

NAVAL HEALTH RESEARCH CENTER

SURVEILLANCE OF COMPLETED SUICIDE IN THE DEPARTMENT OF THE NAVY

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Abstract

In 1999, the Department of the Navy (DoN) began a suicide surveillance program, using the DoN Suicide Incident Report (DONSIR) to collect data on completed suicides in the Navy and Marine Corps. The DONSIR significantly advances the capability of DoN to track and analyze data on completed suicides over time. The long-term goal of this program is to improve suicide prevention by identifying and modifying military-specific risk factors. A DONSIR has been completed on 98% of the 200 DoN suicides that occurred from 1999 to 2001. Most DoN suicides occurred outside the military work environment and involved the use of a firearm. Most decedents were male, had experienced a recent relationship problem, and did not use any military support services in the 30 days prior to suicide. Results suggest that the promotion of support services may improve the effectiveness of DoN suicide prevention.

Introduction

Many recent studies have documented lower suicide rates among U.S. military personnel in comparison to demographically similar U.S. civilians.¹⁻⁵ Although military suicide rates have been comparatively low, military officials are actively concerned about this public health issue because a large number of military personnel are young males, a demographic group at high risk for suicide. As a result, suicide is one of the leading causes of death in the military population.⁶ In 1999, the Department of the Navy (DoN) instituted an extensive surveillance program to gather data on completed suicides. To facilitate this, the DoN Suicide Incident Report (DONSIR) was developed to identify the characteristics and risk factors of completed suicides in the Navy and Marine Corps.⁷⁻⁹ In this article, we briefly describe the history of suicide research in the DoN. We discuss the impetus behind and the development of the DONSIR, and we present initial results after 3 years of DONSIR data collection.

History of Suicide Research in the DoN

Studies of DoN personnel have documented suicide rates within the Navy and Marine Corps for more than 30 years. Despite this history, little programmatic research on the epidemiology of suicide exists. The first study of U.S. Navy suicide rates was conducted by Schuckit and Gunderson.¹⁰ For the years 1965 to 1972, they extracted data for deceased personnel from the Naval Medical Data Services Center (NMDSC; now Naval Medical Information Management Center) indicating “death by own hand.”¹⁰ Schuckit and Gunderson reported basic demographics and information regarding the circumstances of the suicide event. They estimated the suicide yearly incidence rate for men in the Navy at 8 (enlisted) and 9 (officers) per 100,000 and among Marines at 16 (enlisted) and 14 (officers) per 100,000. Schuckit and Gunderson reported a rate for civilian males of 16 per 100,000. During the 1970s,

two additional studies were completed on the characteristics of serious suicide attempts and on predicting suicide gestures among recruits.^{11,12} However, no other studies of completed suicides among DoN personnel were reported.

In the early 1980s, more studies used NMDSC records to identify cases of suicide within the DoN.^{3,13} For example, Chaffee found wide variation in suicide rates from year to year between 1966 and 1977, inclusive.³ Navy suicides ranged from 2.91 to 9.58 per 100,000 and rates for the Marine Corps ranged from 9.84 to 23.04.³ Through the rest of the 1980s and the early 1990s, epidemiological studies used several additional sources of data to track completed suicides within the DoN. One source was investigations conducted under the direction of the Judge Advocate General (JAG) after any death of unnatural causes to determine whether the death occurred while in the line of duty (LD). Suicide-relevant data were extracted from LD reports. In particular, a series of epidemiological studies of suicide in the Army marked LD investigations an important source of data on suicide in the military.¹⁴⁻¹⁹ However, in ambiguous instances LD investigators may err toward identifying cases of suicide as accidental.¹⁹

Dennett and Howard used LD investigations in a descriptive study of demographic characteristics of DoN suicides.²⁰ To evaluate the accuracy of suicide rates from different data sources, Dennett subsequently compared suicide data from LD investigations with suicide data from NMDSC death records.²¹ He found that each of these types of records included only about two thirds of the total suicide cases documented in both together. In his review, Dennett suggested that inconsistencies in the way suicides are defined and tracked may contribute to variability in suicide rates across time and studies.²¹

Kawahara and Palinkas reported suicide rates for the Navy based on a combination of data compiled at the Naval Health Research Center (NHRC) from Bureau of Navy Personnel

(BuPers) discharge records and NMDSC death records.^{22,23} They further supplemented their study with descriptive information from LD investigations. Kawahara and Palinkas reported an average suicide rate for the Navy from 1974 to 1985 of 6.59 per 100,000 person years. However, like Dennett, they noted that about one-third of those with discharge codes indicating suicide were missing death records, which reduced the number of suicide cases they could positively identify.

