

Caring for Service Members Who Have Been Sexually Assaulted: The Military Health System

1st Lt Amanda L. Murray, MA, MS, USAF, BSC*; Tracey Perez Koehlmoos, PhD, MHA†; Amanda Banaag, MPH‡,‡; Natasha A. Schvey, PhD^{id}*

ABSTRACT

Introduction:

Reports of sexual assault (SA) in the U.S. Military have increased in recent years. Given the deleterious effects of military SA, there remains a need for large-scale studies to assess SA-related health care utilization among active duty service members (ADSMs). The present study, therefore, utilized Military Health System (MHS) data to determine the prevalence of SA-related care, sociodemographic characteristics of ADSMs receiving said care, and the type of provider seen during the initial SA-related health encounter.

Materials and Methods:

Utilizing the MHS Data Repository and Defense Enrollment Eligibility Reporting System, all ADSMs from the Air Force, Army, Navy, and Marine Corps during fiscal years (FY) 2016-2018 were identified. Those with an International Classification of Diseases diagnostic code related to SA during the study period were isolated. Descriptive statistics and multivariable logistic regression analyses were conducted. The study was exempt from human subjects review.

Results:

A total of 1,728,433 ADSMs during FY 2016-2018 were identified, of whom 4,113 (0.24%) had an SA-related health encounter. Rates of SA-related health care encounters decreased each FY. Women (odds ratio [OR] = 12.02, $P < .0001$), those in the Army (reference group), and enlisted personnel (OR = 2.65, $P < .0001$) were most likely to receive SA-related health care, whereas ADSMs aged 18-25 years had lower odds (OR = 0.70, $P < .0001$). In addition, higher odds of SA-related care were observed among those identifying as American Indian/Alaskan Native (OR = 1.37, $P = .02$) and "Other" race (e.g., multiracial) (OR = 4.60, $P < .0001$). Initial SA-related health encounters were most likely to occur with behavioral health providers (41.4%).

Conclusions:

The current study is the first large-scale examination of health care usage by ADSMs in the MHS who have experienced SA. Results indicated that rates of SA-related care decreased throughout the study period, despite the increasing rates of SA documented by the DoD. Inconsistent with previous research and DoD reports indicating that younger ADSMs are at the highest risk for SA, our study observed lower rates of SA-related care among those aged 18-25 years; additional research is warranted to determine if there are barriers preventing younger ADSMs from seeking SA-related health care. Behavioral health providers were most frequently seen for the initial SA-related encounter, suggesting that they may be in a unique position to provide care and/or relevant referrals to ADSMs who have experienced SA. The present study provides key insights about the prevalence of SA-related care within the MHS, not yet reported in previous literature, which could help inform MHS screening practices. The strengths of the study are the inclusion of the entire active duty population without the need for research recruitment given the utilization of de-identified TRICARE claims data. The study is limited by its use of health care claims data, general SA International Classification of Diseases codes as a proxy indicator for military SA, and lack of data on ethnicity. Future research utilizing MHS data should examine mental health outcomes following the documentation of SA and disruptions in SA-related care due to SARS-CoV-2.

BACKGROUND

Information from both DoD formal reports and anonymous surveys indicate that sexual assault (SA) in the U.S. Military has been rising in recent years, with this trend continuing throughout fiscal years (FY) 2016-2018.¹⁻⁴ The experience of military sexual trauma (MST) has been linked to adverse outcomes—including suicidality, poorer physical health, and increased risk-taking behavior.⁵⁻¹¹ The prevalence of MST is lower for men (1%-3%) than for women (25%-33%); however the overall number of service members who have experienced MST is fairly comparable, given that men have comprised approximately 84% of the total military force since 2004.^{12,13} Although research consistently indicates that younger age and enlisted rank are associated with greater risk for MST, other

*Department of Medical & Clinical Psychology, Uniformed Services University, Bethesda, MD 20814, USA

†Center for Health Services Research, Uniformed Services University, Bethesda, MD 20814, USA

‡Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc., Bethesda, MD 20817, USA

