Trauma and Suicidal Self-Directed Violence among Women Veterans

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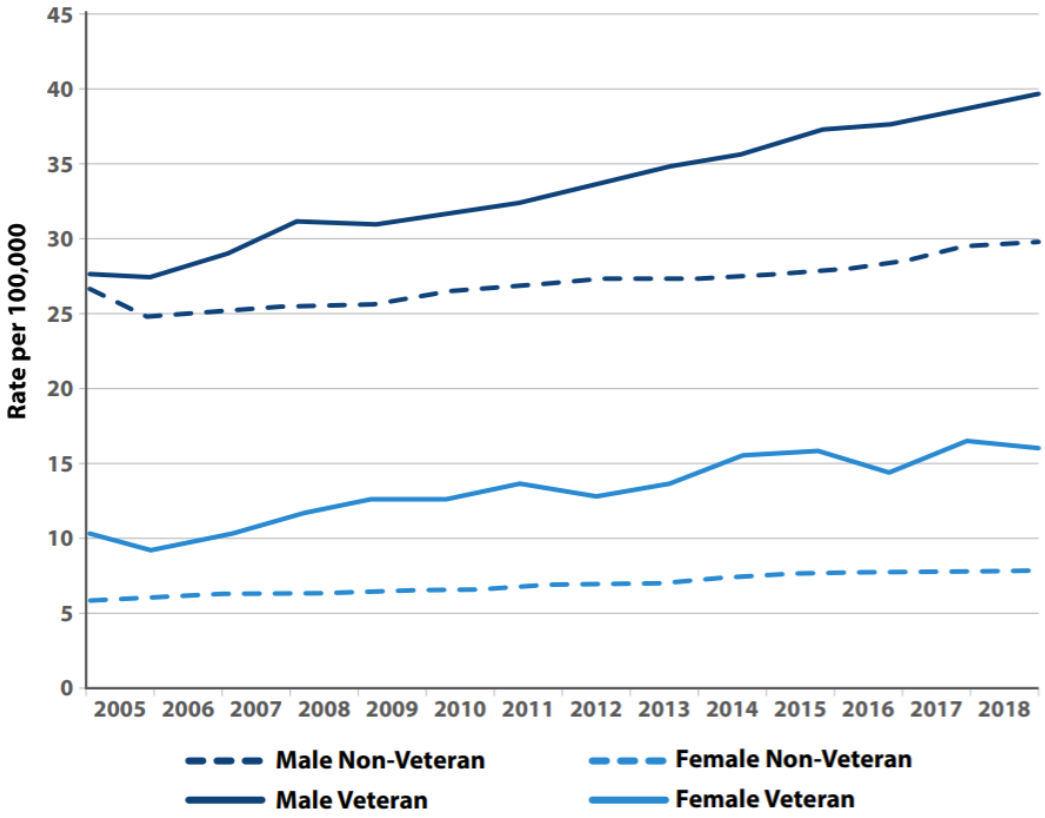
Suicide among Women Veterans

Suicide among Women Veterans

In 2018, the age-adjusted rate of suicide was **2.1 times greater** among women Veterans relative to women non-Veterans.