In the mid-1990s, three studies of suicide in the U.S. military were published, one with data collected by BuPers, and two based on yet another data source, the Department of Defense (DoD) Worldwide Casualty System.^{5,24,25} This system compiles information from the Report of Casualty, DD Form 1300. The one-page DD 1300 includes only a limited amount of demographic, military service, and casualty information, and is designed to report any death, rather than exclusively suicide. Therefore, these data cannot answer in-depth questions regarding the etiology and correlates of suicide within the military. However, the form has the advantage of being available for decedents from all of the U.S. military services. Based on the DD 1300, Helmkamp estimated suicide rates per 100,000 from 1980 to 1992 at 11.01 for the Navy, 13.65 for the Marine Corps, 12.38 for the Army, and 11.31 for the Air Force.²⁴

In 1998, in response to a series of suicides including that of Chief of Naval Operations ADM Jeremy Boorda, the Secretary of the Navy requested a full review of suicide prevention programs within the DoN.²⁶ At about the same time, the DoD initiated efforts to understand the factors related to suicide in the military more systematically, and sent out a draft directive requesting that psychological autopsies be performed for all completed suicides of U.S. military personnel.⁷⁻⁹ A psychological autopsy (PA) is a thorough investigation of the circumstances surrounding a suspected suicide and of the mental and emotional state of the decedent just prior

to death. One of its primary purposes is to resolve equivocal cases where the cause of death could have been either accidental or intentional.²⁷

Completing a PA is expensive, time-consuming, and there are no standardized procedures for the process. Therefore, the DoN proposed developing a more structured report, the DONSIR.⁷⁻⁹ With data from a structured survey it should be easier to summarize across cases and to analyze patterns over time. Ultimately, the goal was to identify modifiable risk factors and develop methods to improve suicide prevention efforts within the DoN. The DONSIR is the first surveillance system within the DoN specifically designed to collect epidemiological and risk factor data on suicides among active-duty personnel.

Method

DONSIR Development

The DONSIR was designed (1) to assess the prevalence of known risk factors for suicide, (2) to include all of the critical information that would be gathered in a PA, and (3) to identify military-specific risk factors. The report was developed in cooperation with psychologists from Navy Personnel Command, Headquarters Marine Corps, Naval Criminal Investigative Service (NCIS), the American Association of Suicidology, and NHRC.⁷⁻⁹ Experts were further consulted at the Air Force Epidemiology Service, Walter Reed Army Institute for Research, and the National Institute of Mental Health. The content of the Air Force suicide data collection instrument was reviewed and items from this report were adapted and used in the DONSIR. Finally, to ensure that potential risk factors for suicide that might be explored in a PA would be included in the DONSIR, 6 representative PA reports from 1992-1998 provided by NCIS were reviewed. Items were added to the DONSIR to include the content of the PA reports.

DONSIR Description

The DONSIR is divided into 9 sections regarding (1) the person assigned as a point of contact (POC) to complete the report, (2) the decedent's demographics and the nature of the suicide event, (3) the decedent's military service history, (4) the decedent's health and medical history, (5) situational factors at the time of the suicide, (6) the decedent's recent use of support services, (7) narrative accounts from interviews with the decedent's military associates, (8) a narrative summary by the POC, and (9) feedback regarding the DONSIR process.⁷⁻⁹ Although the DONSIR is primarily a structured, quantitative report, the final three sections do include open-ended questions. These sections collect narrative information summarizing relevant stressors and chronological events preceding the suicide. Information from these narratives can be used to clarify responses to quantitative items and to revise the quantitative sections of the DONSIR over time. The final section solicits feedback about the DONSIR and its administration, using qualitative and quantitative items to address the accessibility of information about the deceased, the time required to complete the report, command concerns about the DONSIR, and suggestions for improving the data collection process.