The contents of this publication are the sole responsibility of the authors and do not necessarily reflect the views, assertions, opinions, or policies of the USU, the Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc., or the Departments of the Army, Navy, or Air Force. Mention of trade names, commercial products, or organizations does not imply endorsement by the U.S. Government.

doi:<https://doi.org/10.1093/milmed/usac175>

Published by Oxford University Press on behalf of the Association of Military Surgeons of the United States 2022. This work is written by (a) US Government employee(s) and is in the public domain in the US.

factors such as race are not as clear.^{3,14–17} Additionally, the DoD annual report on new SA cases formally reported in the military demonstrated that the Army (the largest service branch) had the highest rate of MST,¹⁴ whereas studies with veterans have indicated that those from the Navy and Marine Corps were more likely to experience MST.^{16,18}

The Workplace Gender Relations Study is an anonymous survey distributed biannually throughout the DoD. From 2016 to 2018, there was a statistically significant increase in the number of service members who had experienced SA in the previous year (14,900 in FY 2016 to 20,500 in FY 2018).⁴ Based on the information from these data and in comparison to DoD reports, the researchers estimated that only about a third of service members who experienced SA made a formal report. When making a formal report of SA, service members can elect to have their report be either Restricted or Unrestricted.³ Restricted reports remain confidential, whereas Unrestricted reports allow official investigations to be launched and a greater amount of information to be documented, tracked, and shared. Therefore, although the DoD publishes data of new SA reports made each year, there is no coordinated health care information collected for these reports. Furthermore, a majority of the MST research thus far has been conducted with veteran populations, or with health care services outside of the Military Health System (MHS), such as the Veteran Health Administration.^{19–21} As such, little is known about the actual health service utilization of active duty service members (ADSMs) who have experienced SA.

Given the adverse effects of MST and the threat it poses to military safety and readiness, there remains a need for large-scale studies to assess health care utilization among ADSMs who have experienced SA. Additionally, this information could be valuable to inform MHS screening practices. The present investigation is the first population-level study to examine the prevalence of SA-related health care delivered to ADSMs in the MHS and the type of provider seen during the initial SA-related health encounter.

METHOD

Utilizing the Defense Enrollment Eligibility Reporting System, all ADSMs aged 18 and older from the Air Force, Army, Navy, and Marine Corps during FY 2016–2018 were identified. Given the study focus on care provided in the MHS, Active National Guard and Reserves members were excluded due to their inconsistent access to the MHS.

The Military Health System Data Repository (MDR)—the centralized data repository that captures Defense Health Agency health care data worldwide—was used to identify information on health care usage during the study period. The MDR is a single source for all health care encounter data for MHS beneficiaries receiving care at military treatment facilities, also known as direct care, and at civilian fee-for-service

facilities accessible through TRICARE benefits, also known as private sector care. TRICARE is the DoD insurance product providing coverage to 9.6 million beneficiaries, including ADSMs, retired personnel, and their families.²² The MDR has proven to be an abundant source for research on care utilization and behavioral health for ADSMs and all MHS beneficiaries.^{23,24} The MHS and TRICARE do not include care delivered by the Veterans Affairs system or services paid out of pocket by ADSMs.

Utilizing the International Classification of Diseases, 10th revision codes related to SA, we identified all SA-related claims by ADSMs in both the direct and private sector care settings during the study period. If an ADSM had multiple claims related to SA, only the first record during the study period was retained.

Demographic and clinical variables examined included: Age, gender, race, service branch (Army, Navy, Air Force, Marine Corps), and military rank (Enlisted, Officer, and Other for cadets or unknown and unspecified rank). Age was stratified into three groups: Young Adult (18–25 years), Adult (26–40 years), and Older Adult (41 years and above). Race is reported in the MDR as White, Black, Asian/Pacific Islander, American Indian/Alaskan Native, and Other; information on ethnicity was not available for this study.