Graph 9. Age-Adjusted Suicide Rates, by Sex and Veteran Status, 2005–2018

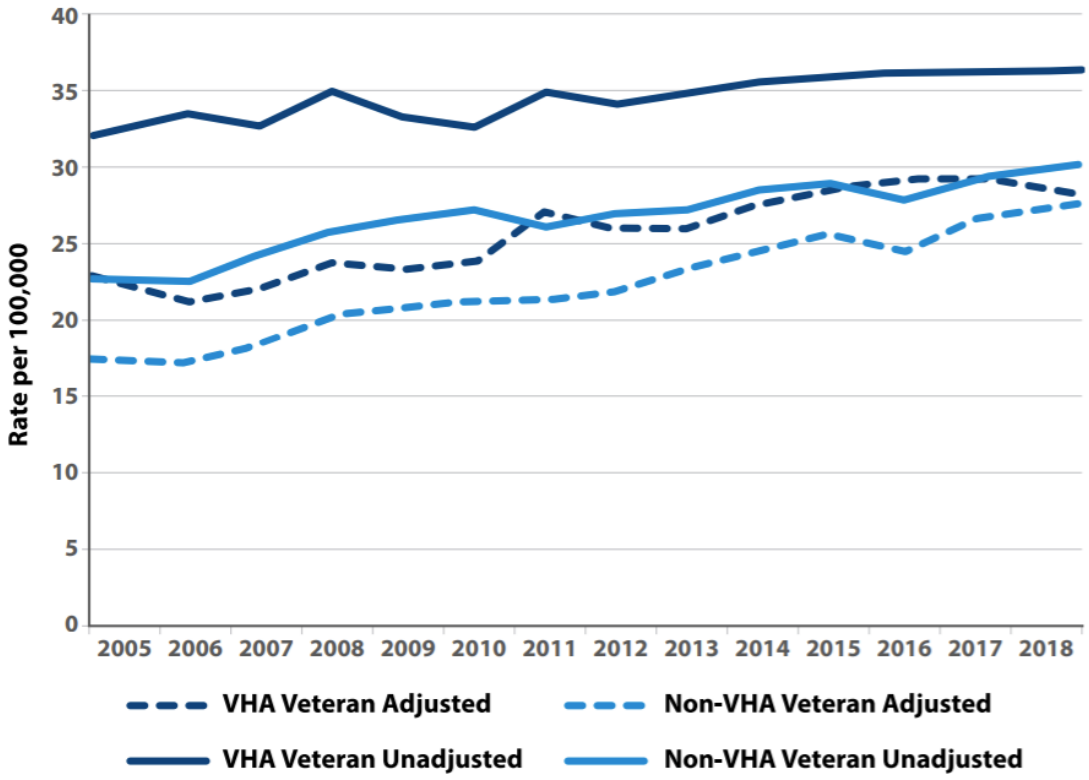


VA Office of Mental Health and Suicide Prevention. (2020). *2020 National Veteran Suicide Prevention Annual Report.* https://www.mentalhealth.va.gov/docs/data-sheets/2020/2020-National-Veteran-Suicide-Prevention-Annual-Report-11-2020-508.pdf

By Veterans Health Administration (VHA) Use

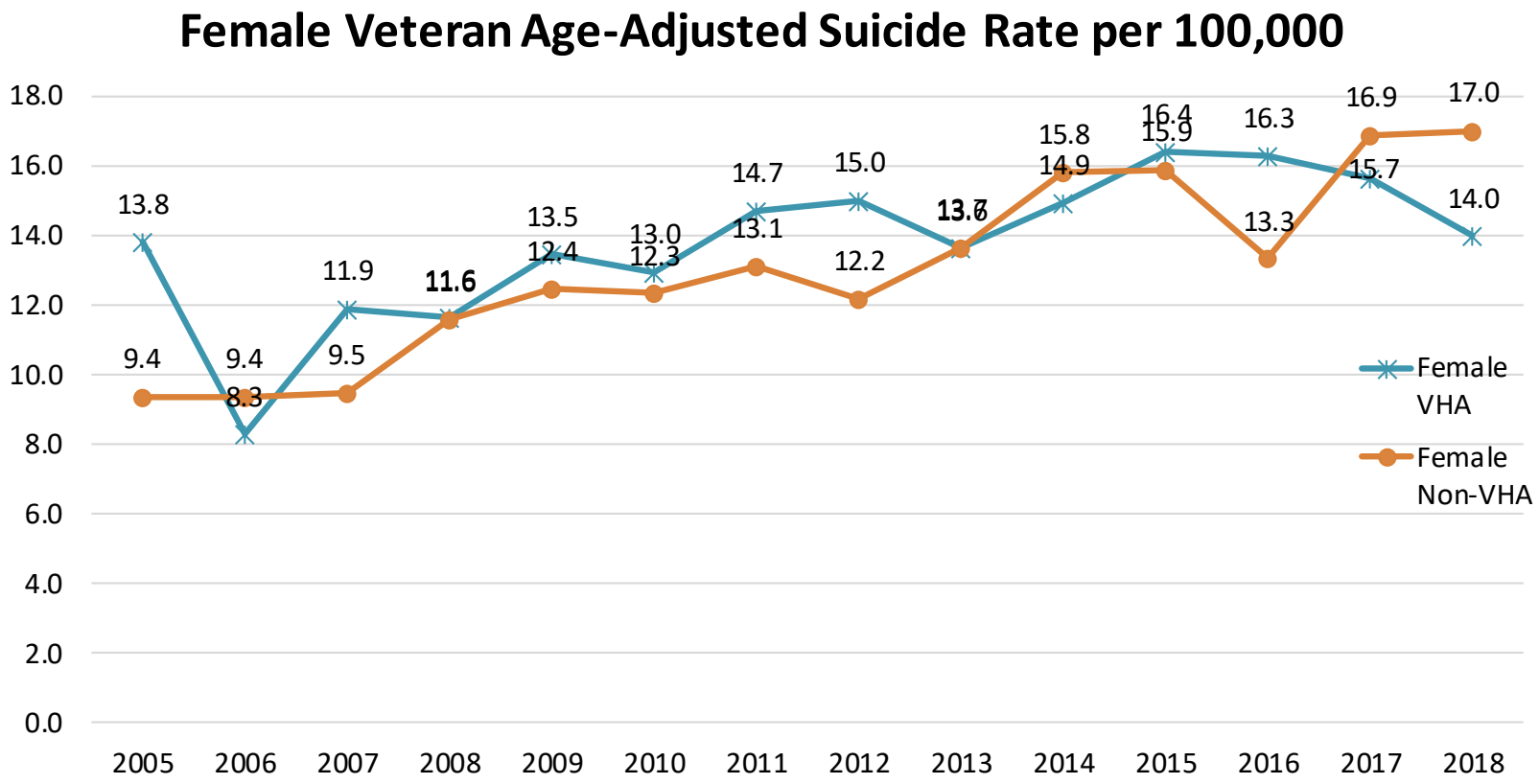
Although suicide rates have historically been higher among VHA Veterans, this trend has recently shifted, underscoring the need to increase understanding of how to prevent suicide among Veterans not accessing VHA care.

