown	**2**	**0.6**	**4**	**0.3**
Administrative/Legal Problems, Previous 90 Days				
Yes[1]	**92**	**29.8**	**423**	**30.3**
Courts martial proceedings	6	1.9	23	1.6
Article 15/non-judicial punishment	15	4.9	117	8.4
Administrative separation proceedings	15	4.9	126	9.0
Away without leave/deserter status	10	3.2	28	2.0
Medical evaluation board proceedings	18	5.8	119	8.5
Civil legal proceedings	27	8.7	58	4.2
Non-selection for promotion	13	4.2	30	2.1
Under investigation	33	10.7	122	8.7
No	**215**	**69.6**	**970**	**69.4**
Unknown	**2**	**0.6**	**4**	**0.3**
Excessive Debt/Bankruptcy, Previous 90 Days				
Yes	**23**	**7.4**	**74**	**5.3**
No	**283**	**91.6**	**1,317**	**94.3**
Unknown	**3**	**1.0**	**6**	**0.4**
Workplace Issues, Previous 90 Days				
Yes[1]	**67**	**21.7**	**447**	**32.0**
Job problems	52	16.8	323	23.1
Supervisor/coworker issues	25	8.1	252	18.0
Poor performance review	21	6.8	119	8.5
Unit/workplace hazing	0	0.0	36	2.6
No	**240**	**77.7**	**946**	**67.7**
Unknown	**2**	**0.6**	**4**	**0.3**

Table 16 (cont). Psychosocial determinants described in suicide and suicide-attempt DoDSER forms submitted for CY 2017, all Military Services

	Suicide (n = 309)		Suicide Attempt (n = 1,397)	
	No.	%	No.	%
Abuse, Assault, or Harassment Victimization, Previous Year				
Yes[1]	**11**	**3.6**	**168**	**12.0**
Physical abuse or assault	3	1.0	62	4.4
Sexual abuse or assault	2	0.6	64	4.6
Emotional abuse	7	2.3	93	6.7
Sexual harassment	0	0.0	33	2.4
No	**296**	**95.8**	**1,225**	**87.7**
Unknown	**2**	**0.6**	**4**	**0.3**
Abuse, Assault, or Harassment Perpetration, Previous Year				
Yes[1]	**30**	**9.7**	**66**	**4.7**
Physical abuse or assault	15	4.9	35	2.5
Sexual abuse or assault	12	3.9	25	1.8
Emotional abuse	12	3.9	19	1.4
Sexual harassment	3	1.0	7	0.5
No	**277**	**89.6**	**1,327**	**95.0**
Unknown	**2**	**0.6**	**4**	**0.3**

[1]Subcategories are not mutually exclusive.

Chapter 4: Results Summary - U.S. Air Force

Summary

The characteristics of cases of suicide and suicide attempt for CY 2017, across the U.S. Air Force, were consistent with Air Force DoDSER findings from CY 2014 - CY 2016.

Introduction

This chapter presents an overview of the U.S. Air Force suicide and suicide-attempt data. The DoDSER system collects data on demographic, contextual, behavioral health, historical, and risk-related factors for all instances of suicide and all medically identified suicide attempts. Data for cases involving both Active Component Airmen and SELRES Airmen who were in a duty status at the time of the event are presented in this chapter.

Variables of particular interest are presented in the following text; however, the reader is encouraged to review the DoDSER data tables that follow this chapter's text for the full Air Force data, presented separately by suicide and suicide attempt event types.

This chapter presents case counts and proportions of the total number of cases observed; it does not present suicide rates, which are covered in Chapter 2 of this report.

Occurrence of Suicide Mortality

As of March 31, 2018, the AFMES had identified 67 confirmed or pending cases of suicide among active-duty Airmen that occurred during CY 2017. A total of 62 of these deaths occurred among members of the Active Component. The remaining five deaths occurred among SELRES Airmen who were in a duty status at the time of their death. A DoDSER form was submitted for 63 (94.03%) of these deaths. The remaining deaths were identified or confirmed after the suspense date for data analysis. The data on the 63 submitted forms were used to populate the tables included in this chapter.

Occurrence of Attempted Suicide

Over the course of CY 2017, 420 non-fatal suicide attempts were identified. The associated DoDSER forms provided data on suicide attempts for 398 unique individuals since more than one attempt per individual could have occurred.

Note that only attempt events that are reported to the DoDSER system are able to be counted. It is likely that the true number of attempt events is higher.

Occurrence of Multiple Instances of Suicidal Behavior

Four deaths were associated with one or more previously reported suicide attempt(s) occurring between CY 2010 and CY 2017. The median number of days between the most recent suicide attempt and the date of death was 168.

Dating back to 2010, 35 suicide-attempt DoDSER forms had one or more previous suicide attempt(s) recorded in the DoDSER system. The median number of days between the most recent suicide attempt and the penultimate attempt was 59 days.

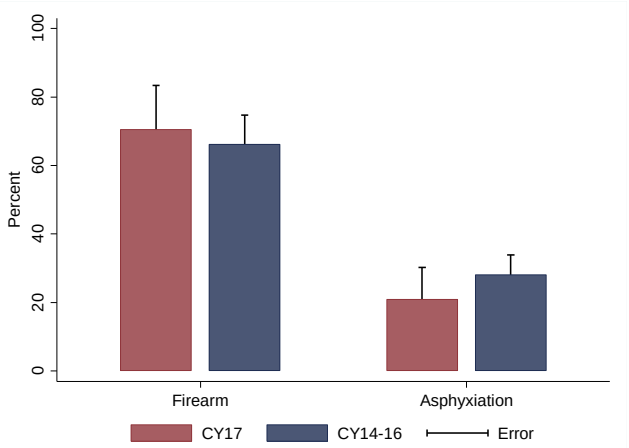

Figure 21. Percent of suicide DoDSER forms, by injury mechanism, Air Force, CY 2014 - CY 2017

Demographic Characteristics

The characteristics most commonly associated with suicide among Airmen closely resembled the makeup of the Air Force overall. The most common demographics included:

- Non-Hispanic ethnicity
- White racial identity
- Male biological sex
- Age between 20 and 30 years
- Rank/grade of E1-E4
- No more than a high school education

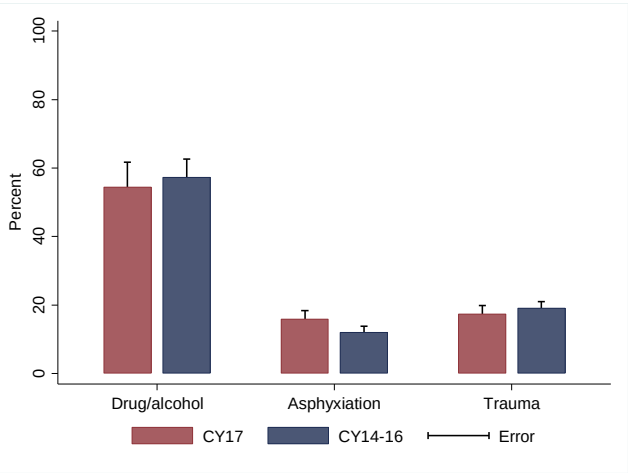

Figure 22. Percent of suicide-attempt DoDSER forms, by injury mechanism, Air Force, CY 2014 - CY 2017

The proportion of male (61 suicides, 269 suicide attempts) and female (2 suicides, 151 suicide attempts) Airmen identified in each event type produced a demographic distinction between cases of suicide and cases of suicide attempt. Females accounted for 3.2 percent of suicide DoDSER forms and 36.0 percent of suicide-attempt DoDSER forms. For context, 19.8 percent of the Air Force's total population is female and 80.3 percent is male. Demographic and military service characteristics for all Air Force suicide and suicide-attempt DoDSER forms are detailed in Tables 17 and 18.

Method of Injury

Firearms were the most common (68.3%) method of injury resulting in death due to suicide.

The majority (95.3%) of the firearms used were personal possessions. Relatively few firearm deaths (4.7%) resulted from the self-directed use of a military-issued weapon. Figure 21 shows the two most common methods of injury and the proportion of deaths that are due to those methods. These findings are consistent with the data from CY 2014 – CY 2016. Drug and/or alcohol overdose remains the most frequently reported mechanism of injury among suicide-attempt DoDSER forms (53.3%; see Figure 22). The prevalence estimates of these mechanisms of injury for CY 2017 were consistent with the data from CY 2014 – CY 2016. Additional data about events are provided in Table 19.

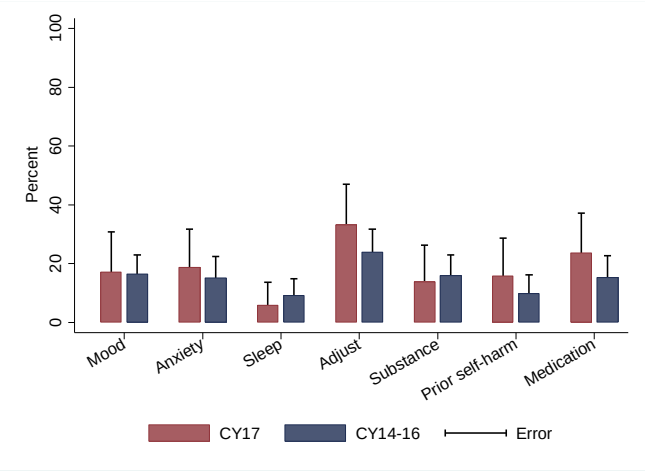

Figure 23. Percent of suicide DoDSER forms, by behavioral health factor, Air Force, CY 2014 - CY 2017

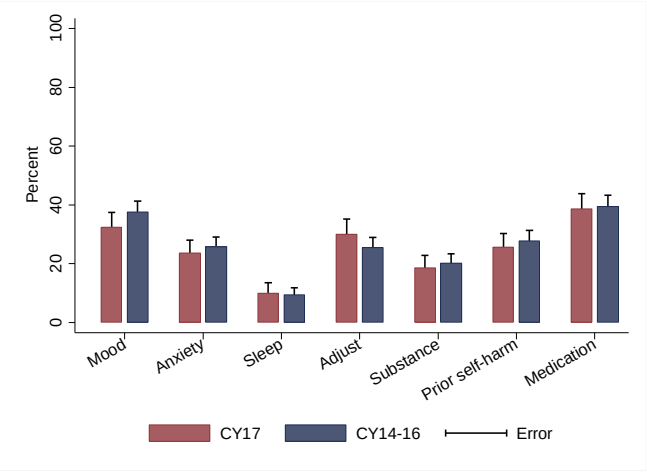

Figure 24. Percent of suicide-attempt DoDSER forms, by behavioral health factor, Air Force, CY 2014 - CY 2017

Behavioral Health History

Of those Airmen who died by suicide in CY 2017, 50.8 percent had met criteria for at least one current or past behavioral health diagnosis. Adjustment disorders (33.3%), anxiety disorders (22.2%), and mood disorders (19.0%) were the most common diagnoses. Among Air Force suicide-attempt forms, 64.3 percent identified at least one current or past behavioral health diagnosis present in their medical record. Mood disorders (32.6%), adjustment disorders (30.5%), and anxiety disorders (26.7%) were the most common diagnoses.

Table 20 provides data on behavioral health variables related to both common diagnoses and treatment utilization. Figure 23 displays the prevalence of various diagnoses, prior self-harm, and the use of psychotropic medication in the 90 days prior to a death by suicide. U.S. Air Force risk indicators for CY 2017 were consistent with the data from the previous three calendar years.

Figure 24 displays the prevalence of the same factors among Air Force suicide-attempt DoDSER forms. Among suicide-attempt forms, there was no change in the prevalence of any of these factors in CY 2017 compared to the three-year average for CY 2014 – CY 2016.

Health Care Utilization

Regardless of whether or not an individual voluntarily disclosed—or was assessed for—suicidal thoughts, feelings, and behavior, 60.3 percent of the Airmen who died by suicide in CY 2017 had been in contact with the MHS in the 90 days prior to their death (Table 20).

In total, 33.3 percent of cases had received either inpatient (4.8%) or outpatient (33.3%) behavioral health services. Substance abuse services and family assistance programs were utilized less, at 7.9 and 3.2 percent, respectively.

A similar pattern was observed for suicide-attempt DoDSER forms. In total, 66.9 percent of the Air Force forms indicated contact with the MHS in the 90 days prior to the behavior. This included both general visits (61.4%) and behavioral-health visits (50.5%). Of the latter, 16.4 percent of visits were for inpatient behavioral health and 48.6 percent were for outpatient behavioral health services. Additionally, 9.3 percent of forms indicated participation in substance-abuse services and 6.0 percent identified participation with family assistance programs.

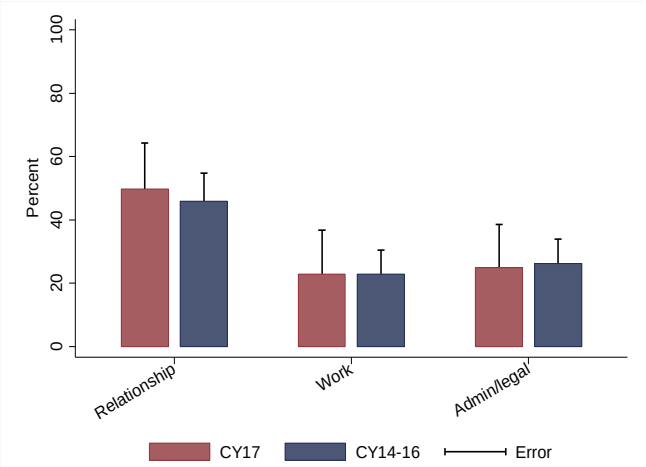

Figure 25. Percent of suicide DoDSER forms, by social stressor in the 90 days prior to the event, Air Force, CY 2014 - CY 2017

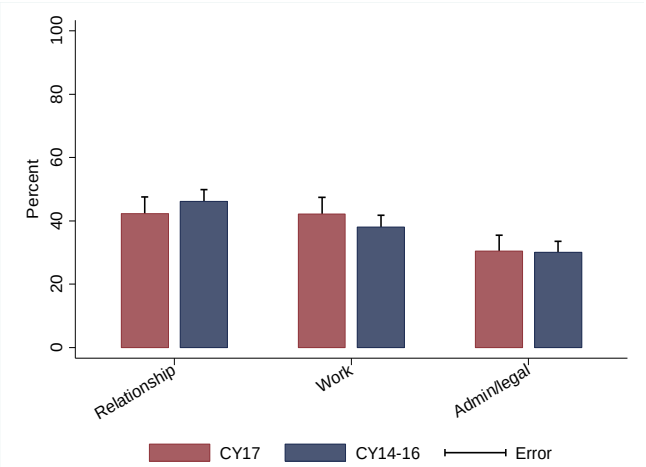

Figure 26. Percent of suicide-attempt reports, by social stressor in the 90 days prior to the event, Air Force, CY 2014 - CY 2017

Stressors

Figures 25 and 26 display the prevalence of the most stressors queried in the DoDSER system from CY 2017 compared to the three-year average from CY 2014 – CY 2016. Table 21 also provides data for stressors pertaining to relationships, family issues, legal or administrative problems, work and financial difficulties, and abuse victimization or perpetration.

The prevalence of these factors was consistent over time for both suicide and suicide-attempt forms. The one identified significant difference was a decrease in the prevalence of administrative/legal problems for suicide DoDSER forms in CY 2017 relative to the average of CY 2014 – CY 2016.

Sexual Abuse, Assault, and Harassment

To better assess and understand any potential association between sexual assault and the occurrence of suicide and suicide attempts, data collected from the DoDSER system were matched against unrestricted sexual assault report records maintained by SAPRO.

Specific to the Air Force, there were 14 unrestricted reports of sexual assault that matched identifying information with cases received by the DoDSER system during CY 2017. There were 13 suicide attempt case matches and one match of death by suicide. Therefore, 2.9 percent of the 483 Air Force DoDSER forms in 2017 were matched to unrestricted reports of sexual assault received by SAPRO.

Table 21 provides the number of sexual assaults recorded directly by the DoDSER system. Sexual abuse and assault data in Table 21 are based on information recorded in MHS' healthcare databases. This data may or may not match data from official reports of sexual assault, such as those captured in the Defense Sexual Assault Incident Database.

Table 17. Demographic characteristics[1] of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Air Force

	Suicide (n = 63)		Suicide Attempt (n = 420)	
	No.	%	No.	%
Sex				
Male	**61**	**96.8**	**269**	**64.0**
Female	**2**	**3.2**	**151**	**36.0**
Age				
17–19	**0**	**0.0**	**22**	**5.2**
20–24	**18**	**28.6**	**218**	**51.9**
25–29	**25**	**39.7**	**85**	**20.2**
30–34	**8**	**12.7**	**48**	**11.4**
35–39	**4**	**6.3**	**29**	**6.9**
40–44	**6**	**9.5**	**13**	**3.1**
45–59	**2**	**3.2**	**5**	**1.2**
Unknown	**0**	**0.0**	**0**	**0.0**
Race				
American Indian/Alaska Native	**0**	**0.0**	**6**	**1.4**
Asian/Pacific Islander	**4**	**6.3**	**15**	**3.6**
Black/African American	**7**	**11.1**	**90**	**21.4**
White/Caucasian	**52**	**82.5**	**305**	**72.6**
Other/Unknown	**0**	**0.0**	**4**	**1.0**
Ethnicity				
Hispanic	**6**	**9.5**	**62**	**14.8**
Not Hispanic	**57**	**90.5**	**357**	**85.0**
Unknown	**0**	**0.0**	**1**	**0.2**
Education				
Less than high school	**0**	**0.0**	**0**	**0.0**
Alternative high school	**0**	**0.0**	**1**	**0.2**
High school graduate	**33**	**52.4**	**326**	**77.6**
Associate's or technical degree	**20**	**31.7**	**53**	**12.6**
Four-year degree	**6**	**9.5**	**26**	**6.2**
Postgraduate	**4**	**6.3**	**14**	**3.3**
Unknown	**0**	**0.0**	**0**	**0.0**
Marital Status				
Never married	**25**	**39.7**	**213**	**50.7**
Married	**28**	**44.4**	**162**	**38.6**
Separated	**0**	**0.0**	**0**	**0.0**
Divorced	**10**	**15.9**	**44**	**10.5**
Widowed	**0**	**0.0**	**0**	**0.0**
Other/Unknown	**0**	**0.0**	**1**	**0.2**

[1]Data on demographic characteristics primarily provided by DMDC.