Provider types were categorized using taxonomy codes established by the Health Insurance Portability and Accountability Act and grouped into four categories: Physicians (i.e., doctor of medicine and doctor of osteopathic medicine); behavioral health and social service providers (e.g., psychologists, social workers, and counselors); physician assistants (PAs), nurses, and nurse practitioners (NPs); and a remaining “other” group for those that did not fit the previous categories (e.g., occupational therapist, clinical medical laboratory, and rehabilitation hospital). Given that Health Insurance Portability and Accountability Act taxonomy codes group a variety of medical specializations (e.g., brain injury medicine, epilepsy, addiction medicine, and pain medicine) into a singular “Psychiatry and Neurology” code, for the purpose of the current analyses, these providers were included within the physician category.

Descriptive statistics were performed on the ADSMs’ demographics and the type of provider seen during the initial SA-related health encounter. To maintain patient anonymity, data with cell counts of less than 11 were suppressed. SA-related encounters per 1,000 ADSMs were calculated from 2016 to 2018 for trend analysis. Multivariable logistic regressions were performed to assess the associated risks of SA-related care among ADSMs. Those with incomplete data were excluded from the logistic regression analyses, resulting in a total of 1,683,727 ADSMs (2.6% loss). All analyses were performed using SAS 9.4. Significance was defined as P -value $< .05$. Restrictions apply to the availability of these data, which were used under federal Data User Agreements for the current study, and thus are not publicly available.

This study was deemed exempt from human subjects review by the Institutional Review Board of the USU.

RESULTS

We identified 1,728,433 ADSMs during FY 2016-2018, of whom 4,113 (0.24%) had an SA-related health claim during the study period. Rates of SA-related care in the MHS declined throughout the three-year period, from 1.12 per 1,000 service members in 2016 (1,531 new encounters), to 0.95 in 2017 (1,306 new encounters), and to 0.92 in 2018 (1,276 new encounters).

Sociodemographic characteristics of ADSMs with SA-related health care encounters can be found in Table I. Of the 4,113 with an SA-related health encounter, the majority were young adults aged 18-25 years (72.3%), female (71.3%), White (59.0%), in an enlisted rank (93.8%), in the U.S. Army (54.2%), and received their care in the direct care setting (88.9%) versus private sector care.

Table II details the results from the multivariable logistic regression for SA-related care in ADSMs. Women were 12 times more likely to have received care related to SA than men (odds ratio [OR] = 12.02, 95% CI, 11.21-12.89, *P* < .0001). In addition, higher odds of SA-related care were observed among those identifying as American Indian/Alaskan Native (OR = 1.37, 95% CI, 1.04-1.80, *P* = .02) and “Other” race (e.g., multiracial) (OR = 4.60, 95% CI, 4.10-5.17, *P* < .0001). There was no significant difference in the odds of SA-related encounters for Black service members (OR = 0.98, 95% CI, 0.90-1.05, *P* = .53) compared to the reference group of White service members. Lower odds of SA-related care were observed in ADSMs aged 18-25 years (OR = 0.70, 95% CI, 0.65-0.75, *P* < .0001). Across the branches, service members in the Army (reference group) had the highest odds of SA-related care.

Figure 1 details the distribution of provider types seen by ADSMs for SA-related care. The majority of the SA-related health encounters were with behavioral health and social service providers (41.4%). SA-related health encounters with medical professionals were as follows: 34.2% by physicians; 15.6% by PAs, NPs, and nurses; and the remaining 8.8% from the “other” category of providers. When examined by care setting, similar distributions were observed in ADSMs receiving direct care; however, those in the private sector (*n* = 458) were predominantly seen by providers in the “other” category (71.8%), followed by physicians (22.3%), PAs/NPs/nurses (2.0%), and behavioral health specialists (3.9%).

DISCUSSION

In contrast to previously published DoD sources that show an increase in both anonymous rates⁴ and formal SA reports in recent years,¹⁻³ the MHS recorded SA-related health encounters decreased each FY from 2016 to 2018. As aforementioned, the Workplace Gender Relations Study saw that anonymous rates of SA increased from roughly 15,000 to

TABLE I. Sociodemographic Characteristics of Service Members with Sexual Assault-Related Health Care Encounters