Graph 4. Unadjusted and Age- and Sex-Adjusted Suicide Rates, Veterans, by Recent VHA Care, 2005–2018



VA Office of Mental Health and Suicide Prevention. (2020). *2020 National Veteran Suicide Prevention Annual Report.* https://www.mentalhealth.va.gov/docs/data-sheets/2020/2020-National-Veteran-Suicide-Prevention-Annual-Report-11-2020-508.pdf

By VHA Use, Among Female Veterans



- Differences by VHA use are particularly notable among females.
- In 2017 and 2018, the age-adjusted suicide rate for non-VHA female Veterans exceeded that of VHA female Veterans.

VA Office of Mental Health and Suicide Prevention. (2020). *2005-2018 National Data Appendix.* https://www.mentalhealth.va.gov/docs/data-sheets/2018/2005-2018-National-Data-Appendix_508.xlsx

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Number of Suicide Deaths among Female Veterans, by VHA Use

Year	Female VHA	Female Non-VHA	% Non-VHA*
2005	56	130	69.9%
2006	34	134	79.8%
2007	50	132	72.5%
2008	53	149	73.8%
2009	59	164	73.5%
2010	66	162	71.1%
2011	75	173	69.8%
2012	80	157	66.2%
2013	74	177	70.5%
2014	90	202	69.2%
2015	97	207	68.1%
2016	102	170	62.5%
2017	94	210	69.1%
2018	81	210	72.2%

- The majority of female Veterans who die by suicide are non-VHA users.
- Thus, suicide prevention efforts for non-VHA female Veterans are critical.

*Calculated from the VA Office of Mental Health and Suicide Prevention. (2020). *2005-2018 National Data Appendix*. https://www.mentalhealth.va.gov/docs/data-sheets/2018/2005-2018-National-Data-Appendix_508.xlsx

Knowledge Gaps

- Nonetheless, suicide-focused research with women Veterans has historically been limited.
- Moreover, such research has tended to focus on those using VHA care.
- As such, there is a need for ongoing research aimed at understanding drivers of suicide risk and effective prevention strategies among women Veterans, inclusive of both VHA and non-VHA users.

Trauma and Suicide among Women Veterans

Trauma and Interpersonal Violence among Women Veterans

- Although estimates vary across samples and methods, women Veterans generally report high rates of trauma, especially interpersonal violence (e.g., Zinzow et al., 2007)

- Research suggests that rates of interpersonal violence among women Veterans may exceed those of women non-Veterans and Veteran men

Zinzow, H. M., Grubaugh, A. L., Monnier, J., Suffoletta-Maierle, S., & Frueh, B. C. (2007). Trauma among female veterans: A critical review. *Trauma, Violence, & Abuse*, *8*(4), 384-400.