DONSIR Procedure

Currently, completion of the DONSIR is required by Navy and Marine Corps directives.^{28,29} The Navy and Marine Corps suicide prevention program managers facilitate the completion of the report following all cases of confirmed suicide.⁷⁻⁹ Program managers send an informational cover letter, service-specific instructions, and a copy of the DONSIR to decedents' commands. Commands are instructed to assign a POC within 3 days of the Report of Casualty (Marine Corps) or within 3 days of receipt of the DONSIR (Navy). POCs are directed to complete the report within 3-4 weeks. Program managers are available to answer questions

throughout the data collection process. POCs return the completed form to their program manager. DONSIRs are then forwarded to NHRC for data entry and analysis.

The primary sources for the information necessary to complete the DONSIR are the decedent's military service record and medical records.⁷⁻⁹ Additional sources that are sometimes available include counseling records, autopsy reports, toxicology reports, investigative reports, and interviews with military personnel who were the decedent's recent associates or who participated in the casualty management process (e.g., the Casualty Assistance Calls Officer). It is not necessary to consult all potential sources to complete the DONSIR. POCs are instructed not to contact the decedent's civilian family members or friends. They are asked to consult the best sources available within the time frame specified, and to leave unknown items blank.

Results and Discussion

Suicide Rates

From 1999 through 2001, 200 cases of completed suicide were identified in the Navy ($N = 122$, 61%) and the Marine Corps ($N = 78$, 39%; see Table I). Suicide events were evenly divided across the 3 years, with 66 in 1999 and 67 in both 2000 and 2001. The cause of death was documented as suicide on the Report of Casualty DD 1300 for all but 3 of these 200 cases. Three officially undetermined cases were included after investigation by the Navy suicide prevention program manager concluded that they were cases of suicide. DONSIRs were completed for all but 4 decedents (response rate = 98%). For all 200 cases, data from the DD 1300 were merged with DONSIR data to supplement demographic analyses.

Table II lists suicide rates per 100,000 DoN personnel across the 3-year DONSIR surveillance period. The table also shows suicide rates from the National Center for Health Statistics for the U.S. population for 1999 and 2000.³⁰ Presently, U.S. statistics for 2001 are not

available. Suicide rates for the Navy were similar to the population figures during this 3-year period. Marine Corps rates were somewhat higher. However, direct comparison can be misleading, because demographically the DoN includes large percentages of personnel at high risk for suicide.

To assess the role demographic characteristics might play in DoN suicide rates, we have listed rates by demographic subgroup for the Navy, the Marine Corps, and the U.S. population in Table III. Rates for the Navy and the Marine Corps were averaged across the 3-year period. For the U.S. general population, rates by demographic group were available only for 1999.³¹⁻³³

Navy rates by subgroup were lower than U.S. rates in 6 out of 10 comparisons. Differences were specifically evident considering gender. Men and women in the Navy had lower suicide rates than did men and women in the general U.S. population. For the Marine Corps, in 8 out of 10 comparisons, suicide rates were higher than they were for the U.S. population. However, male Marines still had a lower suicide rate than did U.S. men. Men make up a large percentage of the Marine Corps (94%). If gender proportions in the U.S. population were adjusted to match the Marines, the overall U.S. rate (17.1) would be higher than the overall rate for the Corps (14.4). Finally, among both Navy and Marine Corps personnel, suicide appeared somewhat high among minorities. Military population suicide rates for Blacks and other minorities were as high or almost as high as they were for Whites, whereas U.S. population suicide rates for minority groups were substantially lower than were those for Whites.

There is additional evidence from previous studies of suicide in the DoN that some demographic subgroups may have higher suicide rates than their civilian counterparts.^{1,2,5,18} However, subgroup rate comparisons must be interpreted cautiously. The small size of some, particularly within the Marine Corps, made it difficult to reliably estimate suicide rates based on

only 3 years of data collection. For instance, the numbers of women Marines ($n = 10,612 - 10,887$) and Marines over age 45 ($n = 2,519 - 2,643$) averaged about 10,000 or less between 1999 and 2001. Very few suicides occurred within these groups, but a difference of 1 or 2 incidents greatly affects rates. Calculating across the entire DoN rather than by service provides more stable estimates of the incidence of suicide among these groups. For example, considering all DoN personnel, the incidence of suicide for women was 4.20, about the same as the U.S. population rate. For those ages 45 to 54, the DoN rate was 10.7.