	Initial sexual assault-related encounters total (<i>N</i> = 4,113)	Direct care (<i>N</i> = 3,655)	Private sector care (<i>N</i> = 458)
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Age group (years)			
18-25	2,973 (72.3)	2,623 (71.8)	350 (76.4)
26-40	1,067 (25.9)	963 (26.4)	104 (22.7)
≥41	73 (1.8)	69 (1.9)	–
Gender			
Female	2,932 (71.3)	2,582 (70.6)	350 (76.4)
Male	1,181 (28.7)	1,073 (29.4)	108 (23.6)
Race			
White	2,428 (59.0)	2,147 (58.7)	281 (61.4)
Black/African American	1,002 (24.4)	887 (24.3)	115 (25.1)
Asian/Pacific Islander	168 (4.1)	152 (4.2)	16 (3.5)
American Indian/Alaska Native	56 (1.4)	50 (1.4)	–
Other/Multiracial	423 (10.3)	393 (10.8)	30 (6.6)
Unknown/Missing	36 (0.9)	26 (0.7)	–
Rank			
Enlisted	3,856 (93.8)	3,441 (94.2)	415 (90.6)
Officer	208 (5.1)	176 (4.8)	32 (7.0)
Other/Cadet/Unknown	49 (1.2)	38 (1.0)	11 (2.4)
Service			
Army	2,231 (54.2)	2,081 (56.9)	150 (32.8)
Air Force	951 (23.1)	765 (20.9)	186 (40.6)
Navy	617 (15.0)	533 (14.6)	84 (18.3)
Marine Corps	314 (7.6)	276 (7.6)	38 (8.3)

Cells with *n* values of less than 11 are not reported for confidentiality purposes.

20,500 between FY 2016 and 2018,⁴ whereas only about a third of those who experienced SA made a formal report, increasing from 4.1 to 5.1 formal reports per 1,000 service members.¹⁻³ Considering our study data revealed SA-related care was delivered at the rate of 0.95-1.12 per 1,000 service members, these differences could potentially be indicative of a gap in care.

Despite the difference in prevalence, the current results reflect similar findings in previously reported rates of SA, such that women and enlisted service members were the most likely to receive SA-related care.^{14-16,20,25-27} In addition, we found that ADSMs in the Army were most likely to use health care services for an SA, similar to previous research.^{14,28} The Army is the largest military branch and soldiers are often overrepresented in studies compared to ADSMs from other branches; however, the present study utilized OR comparisons, indicating that the prevalence is not due to branch size alone. Despite previous research and DoD reports indicating

TABLE II. Odds of Sexual Assault-Related Health Care Encounter During FY 2016-2018

	Odds Ratio	95% CI	P-value
Age group (years)			
18-25	0.70	0.65–0.75	<0.0001
26-40 (ref)	1	1	
≥41	0.65	0.51–0.83	<0.0001
Gender			
Male (ref)	1	1	
Female	12.02	11.21–12.89	<0.0001
Race			
White (ref)	1	1	
Black/African American	0.64	0.54–0.75	<0.0001
Asian/Pacific Islander	0.98	0.90–1.05	0.5305
American Indian/Alaskan Native	1.37	1.04–1.80	0.0238
Other/Multiracial	4.60	4.10–5.20	<0.0001
Service			
Army (ref)	1	1	
Air Force	0.44	0.40–0.47	<0.0001
Navy	0.40	0.36–0.45	<0.0001
Marine Corps	0.31	0.28–0.34	<0.0001
Rank			
Enlisted	2.65	2.28–3.08	<0.0001
Officer (ref)	1	1	
Other/Cadet/Unknown	2.04	1.40–2.97	0.0002

Multivariable logistic regressions were performed with age group, gender, race, service, and rank included as categorical predictor variables and adjustment factors.

those who are younger are at the highest risk for SA,¹⁴ our study of MHS data indicated lower rates of SA-related health care among those aged 18-25 years compared to ADSMs aged 26-40 years, who had the highest odds of SA-related health encounters. Additional research is warranted to determine if there are barriers preventing younger service members from seeking SA-related health care, such as greater stigma or fear of retribution.²⁹