Interpersonal Violence among Women Veterans

In a 2018-2019 anonymous survey, nearly 2/3 of women reported:

- At least one experience of physical violence
- At least one experience of sexual violence

Interpersonal Violence, Suicidal Ideation, and Suicide Attempt Across the Lifespan within the Sample (N=407)

Variable	*n*	%
Physical violence (lifetime)	**250**	**65.1**
Pre-military physical violence	202	49.6
Military physical violence	99	24.3
Physical violence following separation[a]	94	23.1
Sexual violence (lifetime)	**251**	**65.4**
Pre-military sexual violence	212	52.1
Military sexual violence	115	28.3
Sexual violence following separation	44	10.8

Holliday, R., Forster, J. E., Schneider, A. L., Miller, C., & Monteith, L. L. (2021). Interpersonal violence throughout the lifespan: Associations with suicidal ideation and suicide attempt among a national sample of female veterans. *Medical Care*, *59*, S77–S83. https://doi.org/10.1097/MLR.0000000000001447

Military Sexual Trauma (MST) & Suicidal Self-Directed Violence (S-SDV)

There has been an abundance of research on MST as it pertains to suicidal self-directed violence. **Studies have generally found that MST is associated with S-SDV:**

- Across most samples (e.g., women, men, mixed-gender)
- Spanning the breadth of S-SDV examined
  - Suicidal ideation (SI)
  - Suicide attempt
  - Suicide
- Women who identify MST (vs combat/deployment trauma) as the source of their PTSD symptoms are more likely to report SI
- Some support for military sexual harassment, but stronger support for the role of military sexual assault.

Monteith, L. L., Holliday, R., Hoyt, T., & Bahraini, N. H. (2019). Military sexual trauma and suicidal self-directed violence: A narrative review and proposed agenda for future research. *The Routledge International Handbook of Military Psychology and Mental Health*.

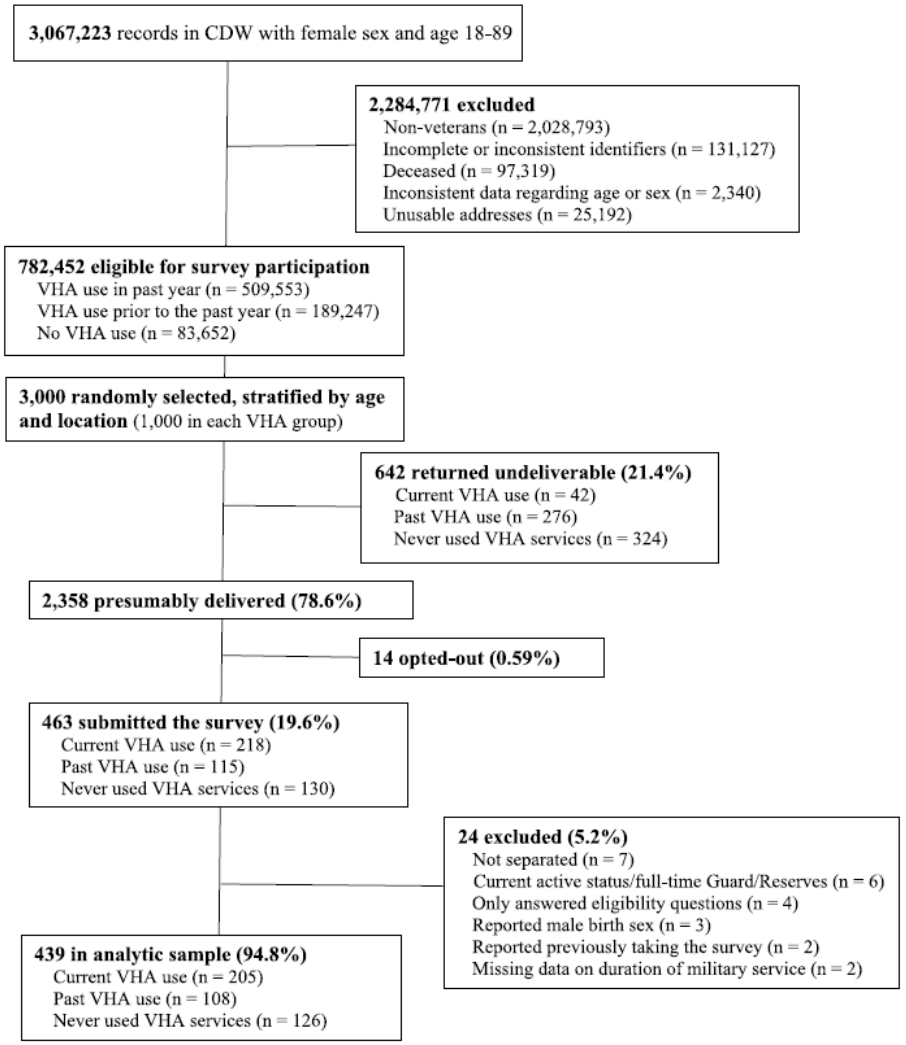
Is Interpersonal Violence Associated with Suicidal Ideation and Attempt among Women Veterans?