Table 18. Military characteristics[1] of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Air Force

	Suicide (n = 63)		Suicide Attempt (n = 420)	
	No.	%	No.	%
Component				
Active	**58**	**92.1**	**384**	**91.4**
Reserve	**2**	**3.2**	**19**	**4.5**
Guard	**3**	**4.8**	**17**	**4.0**
Rank/Grade				
Cadet/Midshipman	**0**	**0.0**	**4**	**1.0**
E1–E4	**26**	**41.3**	**278**	**66.2**
E5–E9	**29**	**46.0**	**117**	**27.9**
Warrant Officer	**0**	**0.0**	**0**	**0.0**
Officer	**8**	**12.7**	**20**	**4.8**
Unknown	**0**	**0.0**	**1**	**0.2**
Enlisted Occupational Group				
Infantry, gun crews and seamanship specialists	**3**	**4.8**	**9**	**2.1**
Electronic equipment repairers	**10**	**15.9**	**23**	**5.5**
Communications and intelligence specialists	**3**	**4.8**	**38**	**9.0**
Healthcare specialists	**1**	**1.6**	**41**	**9.8**
Other technical and allied specialists	**5**	**7.9**	**16**	**3.8**
Functional support and administration	**7**	**11.1**	**66**	**15.7**
Electrical/mechanical equipment repairers	**15**	**23.8**	**100**	**23.8**
Craftsworkers	**1**	**1.6**	**11**	**2.6**
Service and supply handlers	**9**	**14.3**	**65**	**15.5**
Non-occupational	**1**	**1.6**	**31**	**7.4**
Unknown	**0**	**0.0**	**0**	**0.0**
Officer Occupational Group				
General officers and executives	**0**	**0.0**	**0**	**0.0**
Tactical operations officers	**5**	**7.9**	**7**	**1.7**
Intelligence officers	**0**	**0.0**	**2**	**0.5**
Engineering and maintenance officers	**0**	**0.0**	**3**	**0.7**
Scientists and professionals	**1**	**1.6**	**1**	**0.2**
Health care officers	**2**	**3.2**	**4**	**1.0**
Administrators	**0**	**0.0**	**1**	**0.2**
Supply, procurement and allied officers	**0**	**0.0**	**2**	**0.5**
Non-occupational	**0**	**0.0**	**0**	**0.0**
Unknown	**0**	**0.0**	**0**	**0.0**
History of Deployment				
Yes	**38**	**60.3**	**153**	**36.4**
Number of deployments				
1	20	31.7	90	21.4
2	9	14.3	33	7.9
3 or more	9	14.3	30	7.1
Specific deployment locations[2]				
Afghanistan	19	30.2	50	11.9
Iraq	6	9.5	40	9.5
Kuwait	5	7.9	29	6.9
No	**25**	**39.7**	**267**	**63.6**
Unknown	**0**	**0.0**	**0**	**0.0**

[1]Data on military characteristics primarily provided by DMDC.
[2]Subcategories are not mutually exclusive.

Table 19. Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Air Force				
	Suicide (n = 63)		Suicide Attempt (n = 420)	
	No.	%	No.	%
Event Location Country				
United States	**57**	**90.5**	**347**	**82.6**
Iraq	**0**	**0.0**	**0**	**0.0**
Afghanistan	**0**	**0.0**	**0**	**0.0**
Kuwait	**0**	**0.0**	**0**	**0.0**
Korea	**1**	**1.6**	**10**	**2.4**
Other Europe	**0**	**0.0**	**6**	**1.4**
North America	**0**	**0.0**	**0**	**0.0**
Central or South America	**0**	**0.0**	**1**	**0.2**
Japan	**3**	**4.8**	**19**	**4.5**
Germany	**2**	**3.2**	**27**	**6.4**
United Kingdom	**0**	**0.0**	**7**	**1.7**
Other	**0**	**0.0**	**1**	**0.2**
Unknown	**0**	**0.0**	**2**	**0.5**
Event Setting				
Own residence	**31**	**49.2**	**219**	**52.1**
Barracks	**8**	**12.7**	**130**	**31.0**
Residence of friend or family	**4**	**6.3**	**22**	**5.2**
Work/jobsite	**3**	**4.8**	**5**	**1.2**
Automobile	**7**	**11.1**	**19**	**4.5**
Inpatient medical facility	**1**	**1.6**	**5**	**1.2**
Hotel	**1**	**1.6**	**6**	**1.4**
Other	**8**	**12.7**	**14**	**3.3**
Unknown	**0**	**0.0**	**0**	**0.0**
Event Method[1]				
Drugs/alcohol	**1**	**1.6**	**224**	**53.3**
Hanging/asphyxiation	**14**	**22.2**	**71**	**16.9**
Poisoning	**3**	**4.8**	**21**	**5.0**
Firearm	**43**	**68.3**	**20**	**4.8**
Military firearm	2	3.2	1	0.2
Non-military firearm	41	65.1	19	4.5
Firearm of unknown origin	0	0.0	0	0.0
Trauma, sharp or blunt force	**2**	**3.2**	**71**	**16.9**
Other	**0**	**0.0**	**12**	**2.9**
Pending/unknown	**0**	**0.0**	**1**	**0.2**
Used Alcohol During Event				
Yes	**18**	**28.6**	**170**	**40.5**
No	**26**	**41.3**	**235**	**56.0**
Unknown	**19**	**30.2**	**15**	**3.6**

Table 19 (cont.) Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Air Force

	Suicide (n = 63)		Suicide Attempt (n = 420)	
	No.	%	No.	%
Used Drugs During Event				
Yes	**5**	**7.9**	**206**	**49.0**
Illegal drugs				
Used, overdose	0	0.0	6	1.4
Used, no overdose	1	1.6	11	2.6
Prescription drugs				
Used, overdose	2	3.2	111	26.4
Used, no overdose	1	1.6	31	7.4
Non-prescription drugs				
Used, overdose	0	0.0	63	15.0
Used, no overdose	3	4.8	23	5.5
No	**35**	**55.6**	**208**	**49.5**
Unknown	**23**	**36.5**	**6**	**1.4**
Death-Risk Gambling				
Yes	**1**	**1.6**	**21**	**5.0**
No	**56**	**88.9**	**391**	**93.1**
Unknown	**6**	**9.5**	**8**	**1.9**
Planned/Premeditated				
Yes	**30**	**47.6**	**115**	**27.4**
No	**16**	**25.4**	**287**	**68.3**
Unknown	**17**	**27.0**	**18**	**4.3**
Observable				
Yes	**13**	**20.6**	**175**	**41.7**
No	**46**	**73.0**	**239**	**56.9**
Unknown	**4**	**6.3**	**6**	**1.4**
Suicide Note Left				
Yes	**21**	**33.3**	**66**	**15.7**
No	**34**	**54.0**	**342**	**81.4**
Unknown	**8**	**12.7**	**12**	**2.9**
Communicated Potential for Self-Harm (Other than Suicide Note)				
Yes	**21**	**33.3**	**128**	**30.5**
How communicated[2]				
Written	0	0.0	8	1.9
Verbal	12	19.0	78	18.6
Text	10	15.9	56	13.3
Other	1	1.6	4	1.0
To whom communicated[2]				
Supervisor	2	3.2	21	5.0
Chaplain	0	0.0	2	0.5
Mental health staff	3	4.8	31	7.4
Friend	5	7.9	45	10.7
Spouse	10	15.9	48	11.4
Family	2	3.2	16	3.8
Other	3	4.8	8	1.9
No	**42**	**66.7**	**291**	**69.3**
Unknown	**0**	**0.0**	**1**	**0.2**

Table 19 (cont.) Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Air Force

	Suicide (n = 63)		Suicide Attempt (n = 420)	
	No.	%	No.	%
Residence at Time of Event				
Barracks	**7**	**11.1**	**137**	**32.6**
Bachelor Enlisted/Officer Quarters	**6**	**9.5**	**19**	**4.5**
On-base family housing	**8**	**12.7**	**47**	**11.2**
Off-base	**40**	**63.5**	**201**	**47.9**
Ship	**0**	**0.0**	**0**	**0.0**
Other	**2**	**3.2**	**15**	**3.6**
Unknown	**0**	**0.0**	**1**	**0.2**
Reside Alone at Time of Event				
Yes	**29**	**46.0**	**185**	**44.0**
No	**30**	**47.6**	**232**	**55.2**
Unknown	**4**	**6.3**	**3**	**0.7**
Gun in Home/Immediate Environment				
Yes	**43**	**68.3**	**46**	**11.0**
No	**17**	**27.0**	**357**	**85.0**
Unknown	**3**	**4.8**	**17**	**4.0**
Duty Environment[2]				
Garrison/permanent duty station	**45**	**71.4**	**349**	**83.1**
Leave	**6**	**9.5**	**8**	**1.9**
Temporary duty	**1**	**1.6**	**4**	**1.0**
Training	**2**	**3.2**	**19**	**4.5**
Other	**14**	**22.2**	**43**	**10.2**
Deployed at Time of Event				
Yes	**1**	**1.6**	**6**	**1.4**
Location				
Afghanistan	0	0.0	0	0.0
Kuwait	0	0.0	0	0.0
Other/Unknown	1	1.6	6	1.4
No	**62**	**98.4**	**414**	**98.6**

[1]Data on the cause of death were provided by AFMES.
[2]Subcategories are not mutually exclusive.

Table 20. Medical and behavioral characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Air Force

	Suicide (n = 63)		Suicide Attempt (n = 420)	
	No.	%	No.	%
Any Mental Health Diagnosis				
Yes[1]	**32**	**50.8**	**270**	**64.3**
Mood disorder	12	19.0	137	32.6
Anxiety disorder[2]	14	22.2	112	26.7
Personality disorder	1	1.6	30	7.1
Psychotic disorder	0	0.0	6	1.4
Adjustment disorder	21	33.3	128	30.5
Substance abuse disorder	8	12.7	82	19.5
No	**31**	**49.2**	**150**	**35.7**
Unknown	**0**	**0.0**	**0**	**0.0**
Sleep Disorder				
Yes	**5**	**7.9**	**44**	**10.5**
No	**58**	**92.1**	**376**	**89.5**
Unknown	**0**	**0.0**	**0**	**0.0**
History of Traumatic Brain Injury				
Yes	**1**	**1.6**	**9**	**2.1**
No	**62**	**98.4**	**411**	**97.9**
Unknown	**0**	**0.0**	**0**	**0.0**
Family History of Mental Illness				
Yes	**11**	**17.5**	**171**	**40.7**
No	**52**	**82.5**	**248**	**59.0**
Unknown	**0**	**0.0**	**1**	**0.2**
Prior Self-Injury				
Yes	**10**	**15.9**	**110**	**26.2**
Number of prior self-injuries				
One	6	9.5	39	9.3
More than one	4	6.3	71	16.9
Unknown	0	0.0	0	0.0
Current event similar to previous	3	4.8	56	13.3
No	**53**	**84.1**	**308**	**73.3**
Unknown	**0**	**0.0**	**2**	**0.5**
Psychotropic Medications, Previous 90 Days				
Yes[1]	**16**	**25.4**	**167**	**39.8**
Antidepressant	13	20.6	144	34.3
Antianxiety	6	9.5	70	16.7
Antimanic	0	0.0	4	1.0
Anticonvulsant	1	1.6	12	2.9
Antipsychotic	0	0.0	13	3.1
Sleep medication	7	11.1	66	15.7
No	**47**	**74.6**	**253**	**60.2**
Unknown	**0**	**0.0**	**0**	**0.0**

Table 20 (cont.) Medical and behavioral characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Air Force

	Suicide (n = 63)		Suicide Attempt (n = 420)	
	No.	%	No.	%
Pain Medication at Time of Event				
Yes	**8**	**12.7**	**62**	**14.8**
Opioid medication	1	1.6	14	3.3
No	**55**	**87.3**	**358**	**85.2**
Unknown	**0**	**0.0**	**0**	**0.0**
Health/Social Services, Prior 90 Days				
Yes[1]	**38**	**60.3**	**281**	**66.9**
Medical treatment facility	36	57.1	258	61.4
Substance Abuse Services	5	7.9	39	9.3
Family Assistance Program	2	3.2	25	6.0
Outpatient mental health	21	33.3	204	48.6
Inpatient mental health	3	4.8	69	16.4
No	**25**	**39.7**	**139**	**33.1**
Unknown	**0**	**0.0**	**0**	**0.0**

[1]Subcategories are not mutually exclusive.
[2]Data collection form used for this CY used DSM-IV taxonomy for behavioral health diagnoses; thus, posttraumatic stress disorder is subsumed under the "Anxiety Disorder" category.

Table 21. Psychosocial determinants described in suicide and suicide-attempt DoDSER forms submitted for CY 2017, Air Force

	Suicide (n = 63)		Suicide Attempt (n = 420)	
	No.	%	No.	%
Failed or Failing Relationship, Previous 90 Days				
Yes[1]	**29**	**46.0**	**178**	**42.4**
Intimate relationship	23	36.5	152	36.2
Other relationship	7	11.1	49	11.7
No	**34**	**54.0**	**242**	**57.6**
Unknown	**0**	**0.0**	**0**	**0.0**
Family/Friend Stressors, Previous 90 Days				
Yes[1]	**4**	**6.3**	**38**	**9.0**
Death of spouse or other family member (not suicide)	2	3.2	12	2.9
Death of friend (not suicide)	1	1.6	7	1.7
Serious illness of friend or family member	1	1.6	22	5.2
No	**59**	**93.7**	**382**	**91.0**
Unknown	**0**	**0.0**	**0**	**0.0**
History of Family/Friend Death by Suicide				
Yes[1]	**8**	**12.7**	**63**	**15.0**
Spouse	0	0.0	2	0.5
Family other than spouse	2	3.2	21	5.0
Friend	6	9.5	47	11.2
No	**55**	**87.3**	**357**	**85.0**
Unknown	**0**	**0.0**	**0**	**0.0**
Administrative/Legal Problems, Previous 90 Days				
Yes[1]	**17**	**27.0**	**127**	**30.2**
Courts martial proceedings	3	4.8	9	2.1
Article 15/Non-judicial punishment	2	3.2	22	5.2
Administrative separation proceedings	2	3.2	29	6.9
Away without leave/deserter status	0	0.0	3	0.7
Medical evaluation board proceedings	5	7.9	45	10.7
Civil legal proceedings	7	11.1	25	6.0
Non-selection for promotion	1	1.6	10	2.4
Under investigation	5	7.9	41	9.8
No	**46**	**73.0**	**293**	**69.8**
Unknown	**0**	**0.0**	**0**	**0.0**
Excessive Debt/Bankruptcy, Previous 90 Days				
Yes	**2**	**3.2**	**24**	**5.7**
No	**60**	**95.2**	**396**	**94.3**
Unknown	**1**	**1.6**	**0**	**0.0**
Workplace Issues, Previous 90 Days				
Yes[1]	**13**	**20.6**	**169**	**40.2**
Job problems	13	20.6	128	30.5
Supervisor/coworker issues	3	4.8	90	21.4
Poor performance review	3	4.8	40	9.5
Unit/workplace hazing	0	0.0	5	1.2
No	**50**	**79.4**	**251**	**59.8**
Unknown	**0**	**0.0**	**0**	**0.0**

Table 21 (cont.) Psychosocial determinants described in suicide and suicide-attempt DoDSER forms submitted for CY 2017, Air Force

	Suicide (n = 63)		Suicide Attempt (n = 420)	
	No.	%	No.	%
Abuse, Assault, or Harassment Victimization, Previous Year				
Yes[1]	**0**	**0.0**	**55**	**13.1**
Physical abuse or assault	0	0.0	17	4.0
Sexual abuse or assault	0	0.0	24	5.7
Emotional abuse	0	0.0	31	7.4
Sexual harassment	0	0.0	10	2.4
No	**63**	**100.0**	**365**	**86.9**
Unknown	**0**	**0.0**	**0**	**0.0**
Abuse, Assault, or Harassment Perpetration, Previous Year				
Yes[1]	**6**	**9.5**	**28**	**6.7**
Physical abuse or assault	2	3.2	9	2.1
Sexual abuse or assault	2	3.2	12	2.9
Emotional abuse	2	3.2	10	2.4
Sexual harassment	1	1.6	4	1.0
No	**57**	**90.5**	**392**	**93.3**
Unknown	**0**	**0.0**	**0**	**0.0**

[1]Subcategories are not mutually exclusive.

Chapter 5: Results Summary– U.S. Army

Summary

Overall, the characteristics of suicide and suicide-attempt cases observed in the CY 2017 data were consistent with previous years. There were, however, a few statistical differences observed in the data. A smaller proportion of suicide DoDSER forms in CY 2017 had a known history of previous suicide attempts or relationship problems prior to death relative to CY 2014 – CY 2016. Among suicide attempt cases, the prevalence estimates of adjustment disorder, substance-use disorders, and work-related stressors were lower compared to CY 2014 – CY 2016. It is also worth noting that the proportion of suicide attempts that used trauma (falling or sharp/blunt injuries) as the primary mechanism of injury increased in CY 2017 relative to CY 2014 – CY 2016.

Introduction

This chapter presents an overview of the U.S. Army suicide and suicide attempt data. The DoDSER system collects data on demographic, contextual, behavioral health, historical, and risk-related factors for all instances of suicide and all medically identified suicide attempts. Data for cases involving both Active Component Soldiers and SELRES Soldiers who were in a duty status at the time of the event are presented in this chapter.