Suicide Event Characteristics

The typical suicide occurred in a residence, during off-duty hours, involving either a firearm or hanging (see Table IV). Thirty-three percent of the cases had all three characteristics. Two thirds (66%) of all suicide events occurred while the decedent was on liberty. Eleven percent occurred on leave, 10% on duty, and 10% during unauthorized absence. The majority (57%) of suicides took place at a private residence, with only a small percentage (7%) occurring at a work site. A gun was used in 55% of the suicides. The second most common method was hanging (26%). The decedent had used alcohol in 33% of the cases.

In table IV, the figures for the Navy and the Marine Corps are quite similar. Suicide characteristics were generally the same across services. The only significant difference we found was in the percentage of persons who used a firearm vs. hanging in committing suicide. Marines were more likely to have used a firearm (65%) than were Navy decedents (48%).

Data regarding decedents' level of access to military firearms were only available for 2000-2001. However, we considered how access to a military firearm might be related to differences in choice of method across services. DONSIR reports indicated that Marine Corps decedents had at least some access to a military issue firearm (61%) far more often than did

Navy personnel (18%), $\chi^2_{(n=108, df=2)} = 21.53, p < .001$. However, there were no significant differences by service branch in the number of decedents who used a military issue firearm. Most used a weapon that they personally owned or obtained from another source (Marine Corps: 91%; Navy: 93%).

We next evaluated access to privately owned firearms. Navy personnel stationed on ships or submarines at the time of their suicide may have had limited access to private weapons or had other contextual limitations on their choice of suicide method. Thirty-one percent of Navy decedents were assigned to a ship or submarine at time of death and 16 (13%) committed suicide while shipboard. One Marine also committed suicide while in transit on a Navy ship. Upon evaluation, personnel who committed suicide while shipboard or otherwise on government property were less likely to have used a firearm in committing suicide, $\chi^2_{(n=200, df=4)} = 28.23, p < .001$ (see Table V). Excluding suicides that occurred while shipboard, a higher percentage of Marines still committed suicide using a firearm (Navy: 54%; Marine Corps: 66%). However, the difference no longer reached significance. Future research should continue to evaluate the importance of factors that might impact access to and choices in method of suicide.

Recent Stressors

Table VI lists 13 different stressors that decedents may have experienced in the year prior to their suicide. The most common stressor was a problem in a romantic relationship, which was evident in 54% of all DoN cases. Job dissatisfaction and other work problems were the next most common difficulties. The largest percentage difference between the Navy (27%) and the Marine Corps (40%) was in “other” work problems, which included such stressors as field-training failure, problems with supervisors or co-workers, adjustment problems, poor performance

reviews, and not being selected for promotion. Overall, decedents experienced an average of just under 3 ($M = 2.79$) different stressors from Table VI in the year prior to suicide (range = 0-10).

Recent Mental and Behavioral Adjustment

The DONSIR asks POCs whether they found any evidence that decedents had recently expressed or demonstrated a number of emotional and behavioral indicators of poor adjustment (see Tables VII and VIII). The 5 most common emotional indicators identified for DoN decedents were (a) feelings of depression, (b) feelings of guilt, shame, or remorse, (c) feelings of anxiety, (d) change in mood, and (e) feelings of failure. The 5 most common behavioral indicators were (a) problems with alcohol use, (b) changes in sleep patterns, (c) impulsive behavior, (d) changes in weight, and (e) suicide gestures or attempts within the previous year. For 82% (Navy = 84%; Marine Corps = 77%) of the suicide cases from 1999-2001, evidence was reported of at least one of these 23 emotional and behavioral indicators. The average number of emotional and behavioral indicators of poor adjustment reported was 3.84.