- As interpersonal violence can occur at various times throughout one's lifespan and can encompass sexual and physical violence, this study sought to elucidate whether different types and periods of interpersonal violence were associated with SI and suicide attempts.

- *Are sexual and physical violence at different periods (i.e., pre-military, during military service) associated with SI and suicide attempts at subsequent periods (i.e., during and following military service)?*

Holliday, R., Forster, J. E., Schneider, A. L., Miller, C., & Monteith, L. L. (2021). Interpersonal violence throughout the lifespan: Associations with suicidal ideation and suicide attempt among a national sample of female veterans. *Medical Care*, *59*, S77–S83. https://doi.org/10.1097/MLR.0000000000001447

- Anonymous 2018-2019 national survey of women Veterans
  - n = 407 for this analysis
- Stratified random sample based on age and region;
- Sampled
  - Current VHA users
  - Past VHA users
  - Never VHA users
- Abbreviated version of the Self-Injurious Thoughts and Behaviors Interview (SITBI)



Holliday, R., Forster, J. E., Schneider, A. L., Miller, C., & Monteith, L. L. (2021). Interpersonal violence throughout the lifespan: Associations with suicidal ideation and suicide attempt among a national sample of female veterans. *Medical Care*, *59*, S77–S83. https://doi.org/10.1097/MLR.0000000000001447

Associations of Interpersonal Violence to SI and Suicide Attempt

- Sexual violence was associated with both SI and suicide attempt across models.
- In contrast, physical violence was associated with SI, but not SA.
- Both pre-military and military interpersonal violence were significant.

	Suicidal ideation		Suicide attempt	
	OR (95% CI)	*p*-value	OR (95% CI)	*p*-value
Suicidal ideation/suicide attempt during military service	Model 1		Model 3	
Pre-military physical violence	1.64 (.99, 2.71)	.053	.86 (.41, 1.79)	.684
Pre-military sexual violence	**2.39 (1.44, 3.98)**	**.001**	**2.32 (1.06, 5.08)**	**.036**
Suicidal ideation/suicide attempt following separation	Model 2		Model 4	
Pre-military physical violence	**2.06 (1.30, 3.28)**	**.002**	1.08 (.55, 2.09)	.827
Pre-military sexual violence	**2.38 (1.49, 3.79)**	**<.001**	**2.38 (1.16, 4.89)**	**.018**
Military physical violence	**1.88 (1.12, 3.16)**	**.018**	1.83 (.92, 3.67)	.087
Military sexual violence	**2.57 (1.57, 4.23)**	**<.001**	**2.55 (1.29, 5.01)**	**.007**

Note. All models accounted for age and were significant (*ps*<.05). Significant values are bolded.

Interpersonal violence, particularly pre-military and military sexual violence, appears important for understanding risk for SI and attempt among women.

Holliday, R., Forster, J. E., Schneider, A. L., Miller, C., & Monteith, L. L. (2021). Interpersonal violence throughout the lifespan: Associations with suicidal ideation and suicide attempt among a national sample of female veterans. *Medical Care*, *59*, S77–S83. https://doi.org/10.1097/MLR.0000000000001447

Understanding the Link Between MST and S-SDV

Listening to Women Veterans about their MST Experiences

Aimed to describe the experience, context, and perceived effects of MST among women Veterans. Interviewed 32 cisgender female MST survivors.

Themes:

1. Sexual harassment "expected," "constant," "normal"
2. Silencing and disempowerment
3. Changed attitudes toward the military: "I lost faith"
4. Loss of relational trust: "I can protect me if I'm not involved with someone"
5. Internalization of messages conveyed by MST: "If I looked different, none of this would have happened"
6. Coping through avoidance and escape: "I put my head in the sand and hoped it would go away"
7. A path to healing through validation and justice: "You'll get through it"

Brownstone, L. M., Holliman, B. D., Gerber, H. R., & Monteith, L. L. (2018). The phenomenology of military sexual trauma among women veterans. *Psychology of Women Quarterly*, *42*(4), 399-413.