Variables of particular interest are presented in the following text; however, the reader is encouraged to review the DoDSER data tables that follow this chapter's text for the full Army data, presented separately by suicide and suicide attempt event types.

This chapter presents case-counts and proportions of the total number of cases observed; it does not present suicide rates, which are covered in Chapter 2 of this report.

Occurrence of Suicide Mortality

As of March 31, 2018, the AFMES had identified 138 confirmed or pending cases of suicide among active-duty Soldiers that occurred during CY 2017. A total of 114 of these deaths occurred among members of the Active Component. The remaining 24 deaths occurred among SELRES Soldiers who were in a duty status at the time of their death. A DoDSER form was submitted for 134 (97.1%) of these deaths. The remaining deaths were identified or confirmed after the suspense date for data analysis. The data on the 134 submitted forms were used to populate the tables included in this chapter.

Occurrence of Non-Fatal Suicide Attempts

Over the course of CY 2017, 512 non-fatal suicide attempts were identified. The associated DoDSER forms provided data on suicide attempts for 493 unique individuals, as more than one attempt per individual could have occurred.

Note that only attempt events that are reported to the DoDSER system are able to be counted. It is likely that the true number of attempt events is higher.

Occurrence of Multiple Instances of Suicidal Behavior

One death was associated with one or more previously reported suicide attempt(s) that occurred between CY 2010 and CY 2017.

Dating back to 2010, 28 suicide-attempt DoDSER forms had one or more previous suicide attempt(s) recorded in the DoDSER system. The median number of days between the most recent suicide attempt and the penultimate attempt was 82 days.

Demographic Characteristics

The characteristics most commonly associated with suicide among Soldiers closely resembled the makeup of the Army overall. The most common demographics included:

- Non-Hispanic ethnicity
- White racial identity
- Male biological sex
- Age between 20 and 24 years
- Rank/grade of E1-E4
- No more than a high school education

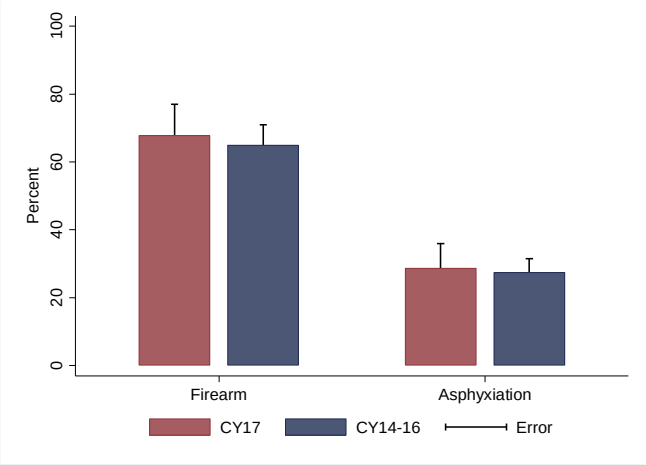

Figure 27. Percent of suicide DoDSER forms, by injury mechanism, Army, CY 2014 - CY 2017

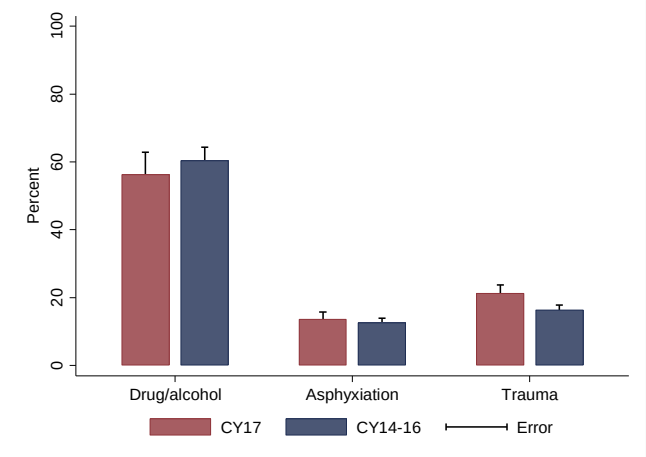

Figure 28. Percent of suicide-attempt DoDSER forms, by injury mechanism, Army, CY 2014 - CY 2017

The proportion of male (128 suicides, 378 suicide attempts) and female (6 suicides, 134 suicide attempts) Soldiers identified in each event type produced a demographic distinction between cases of suicide and cases of suicide attempt. Females accounted for 4.5 percent of suicide DoDSER forms but 26.2 percent of suicide-attempt DoDSER forms. For context, 14.9 percent of the Army's total population is female and 85.2 percent is male. Demographic and military service characteristics for all Army suicide and suicide-attempt DoDSER forms are detailed in Tables 22 and 23.

Method of Injury

Firearms were the most common (68.7%) method of injury resulting in death due to suicide.

The majority (89.1%) of the firearms used were personal possessions. Relatively few firearm deaths (9.8%) resulted from the self-directed use of a military-issued weapon.

Figure 27 shows the proportion of suicide DoDSER forms that indicated deaths by firearm and by hanging/asphyxiation. These findings were consistent with the data from CY 2014 – CY 2016. Regarding suicide attempts, drug and/or alcohol overdose remained the most frequently reported mechanism of injury among suicide-attempt DoDSER forms (55.3%).

As seen in Figure 28, other frequently reported methods of attempted suicide involved trauma from a fall or other sharp/blunt injury (20.7%) and hanging/asphyxiation (14.1%). The prevalence of trauma as the mechanism of injury was higher in CY 2017 than the average value of CY 2014 – CY 2016. Additional data about events are provided in Table 24.

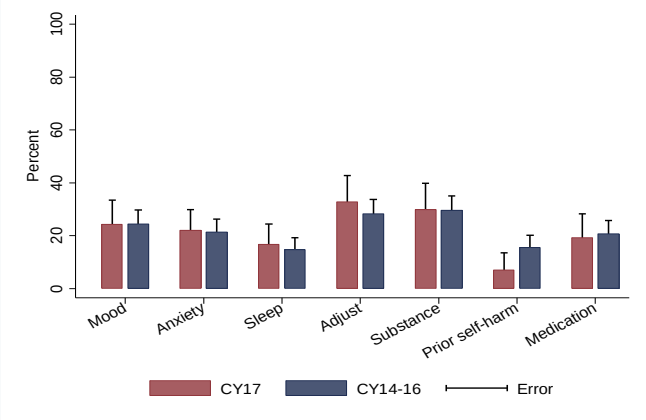

Figure 29. Percent of suicide DoDSER forms, by behavioral health factor Army CY 2014 CY 2017

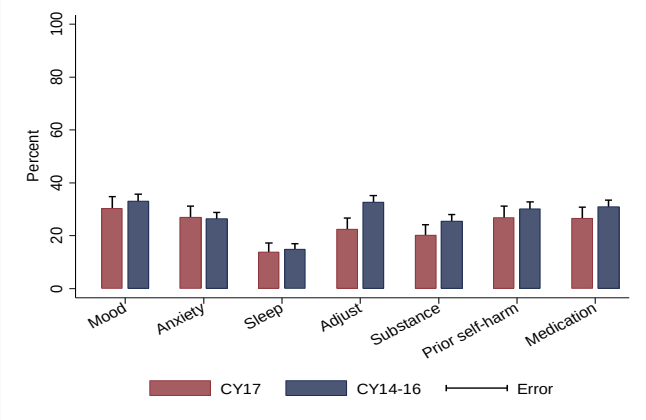

Figure 30. Percent of suicide-attempt DoDSER forms, by behavioral health factor, Army, CY 2014 - CY 2017

Behavioral Health History

Of those Soldiers who died by suicide in CY 2017, 56.0 percent had met criteria for at least one current or past behavioral health diagnosis. Adjustment disorders (31.3%), substance-use disorders (28.4%), and mood and anxiety disorders (23.1% each) were the most common diagnoses.

Among Army suicide-attempt DoDSER forms, 57.0 percent had at least one current or past behavioral health diagnosis present in their medical record. Mood disorders (30.9%), anxiety disorders (27.1%), and adjustment disorders (22.5%) were the most common diagnoses.

Table 25 provides data on behavioral health variables related to both common diagnoses and treatment utilization. Figure 29 displays the prevalence of various diagnoses, previous self-harm, and the use of psychotropic medication in the 90 days prior to a death by suicide. There was a decrease in the prevalence of previous self-harm among suicide DoDSER forms for CY 2017 compared to the three previous years. The other variables were consistent over time.

Figure 30 displays the prevalence estimates of the same factors among Army suicide-attempt DoDSER forms. There was a statistically significant decrease in the prevalence of adjustment disorder and substance-use disorders in CY 2017 compared to the three-year average for CY 2014 – CY 2016.

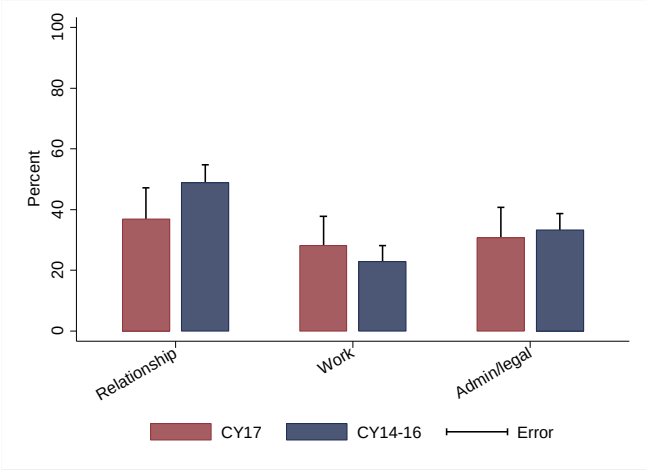

Figure 31. Percent of suicide DoDSER forms, by social stressor in the 90 days prior to event, Army, CY 2014 - CY 2017

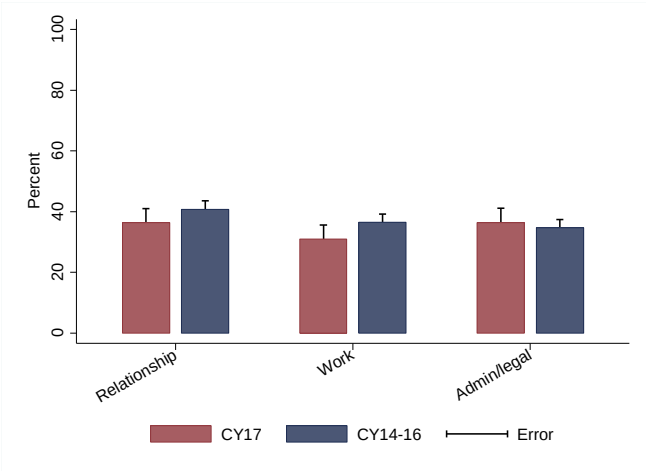

Figure 32. Percent of suicide-attempt DoDSER forms, by social stressor in the 90 days prior to event, Army, CY 2014 - CY 2017

Health Care Utilization

Regardless of whether or not an individual voluntarily disclosed—or was assessed for—suicidal thoughts, feelings, and behavior, 54.5 percent of the Soldiers who died by suicide in CY 2017 had been in contact with the MHS in the 90 days prior to their death (Table 25). In total, 32.1 percent of cases had received either inpatient (4.5%) or outpatient (32.1%) behavioral health services. Substance abuse services and family assistance programs were utilized less at 7.5 and 3.0 percent, respectively.

A similar pattern was observed for suicide-attempt DoDSER forms. In total, 60.9 percent of the Army forms indicated contact with the MHS in the 90 days prior to the behavior. This included both general visits (49.0%) and behavioral-health visits (50.2%). Of the latter, 15.0 percent of visits were for inpatient behavioral health and 48.0 percent were for outpatient behavioral health services. Additionally, 12.7 percent of forms indicated participation in substance-abuse services and 3.7 percent identified participation with family assistance programs.

Stressors

Figures 31 and 32 display the prevalence of the most common stressors queried in the DoDSER system in CY 2017 compared to the three-year average from CY 2014 – CY 2016. There was a statistically significant decrease in the prevalence of relationship problems among suicide DoDSER forms in CY 2017. For suicide-attempt DoDSER forms, there was a statistically significant decrease in the prevalence of work-related problems prior to the event. Additional data on stressors are provided in Table 26.

Sexual Abuse, Assault, and Harassment

To better assess and understand any potential association between sexual assault and the occurrence of suicide and suicide attempts, data collected from the DoDSER system were matched against unrestricted sexual assault report records maintained by SAPRO.

Specific to the Army, there were 19 unrestricted reports of sexual assault that matched identifying information with cases of suicide and suicide attempts received by the DoDSER system during CY 2017. There were 18 suicide attempt case matches and one match of death by suicide. Therefore, 2.9 percent of the 646 Army DoDSER records in 2017 were matched to unrestricted reports of sexual assault received by SAPRO.

Table 26 provides the number of sexual assaults recorded directly by the DoDSER system. Sexual abuse and assault data in Table 26 are based on information recorded in MHS' healthcare databases. This data may or may not match data from official reports of sexual assault, such as those captured in the Defense Sexual Assault Incident Database.

Table 22. Demographic characteristics[1] of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Army

	Suicide (n = 134)		Suicide Attempt (n = 512)	
	No.	%	No.	%
Sex				
Male	**128**	**95.5**	**378**	**73.8**
Female	**6**	**4.5**	**134**	**26.2**
Age				
17–19	**7**	**5.2**	**46**	**9.0**
20–24	**50**	**37.3**	**268**	**52.3**
25–29	**25**	**18.7**	**107**	**20.9**
30–34	**18**	**13.4**	**42**	**8.2**
35–39	**16**	**11.9**	**22**	**4.3**
40–44	**12**	**9.0**	**16**	**3.1**
45–64	**6**	**4.5**	**10**	**2.0**
Unknown	**0**	**0.0**	**1**	**0.2**
Race				
American Indian/Alaska Native	**0**	**0.0**	**9**	**1.8**
Asian/Pacific Islander	**6**	**4.5**	**30**	**5.9**
Black/African American	**17**	**12.7**	**128**	**25.0**
White/Caucasian	**109**	**81.3**	**342**	**66.8**
Other/Unknown	**2**	**1.5**	**3**	**0.6**
Ethnicity				
Hispanic	**19**	**14.2**	**90**	**17.6**
Not Hispanic	**115**	**85.8**	**422**	**82.4**
Unknown	**0**	**0.0**	**0**	**0.0**
Education				
Less than high school	**1**	**0.7**	**2**	**0.4**
Alternative high school	**11**	**8.2**	**54**	**10.5**
High school graduate	**85**	**63.4**	**396**	**77.3**
Associate's or technical degree	**19**	**14.2**	**24**	**4.7**
Four-year degree	**15**	**11.2**	**28**	**5.5**
Postgraduate	**2**	**1.5**	**8**	**1.6**
Unknown	**1**	**0.7**	**0**	**0.0**
Marital Status				
Never married	**45**	**33.6**	**276**	**53.9**
Married	**74**	**55.2**	**199**	**38.9**
Legally Separated	**1**	**0.7**	**0**	**0.0**
Divorced	**13**	**9.7**	**35**	**6.8**
Widowed	**1**	**0.7**	**1**	**0.2**
Other/Unknown	**0**	**0.0**	**1**	**0.2**

[1]Data on demographic characteristics primarily provided by DMDC.

Table 23. Military characteristics[1] of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Army

	Suicide (n = 134)		Suicide Attempt (n = 512)	
	No.	%	No.	%
Component				
Active	**111**	**82.8**	**464**	**90.6**
Reserve	**7**	**5.2**	**24**	**4.7**
Guard	**16**	**11.9**	**24**	**4.7**
Rank/Grade				
Cadet/Midshipman	**0**	**0.0**	**0**	**0.0**
E1–E4	**63**	**47.0**	**380**	**74.2**
E5–E9	**62**	**46.3**	**118**	**23.0**
Warrant Officer	**2**	**1.5**	**5**	**1.0**
Officer	**7**	**5.2**	**9**	**1.8**
Unknown	**0**	**0.0**	**0**	**0.0**
Enlisted Occupational Group				
Infantry, gun crews and seamanship specialists	**38**	**28.4**	**128**	**25.0**
Electronic equipment repairers	**7**	**5.2**	**32**	**6.3**
Communications and intelligence specialists	**17**	**12.7**	**54**	**10.5**
Healthcare specialists	**14**	**10.4**	**55**	**10.7**
Other technical and allied specialists	**5**	**3.7**	**14**	**2.7**
Functional support and administration	**22**	**16.4**	**66**	**12.9**
Electrical/mechanical equipment repairers	**11**	**8.2**	**46**	**9.0**
Craftsworkers	**3**	**2.2**	**17**	**3.3**
Service and supply handlers	**8**	**6.0**	**70**	**13.7**
Non-occupational	**0**	**0.0**	**15**	**2.9**
Unknown	**0**	**0.0**	**1**	**0.2**
Officer Occupational Group				
General officers and executives	**0**	**0.0**	**0**	**0.0**
Tactical operations officers	**4**	**3.0**	**6**	**1.2**
Intelligence officers	**0**	**0.0**	**0**	**0.0**
Engineering and maintenance officers	**1**	**0.7**	**3**	**0.6**
Scientists and professionals	**0**	**0.0**	**2**	**0.4**
Health care officers	**0**	**0.0**	**1**	**0.2**
Administrators	**2**	**1.5**	**1**	**0.2**
Supply, procurement and allied officers	**0**	**0.0**	**1**	**0.2**
Non-occupational	**2**	**1.5**	**0**	**0.0**
Unknown	**0**	**0.0**	**0**	**0.0**
History of Deployment				
Yes	**71**	**53.0**	**174**	**34.0**
Number of deployments				
1	33	24.6	99	19.3
2	20	14.9	47	9.2
3 or more	18	13.4	28	5.5
Specific deployment locations[2]				
Afghanistan	39	29.1	92	18.0
Iraq	43	32.1	75	14.6
Kuwait	51	38.1	115	22.5
No	**61**	**45.5**	**337**	**65.8**
Unknown	**2**	**1.5**	**1**	**0.2**

[1]Data on military characteristics primarily provided by DMDC.
[2]Subcategories are not mutually exclusive.