Regarding race, those who identified as American Indian/Alaskan Native or as part of an “Other” category of race (e.g., multiracial) were the most likely to have an SA-related health encounter, compared to those identifying as White. As aforementioned, the research on whether racial or ethnic minorities are at greater risk for MST is inconsistent; for instance, some studies have shown that those identifying as racial or ethnic minorities are at greater risk, whereas others show no significant difference at all.^{16,26,27,30} However, a review of DoD Gender Issues Surveys completed by 22,372 female service members found that those of low sociocultural power status (i.e., younger age, lower education, minority racial group membership, and non-married) had a higher likelihood of experiencing SA and harassment.^{5,31} Consistent with the findings from the current investigation, this suggests that there may be a compounding

interaction between several sociodemographic factors (i.e., intersectionality) placing minorities at greater risk, which should be explored.^{5,16,30,31}

Behavioral health and social service providers were the category of providers most likely to be engaged in the initial SA-related health encounter. This is in contrast with some civilian studies, showing that the majority of SA reports are made to medical providers (e.g., ranging from 18% to 72%), whereas reporting to behavioral health and social service providers occurs at a lower rate (e.g., ranging from 19% to 27%).^{32–35} The current findings may reflect greater accessibility of behavioral health services among some TRICARE beneficiaries, although additional studies are warranted.

To our knowledge, the current study is the first large-scale assessment of health care usage within the MHS setting by ADSMs who have been sexually assaulted. The strengths of the study are the inclusion of the entire active duty population and all reported health service utilization captured within the MDR. Furthermore, given the utilization of de-identified TRICARE claims data, the full population of ADSMs was included without the need for research recruitment or the reliance on self-reported SA data. The use of health care claims data and general SA International Classification of Diseases codes as a proxy for MST is a limitation of this study as the data only capture MHS encounters where SA was documented, and likewise may represent SAs that occurred before one’s military service. Additionally, the MHS has begun transitioning from the MDR to a new electronic health record, MHS Genesis. Some of the initial sites began this transition in 2017; therefore, study data from FY 2017 to 2018 do not include information from sites enrolled in Genesis during that time. Furthermore, the MHS only includes information on race, but not ethnicity; therefore, it was not possible to isolate data for those identifying as Hispanic. This is a notable limitation of the study as Hispanic service members may have different experiences and outcomes.^{5,31} Given that psychiatrists were included within the “physician” category for reasons cited above, the current study did not capture individuals who sought treatment from physicians within mental health specialty clinics, thereby potentially underestimating the proportion of mental health providers seen for SA-related care.

Future research utilizing MHS data should examine mental health outcomes following the documentation of SA. Similar to analyses in this current study, sociodemographic differences in mental health outcomes should be explored. Additionally, further delineation of the types of health care services sought could potentially reveal whether members from different services or sociodemographic categories have a greater likelihood of engaging in medical care versus mental health care. Research regarding trauma-informed care within the MHS should also be explored. Trauma-informed care includes universal precautions to make health care systems safer and more welcoming to all, as well as trauma-specific practices to promote treatment engagement, improve outcomes, and