MST and S-SDV: Expanding beyond Individual-Level Factors

Mental health symptoms (e.g., depression, PTSD, alcohol use) explain some, but not all, of these associations among women Veterans.

Emphasis on a socio-ecological model

- Negative post-traumatic cognitions regarding oneself (SI and suicide attempt in a mixed-gender sample)
- Perceived burdensomeness, thwarted belonging, fearlessness of death (associated with SI women Veterans)
- Post-deployment social support (mediates deployment sexual trauma and SI in women)
- Institutional betrayal (associated with suicide attempts in a mixed-gender sample)

Monteith, L. L., Holliday, R., Hoyt, T., & Bahraini, N. H. (2019). Military sexual trauma and suicidal self-directed violence: A narrative review and proposed agenda for future research. *The Routledge International Handbook of Military Psychology and Mental Health*.

MST and Help-Seeking

MST and Help-Seeking

Considering the association between MST with S-SDV, as well as other adverse health sequelae, treating MST-related concerns is likely a pivotal aspect of mitigating risk.

Indeed, mental health treatment moderates the association between sexual assault and suicide attempts (Rosellini et al., 2017).

- Sexual assault was associated with suicide attempts for female Soldiers who lacked a record of mental health treatment in the past year
- Not significant in those with prior treatment

Holliday, R., Wiblin, J., Holder, N., Gerard, G. R., Matarazzo, B. B., & Monteith, L. L. (2020). Preventing suicidal self-directed violence among survivors of military sexual trauma: Understanding risk and applying evidence-based principles. *Psychiatric Annals*, *50*(10), 437-443.

Rosellini, A. J., Street, A. E., Ursano, R. J., Chiu, W. T., Heeringa, S. G., Monahan, J., … & Kessler, R. C. (2017). Sexual assault victimization and mental health treatment, suicide attempts, and career outcomes among women in the US Army. *American Journal of Public Health*, *107*(5), 732-739.

MST and Help-Seeking Willingness

Yet our survey results suggest that women Veterans who experience military sexual assault are less willing to use VHA care if experiencing mental health symptoms.

	β	SD	t	p
VHA group				
Current VHA user [ref]	--	--	--	--
Past VHA user	-.29	.24	-5.44	**<.001**
Never VHA user	-.34	.27	-5.71	**<.001**
History of suicidal ideation	-.10	.22	-1.75	.081
History of suicide attempt	-.02	.28	-.36	.722
MST				
None endorsed [ref]	--	--	--	--
Military sexual harassment only	-.08	.24	-1.46	.145
Military sexual assault	-.12	.25	-2.00	**.046**
Age	.07	.01	1.35	.177
Combat	.01	.23	.18	.860
Private insurance	-.05	.23	-.88	.379
VA service connection	.02	.22	.32	.750

Conversely, military sexual trauma history was not associated with willingness to use non-VHA care for mental health or VHA or non-VHA care when suicidal.

Monteith, L. L., Holliday, R., Hoffmire, C. A., & Bahraini, N. H. (2021). Female veterans' willingness to seek Veterans Health Administration and Non-Veterans Health Administration services for suicidal thoughts and mental health concerns. *Medical Care*, *59*, S23–S30. https://doi.org/10.1097/MLR.0000000000001480