Table 24. Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Army				
	Suicide (n = 134)		Suicide Attempt (n = 512)	
	No.	%	No.	%
Event Location Country				
United States	**122**	**91.0**	**452**	**88.3**
Iraq	**3**	**2.2**	**1**	**0.2**
Afghanistan	**0**	**0.0**	**3**	**0.6**
Kuwait	**1**	**0.7**	**11**	**2.1**
Korea	**1**	**0.7**	**19**	**3.7**
Other Europe	**3**	**2.2**	**3**	**0.6**
North America	**0**	**0.0**	**0**	**0.0**
Central or South America	**0**	**0.0**	**0**	**0.0**
Japan	**1**	**0.7**	**10**	**2.0**
Germany	**2**	**1.5**	**5**	**1.0**
United Kingdom	**0**	**0.0**	**0**	**0.0**
Other	**0**	**0.0**	**2**	**0.4**
Unknown	**1**	**0.7**	**6**	**1.2**
Event Setting				
Own residence	**65**	**48.5**	**183**	**35.7**
Barracks	**20**	**14.9**	**250**	**48.8**
Residence of friend or family	**10**	**7.5**	**15**	**2.9**
Work/jobsite	**6**	**4.5**	**13**	**2.5**
Automobile	**12**	**9.0**	**29**	**5.7**
Inpatient medical facility	**1**	**0.7**	**0**	**0.0**
Hotel	**0**	**0.0**	**5**	**1.0**
Other	**19**	**14.2**	**15**	**2.9**
Unknown	**1**	**0.7**	**2**	**0.4**
Event Method[1]				
Drugs/alcohol	**2**	**1.5**	**283**	**55.3**
Hanging/asphyxiation	**35**	**26.1**	**72**	**14.1**
Poisoning	**3**	**2.2**	**19**	**3.7**
Firearm	**92**	**68.7**	**26**	**5.1**
Military firearm	9	6.7	3	0.6
Non-military firearm	82	61.2	22	4.3
Firearm of unknown origin	1	0.7	1	0.2
Trauma, sharp or blunt force	**2**	**1.5**	**106**	**20.7**
Other	**0**	**0.0**	**3**	**0.6**
Pending/unknown	**0**	**0.0**	**3**	**0.6**
Used Alcohol During Event				
Yes	**21**	**15.7**	**150**	**29.3**
No	**53**	**39.6**	**349**	**68.2**
Unknown	**60**	**44.8**	**13**	**2.5**

Table 24 (cont). Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Army	Suicide (n = 134)		Suicide Attempt (n = 512)	
	No.	%	No.	%
Used Drugs During Event				
Yes	**5**	**3.7**	**244**	**47.7**
Illegal drugs				
Used, overdose	0	0.0	25	4.9
Used, no overdose	2	1.5	15	2.9
Prescription drugs				
Used, overdose	0	0.0	145	28.3
Used, no overdose	2	1.5	17	3.3
Non-prescription drugs				
Used, overdose	0	0.0	83	16.2
Used, no overdose	2	1.5	18	3.5
No	**67**	**50.0**	**262**	**51.2**
Unknown	**62**	**46.3**	**6**	**1.2**
Death-Risk Gambling				
Yes	**3**	**2.2**	**35**	**6.8**
No	**116**	**86.6**	**469**	**91.6**
Unknown	**15**	**11.2**	**8**	**1.6**
Planned/Premeditated				
Yes	**63**	**47.0**	**121**	**23.6**
No	**43**	**32.1**	**374**	**73.0**
Unknown	**28**	**20.9**	**17**	**3.3**
Observable				
Yes	**35**	**26.1**	**206**	**40.2**
No	**94**	**70.1**	**293**	**57.2**
Unknown	**5**	**3.7**	**13**	**2.5**
Suicide Note Left				
Yes	**27**	**20.1**	**67**	**13.1**
No	**83**	**61.9**	**435**	**85.0**
Unknown	**24**	**17.9**	**10**	**2.0**
Communicated Potential for Self-Harm (Other than Suicide Note)				
Yes	**51**	**38.1**	**119**	**23.2**
How communicated[2]				
Written	2	1.5	9	1.8
Verbal	26	19.4	69	13.5
Text	27	20.1	54	10.5
Other	3	2.2	1	0.2
To whom communicated2				
Supervisor	7	5.2	14	2.7
Chaplain	1	0.7	1	0.2
Mental health staff	8	6.0	21	4.1
Friend	12	9.0	48	9.4
Spouse	25	18.7	49	9.6
Family	4	3.0	14	2.7
Other	5	3.7	4	0.8
No	**82**	**61.2**	**391**	**76.4**
Unknown	**1**	**0.7**	**2**	**0.4**

Table 24 (cont.) Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Army

	Suicide (n = 134)		Suicide Attempt (n = 512)	
	No.	%	No.	%
Residence at Time of Event				
Barracks	**36**	**26.9**	**274**	**53.5**
Bachelor Enlisted/Officer Quarters	**1**	**0.7**	**6**	**1.2**
On-base family housing	**20**	**14.9**	**45**	**8.8**
Off-base	**70**	**52.2**	**175**	**34.2**
Ship	**0**	**0.0**	**0**	**0.0**
Other	**6**	**4.5**	**12**	**2.3**
Unknown	**1**	**0.7**	**0**	**0.0**
Reside Alone at Time of Event				
Yes	**34**	**25.4**	**168**	**32.8**
No	**89**	**66.4**	**338**	**66.0**
Unknown	**11**	**8.2**	**6**	**1.2**
Gun in Home/Immediate Environment				
Yes	**87**	**64.9**	**53**	**10.4**
No	**31**	**23.1**	**447**	**87.3**
Unknown	**16**	**11.9**	**12**	**2.3**
Duty Environment[2]				
Garrison/permanent duty station	**99**	**73.9**	**409**	**79.9**
Leave	**9**	**6.7**	**12**	**2.3**
Temporary duty	**3**	**2.2**	**2**	**0.4**
Training	**9**	**6.7**	**54**	**10.5**
Other	**15**	**11.2**	**20**	**3.9**
Deployed at Time of Event				
Yes	**4**	**3.0**	**28**	**5.3**
Location				
Afghanistan	0	0.0	5	1.0
Kuwait	2	1.5	15	2.9
Other/Unknown	2	1.5	8	1.4
No	**130**	**97.0**	**484**	**94.5**

[1]Data on the cause of the death were provided by AFMES.
[2]Subcategories are not mutually exclusive.

Table 25. Medical and behavioral characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Army

	Suicide (n = 134)		Suicide Attempt (n = 512)	
	No.	%	No.	%
Any Mental Health Diagnosis				
Yes[1]	**75**	**56.0**	**292**	**57.0**
Mood disorder	31	23.1	158	30.9
Anxiety disorder[2]	31	23.1	139	27.1
Personality disorder	2	1.5	23	4.5
Psychotic disorder	0	0.0	7	1.4
Adjustment disorder	42	31.3	115	22.5
Substance abuse disorder	38	28.4	102	19.9
No	**57**	**42.5**	**218**	**42.6**
Unknown	**2**	**1.5**	**2**	**0.4**
Sleep Disorder				
Yes	**25**	**18.7**	**72**	**14.1**
No	**107**	**79.9**	**436**	**85.2**
Unknown	**2**	**1.5**	**4**	**0.8**
History of Traumatic Brain Injury				
Yes	**16**	**11.9**	**32**	**6.3**
No	**116**	**86.6**	**475**	**92.8**
Unknown	**2**	**1.5**	**5**	**1.0**
Family History of Mental Illness				
Yes	**19**	**14.2**	**149**	**29.1**
No	**113**	**84.3**	**358**	**69.9**
Unknown	**2**	**1.5**	**5**	**1.0**
Previous Self-Injury				
Yes	**8**	**6.0**	**141**	**27.5**
Number of previous self-injuries				
One	1	0.7	63	12.3
More than one	7	5.2	74	14.5
Unknown	0	0.0	4	0.8
Current event similar to previous	3	2.2	69	13.5
No	**124**	**92.5**	**367**	**71.7**
Unknown	**2**	**1.5**	**4**	**0.8**
Psychotropic Medications, Previous 90 Days				
Yes[1]	**21**	**15.7**	**141**	**27.5**
Antidepressant	14	10.4	116	22.7
Antianxiety	6	4.5	60	11.7
Antimanic	0	0.0	2	0.4
Anticonvulsant	1	0.7	6	1.2
Antipsychotic	1	0.7	12	2.3
Sleep medication	6	4.5	84	16.4
No	**110**	**82.1**	**366**	**71.5**
Unknown	**3**	**2.2**	**5**	**1.0**

Table 25 (cont.) Medical and behavioral characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Army

	Suicide (n = 134)		Suicide Attempt (n = 512)	
	No.	%	No.	%
Pain Medication at Time of Event				
Yes	**16**	**11.9**	**77**	**15.0**
Opioid medication	6	4.5	12	2.3
No	**116**	**86.6**	**432**	**84.4**
Unknown	**2**	**1.5**	**3**	**0.6**
Health/Social Services, Previous 90 Days				
Yes[1]	**73**	**54.5**	**312**	**60.9**
Medical treatment facility	61	45.5	251	49.0
Substance Abuse Services	10	7.5	65	12.7
Family Assistance Program	4	3.0	19	3.7
Outpatient mental health	43	32.1	246	48.0
Inpatient mental health	6	4.5	77	15.0
No	**59**	**44.0**	**198**	**38.7**
Unknown	**2**	**1.5**	**2**	**0.4**

[1]Subcategories are not mutually exclusive.
[2]Data collection form used for this CY used DSM-IV taxonomy for behavioral health diagnoses; thus, posttraumatic stress disorder is subsumed under the "Anxiety Disorder" category.

Table 26. Psychosocial determinants described in suicide and suicide-attempt DoDSER forms submitted for CY 2017, Army

	Suicide (n = 134)		Suicide Attempt (n = 512)	
	No.	%	No.	%
Failed or Failing Relationship, Previous 90 Days				
Yes[1]	**47**	**35.1**	**180**	**35.2**
Intimate relationship	42	31.3	165	32.2
Other relationship	8	6.0	44	8.6
No	**85**	**63.4**	**330**	**64.5**
Unknown	**2**	**1.5**	**2**	**0.4**
Family/Friend Stressors, Previous 90 Days				
Yes[1]	**7**	**5.2**	**47**	**9.2**
Death of spouse or other family member (not suicide)	3	2.2	17	3.3
Death of friend (not suicide)	0	0.0	8	1.6
Serious illness of friend or family member	4	3.0	27	5.3
No	**125**	**93.3**	**463**	**90.4**
Unknown	**2**	**1.5**	**2**	**0.4**
History of Family/Friend Death by Suicide				
Yes[1]	**13**	**9.7**	**83**	**16.2**
Spouse	1	0.7	7	1.4
Family other than spouse	8	6.0	37	7.2
Friend	4	3.0	52	10.2
No	**119**	**88.8**	**427**	**83.4**
Unknown	**2**	**1.5**	**2**	**0.4**
Administrative/Legal Problems, Previous 90 Days				
Yes[1]	**35**	**26.1**	**182**	**35.5**
Courts martial proceedings	2	1.5	8	1.6
Article 15/Non-judicial punishment	7	5.2	64	12.5
Administrative separation proceedings	10	7.5	65	12.7
Away without leave/deserter status	4	3.0	13	2.5
Medical evaluation board proceedings	7	5.2	43	8.4
Civil legal proceedings	9	6.7	17	3.3
Non-selection for promotion	4	3.0	10	2.0
Under investigation	15	11.2	49	9.6
No	**97**	**72.4**	**328**	**64.1**
Unknown	**2**	**1.5**	**2**	**0.4**
Excessive Debt/Bankruptcy, Previous 90 Days				
Yes	**12**	**9.0**	**27**	**5.3**
No	**120**	**89.6**	**482**	**94.1**
Unknown	**2**	**1.5**	**3**	**0.6**
Workplace Issues, Previous 90 Days				
Yes[1]	**31**	**23.1**	**158**	**30.9**
Job problems	27	20.1	112	21.9
Supervisor/coworker issues	11	8.2	95	18.6
Poor performance review	10	7.5	44	8.6
Unit/workplace hazing	0	0.0	26	5.1
No	**101**	**75.4**	**352**	**68.8**
Unknown	**2**	**1.5**	**2**	**0.4**

Table 26 (cont.) Psychosocial determinants described in suicide and suicide-attempt DoDSER forms submitted for CY 2017, Army

	Suicide (n = 134)		Suicide Attempt (n = 512)	
	No.	%	No.	%
Abuse, Assault, or Harassment Victimization, Previous Year				
Yes[1]	**4**	**3.0**	**68**	**13.3**
Physical abuse or assault	1	0.7	27	5.3
Sexual abuse or assault	0	0.0	18	3.5
Emotional abuse	4	3.0	43	8.4
Sexual harassment	0	0.0	13	2.5
No	**128**	**95.5**	**442**	**86.3**
Unknown	**2**	**1.5**	**2**	**0.4**
Abuse, Assault, or Harassment Perpetration, Previous Year				
Yes[1]	**16**	**11.9**	**21**	**4.1**
Physical abuse or assault	9	6.7	11	2.1
Sexual abuse or assault	7	5.2	7	1.4
Emotional abuse	5	3.7	6	1.2
Sexual harassment	1	0.7	3	0.6
No	**116**	**86.6**	**489**	**95.5**
Unknown	**2**	**1.5**	**2**	**0.4**

[1]Subcategories are not mutually exclusive.

Chapter 6: Results Summary – U.S. Marine Corps

Summary

Overall, the characteristics of suicide and suicide-attempt cases observed in the CY 2017 data were consistent with those in the CY 2014 – CY 2016 data.

Introduction

This chapter presents an overview of the U.S. Marine Corps suicide and suicide attempt data. The DoDSER system collects data on demographic, contextual, behavioral health, historical, and risk-related factors for all instances of suicide and all medically identified suicide attempts. Data for cases involving both Active Component Marines and SELRES Marines who were in a duty status at the time of the event are presented in this chapter.

Variables of particular interest are presented in the following text; however, the reader is encouraged to review the DoDSER data tables that follow this chapter's text for the full Marine Corps data, presented separately by suicide and suicide-attempt event types.

This chapter presents case-counts and proportions of the total number of cases observed; it does not present suicide rates, which are covered in Chapter 2 of this report.

Occurrence of Suicide Mortality

As of March 31, 2018, the AFMES identified 43 confirmed or pending cases of suicide among active-duty Marines that occurred during CY 2017. All of the deaths occurred among members of the Active Component. A DoDSER form was submitted for all 43 (100%) of these deaths. The data on the 43 submitted forms were used to populate the tables included in this chapter.

Occurrence of Non-Fatal Suicide Attempts

Over the course of CY 2017, 293 non-fatal suicide attempts were identified. The associated DoDSER forms provided data on suicide attempts for 286 unique individuals as more than one attempt per individual could have occurred.

Note that only attempt events that are reported to the DoDSER system are able to be counted. It is likely that the true number of attempt events is higher.

Occurrence of Multiple Instances of Suicidal Behavior

One death was associated with one or more previously reported suicide attempt(s) that occurred between CY 2010 and CY 2017.

Dating back to 2010, a total of 8 suicide-attempt DoDSER forms had one or more previous suicide attempt(s) recorded in the DoDSER system. The median number of days between the most recent suicide attempt and the penultimate attempt was 52 days.

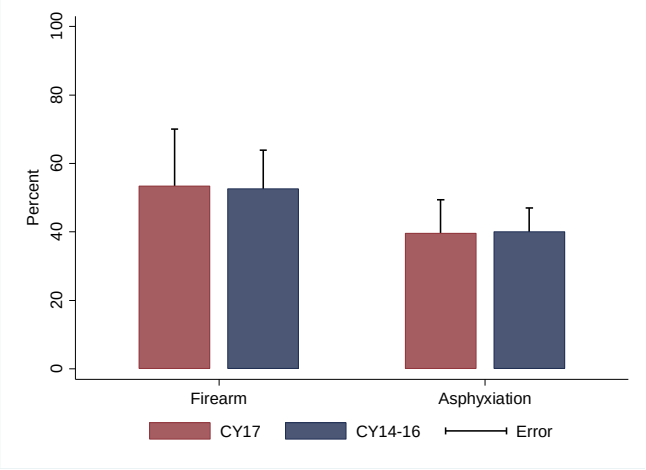

Figure 33. Percent of suicide DoDSER forms, by injury mechanism, Marine Corps, CY 2014 - CY 2017

Demographic Characteristics

The characteristics most commonly associated with suicide among Marines closely resembled the makeup of the Marine Corps overall. The most common demographics included:

- Non-Hispanic ethnicity
- White racial identity
- Male biological sex
- Age between 20 and 24 years
- Rank/grade of E1-E4
- No more than a high school education

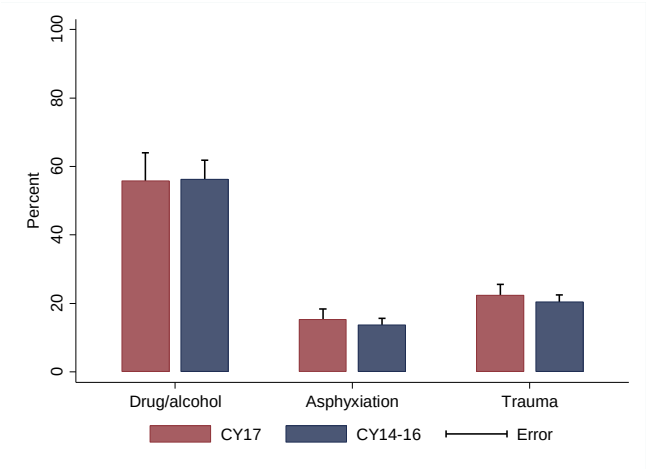

Figure 34. Percent of suicide-attempt DoDSER forms, by injury mechanism, Marine Corps, CY 2014 - CY 2017

The proportion of male (40 suicides, 232 suicide attempts) and female (3 suicides, 61 suicide attempts) Marines identified in each event type produced a demographic distinction between cases of suicide and cases of suicide attempt. Females accounted for 7.0 percent of suicide DoDSER forms and 20.8 percent of suicide-attempt DoDSER forms. For context, 8.3 percent of the Marine Corps' total population is female and 91.7 percent is male. Demographic and military service characteristics for all Marine Corps suicide and suicide-attempt DoDSER forms are detailed in Tables 27 and 28.