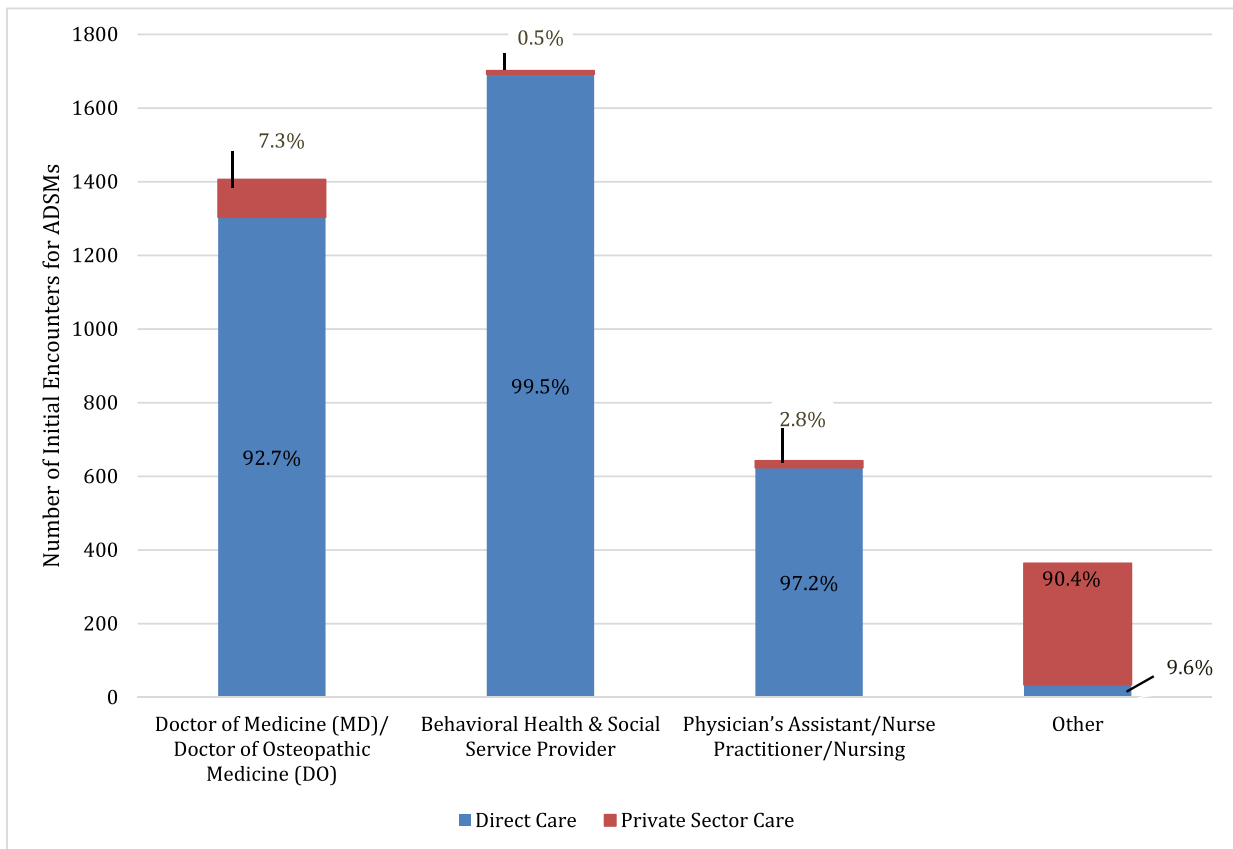


FIGURE 1. Provider type seen at initial sexual assault-related health care encounter.

reduce the risk of re-traumatization for those who have experienced trauma.^{36,37} Trauma-informed care is not limited to behavioral health environments but rather is applicable to all spaces (e.g., primary care, dentistry, and family health) where someone who has experienced trauma may ostensibly receive services. Comparing outcomes between patients receiving trauma-informed care and treatment as usual may be an important future direction to elucidate possible benefits of trauma-informed practices as well as the need for greater training and implementation within the MHS.^{36,38} Service outreach programs and procedures should also be examined for differences that might encourage and support greater health care seeking behavior.

CONCLUSION

Although eliminating SA in the military remains a focus for military leaders, service members, and veterans,^{1-3,19-21} to date there had been no large-scale study of health care utilization by ADSMs who have experienced SA. In addition, the majority of the currently available MST research has been conducted by the Veteran Health Administration using samples of veterans. The present study provides key insights about the prevalence of SA-related care within the MHS, not yet reported in previous literature. Future research should utilize

the MDR to examine mental health outcomes following documentation of SA and MHS disruptions in SA-related care due to SARS-CoV-2.

ACKNOWLEDGMENT

None declared.

FUNDING

This study was funded through a grant from the U.S. Department of Defense, Defense Health Agency (Award # HU0001-11-1-0023).

CONFLICT OF INTEREST STATEMENT

The authors report no conflicts of interest.