The average number of indicators reported for Navy decedents (4.11) was somewhat greater than it was for Marine Corps decedents (3.26). However, this difference did not reach statistical significance. Additionally there were almost no differences in the percentages of specific emotional behavioral indicators identified by POCs across services. Out of all 23, we found only one significant difference, $p < .05$; POCs noted evidence for recent changes in mood among 14% more Navy than Marine Corps decedents.

Recent Service Use

The DoN has many services and resources available to support those who are at risk for suicide. These include emergency care centers, mental health clinics, the family advocacy program and family service centers, chaplains, and substance abuse rehabilitation programs.

POCs were asked whether there was any evidence that decedents had made use of specific services available to them (see Table IX). The majority (63%) had been seen as an outpatient at a medical care facility within the year prior to their suicide. And, 25% had been seen as an outpatient within 30 days of the event. Beyond medical care, DoN decedents were about equally likely to have made use of mental health counseling (Navy, 12%; Marine Corps, 5%) or the chaplain service (Navy, 12%; Marine Corps, 6%) within their last 30 days. POCs indicated that decedents had used from 0 to 8 different services listed in Table IX within the last year. Half (50%) used just 1 or 2 ($M = 1.76$) services. For about 24%, there was no evidence of any service use in the previous year, and only about 34% had received any services within their last 30 days.

Missing Data Limitation

A major limitation of this study is that the POCs completing the DONSIR may not have had access to all of the requested information. Demographic data, general information regarding the circumstances of the suicide, and military information available in the decedents' personnel records and from command personnel are most accessible. Because unknown items are to be left blank, the reliability of the numbers in Tables VI through VIII is difficult to assess. For instance, it is unclear whether the data underestimate service use because POCs were frequently unable to get this information, or whether the data overestimate it because POCs left items blank (missing) for decedents without any history of service use. POCs would most likely have gotten more complete information by contacting the decedents' civilian family and friends in addition to military colleagues and investigators. However, the DONSIR instructs against this to avoid placing any unnecessary emotional burden on them.

Conclusion

The purpose of this article was to describe the history of suicide research in the DoN, and in particular the background and development of the DONSIR surveillance program. It was also to report initial descriptive information on suicides in the DoN based on the first three years of DONSIR data collection. The results of the DONSIR surveillance suggest that most decedents were male. Most suicides occurred outside the military work environment, and involved the use of a firearm. In most cases, the decedent did not make use of military support services in the 30 days prior to suicide. In light of this, the opportunity for direct intervention by military personnel may be limited, and promotion of and improved access to support services may increase the opportunity for suicide prevention. Support services that facilitate coping with relationship problems deserve special attention, because this has consistently been cited as a primary stressor in cases of suicide within the military.^{7-9,18,34}

The most common indicators of poor adjustment included depression and anxiety, problems with alcohol use, previous suicide attempts or gestures, impulsiveness, and other common emotional and behavioral correlates of depression such as feelings of guilt, shame or failure and changes in sleep patterns or weight. In terms of situational factors, 58% of decedents were identified with problems in a romantic relationship, 52% with work-related problems, and 45% with legal/disciplinary problems. Finally, the average decedent had struggled with three different situational stressors within the year prior to suicide and had recently exhibited 3 to 4 emotional/behavioral indicators of adjustment difficulty. This suggests that the DoN suicide risk-response training should continue to focus on identifying multiple acute risk factors in evaluating suicide risk.

The DONSIR significantly improves the capability of the DoN to track and analyze data on completed suicides.⁷⁻⁹ It provides the DoN with consistent data that can be compared across both the Navy and the Marine Corps. It establishes baselines for suicide rates and suicide event characteristics that can be used to track trends over time. It also evaluates military-specific correlates of suicide, which cannot be evaluated using civilian, academic literature. The DONSIR's focus on military-specific risk factors is important because military personnel are not representative of the U.S. population. Differences in gender, race, age, health, and employment may be related to unique correlates of suicide among active-duty personnel. The structure of the military may also facilitate initiating policies and procedures to address risk factors that cannot be addressed among civilians.