MST and Help-Seeking

Explanations are needed…

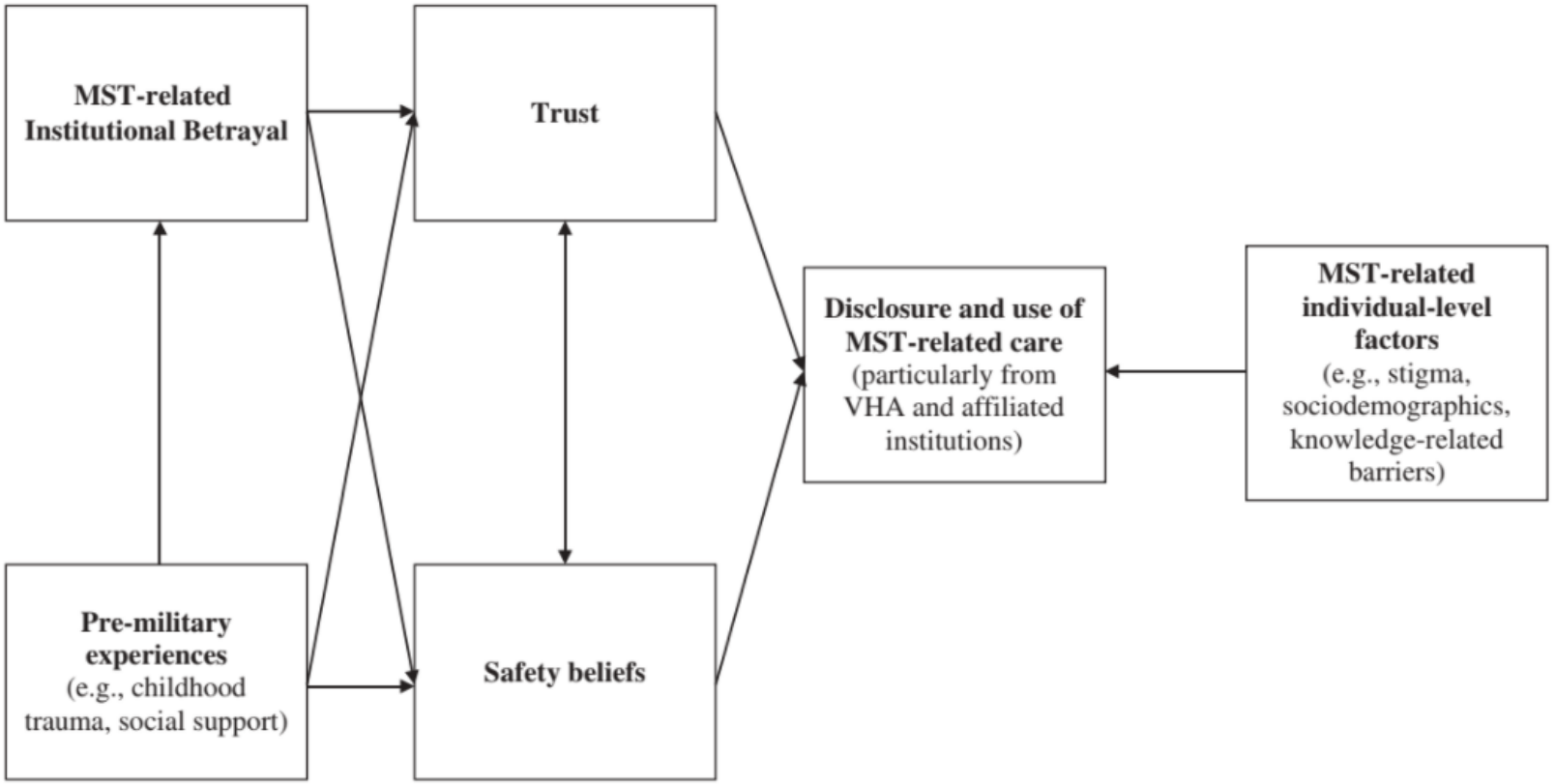
Qualitative interviews with MST survivors (32 women, 18 men)

- Most described positive perceptions and experiences of VHA care
- However, some described concerns regarding distrust, provider compassion, privacy, shame, stigma, and continuity of care
- Further, some women who experienced military sexual assault described gender-related distress (e.g., feeling out of place, anxious)

Monteith, L. L., Bahraini, N. H., Gerber, H. R., Dorsey Holliman, B., Schneider, A. L., Holliday, R., & Matarazzo, B. B. (2020). Military sexual trauma survivors' perceptions of Veterans Health Administration care: A qualitative examination. *Psychological Services*, *17*(2), 178–186. https://doi.org/10.1037/ser0000290

Institutional Betrayal (IB) and Help-Seeking

This led us to propose a model in which MST-related IB, pre-military experiences, and individual-level factors influence help-seeking behavior for MST-related concerns. In this model, trust and safety beliefs have prominent roles.



Holliday, R., & Monteith, L. L. (2019). Seeking help for the health sequelae of military sexual trauma: A theory-driven model of the role of institutional betrayal. *Journal of Trauma & Dissociation*, *20*(3), 340-356.

Institutional Betrayal and Help-Seeking

We recently tested aspects of this model with 242 women veterans who screened positive for MST.