Method of Injury

Firearms were the most common (53.5%) method of injury resulting in death due to suicide.

The majority (78.2%) of the firearms used were personal possessions. Relatively few firearm deaths (21.7%) resulted from the self-directed use of a military-issued weapon. Figure 33 identifies the two most common methods of injury and the proportion of deaths attributed to those methods. These findings are consistent with the data from CY 2014 – CY 2016. Regarding suicide attempts, drug and/or alcohol overdose remained the most frequently reported mechanism of injury among suicide-attempt DoDSER forms (55.3%). The prevalence estimates

of these mechanisms of injury for CY 2017 were consistent with the data from CY 2014 – CY 2016. Additional data related to the event are reported in Table 29.

Behavioral Health History

Of those Marines who died by suicide in CY 2017, 30.2 percent had met criteria for at least one current or past behavioral health diagnosis. Adjustment disorders (16.3%) were the most common diagnosis. Among Marine Corps suicide-attempt DoDSER forms, 50.9 percent had at least one current or past behavioral health diagnosis present in their medical record. Substance-use disorders (25.9%), mood, and adjustment disorders (20.5% each) were the most common diagnoses. The only statistically significant difference between the prevalence estimates for CY 2017 and CY 2014 – CY 2016 was a reduction in the prevalence of sleep disorders reported in the suicide-attempt DoDSER forms.

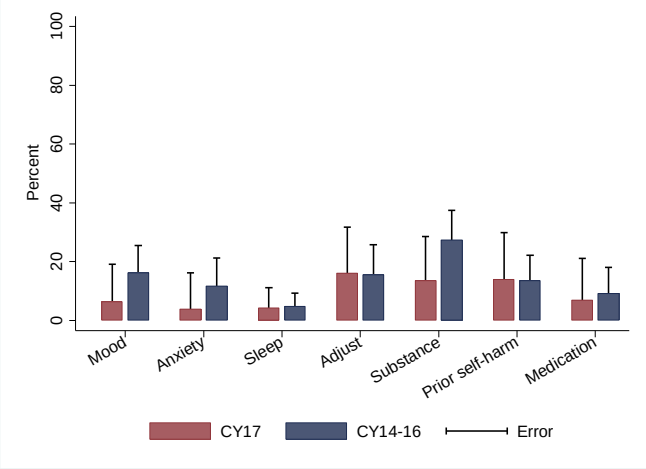

Figure 35. Percent of suicide DoDSER forms, by behavioral health factor, Marine Corps, CY 2014 - CY 2017

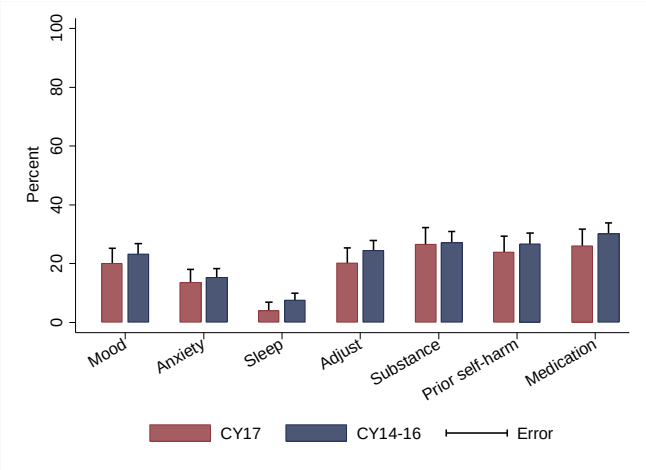

Figure 36. Percent of suicide-attempt DoDSER forms, by behavioral health factor, Marine Corps, CY 2014 - CY 2017

Table 30 provides data on behavioral health variables related to both common diagnoses and treatment utilization. Figure 35 displays the prevalence of various diagnoses, previous self-harm, and the use of psychotropic medication in the 90 days prior to a death by suicide. U.S. Marine Corps risk indicators for CY 2017 were consistent with the data from the previous three calendar years.

Figure 36 displays the prevalence of the same factors among Marine Corps suicide-attempt DoDSER forms. There was a significant decrease in the prevalence of sleep-related problems in CY 2017 compared to the three-year average for CY 2014 – CY 2016.

Health Care Utilization

Regardless of whether or not an individual voluntarily disclosed—or was assessed for—suicidal thoughts, feelings, and behavior, 34.9 percent of the Marines who died by suicide in CY 2017 had been in contact with the MHS in the 90 days prior to their death (Table 30).

In total, 16.3 percent of cases had received either inpatient (2.3%) or outpatient (16.3%) behavioral health services. A similar pattern was observed for suicide-attempt DoDSER forms. In total, 49.8 percent of the Marine Corps forms indicated contact with the MHS in the 90 days prior to the behavior.

This included both general visits (41.0%) and behavioral-health visits (33.5%). Of the latter, 10.6 percent of visits were for inpatient behavioral health and 31.7 percent were for outpatient behavioral health services.

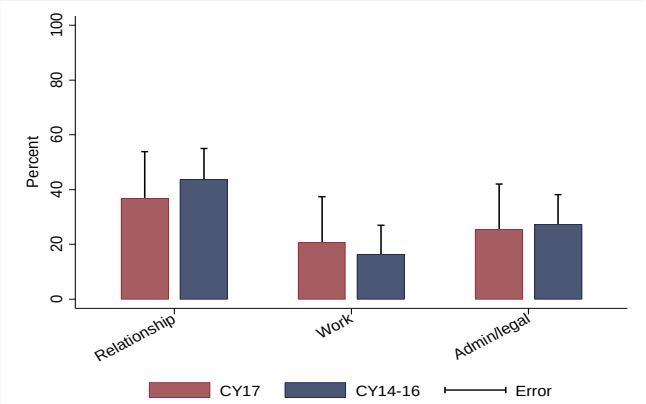

Figure 37. Percent of suicide DoDSER forms, by social stressor, Marine Corps, CY 2014 - CY 2017

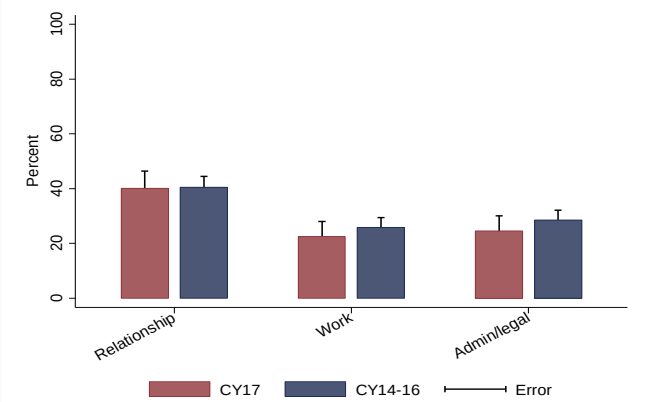

Figure 38. Percent of suicide-attempt DoDSER forms, by social stressor, Marine Corps, CY 2014 - CY 2017

Stressors

Figures 37 and 38 display the prevalence estimates of stressors queried in the DoDSER system from CY 2017 compared to the three-year average from CY 2014 – CY 2016. Table 31 also provides data for stressors pertaining to relationships, family issues, legal or administrative problems, work and financial difficulties, and abuse victimization or perpetration. The prevalence estimates of these factors were consistent over time for both suicide and suicide-attempt DoDSER forms.

Sexual Abuse, Assault, and Harassment

To better assess and understand any potential association between sexual assault and the occurrence of suicide and suicide attempts, data collected from the DoDSER system were matched against unrestricted sexual assault report records maintained by SAPRO.

Specific to the Marine Corps, there were six unrestricted reports of sexual assault that matched identifying information with cases of suicide and suicide attempt received by the DoDSER system during CY 2017. All six cases matched to suicide-attempt records. No suicide deaths matched on sexual assault records. Therefore, about 1.8 percent of the 336 Marine Corps DoDSER forms in 2017 were matched to unrestricted reports of sexual assault received by SAPRO.

Table 31 provides the number of sexual assaults recorded directly by the DoDSER system. Sexual abuse and assault data in Table 31 are based on information recorded in MHS' healthcare databases. This data may or may not match data from official reports of sexual assault, such as those captured in the Defense Sexual Assault Incident Database.

Table 27. Demographic characteristics[1] of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Marine Corps

	Suicide (n = 43)		Suicide Attempt (n = 293)	
	No.	%	No.	%
Sex				
Male	**40**	**93.0**	**232**	**79.2**
Female	**3**	**7.0**	**61**	**20.8**
Age				
17–19	**5**	**11.6**	**58**	**19.8**
20–24	**20**	**46.5**	**181**	**61.8**
25–29	**12**	**27.9**	**36**	**12.3**
30–34	**3**	**7.0**	**13**	**4.4**
35–39	**0**	**0.0**	**5**	**1.7**
40–44	**2**	**4.7**	**0**	**0.0**
45–59	**1**	**2.3**	**0**	**0.0**
Unknown	**0**	**0.0**	**0**	**0.0**
Race				
American Indian/Alaska Native	**0**	**0.0**	**8**	**2.7**
Asian/Pacific Islander	**3**	**7.0**	**13**	**4.4**
Black/African American	**5**	**11.6**	**47**	**16.0**
White/Caucasian	**35**	**81.4**	**222**	**75.8**
Other/Unknown	**0**	**0.0**	**3**	**1.0**
Ethnicity				
Hispanic	**6**	**14.0**	**63**	**21.5**
Not Hispanic	**37**	**86.0**	**228**	**77.8**
Unknown	**0**	**0.0**	**2**	**0.7**
Education				
Less than high school	**0**	**0.0**	**1**	**0.3**
Alternative high school	**0**	**0.0**	**1**	**0.3**
High school graduate	**41**	**95.3**	**280**	**95.6**
Associate's or technical degree	**1**	**2.3**	**4**	**1.4**
Four-year degree	**1**	**2.3**	**4**	**1.4**
Postgraduate	**0**	**0.0**	**2**	**0.7**
Unknown	**0**	**0.0**	**1**	**0.3**
Marital Status				
Never married	**26**	**60.5**	**197**	**67.2**
Married	**15**	**34.9**	**86**	**29.4**
Legally separated	**0**	**0.0**	**1**	**0.3**
Divorced	**2**	**4.7**	**8**	**2.7**
Widowed	**0**	**0.0**	**1**	**0.3**
Other/Unknown	**0**	**0.0**	**0**	**0.0**

[1]Data on demographic characteristics primarily provided by DMDC.

Table 28. Military characteristics[1] of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Marine Corps

	Suicide (n = 43)		Suicide Attempt (n = 293)	
	No.	%	No.	%
Component				
Active	**43**	**100.0**	**287**	**98.0**
Reserve	**0**	**0.0**	**6**	**2.0**
Guard	**0**	**0.0**	**0**	**0.0**
Rank/Grade				
Cadet/Midshipman	**0**	**0.0**	**0**	**0.0**
E1–E4	**27**	**62.8**	**252**	**86.0**
E5–E9	**14**	**32.6**	**37**	**12.6**
Warrant Officer	**0**	**0.0**	**0**	**0.0**
Officer	**2**	**4.7**	**3**	**1.0**
Unknown	**0**	**0.0**	**1**	**0.3**
Enlisted Occupational Group				
Infantry, gun crews and seamanship specialists	**7**	**16.3**	**50**	**17.1**
Electronic equipment repairers	**6**	**14.0**	**12**	**4.1**
Communications and intelligence specialists	**10**	**23.3**	**26**	**8.9**
Health care specialists	**0**	**0.0**	**0**	**0.0**
Other technical and allied specialists	**2**	**4.7**	**9**	**3.1**
Functional support and administration	**0**	**0.0**	**66**	**22.5**
Electrical/mechanical equipment repairers	**8**	**18.6**	**43**	**14.7**
Craftsworkers	**0**	**0.0**	**10**	**3.4**
Service and supply handlers	**6**	**14.0**	**39**	**13.3**
Non-occupational	**2**	**4.7**	**35**	**11.9**
Unknown	**0**	**0.0**	**0**	**0.0**
Officer Occupational Group				
General officers and executives	**0**	**0.0**	**0**	**0.0**
Tactical operations officers	**0**	**0.0**	**1**	**0.3**
Intelligence officers	**0**	**0.0**	**0**	**0.0**
Engineering and maintenance officers	**1**	**2.3**	**0**	**0.0**
Scientists and professionals	**0**	**0.0**	**0**	**0.0**
Health care officers	**0**	**0.0**	**0**	**0.0**
Administrators	**0**	**0.0**	**1**	**0.3**
Supply, procurement and allied officers	**1**	**2.3**	**0**	**0.0**
Non-occupational	**0**	**0.0**	**1**	**0.3**
Unknown	**0**	**0.0**	**0**	**0.0**
History of Deployment				
Yes	**22**	**51.2**	**42**	**14.3**
Number of deployments				
1	14	32.6	24	8.2
2	4	9.3	12	4.1
3 or more	4	9.3	6	2.0
Specific deployment locations[2]				
Afghanistan	11	25.6	21	7.2
Iraq	6	14.0	11	3.8
Kuwait	3	7.0	13	4.4
No	**21**	**48.8**	**250**	**85.3**
Unknown	**0**	**0.0**	**1**	**0.3**

[1]Data on military characteristics primarily provided by DMDC.
[2]Subcategories are not mutually exclusive.

Table 29. Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Marine Corps

	Suicide (n = 43)		Suicide Attempt (n = 293)	
	No.	%	No.	%
Event Location Country				
United States	**36**	**83.7**	**248**	**84.6**
Iraq	**0**	**0.0**	**0**	**0.0**
Afghanistan	**0**	**0.0**	**0**	**0.0**
Kuwait	**0**	**0.0**	**1**	**0.3**
Korea	**0**	**0.0**	**1**	**0.3**
Other Europe	**0**	**0.0**	**0**	**0.0**
North America	**1**	**2.3**	**0**	**0.0**
Central or South America	**0**	**0.0**	**0**	**0.0**
Japan	**5**	**11.6**	**32**	**10.9**
Germany	**0**	**0.0**	**0**	**0.0**
United Kingdom	**0**	**0.0**	**0**	**0.0**
Other	**1**	**2.3**	**1**	**0.3**
Unknown	**0**	**0.0**	**10**	**3.4**
Event Setting				
Own residence	**8**	**18.6**	**63**	**21.5**
Barracks	**15**	**34.9**	**171**	**58.4**
Residence of friend or family	**7**	**16.3**	**10**	**3.4**
Work/jobsite	**6**	**14.0**	**6**	**2.0**
Automobile	**4**	**9.3**	**13**	**4.4**
Inpatient medical facility	**0**	**0.0**	**3**	**1.0**
Hotel	**1**	**2.3**	**3**	**1.0**
Other	**2**	**4.7**	**19**	**6.5**
Unknown	**0**	**0.0**	**5**	**1.7**
Event Method[1]				
Drugs/alcohol	**2**	**4.7**	**162**	**55.3**
Hanging/asphyxiation	**17**	**39.5**	**47**	**16.0**
Poisoning	**0**	**0.0**	**6**	**2.0**
Firearm	**23**	**53.5**	**8**	**2.7**
Military firearm	5	11.6	0	0.0
Non-military firearm	18	41.9	8	2.7
Firearm of unknown origin	0	0.0	0	0.0
Trauma, sharp or blunt force	**1**	**2.3**	**64**	**21.8**
Other	**0**	**0.0**	**5**	**1.7**
Pending/unknown	**0**	**0.0**	**1**	**0.3**
Used Alcohol During Event				
Yes	**12**	**27.9**	**91**	**31.1**
No	**17**	**39.5**	**193**	**65.9**
Unknown	**14**	**32.6**	**9**	**3.1**

Table 29 (cont.) Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Marine Corps

	Suicide (n = 43)		Suicide Attempt (n = 293)	
	No.	%	No.	%
Used Drugs During Event				
Yes	**2**	**4.7**	**155**	**52.9**
Illegal drugs				
Used, overdose	0	0.0	7	2.4
Used, no overdose	0	0.0	6	2.0
Prescription drugs				
Used, overdose	2	4.7	69	23.5
Used, no overdose	0	0.0	14	4.8
Non-prescription drugs				
Used, overdose	1	2.3	75	25.6
Used, no overdose	0	0.0	11	3.8
No	**25**	**58.1**	**130**	**44.4**
Unknown	**16**	**37.2**	**8**	**2.7**
Death-Risk Gambling				
Yes	**2**	**4.7**	**7**	**2.4**
No	**41**	**95.3**	**284**	**96.9**
Unknown	**0**	**0.0**	**2**	**0.7**
Planned/Premeditated				
Yes	**16**	**37.2**	**109**	**37.2**
No	**27**	**62.8**	**183**	**62.5**
Unknown	**0**	**0.0**	**1**	**0.3**
Observable				
Yes	**11**	**25.6**	**151**	**51.5**
No	**32**	**74.4**	**133**	**45.4**
Unknown	**0**	**0.0**	**9**	**3.1**
Suicide Note Left				
Yes	**8**	**18.6**	**20**	**6.8**
No	**33**	**76.7**	**268**	**91.5**
Unknown	**2**	**4.7**	**5**	**1.7**
Communicated Potential for Self-Harm (Other than Suicide Note)				
Yes	**11**	**25.6**	**45**	**15.4**
How communicated[2]				
Written	1	2.3	0	0.0
Verbal	7	16.3	23	7.8
Text	4	9.3	21	7.2
Other	1	2.3	3	1.0
To whom communicated[2]				
Supervisor	3	7.0	5	1.7
Chaplain	0	0.0	0	0.0
Mental health staff	1	2.3	9	3.1
Friend	2	4.7	19	6.5
Spouse	4	9.3	14	4.8
Family	2	4.7	5	1.7
Other	2	4.7	5	1.7
No	**32**	**74.4**	**246**	**84.0**
Unknown	**0**	**0.0**	**2**	**0.7**

Table 29 (cont.) Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Marine Corps

	Suicide (n = 43)		Suicide attempt (n = 293)	
	No.	%	No.	%
Residence at Time of Event				
Barracks	**18**	**41.9**	**198**	**67.6**
Bachelor Enlisted/Officer Quarters	**8**	**18.6**	**5**	**1.7**
On-base family housing	**3**	**7.0**	**18**	**6.1**
Off-base	**13**	**30.2**	**54**	**18.4**
Ship	**1**	**2.3**	**1**	**0.3**
Other	**0**	**0.0**	**9**	**3.1**
Unknown	**0**	**0.0**	**8**	**2.7**
Reside Alone at Time of Event				
Yes	**11**	**25.6**	**62**	**21.2**
No	**32**	**74.4**	**219**	**74.7**
Unknown	**0**	**0.0**	**12**	**4.1**
Gun in Home/Immediate Environment				
Yes	**20**	**46.5**	**13**	**4.4**
No	**21**	**48.8**	**269**	**91.8**
Unknown	**2**	**4.7**	**11**	**3.8**
Duty Environment[2]				
Garrison/permanent duty station	**33**	**76.7**	**230**	**78.5**
Leave	**6**	**14.0**	**7**	**2.4**
Temporary duty	**2**	**4.7**	**4**	**1.4**
Training	**2**	**4.7**	**32**	**10.9**
Other	**6**	**14.0**	**26**	**8.9**
Deployed at Time of Event				
Yes	**3**	**7.0**	**5**	**1.7**
Location				
Afghanistan	0	0.0	1	0.3
Kuwait	0	0.0	1	0.3
Other/Unknown	3	7.0	3	1.0
No	**40**	**93.0**	**288**	**98.3**

[1]Data on the cause of the death were provided by AFMES.
[2]Subcategories are not mutually exclusive.