REFERENCES

1. Department of Defense: Department of Defense annual report on sexual assault in the military fiscal year 2016. 2016. Available at https://www.sapr.mil/public/docs/reports/FY17_Annual/FY16_Annual_Report_on_Sexual_Assault_in_the_Military_Full_Report3_Volume1.pdf; accessed July 18, 2021.
2. Department of Defense: Department of Defense annual report on sexual assault in the military fiscal year 2017. 2017. Available at https://sapr.mil/public/docs/reports/FY17_Annual/DoD_FY17_Annual_Report_on_Sexual_Assault_in_the_Military.pdf; accessed July 18, 2021.
3. Department of Defense: Department of defense annual report on sexual assault in the military fiscal year 2018. 2018. Available at https://www.sapr.mil/sites/default/files/FY18_DOD_Annual_

- [Report_on_Sexual_Assault_in_the_Military.pdf](#); accessed June 24, 2021.
4. Office of People Analytics: 2018 workplace and gender relations survey of active duty members overview report. Office of People Analytics; 2019. Available at https://www.sapr.mil/sites/default/files/Annex_1_2018_WGRA_Overview_Report.pdf; accessed April 17, 2022.
 5. Kimerling R, Pavao J, Valdez C, Mark H, Hyun JK, Saweikis M: Military sexual trauma and patient perceptions of Veteran Health Administration health care quality. *Womens Health Issues* 2011; 21(4): S145–51.
 6. Kelly MM, Vogt DS, Scheiderer EM, Ouimette P, Daley J, Wolfe J: Effects of military trauma exposure on women veterans' use and perceptions of Veterans Health Administration care. *J Gen Intern Med* 2008; 23(6): 741–7.
 7. Schry AR, Hibberd R, Wagner HR, et al: Functional correlates of military sexual assault in male veterans. *Psychol Serv* 2015; 12(4): 384–93.
 8. Schuyler AC, Kintzle S, Lucas CL, Moore H, Castro CA: Military sexual assault (MSA) among veterans in Southern California: associations with physical health, psychological health, and risk behaviors. *Traumatology* 2017; 23(3): 223–34.
 9. Wolfe-Clark AL, Bryan CJ, Bryan AO, et al: Child sexual abuse, military sexual trauma, and psychological distress among male military personnel and veterans. *J Child Adolesc Trauma* 2017; 10(2): 121–8.
 10. Blais RK, Brignone E, Maguen S, Carter ME, Fargo JD, Gundlapalli AV: Military sexual trauma is associated with post-deployment eating disorders among Afghanistan and Iraq veterans. *Int J Eat Disord* 2017; 50(7): 808–16.
 11. Cucciare MA, Ghaus S, Weingardt KR, Frayne SM: Sexual assault and substance use in male veterans receiving a brief alcohol intervention. *J Stud Alcohol Drugs* 2011; 72(5): 693–700.
 12. Wilson LC: The prevalence of military sexual trauma: a meta-analysis. *Trauma Violence Abuse* 2018; 19(5): 584–97.
 13. Government Accountability Office: Female active duty personnel guidance and plans needed for recruitment and retention efforts. 2020. Available at <https://www.gao.gov/assets/gao-20-61.pdf>; accessed June 23, 2021.
 14. Department of Defense: Department of Defense annual report on sexual assault in the military fiscal year 2019. 2019. Available at https://www.sapr.mil/sites/default/files/DOD_Annual_Report_on_Sexual_Assault_In_The_Military_FY2019_Consolidated.pdf; accessed June 13, 2021.
 15. Kimerling R, Makin-Byrd K, Louzon S, Ignacio RV, McCarthy JF: Military sexual trauma and suicide mortality. *Am J Prev Med* 2016; 50(6): 684–91.
 16. Klingensmith K, Tsai J, Mota N, Southwick SM, Pietrzak RH: Military sexual trauma in US veterans: results from the national health and resilience in veterans study. *J Clin Psychiatry* 2014; 75(10): e1133–9.
 17. Vander Weg MW, Sadler AG, Abrams TE, et al: Lifetime history of sexual assault and emergency department service use among women veterans. *Womens Health Issues* 2020; 30(5): 374–83.
 18. Barth SK, Kimerling RE, Pavao J, et al: Military sexual trauma among recent veterans. *Am J Prev Med* 2016; 50(1): 77–86.