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TABLE I**SUICIDES IN THE NAVY AND THE MARINE CORPS, 1999-2001**

Year	Navy		Marine Corps	
	Men	Women	Men	Women
1999	38	2	24	2
2000	41	2	22	2
2001	39	0	28	0
Total	118	4	74	4

TABLE II**SUICIDES RATES PER 100,000 IN THE NAVY AND THE MARINE CORPS, 1999-2001**

Year	Navy ^a	Marine Corps ^b	U.S. ^c
1999	11.0	15.0	10.7
2000	11.7	13.9	10.3
2001	10.4	16.2	—

Notes: ^aBehavioral Health Section, Navy Personnel Command, PERS-601. ^bPrevention and Intervention Section, Marine Corps Community Services, Headquarters, USMC. ^cSuicide rates for the total U.S. population are from the National Center for Health Statistics; rates are not yet available for 2001.³⁰

TABLE III

AVERAGE SUICIDE RATES (1999-2001) PER 100,000 IN THE
NAVY AND THE MARINE CORPS BY DEMOGRAPHIC GROUP

Demographic Group	Navy	Marine Corps	U.S.
Total	10.6	14.4	10.5
Gender			
Male	12.0	14.6	17.6
Female	2.5	12.4	4.1
Age in years			
15-19	9.8	9.6	8.2
20-24	12.7	16.1	12.7
25-34	8.5	15.1	13.5
35-44	11.1	14.8	14.4
45-54	12.9	0.0	14.2
Race			
White	10.8	15.0	11.7
Black	10.8	14.5	5.6
All other	9.0	11.3	7.2
Military status			
Officer	5.5	10.6	NA
Enlisted	11.5	14.9	NA

Notes: NA, not applicable. Military figures are average rates (1999-2001) calculated using endstrengths from USN and USMC personnel data. U.S. population rates by demographic group are presently available only for 1999.³¹⁻³³

TABLE IV**CHARACTERISTICS OF SUICIDE EVENTS FOR ALL DECEDENTS, 1999-2001**

Characteristics	Navy	Marine Corps
Duty status (<i>n</i> = 200)		
On leave	8%	17%
On liberty	67%	64%
On duty	9%	11%
Unauthorized absence	13%	5%
Other	3%	3%
Place (<i>n</i> = 188)		
Residence	55%	61%
Work site	8%	6%
Isolated public space	18%	14%
Common public space	14%	16%
Other	5%	3%
Method (<i>n</i> = 200)		
Firearm	48%	65%
Hanging	29%	22%
Ingestion	6%	4%
Carbon monoxide	5%	3%
Jumping	5%	1%
Other	7%	5%
Use of alcohol (<i>n</i> = 165)		
No/Unlikely	66%	69%
Yes/Likely	34%	31%

TABLE V

METHOD OF SUICIDE AMONG ALL DECEDENTS, 1999-2001,
BY MILITARY VS. NON-MILITARY LOCATION OF SUICIDE

Method	Location		
	Non-Military	Shipboard	Other Military
Firearm	66%	12%	42%
Hanging	15%	59%	41%
Other	19%	29%	17%

TABLE VI
POTENTIAL STRESSORS EXPERIENCED IN THE YEAR
PRECEDING SUICIDE FOR ALL DECEDENTS, 1999-2001

Stressor	Navy	Marine Corps	DoN
1. Recent romantic relationship problem	57%	48%	54%
2. Recent death of family/friend	8%	6%	7%
3. Domestic violence/sexual abuse	10%	4%	8%
<i>Total relationship problems</i>	<i>62%</i>	<i>52%</i>	<i>58%</i>
4. Discipline/conflict with authority	22%	32%	26%
5. Under criminal investigation	14%	8%	12%
6. Military legal/admin action	26%	33%	28%
7. Civil legal difficulties	19%	21%	20%
<i>Total disciplinary/legal problems</i>	<i>41%</i>	<i>52%</i>	<i>45%</i>
8. Job dissatisfaction	32%	32%	32%
9. Job loss	17%	18%	17%
10. Job stress	21%	15%	18%
11. Other work	27%	40%	32%
<i>Total work-related problems</i>	<i>50%</i>	<i>56%</i>	<i>52%</i>
12. School	8%	4%	6%
13. Financial	19%	21%	20%
<i>Total other</i>	<i>26%</i>	<i>25%</i>	<i>25%</i>

Note: Due to missing data $N = 190$ (Navy = 117, Marine Corps = 73).