Table 30. Medical and behavioral characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Marine Corps

	Suicide (n = 43)		Suicide Attempt (n = 293)	
	No.	%	No.	%
Any Mental Health Diagnosis				
Yes[1]	**13**	**30.2**	**149**	**50.9**
Mood disorder	3	7.0	60	20.5
Anxiety disorder[2]	2	4.7	41	14.0
Personality disorder	1	2.3	16	5.5
Psychotic disorder	0	0.0	2	0.7
Adjustment disorder	7	16.3	60	20.5
Substance abuse disorder	6	14.0	76	25.9
No	**30**	**69.8**	**144**	**49.1**
Unknown	**0**	**0.0**	**0**	**0.0**
Sleep Disorder				
Yes	**4**	**9.3**	**11**	**3.8**
No	**39**	**90.7**	**282**	**96.2**
Unknown	**0**	**0.0**	**0**	**0.0**
History of Traumatic Brain Injury				
Yes	**0**	**0.0**	**6**	**2.0**
No	**43**	**100.0**	**287**	**98.0**
Unknown	**0**	**0.0**	**0**	**0.0**
Family History of Mental Illness				
Yes	**2**	**4.7**	**79**	**27.0**
No	**41**	**95.3**	**213**	**72.7**
Unknown	**0**	**0.0**	**1**	**0.3**
Previous Self-Injury				
Yes	**6**	**14.0**	**70**	**23.9**
Number of previous self-injuries				
One	3	7.0	31	10.6
More than one	2	4.7	39	13.3
Unknown	1	2.3	0	0.0
Current event similar to previous	1	2.3	37	12.6
No	**37**	**86.0**	**223**	**76.1**
Unknown	**0**	**0.0**	**0**	**0.0**
Psychotropic Medications, Previous 90 Days				
Yes[1]	**3**	**7.0**	**76**	**25.9**
Antidepressant	2	4.7	68	23.2
Antianxiety	2	4.7	26	8.9
Antimanic	0	0.0	2	0.7
Anticonvulsant	0	0.0	4	1.4
Antipsychotic	0	0.0	6	2.0
Sleep medication	2	4.7	32	10.9
No	**40**	**93.0**	**217**	**74.1**
Unknown	**0**	**0.0**	**0**	**0.0**

Table 30 (cont.) Medical and behavioral characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Marine Corps

	Suicide (n = 43)		Suicide Attempt (n = 293)	
	No.	%	No.	%
Pain Medication at Time of Event				
Yes	**6**	**14.0**	**31**	**10.6**
Opioid medication	0	0.0	7	2.4
No	**37**	**86.0**	**262**	**89.4**
Unknown	**0**	**0.0**	**0**	**0.0**
Health/Social Services, Previous 90 Days				
Yes[1]	**15**	**34.9**	**146**	**49.8**
Medical treatment facility	13	30.2	120	41.0
Substance Abuse Services	1	2.3	22	7.5
Family Assistance Program	1	2.3	9	3.1
Outpatient mental health	7	16.3	93	31.7
Inpatient mental health	1	2.3	31	10.6
No	**28**	**65.1**	**147**	**50.2**
Unknown	**0**	**0.0**	**0**	**0.0**

[1]Subcategories are not mutually exclusive.
[2]Data collection form used for this CY used DSM-IV taxonomy for behavioral health diagnoses; thus, posttraumatic stress disorder is subsumed under the "Anxiety Disorder" category.

Table 31. Psychosocial determinants described in suicide and suicide-attempt DoDSER forms submitted for CY 2017, Marine Corps

	Suicide (n = 43)		Suicide Attempt (n = 293)	
	No.	%	No.	%
Failed or Failing Relationship, Previous 90 Days				
Yes[1]	**16**	**37.2**	**117**	**39.9**
Intimate relationship	**13**	**30.2**	**105**	**35.8**
Other relationship	**5**	**11.6**	**25**	**8.5**
No	**27**	**62.8**	**176**	**60.1**
Unknown	**0**	**0.0**	**0**	**0.0**
Family/Friend Stressors, Previous 90 Days				
Yes[1]	**2**	**4.7**	**22**	**7.5**
Death of spouse or other family member (not suicide)	1	2.3	11	3.8
Death of friend (not suicide)	0	0.0	4	1.4
Serious illness of friend or family member	1	2.3	10	3.4
No	**41**	**95.3**	**271**	**92.5**
Unknown	**0**	**0.0**	**0**	**0.0**
History of Family/Friend Death by Suicide				
Yes[1]	**3**	**7.0**	**33**	**11.3**
Spouse	0	0.0	0	0.0
Family other than spouse	1	2.3	18	6.1
Friend	2	4.7	19	6.5
No	**40**	**93.0**	**260**	**88.7**
Unknown	**0**	**0.0**	**0**	**0.0**
Administrative/Legal Problems, Previous 90 Days				
Yes[1]	**11**	**25.6**	**73**	**24.9**
Courts martial proceedings	0	0.0	4	1.4
Article 15/Non-judicial punishment	1	2.3	23	7.8
Administrative separation proceedings	0	0.0	23	7.8
Away without leave/deserter status	1	2.3	6	2.0
Medical evaluation board proceedings	1	2.3	16	5.5
Civil legal proceedings	2	4.7	6	2.0
Non-selection for promotion	5	11.6	7	2.4
Under investigation	4	9.3	22	7.5
No	**32**	**74.4**	**220**	**75.1**
Unknown	**0**	**0.0**	**0**	**0.0**
Excessive Debt/Bankruptcy, Previous 90 Days				
Yes	**2**	**4.7**	**12**	**4.1**
No	**41**	**95.3**	**281**	**95.9**
Unknown	**0**	**0.0**	**0**	**0.0**
Workplace Issues, Previous 90 Days				
Yes[1]	**9**	**20.9**	**69**	**23.5**
Job problems	3	7.0	49	16.7
Supervisor/coworker issues	3	7.0	33	11.3
Poor performance review	6	14	22	7.5
Unit/workplace hazing	0	0.0	3	1.0
No	**34**	**79.1**	**224**	**76.5**
Unknown	**0**	**0.0**	**0**	**0.0**

Table 31 (cont.) Psychosocial determinants described in suicide and suicide-attempt DoDSER forms submitted for CY 2017, Marine Corps

	Suicide (n = 43)		Suicide Attempt (n = 293)	
	No.	%	No.	%
Abuse, Assault, or Harassment Victimization, Previous Year				
Yes[1]	**2**	**4.7**	**27**	**9.2**
Physical abuse or assault	1	2.3	14	4.8
Sexual abuse or assault	0	0.0	13	4.4
Emotional abuse	1	2.3	12	4.1
Sexual harassment	0	0.0	4	1.4
No	**41**	**95.3**	**266**	**90.8**
Unknown	**0**	**0.0**	**0**	**0.0**
Abuse, Assault, or Harassment Perpetration, Previous Year				
Yes[1]	**2**	**4.7**	**12**	**4.1**
Physical abuse or assault	1	2.3	10	3.4
Sexual abuse or assault	2	4.7	4	1.4
Emotional abuse	1	2.3	1	0.3
Sexual harassment	0	0.0	0	0.0
No	**41**	**95.3**	**281**	**95.9**
Unknown	**0**	**0.0**	**0**	**0.0**

[1]Subcategories are not mutually exclusive.

Chapter 7: Results Summary – U.S. Navy

Summary

Overall, the characteristics of suicide and suicide attempt cases observed in the CY 2017 data were consistent with those in the CY 2014 – CY 2016 data.

Introduction

This chapter presents an overview of the U.S. Navy suicide and suicide attempt data. The DoDSER system collects data on demographic, contextual, behavioral health, historical, and risk-related factors for all instances of suicide and all medically identified suicide attempts. Data for cases involving both Active Component Sailors and SELRES Sailors who were in a duty status at the time of the event are presented in this chapter.

Variables of particular interest are presented in the following text; however, the reader is encouraged to review the DoDSER data tables that follow this chapter's text for the full Navy data, presented separately by suicide and suicide attempt event types.

This chapter presents case-counts and proportions of the total number of cases observed; it does not present suicide rates, which are covered in Chapter 2 of this report.

Occurrence of Suicide Mortality

As of March 31, 2018, the AFMES had identified 69 confirmed or pending cases of suicide among active-duty sailors that occurred during CY 2017. A total of 65 of these deaths occurred among members of the Active Component. The remaining four deaths occurred among SELRES sailors who were in a duty status at the time of their death. A DoDSER form was submitted for all 69 (100%) of these deaths. The data on the 69 submitted forms were used to populate the tables included in this chapter.

Occurrence of Non-Fatal Suicide Attempts

Over the course of CY 2017, 172 non-fatal suicide attempts were identified. The associated DoDSER forms provided data on suicide attempts for 165 unique individuals since more than one attempt per individual could have occurred.

Note that only attempt events that are reported to the DoDSER system are able to be counted. It is likely that the true number of attempt events is higher.

Occurrence of Multiple Instances of Suicidal Behavior

No death was associated with one or more previously reported suicide attempt(s) that occurred between CY 2010 and CY 2017.

Dating back to 2010, nine suicide-attempt DoDSER forms had one or more previous suicide attempt(s) recorded in the DoDSER system. The median number of days between the most recent suicide attempt and the penultimate attempt was 63 days.

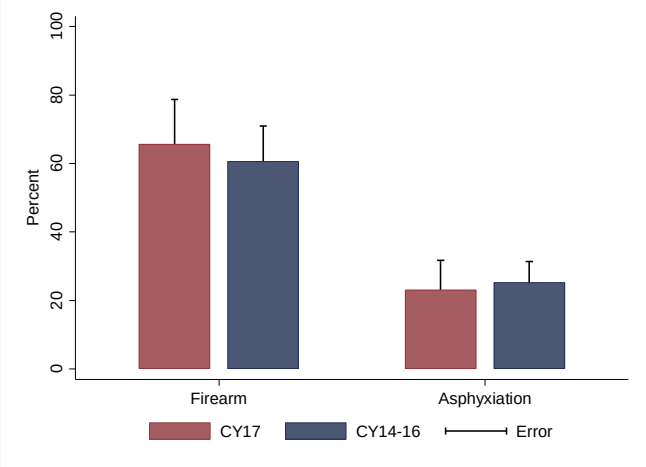

Figure 39. Percent of suicide DoDSER forms, by injury mechanism, Navy, CY 2014 - CY 2017

Demographic Characteristics

The characteristics most commonly associated with suicide among Sailors closely resembled the makeup of the Navy overall. The most common demographics included:

- Non-Hispanic ethnicity
- White racial identity
- Male biological sex
- Age between 20 and 24 years
- Rank/grade of E1-E4
- No more than a high school education

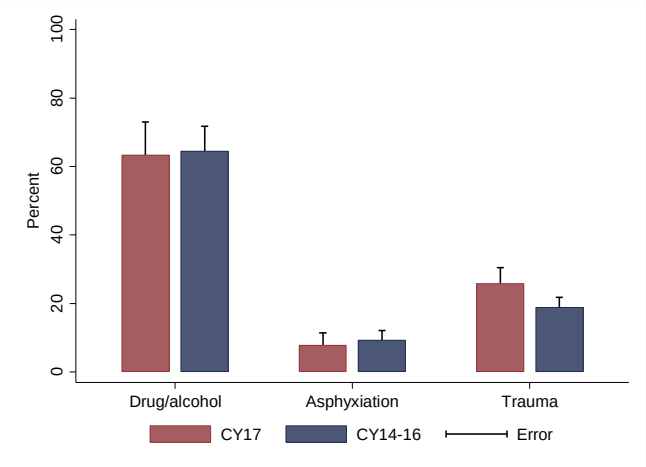

Figure 40. Percent of suicide-attempt DoDSER forms, by injury mechanism, Navy, CY 2014 - CY 2017

The proportion of male (64 suicides, 97 suicide attempts) and female (5 suicides, 75 suicide attempts) Sailors identified in each event type produced a demographic distinction between cases of suicide and cases of suicide attempt. Females accounted for 7.2 percent of suicide DoDSER forms and 43.6 percent of suicide-attempt DoDSER forms. For context, 19.17 percent of the Navy's total population is female and 80.83 percent is male. Demographic and military service characteristics for all Navy suicide and suicide-attempt DoDSER forms are detailed in Tables 32 and 33.

Method of Injury

Firearms were the most common (63.8%) method of injury resulting in death due to suicide.

The majority (90.9%) of the firearms used were personal possessions. Relatively few firearm deaths (9.1%) resulted from the self-directed use of a military-issued weapon. Figure 39 identifies the two most common methods of injury and the proportion of deaths due to those methods. These findings were consistent with the data from CY 2014 – CY 2016. Regarding suicide attempts, drug and/or alcohol overdose remained the most frequently reported mechanism of injury among suicide-attempt DoDSER forms (61.6%). As seen in Figure 40,

trauma associated with a fall or sharp/blunt injury (24.4%) and hanging/asphyxiation (9.9%) are the other most commonly identified mechanisms of injury for suicide attempts. The prevalence estimates of these mechanisms of injury for CY 2017 were consistent with the data from CY 2014 – CY 2016. Additional data on the event context are reported in Table 34.

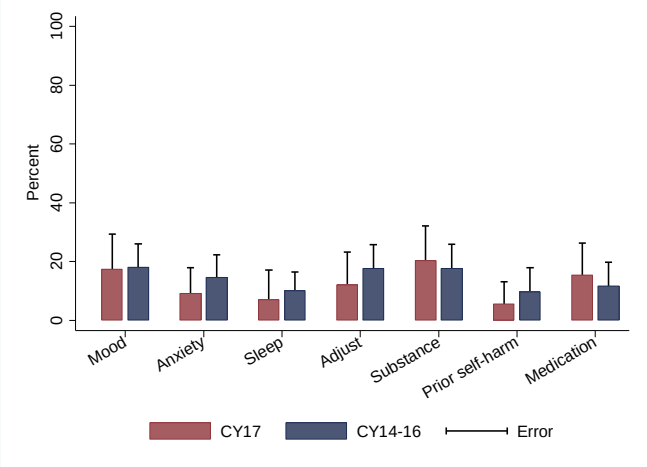

Figure 41. Percent of suicide DoDSER forms, by behavioral health factor, Navy, CY 2014 - CY 2017

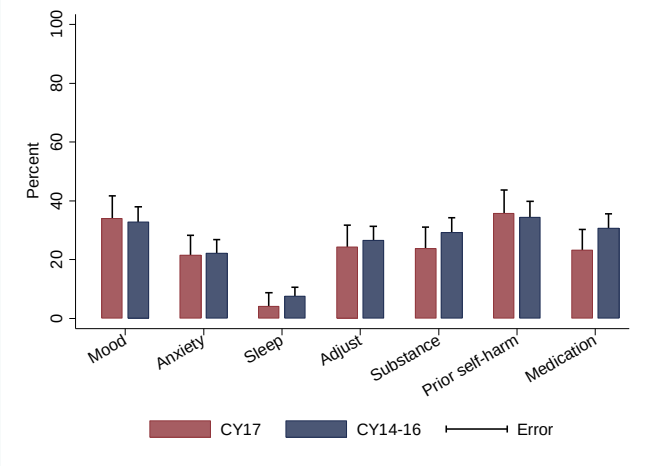

Figure 42. Percent of suicide-attempt DoDSER forms, by behavioral health factor, Navy, CY 2014 - CY 2017

Behavioral Health History

Of those Sailors who died by suicide in CY 2017, 43.5 percent had met criteria for at least one current or past behavioral health diagnosis. Mood (20.3%) and substance-abuse disorders (21.7%) were common. Conversely, 56.5 percent of Sailors who died by suicide had no known history of a behavioral health diagnosis.