 19. Mengeling MA, Booth BM, Torner JC, Sadler AG: Post–sexual assault health care utilization among OEF/OIF servicewomen. *Med Care* 2015; 53(4 Suppl 1): S136–42.
 20. Kimerling R, AE S, Pavao J, et al: Military-related sexual trauma among Veterans Health Administration patients returning from Afghanistan and Iraq. *Am J Public Health* 2010; 100(8): 1409–12.
 21. Turchik JA, Wilson SM: Sexual assault in the U.S. military: a review of the literature and recommendations for the future. *Aggress Violent Behav* 2010; 15(4): 267–77.
 22. Defense Health Agency: Evaluation of the TRICARE program: fiscal year 2021 report to congress. 2021. Available at <https://health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/Health-Care-Program-Evaluation/Annual-Evaluation-of-the-TRICARE-Program?type=Reports#RefFeed>; accessed February 14, 2022.
 23. Phillips KJ, Banaag A, Lynch LC, Wu H, Janvrin M, Koehlmoos TP: Comparison of musculoskeletal injury and behavioral health diagnoses among U.S. Army active duty servicewomen in ground combat and non-ground combat military occupational specialties. *Mil Med* 2022; (1): 1–6.
 24. Andriotti T, Dalton MK, MP J, et al: Super-utilization of the emergency department in a universally insured population. *Mil Med* 2021; 186(9-10): e1010–6.
 25. Kimerling R, Street AE, Gima K, Smith MW: Evaluation of universal screening for military-related sexual trauma. *Psychol Serv* 2008; 59(6): 635–40.
 26. Sadler AG, Booth BM, Cook BL, Doebbeling BN: Factors associated with women's risk of rape in the military environment. *Am J Ind Med* 2003; 43(3): 262–73.
 27. Skinner KM, Kressin N, Frayne S, et al: The prevalence of military sexual assault among female veterans' administration outpatients. *J Interpers Violence* 2000; 15(3): 291–310.
 28. Rosellini AJ, Monahan J, Street AE, et al: Predicting sexual assault perpetration in the U.S. Army using administrative data. *Am J Prev Med* 2017; 53(5): 661–9.
 29. Dardis CM, Reinhardt KM, Foyes MM, Medoff NE, Street AE: "Who are you going to tell? Who's going to believe you?": women's experiences disclosing military sexual trauma. *Psychol Women Q* 2018; 42(4): 414–29.
 30. Street AE, Stafford J, Mahan CM, Hendricks A: Sexual harassment and assault experienced by reservists during military service: prevalence and health correlates. *J Rehabil Res Dev* 2008; 45(3): 409–20.
 31. Harned MS, Ormerod AJ, Palmieri PA, Collinsworth LL, Reed M: Sexual assault and other types of sexual harassment by workplace personnel: a comparison of antecedents and consequences. *J Occup Health Psychol* 2002; 7(2): 174–88.
 32. Beebe DK, Gullede KM, Lee CM, Replogle W: Prevalence of sexual assault among women patients seen in family practice clinics. *Fam Pract Res J* 1994; 14(3): 223–8.
 33. Feldhaus KM, Houry D, Kaminsky R: Lifetime sexual assault prevalence rates and reporting practices in an emergency department population. *Ann Emerg Med* 2000; 36(1): 23–7.
 34. Strike J, Ferris LE: Medical care use among women before and after sexual assault: a population study. *J Obstet Gynaecol* 2001; 21(3): 285–91.
 35. Kimerling R, Calhoun KS: Somatic symptoms, social support, and treatment seeking among sexual assault victims. *J Consult Clin Psychol* 1994; 62(2): 333–40.
 36. Raja S, Hasnain M, Hoersch M, Gove-Yin S, Rajagopalan C: Trauma informed care in medicine: current knowledge and future research directions. *Fam Community Health* 2015; 38(3): 216–26.
 37. Substance Abuse and Mental Health Services Administration: *SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach*. Substance Abuse and Mental Health Services Administration; 2014:1–20.
 38. Schulman M, Menschner C: *Laying the Groundwork for Trauma-Informed Care*. Center for Health Care Strategies; 2018:1–9.