TABLE VII
EMOTIONAL INDICATORS OF ADJUSTMENT
RECENTLY EXPRESSED BY DoN DECEDENTS, 1999-2001

Indicator	Navy	Marine Corps	DoN
1. Depression	41%	38%	40%
2. Guilt, shame, remorse	32%	19%	28%
3. Anxiety	26%	21%	24%
4. Change in usual mood	27%	13%	23%
5. Sense of failure	22%	23%	22%
6. A desire to be free of problems	22%	15%	20%
7. A desire to die	20%	17%	19%
8. Hopelessness or uselessness	18%	17%	18%
9. Loneliness	19%	8%	15%
10. Isolation	17%	11%	15%
11. Powerlessness	14%	11%	13%
12. Feeling burdensome to others	11%	11%	11%
13. Lack of interest in usual activities	10%	11%	10%

Note: Due to missing data $N = 164$ (Navy = 111, Marine Corps = 53).

TABLE VIII
BEHAVIORAL INDICATORS OF ADJUSTMENT
RECENTLY DEMONSTRATED BY DoN DECEDENTS, 1999-2001

Indicator	Navy	Marine Corps	DoN
1. Frequent intox., bingeing, DUI	29%	17%	25%
2. Change in sleep patterns	17%	9%	15%
3. Impulsivity	15%	11%	14%
4. Change in weight	12%	13%	12%
5. Suicide attempts/gestures	12%	12%	12%
6. Change in eating patterns	14%	6%	12%
7. Poorer work performance	10%	13%	11%
8. Self-deprecation	10%	11%	10%
9. Violent aggressive behavior	7%	11%	8%
10. Self-mutilation	6%	6%	6%

Note: Due to missing data, *n*'s vary (DoN = 164-190, Navy = 110-117, Marine Corps = 53-73).

TABLE IX
SERVICE USE WITHIN 1 YEAR AND WITHIN 30 DAYS
PRECEDING SUICIDE FOR ALL DECEDENTS, 1999-2001

Support Service	Navy		Marine Corps	
	1 Year	30 Days	1 Year	30 Days
Outpatient	69%	29%	52%	19%
Inpatient civilian facility	9%	4%	16%	6%
Inpatient military facility	20%	6%	19%	2%
<i>Total medical service use</i>	<i>70%</i>	<i>31%</i>	<i>60%</i>	<i>22%</i>
Mental health counseling	26%	12%	17%	5%
Substance abuse counseling	8%	4%	8%	3%
Anger management	4%	0%	3%	0%
Stress management	6%	3%	3%	0%
<i>Total mental health service use</i>	<i>30%</i>	<i>14%</i>	<i>19%</i>	<i>5%</i>
Exceptional family member	8%	4%	8%	2%
Family advocacy	8%	4%	5%	2%
Chaplain service	18%	12%	19%	6%
Financial counseling	4%	2%	16%	2%
<i>Total other service use</i>	<i>33%</i>	<i>20%</i>	<i>27%</i>	<i>6%</i>

Note: Due to missing data, $N = 173$ (Navy = 110, Marine Corps = 63).

REPORT DOCUMENTATION PAGE

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14. ABSTRACT (maximum 200 words)

In 1999, the Department of the Navy (DoN) instituted a suicide surveillance program, the DoN Suicide Incident Report (DONSIR), to gather data on completed suicides in the Navy and Marine Corps. The DONSIR significantly advances the capability of DoN to track and analyze data on completed suicides over time. The long-term goal of this policy is to improve suicide prevention by identifying and modifying military-specific risk factors. A DONSIR has been completed on 98% of the 200 DoN suicides that have occurred between 1999 and 2001. Most DoN suicides occurred outside the military work environment and involved the use of a firearm. Most decedents were male, had experienced a recent relationship problem, and did not use any military support services in the 30 days prior to suicide. Results suggest that the promotion of support service use could improve suicide prevention.

15. SUBJECT TERMS
suicide, suicide prevention, suicide assessment in the military, Navy, Marine Corps, incidence, registries, risk factors, epidemiology

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