Among Navy suicide-attempt DoDSER forms, 62.8 percent had at least one current or past behavioral health diagnosis present in their medical record. Substance-use (23.8%), adjustment (23.8%), and anxiety (22.7%) disorders were common. However, the most frequent diagnosis in this group pertained to a mood disorder (34.3%). Among those who attempted suicide, 36.0 percent of Sailors had no known behavioral health history.

Table 35 provides data on behavioral health variables related to both common diagnoses and treatment utilization. Figure 41 displays the prevalence of various diagnoses, previous self-harm, and the use of psychotropic medication in the 90 days prior to a death by suicide. United States Navy risk indicators for CY 2017 were consistent with the data from the previous three calendar years. Figure 42 displays the prevalence of the same factors among Navy suicide-attempt DoDSER forms.

Health Care Utilization

Regardless of whether or not an individual voluntarily disclosed—or was assessed for—suicidal thoughts, feelings, and behavior, 47.8 percent of the Sailors who died by suicide in CY 2017 had been in contact with the MHS in the 90 days prior to their deaths (Table 35).

In total, 29.0 percent of cases had received either inpatient (7.2%) or outpatient (29.0%) behavioral health services.

A similar pattern was observed for suicide-attempt DoDSER forms. In total, 51.7 percent of the Navy forms indicated contact with the MHS in the 90 days prior to the behavior.

This included both general visits (40.1%) and behavioral-health visits (41.9%). Of the latter, 12.8 percent of visits were for inpatient behavioral health and 40.1 percent were for outpatient behavioral health services.

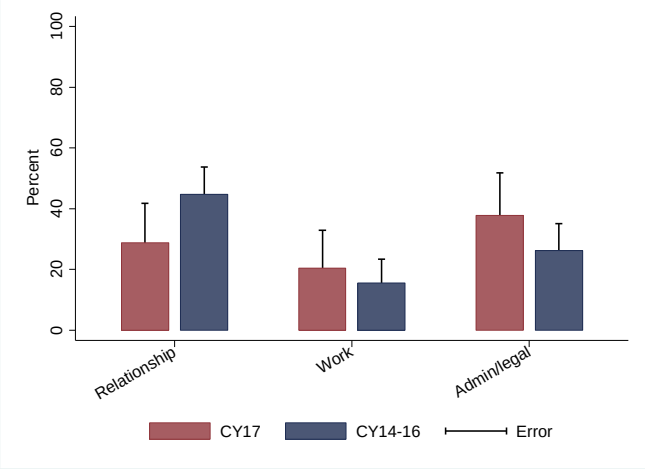

Figure 43. Percent of suicide DoDSER forms, by social stressor, Navy, CY 2014 - CY 2017

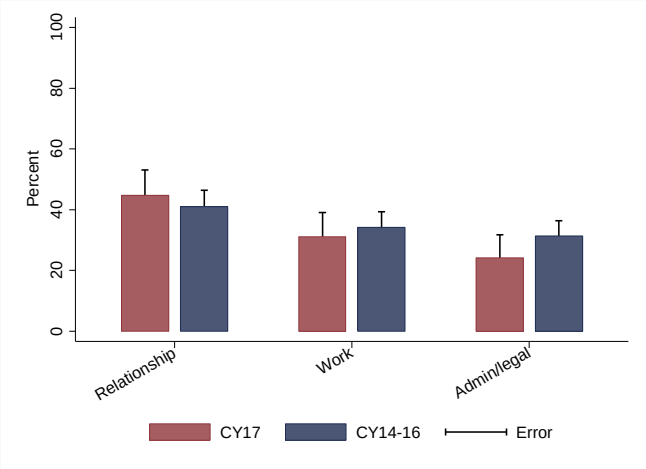

Figure 44. Percent of suicide-attempt DoDSER forms, by social stressor, Navy, CY 2014 - CY 2017

Stressors

Figures 43 and 44 display the prevalence estimates of common stressors queried by the DoDSER system from CY 2017 compared to the three-year average from CY 2014 – CY 2016. Table 36 also provides data for stressors pertaining to relationships, family issues, legal or administrative problems, work and financial difficulties, and abuse victimization or perpetration. The prevalence estimates of these factors was consistent over time for both suicide and suicide-attempt forms.

Sexual Abuse, Assault, and Harassment

To better assess and understand any potential association between sexual assault and the occurrence of suicide and suicide attempts, data collected from the DoDSER system were matched against unrestricted sexual assault report records maintained by SAPRO.

Specific to the Navy, there were 10 unrestricted reports of sexual assault that matched identifying information with cases of suicide and suicide attempt received by the DoDSER system during CY 2017. There were nine suicide attempt case matches and one match of death

by suicide. Therefore, 4.1 percent of the 241 Navy DoDSER records in 2017 were matched to unrestricted reports of sexual assault received by SAPRO.

Table 36 provides the number of sexual assaults recorded directly by the DoDSER system. Discrepancies between those cases identified by SAPRO and those identified on the DoDSER forms could be due to several factors, including utilization of the restricted reporting option.

Table 32. Demographic characteristics[1] of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Navy

	Suicide (n = 69)		Suicide Attempt (n = 172)	
	No.	%	No.	%
Sex				
Male	**64**	**92.8**	**97**	**56.4**
Female	**5**	**7.2**	**75**	**43.6**
Age				
17–19	**3**	**4.3**	**14**	**8.1**
20–24	**19**	**27.5**	**87**	**50.6**
25–29	**18**	**26.1**	**48**	**27.9**
30–34	**14**	**20.3**	**12**	**7.0**
35–39	**7**	**10.1**	**4**	**2.3**
40–44	**7**	**10.1**	**4**	**2.3**
45–59	**1**	**1.4**	**3**	**1.7**
Unknown	**0**	**0.0**	**0**	**0.0**
Race				
American Indian/Alaska Native	**2**	**2.9**	**4**	**2.3**
Asian/Pacific Islander	**4**	**5.8**	**13**	**7.6**
Black/African American	**7**	**10.1**	**43**	**25.0**
White/Caucasian	**55**	**79.7**	**109**	**63.4**
Other/Unknown	**1**	**1.4**	**3**	**1.7**
Ethnicity				
Hispanic	**12**	**17.4**	**39**	**22.7**
Not Hispanic	**57**	**82.6**	**132**	**76.7**
Unknown	**0**	**0.0**	**1**	**0.6**
Education				
Less than high school	**0**	**0.0**	**1**	**0.6**
Alternative high school	**2**	**2.9**	**2**	**1.2**
High school graduate	**54**	**78.3**	**150**	**87.2**
Associate's or technical degree	**3**	**4.3**	**10**	**5.8**
Four-year degree	**6**	**8.7**	**5**	**2.9**
Postgraduate	**4**	**5.8**	**4**	**2.3**
Unknown	**0**	**0.0**	**0**	**0.0**
Marital Status				
Never married	**26**	**37.7**	**85**	**49.4**
Married	**37**	**53.6**	**80**	**46.5**
Legally separated	**0**	**0.0**	**1**	**0.6**
Divorced	**6**	**8.7**	**6**	**3.5**
Widowed	**0**	**0.0**	**0**	**0.0**
Other/Unknown	**0**	**0.0**	**0**	**0.0**

[1]Data on demographic characteristics primarily provided by DMDC.

Table 33. Military characteristics[1] of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Navy				
	Suicide (n = 69)		Suicide Attempt (n = 172)	
	No.	%	No.	%
Component				
Active	**65**	**94.2**	**164**	**95.3**
Reserve	**4**	**5.8**	**8**	**4.7**
Guard	**0**	**0.0**	**0**	**0.0**
Rank/Grade				
Cadet/Midshipman	**1**	**1.4**	**0**	**0.0**
E1–E4	**25**	**36.2**	**114**	**66.3**
E5–E9	**38**	**55.1**	**47**	**27.3**
Warrant Officer	**1**	**1.4**	**0**	**0.0**
Officer	**4**	**5.8**	**9**	**5.2**
Unknown	**0**	**0.0**	**2**	**1.2**
Enlisted Occupational Group				
Infantry, gun crews and seamanship specialists	**5**	**7.2**	**11**	**6.4**
Electronic equipment repairers	**13**	**18.8**	**20**	**11.6**
Communications and intelligence specialists	**5**	**7.2**	**18**	**10.5**
Healthcare specialists	**5**	**7.2**	**36**	**20.9**
Other technical and allied specialists	**0**	**0.0**	**0**	**0.0**
Functional support and administration	**6**	**8.7**	**21**	**12.2**
Electrical/mechanical equipment repairers	**20**	**29.0**	**35**	**20.3**
Craftsworkers	**4**	**5.8**	**5**	**2.9**
Service and supply handlers	**5**	**7.2**	**10**	**5.8**
Non-occupational	**1**	**1.4**	**7**	**4.1**
Unknown	**0**	**0.0**	**0**	**0.0**
Officer Occupational Group				
General officers and executives	**0**	**0.0**	**0**	**0.0**
Tactical operations officers	**2**	**2.9**	**2**	**1.2**
Intelligence officers	**0**	**0.0**	**2**	**1.2**
Engineering and maintenance officers	**2**	**2.9**	**0**	**0.0**
Scientists and professionals	**0**	**0.0**	**0**	**0.0**
Health care officers	**0**	**0.0**	**5**	**2.9**
Administrators	**0**	**0.0**	**0**	**0.0**
Supply, procurement and allied officers	**1**	**1.4**	**0**	**0.0**
Non-occupational	**0**	**0.0**	**0**	**0.0**
Unknown	**0**	**0.0**	**0**	**0.0**
History of Deployment				
Yes	**47**	**68.1**	**73**	**42.4**
Number of deployments				
1	23	33.3	42	24.4
2	13	18.8	24	14.0
3 or more	11	15.9	7	4.1
Specific deployment locations[2]				
Afghanistan	7	10.1	8	4.7
Iraq	6	8.7	4	2.3
Kuwait	6	8.7	6	3.5
No	**22**	**31.9**	**96**	**55.8**
Unknown	**0**	**0.0**	**3**	**1.7**

[1]Data on military characteristics primarily provided by DMDC.
[2]Subcategories are not mutually exclusive.

Table 34. Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Navy				
	Suicide (n = 69)		Suicide Attempt (n = 172)	
	No.	%	No.	%
Event Location Country				
United States	**67**	**97.1**	**143**	**83.1**
Iraq	**0**	**0.0**	**0**	**0.0**
Afghanistan	**0**	**0.0**	**0**	**0.0**
Kuwait	**0**	**0.0**	**0**	**0.0**
Korea	**0**	**0.0**	**0**	**0.0**
Other Europe	**0**	**0.0**	**2**	**1.2**
North America	**0**	**0.0**	**3**	**1.7**
Central or South America	**0**	**0.0**	**0**	**0.0**
Japan	**1**	**1.4**	**6**	**3.5**
Germany	**0**	**0.0**	**0**	**0.0**
United Kingdom	**0**	**0.0**	**0**	**0.0**
Other	**1**	**1.4**	**10**	**5.8**
Unknown	**0**	**0.0**	**8**	**4.7**
Event Setting				
Own residence	**37**	**53.6**	**75**	**43.6**
Barracks	**5**	**7.2**	**50**	**29.1**
Residence of friend or family	**6**	**8.7**	**7**	**4.1**
Work/jobsite	**5**	**7.2**	**11**	**6.4**
Automobile	**7**	**10.1**	**5**	**2.9**
Inpatient medical facility	**0**	**0.0**	**0**	**0.0**
Hotel	**4**	**5.8**	**2**	**1.2**
Other	**5**	**7.2**	**19**	**11.0**
Unknown	**0**	**0.0**	**3**	**1.7**
Event Method[1]				
Drugs/alcohol	**3**	**4.3**	**106**	**61.6**
Hanging/asphyxiation	**15**	**21.7**	**17**	**9.9**
Poisoning	**5**	**7.2**	**2**	**1.2**
Firearm	**44**	**63.8**	**2**	**1.2**
Military firearm	4	5.8	1	0.6
Non-military firearm	40	58.0	1	0.6
Firearm of unknown origin	0	0.0	0	0.0
Trauma, sharp or blunt force	**2**	**2.9**	**42**	**24.4**
Other	**0**	**0.0**	**1**	**0.6**
Pending/unknown	**0**	**0.0**	**2**	**1.2**
Used Alcohol During Event				
Yes	**20**	**29.0**	**52**	**30.2**
No	**34**	**49.3**	**113**	**65.7**
Unknown	**15**	**21.7**	**7**	**4.1**

Table 34 (cont). Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Navy

	Suicide (n = 69)		Suicide Attempt (n = 172)	
	No.	%	No.	%
Used Drugs During Event				
Yes	**7**	**10.1**	**92**	**53.5**
Illegal drugs				
Used, overdose	0	0.0	6	3.5
Used, no overdose	2	2.9	1	0.6
Prescription drugs				
Used, overdose	2	2.9	54	31.4
Used, no overdose	2	2.9	7	4.1
Non-prescription drugs				
Used, overdose	3	4.3	38	22.1
Used, no overdose	2	2.9	3	1.7
No	**43**	**62.3**	**75**	**43.6**
Unknown	**19**	**27.5**	**5**	**2.9**
Death-Risk Gambling				
Yes	**3**	**4.3**	**11**	**6.4**
No	**66**	**95.7**	**159**	**92.4**
Unknown	**0**	**0.0**	**2**	**1.2**
Planned/Premeditated				
Yes	**23**	**33.3**	**33**	**19.2**
No	**46**	**66.7**	**137**	**79.7**
Unknown	**0**	**0.0**	**2**	**1.2**
Observable				
Yes	**9**	**13.0**	**76**	**44.2**
No	**58**	**84.1**	**86**	**50.0**
Unknown	**2**	**2.9**	**10**	**5.8**
Suicide Note Left				
Yes	**16**	**23.2**	**22**	**12.8**
No	**52**	**75.4**	**146**	**84.9**
Unknown	**1**	**1.4**	**4**	**2.3**
Communicated Potential for Self-Harm (Other than Suicide Note)				
Yes	**19**	**27.5**	**40**	**23.3**
How communicated[2]				
Written	1	1.4	4	2.3
Verbal	13	18.8	25	14.5
Text	5	7.2	11	6.4
Other	1	1.4	1	0.6
To whom communicated[2]				
Supervisor	4	5.8	1	0.6
Chaplain	2	2.9	3	1.7
Mental health staff	7	10.1	7	4.1
Friend	4	5.8	19	11.0
Spouse	6	8.7	16	9.3
Family	0	0.0	3	1.7
Other	1	1.4	1	0.6
No	**50**	**72.4**	**130**	**75.6**
Unknown	**0**	**0.0**	**2**	**1.2**

Table 34 (cont.). Event characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Navy				
	Suicide (n = 69)		Suicide Attempt (n = 172)	
	No.	%	No.	%
Residence at Time of Event				
Barracks	**9**	**13.0**	**49**	**28.5**
Bachelor Enlisted/Officer Quarters	**4**	**5.8**	**6**	**3.5**
On-base family housing	**4**	**5.8**	**7**	**4.1**
Off-base	**47**	**68.1**	**83**	**48.3**
Ship	**1**	**1.4**	**18**	**10.5**
Other	**4**	**5.8**	**6**	**3.5**
Unknown	**0**	**0.0**	**3**	**1.7**
Reside Alone at Time of Event				
Yes	**27**	**39.1**	**69**	**40.1**
No	**40**	**58.0**	**99**	**57.6**
Unknown	**2**	**2.9**	**4**	**2.3**
Gun in Home/Immediate Environment				
Yes	**41**	**59.4**	**7**	**4.1**
No	**20**	**29.0**	**146**	**84.9**
Unknown	**8**	**11.6**	**19**	**11.0**
Duty Environment[2]				
Garrison/permanent duty station	**38**	**55.1**	**127**	**73.8**
Leave	**10**	**14.5**	**2**	**1.2**
Temporary duty	**8**	**11.6**	**4**	**2.3**
Training	**4**	**5.8**	**7**	**4.1**
Other	**18**	**26.1**	**24**	**14.0**
Deployed at Time of Event				
Yes	**0**	**0.0**	**15**	**8.7**
Location				
Afghanistan	0	0.0	2	1.2
Kuwait	0	0.0	0	0.0
Other/Unknown	0	0.0	13	6.4
No	**69**	**100.0**	**157**	**91.3**

[1]Data on the cause of the death were provided by AFMES.
[2]Subcategories are not mutually exclusive.

Table 35. Medical and behavioral characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Navy

	Suicide (n = 69)		Suicide Attempt (n = 172)	
	No.	%	No.	%
Any Mental Health Diagnosis				
Yes[1]	**30**	**43.5**	**108**	**62.8**
Mood disorder	14	20.3	59	34.3
Anxiety disorder[2]	9	13.0	39	22.7
Personality disorder	1	1.4	12	7.0
Psychotic disorder	0	0.0	0	0.0
Adjustment disorder	8	11.6	41	23.8
Substance abuse disorder	15	21.7	41	23.8
No	**39**	**56.5**	**62**	**36.0**
Unknown	**0**	**0.0**	**2**	**1.2**
Sleep Disorder				
Yes	**5**	**7.2**	**8**	**4.7**
No	**64**	**92.8**	**161**	**93.6**
Unknown	**0**	**0.0**	**3**	**1.7**
History of Traumatic Brain Injury				
Yes	**4**	**5.8**	**4**	**2.3**
No	**65**	**94.2**	**165**	**95.9**
Unknown	**0**	**0.0**	**3**	**1.7**
Family History of Mental Illness				
Yes	**9**	**13.0**	**59**	**34.3**
No	**60**	**87.0**	**111**	**64.5**
Unknown	**0**	**0.0**	**2**	**1.2**
Previous Self-Injury				
Yes	**4**	**5.8**	**62**	**36.0**
Number of previous self-injuries				
One	2	2.9	24	14.0
More than one	2	2.9	38	22.1
Unknown	0	0.0	0	0.0
Current event similar to previous	1	1.4	28	16.3
No	65	94.2	108	62.8
Unknown	**0**	**0.0**	**2**	**1.2**
Psychotropic Medications, Previous 90 Days				
Yes[1]	**11**	**15.9**	**42**	**24.4**
Antidepressant	8	11.6	41	23.8
Antianxiety	6	8.7	22	12.8
Antimanic	0	0.0	1	0.6
Anticonvulsant	1	1.4	4	2.3
Antipsychotic	0	0.0	2	1.2
Sleep medication	5	7.2	20	11.6
No	**58**	**84.1**	**127**	**73.8**
Unknown	**0**	**0.0**	**3**	**1.7**

Table 35 (cont.). Medical and behavioral characteristics of suicide and suicide-attempt DoDSER forms submitted for CY 2017, Navy

	Suicide (n = 69)		Suicide Attempt (n = 172)	
	No.	%	No.	%
Pain Medication at Time of Event				
Yes	**5**	**7.2**	**33**	**19.2**
Opioid medication	2	2.9	9	5.2
No	**64**	**92.8**	**136**	**79.1**
Unknown	**0**	**0.0**	**3**	**1.7**
Health/Social Services, Previous 90 Days				
Yes[1]	**33**	**47.8**	**89**	**51.7**
Medical treatment facility	29	42.0	69	40.1
Substance Abuse Services	9	13.0	12	7.0
Family Assistance Program	2	2.9	4	2.3
Outpatient mental health	20	29.0	69	40.1
Inpatient mental health	5	7.2	22	12.8
No	**36**	**52.2**	**81**	**47.1**
Unknown	**0**	**0.0**	**2**	**1.2**

[1]Subcategories are not mutually exclusive.
[2]Data collection form used for this CY used DSM-IV taxonomy for behavioral health diagnoses; thus, posttraumatic stress disorder is subsumed under the "Anxiety Disorder" category.

Table 36. Psychosocial determinants described in suicide and suicide-attempt DoDSER forms submitted for CY 2017, Navy

	Suicide (n = 69)		Suicide Attempt (n = 172)	
	No.	%	No.	%
Failed or Failing Relationship, Previous 90 Days				
Yes[1]	**22**	**31.9**	**76**	**44.2**
Intimate relationship	21	30.4	72	41.9
Other relationship	6	8.7	13	7.6
No	**47**	**68.1**	**94**	**54.7**
Unknown	**0**	**0.0**	**2**	**1.2**
Family/Friend Stressors, Prior 90 Days				
Yes[1]	**5**	**7.2**	**14**	**8.1**
Death of spouse or other family member (not suicide)	1	1.4	9	5.2
Death of friend (not suicide)	1	1.4	3	1.7
Serious illness of friend or family member	3	4.3	3	1.7
No	**64**	**92.8**	**156**	**90.7**
Unknown	**0**	**0.0**	**2**	**1.2**
History of Family/Friend Death by Suicide				
Yes[1]	**7**	**10.1**	**18**	**10.5**
Spouse	0	0.0	1	0.6
Family other than spouse	4	5.8	7	4.1
Friend	3	4.3	12	7.0
No	**62**	**89.9**	**152**	**88.4**
Unknown	**0**	**0.0**	**2**	**1.2**
Administrative/Legal Problems, Previous 90 Days				
Yes[1]	**29**	**42.0**	**41**	**23.8**
Courts martial proceedings	1	1.4	2	1.2
Article 15/Non-judicial punishment	5	7.2	8	4.7
Administrative separation proceedings	3	4.3	9	5.2
Away without leave/deserter status	5	7.2	6	3.5
Medical evaluation board proceedings	5	7.2	15	8.7
Civil legal proceedings	9	13.0	10	5.8
Non-selection for promotion	3	4.3	3	1.7
Under investigation	9	13.0	10	5.8
No	**40**	**58.0**	**129**	**75.0**
Unknown	**0**	**0.0**	**2**	**1.2**
Excessive Debt/Bankruptcy, Previous 90 Days				
Yes	**7**	**10.1**	**11**	**6.4**
No	**62**	**89.9**	**158**	**91.9**
Unknown	**0**	**0.0**	**3**	**1.7**
Workplace Issues, Previous 90 Days				
Yes[1]	**14**	**20.3**	**51**	**29.7**
Job problems	9	13.0	34	19.8
Supervisor/coworker issues	8	11.6	34	19.8
Poor performance review	2	2.9	13	7.6
Unit/workplace hazing	0	0.0	2	1.2
No	**55**	**79.7**	**119**	**69.2**
Unknown	**0**	**0.0**	**2**	**1.2**

Table 36 (cont). Psychosocial determinants described in suicide and suicide-attempt DoDSER forms submitted for CY 2017, Navy

	Suicide (n = 69)		Suicide Attempt (n = 172)	
	No.	%	No.	%
Abuse, Assault, or Harassment Victimization, Previous Year				
Yes[1]	**5**	**7.2**	**18**	**10.5**
Physical abuse or assault	1	1.4	4	2.3
Sexual abuse or assault	2	2.9	9	5.2
Emotional abuse	2	2.9	7	4.1
Sexual harassment	0	0	6	3.5
No	**64**	**92.8**	**152**	**88.4**
Unknown	**0**	**0**	**2**	**1.2**
Abuse, Assault, or Harassment Perpetration, Previous Year				
Yes[1]	**6**	**8.7**	**5**	**2.9**
Physical abuse or assault	3	4.3	5	2.9
Sexual abuse or assault	1	1.4	2	1.2
Emotional abuse	4	5.8	2	1.2
Sexual harassment	1	1.4	0	0.0
No	**63**	**91.3**	**165**	**95.9**
Unknown	**0**	**0.0**	**2**	**1.2**

[1]Subcategories are not mutually exclusive.

Chapter 8: Selected Reserve, Not in Duty Status

Historically, the DoDSER system collected standardized data on demographic, contextual, behavioral health, historical, and risk-related factors for all identified suicide deaths and suicide attempts that occur among Active Component members of the Armed Forces of the United States as well as Service members in the Reserves and National Guard who were in a duty status at the time of the event. However, evolving policy directed the incorporation of surveillance of suicide events that occur among members of the Reserve Component who are not in a duty status at the time of their deaths.

The Selected Reserve consists of units, and, as designated by the Secretary concerned, of Reserves, trained as prescribed in section 10147(a)(1) of title 10 U.S. Code § 10143 or section 502(a) of title 32, as appropriate. The organization and unit structure of the Selected Reserve shall be approved in the case of all Reserve Components other than the Coast Guard Reserve, by the Secretary of Defense based upon recommendations from the military departments as approved by the Chairman of the Joint Chiefs of Staff in accordance with contingency and war plans. (Source: 10 U.S. Code § 10143).

Identifying and collecting extensive data on non-duty-status suicide represents a major challenge for the Military Services. The processes used to achieve this goal are evolving to better achieve the data-quality standards for DoDSER forms. DoDSER forms are now being submitted for this population; at present, the case catchment is not complete. As such, DoDSER form data for this subpopulation are not included in this Annual Report. For CY 2017, data on demographic variables were obtained from the DMDC after suicide DoDSER forms were provided by the Military Services to the AFMES.

Over the course of CY 2017, 190 deaths due to suicide were recorded among Service members in the Reserve and Guard Components who were not in a duty status at the time of their death. Table 37 displays the demographic and Service characteristics of these Service members who died by suicide. While not formally compared using a statistical analysis, these distributions were qualitatively similar to those for Service members who died by suicide in an Active Duty status (Tables 12 and 13).

Table 37. Characteristics of suicide DoDSER forms reported from the Military Services to the AFMES from among SELRES Service members not in a duty status at the time of death, all SELRES, CY 2017.

	Count (n = 190)	%
Service		
Air Force	18	9.5
Army	157	82.6
Marine Corps	10	5.3
Navy	5	2.6
Component		
Reserve	80	42.1
Guard	110	57.9
Sex		
Male	12	6.3
Female	178	93.7
Age		
17–19	8	4.2
20–24	68	35.8
25–29	44	23.2
30–34	22	11.6
35–39	23	12.1
40–44	7	3.7
45–59	18	9.5
Education		
Less than high school	4	2.1
Alternative high school	18	9.5
High school graduate	138	72.6
Associate's or technical degree	10	5.3
Four-year degree	17	8.9
Postgraduate	1	0.5
Unknown	2	1.1
Ethnicity		
Hispanic	18	9.5
Not Hispanic	171	90.0
Unknown	1	0.5
Race		
American Indian/Alaska Native	2	1.1
Asian/Pacific Islander	7	3.7
Black/African American	21	11.1
White/Caucasian	156	82.1
Other/Unknown	4	2.1
Marital Status		
Never married	115	60.5
Married	61	32.1
Divorced	13	6.8
Widowed	1	0.5
Rank/Grade		
E1-E4	110	57.9
E5-E9	69	36.3
Warrant officer	1	0.5
Officer	10	5.3

[1]Demographic and Service characteristics provided by the DMDC.

Appendix A: Glossary

Unless otherwise noted, these terms and their definitions are for the purpose of this report.

Active Component	Per the Office of the Chief Management Officer, the Active Component is, "the portion of the armed forces as identified in annual authorization acts as 'active forces,' and in section 115 of Title 10 USC as those active duty personnel paid from funds appropriated for active duty personnel."
Article 15	A provision under the Uniform Code of Military Justice that gives commanding officers the ability to impose non-judicial punishment upon Service members within their units who commit minor offenses.
Confidence Interval (95%)	"Over the collection of all 95 percent confidence intervals that could be constructed from repeated random samples of size *n*, 95 percent will contain the parameter μ."[1] Said another way, it is a range of values so defined that there is a 95 percent probability that the value of a parameter lies within it.
Death-Risk Gambling	Any game of chance with death or serious injury as a potential outcome. Example includes "Russian roulette."
Deployment	Per the Office of the Chairman, the Joint Chiefs of Staff, a deployment is defined as "a troop movement resulting from a Joint Chiefs of Staff (JCS)/combatant command deployment order for 30 continuous days or greater to a land-based location outside the United States. This deployment location does not have permanent U.S. military medical treatment facilities (i.e., funded by the Defense Health Program) and may or may not be directly supported by deployed medical forces." Service members who deployed and had at one location identified as part of Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF) or Operation New Dawn (OND) were considered to have been OEF/OIF/OND-deployed. Per the RAND report, "Army Deployments to OIF and OEF," published in 2010, the identified locations included: Afghanistan, Bahrain, Djibouti, Iraq, Kuwait, Kyrgyzstan, Oman, Qatar, Saudi Arabia and Uzbekistan. Additionally, the sea boundaries of the Red Sea, the Gulf of Aden, the Gulf of Oman and the Arabian Sea, north of the 10ºN latitude and west of the 68ºE longitude and the air space over all countries and sea boundaries listed here.

DoDSER Annual Report	A yearly summary providing a descriptive report of data from the United States Armed Forces on the incidence of suicide and suicide attempts between January 1 and December 31 each year.
DoDSER Form	The DoDSER data-collection form utilized by each Service to collect a core set of standardized data elements, as well as a set of Service-specific items, regarding cases of suicide and suicide attempt.
DoDSER System	A secure web-based data-collection program, available at https://dodser.t2.health.mil, through which DoDSER forms are completed and submitted.
Duty Status	Service members are considered to be in a duty status if they are members of the Active Component and are not identified as being AWOL or in a deserter status. Per the Office of the Assistant Secretary of Defense for Reserve Affairs, Service members of the Selected Reserve are also considered to be in a duty status if they are identified as currently engaged in Drill or Training, or in the Simultaneous Membership Program, Active Guard/Reserve, or Full-Time Support roles.
Medical Evaluation Board	Informal proceeding evaluating the medical history of a Service member to determine how the injury and/or disease will respond to treatment protocols. This is used to determine if the medical condition and/or physical defect will render the Service member unfit for duty.[2]
Military Services	The Military Services included in this report include the Army, the Navy, the Air Force, and the Marine Corps. At this time, the Coast Guard is not included in the DoDSER surveillance system.
Planned and/or Premeditated	Evidence that the event was planned and/or premeditated includes verbal discussion of plan, written notes, e-mail and/or chat-room discussion, or other evidence of plan such as preparatory behaviors (e.g., giving possessions away, purchase of materials to facilitate suicide, etc.).
Protective Factor	Factors that stem from physical, psychological, spiritual, family, social, financial, vocational, and emotional well-being; i.e., factors that make it less likely that individuals will develop a disorder. Protective factors may encompass biological, psychological, or social factors in the individual, family, and environment.[3]
Psychotropic Medication	A type of medication that directly affects mental, emotional, and behavioral states when consumed by an individual. Such medications are used to treat disorders such as depression or bipolar disorder.

Risk Factors	Factors caused by stress, trauma, or other circumstances that cause a schism in protective factors; i.e., factors that make it more likely that individuals will develop a disorder or be predisposed to high risk for self-injurious behaviors. Risk factors may encompass biological, psychological, or social factors in the individual, family, and environment.[3]
Selected Reserve	Per the Office of the Assistant Secretary of Defense for Reserve Affairs, the Selected Reserve "consists of those units and individuals within the Ready Reserve designated by their respective Military Services and approved by the Chairman, Joint Chiefs of Staff, as so essential to initial wartime missions that they have priority over all other Reserves." All selected Reservists are in an active status, but not necessarily a duty status. This category includes all Guard and Reserve personnel who have Selected Reserve agreements, whether trained or not.
Self-Harm (Without Intent to Die)	A self-inflicted, potentially injurious behavior for which there is evidence (either implicit or explicit) that the person did not intend to kill himself or herself (i.e., had no intent to die).[3]
Sexual Assault	The use of physical force to compel a person to engage in a sexual act against his or her will, regardless of whether or not the act is completed. Also, an attempted or completed sex act involving a person who is unable to understand the nature or condition of the act, to decline participation, or to communicate unwillingness to engage in the sexual act (e.g., because of illness, disability, or the influence of alcohol or other drugs, or because of intimidation or pressure).[4]
Suicidal Ideation	Any self-reported thoughts of engaging in suicide.[3]
Suicide	Self-inflicted death with evidence (either explicit or implicit) of intent to die.[3]
Suicide Attempt	A self-inflicted, potentially injurious behavior with a non-fatal outcome for which there is evidence (either explicit or implicit) of intent to die.[3]
Suicide Mortality Rate	The expected or observed number of suicide deaths for every 100,000 members of that specific population.

Traumatic Brain Injury	A traumatically induced structural injury and/or physiological disruption of brain function as a result of an external force, indicated by new onset or worsening of at least one of these clinical signs immediately following the event: a) Any period of loss of or a decreased level of consciousness; b) Any loss of memory for events immediately before or after the injury; c) Any alteration in mental state at the time of the injury (confusion, disorientation, slowed thinking, etc.) Neurological deficits (weakness, loss of balance, change in vision, praxis, paresis/plegia, sensory loss, aphasia, etc.) that may or may not be due to a transient intracranial lesion used to treat disorders such as depression or bipolar disorder.[5]
Unrestricted Report of Sexual Assault	Per the DoD Dictionary, unrestricted reporting is a process that a Service member uses to disclose, without requesting confidentiality or restricted reporting, that he or she is the victim of a sexual assault.

References and Notes

1. Quote from page 191 of Rosner, B. (2006). *Fundamentals of Biostatistics* (6th Ed.). Belmont, CA: Thomson Brooks/Cole.

2. For more information, see DoD Instruction 1332.18 and https://health.mil/Military-Health-Topics/Conditions-and-Treatments/Physical-Disability/Disability-Evaluation/Medical-Evaluation.

3. For more information, see Crosby AE, Ortega L, Melanson C. (2011). *Self-directed violence surveillance: Uniform definitions and recommended data elements, version 1.0*. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control.

4. For more information, see DoD Directive 6495.01.

5. For more information, see DoD Instruction 6490.13.

Appendix B: Acronyms and Initializations

AFMES	Armed Forces Medical Examiner System
AWOL	Absent Without Official Leave
CAC	Common Access Card
CDC	Centers for Disease Control and Prevention
CI	Confidence Interval
CY	Calendar Year
DHA	Defense Health Agency
DoD	Department of Defense
DoDSER	Department of Defense Suicide Event Report
DMDC	Defense Manpower Data Center
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition – Text Revision
DSPO	Defense Suicide Prevention Office
MHS	Military Health System
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OMB	Office of Management and Budget
OND	Operation New Dawn
POC	Point of Contact
PHCoE	Psychological Health Center of Excellence
SAPRO	Sexual Assault Prevention and Response Office
SELRES	Selected Reserve
SMR	Standardized Mortality Ratio
SPARRC	Suicide Prevention and Risk Reduction Committee
SPPM	Suicide Prevention Program Manager
U.S.	United States
WISQARS	Web-based Injury Statistics Query and Reporting System

Appendix C: List of Tables

Appendix D: List of Figures

Appendix E: Feedback Form

If you wish, please return your completed feedback form by mail, fax or email to:

DoDSER Program
DHA (J-9) Psychological Health Center of Excellence
7700 Arlington Blvd
Suite 5101
Box #22 (Silver Spring Office)
Falls Church, VA 22041
Email: dha.jblm.j-9.mbx.phcoe-dodser@mail.mil

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I found the information in the CY 2017 DoDSER Annual Report helpful.					
What other statistics or comparisons would you like to have in future DoDSER Annual Reports?					
How did/will you use this report (e.g., inform leadership, policy, processes)?					
Do you have any other feedback or suggestions?					

Optional:

Name: _____ Title: _____

Organization: _____

Email: _____ Phone: _____

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