IB was associated with:

- Lower willingness to use VHA medical care
- Higher willingness to use non-VHA mental health care
- Use of VHA care in the past year
- Use of both VHA and non-VHA MST-related care

	Base Model				Adjusted			
	B	SE	β	p	B	SE	β	p
GHSQ VHA mental health care (Aim 1a)[a]	-0.05	0.03	-0.11	.096	-0.06	0.03	-0.11	.079
GHSQ VHA medical care (Aim 1b)[b]	-0.03	0.03	-0.06	.38	-0.06	0.03	-0.12	**.048**
GHSQ Non VHA mental health care (Aim 2a)[c]	0.03	0.03	0.07	.26	0.09	0.03	0.20	**.004**
GHSQ Non VHA medical care (Aim 2b)[d]	0.06	0.03	0.14	**.04**	0.05	0.03	0.12	.10

Note. All models adjusted for private insurance and VA service-connected disability rating.
a Additionally adjusted for age, VHA use, military sexual assault, internalized mental illness stigma and mental health treatment-seeking stigma.
b Additionally adjusted for age, VHA use, military sexual assault, service era, years since most recent separation, if primary caretaker of a minor, childhood sexual abuse, and awareness that VA provides free MST-related care.
c Additionally adjusted for age, marital/relationship status, VHA use, branch, years since most recent separation, internalized mental illness stigma, and mental health treatment-seeking stigma.

Monteith, L. L., Holliday, R., Schneider, A. L., Miller, C., Bahraini, N. H., & Forster. J. E. (In press). Institutional betrayal and help-seeking among women survivors of military sexual trauma. *Psychological Trauma: Theory, Research, and Practice.*

Institutional Betrayal and Help-Seeking

- Some hypotheses supported, while others had less support
- Need to include clinical needs (e.g., mental health symptoms, diagnoses) in subsequent research
- *Also, does IB deter help-seeking when suicidal (e.g., use of emergency or crisis services, disclosure of suicidal intent)?*
- Addressing IB may be important for increasing women MST survivors' willingness to use VHA medical care.
- Non-VHA institutions and providers should be prepared to serve women Veterans who have experienced MST-related IB.

Monteith, L. L., Holliday, R., Schneider, A. L., Miller, C., Bahraini, N. H., & Forster. J. E. (In press). Institutional betrayal and help-seeking among women survivors of military sexual trauma. *Psychological Trauma: Theory, Research, and Practice.*

Other Ways in which Trauma may affect Risk for S-SDV: Firearm Access

Firearm Access

Interpersonal trauma may influence beliefs regarding safety and trust, thereby increasing the desire for self-protection through firearms (e.g., acquiring, accessible means of storage).

Qualitative study

- Aimed to understand women Veterans' firearm experiences and perceptions
- 16 women Veterans, age 20 to 70, who own(ed) firearm(s) or reside(d) in a household with firearm(s)
- Qualitative interviews facilitated by timeline of life events
- Unique themes for women
  - Access to firearms through other household members
  - Role of interpersonal violence in firearm ownership and unsafe storage practices

Monteith, L. L., Holliday, R., Dorsey Holliman, B. A., Brenner, L. A., & Simonetti, J. A. (2020). Understanding female veterans' experiences and perspectives of firearms. *Journal of clinical psychology*, *76*(9), 1736-1753.

Firearms and Interpersonal Violence

DURING MILTARY SERVICE: Firearms perceived as important to protect oneself in a male-dominated environment in which sexual harassment and assault were experienced or threatened

The men were establishing their dominance and authority in a very like threatening and fearful manner…And so I learned to become an expert at weapons… I become like better than everybody else. And like, almost I think maybe it was for my own safety.

POST-MILTARY: Women who acquired their own firearm(s) described doing so for protection, often following prior interpersonal violence

I mean everything that had happened previously. Especially with the assault and things like that…I felt like I never wanted to be put in those kind of situations again…like having something to be able to protect me, like I think made me feel better. You know, like about being future sexually assaulted or whatnot…

STORAGE: Firearms for protection were stored nearby, readily accessible

They're all in the gun safe. Minus my 9 millimeter, that's usually on me at the house… and my 17…It's usually in my waistband

My little P22 stays out of the safe because how in the world am I going to stop somebody if it's locked up in a safe?

Monteith, L. L., Holliday, R., Dorsey Holliman, B. A., Brenner, L. A., & Simonetti, J. A. (2020). Understanding female veterans' experiences and perspectives of firearms. *Journal of clinical psychology*, *76*(9), 1736-1753.

Implications and Necessary Next Steps

- Potential interrelationship between interpersonal violence and firearm access among women Veterans
- Quantitative research is necessary to examine these hypotheses

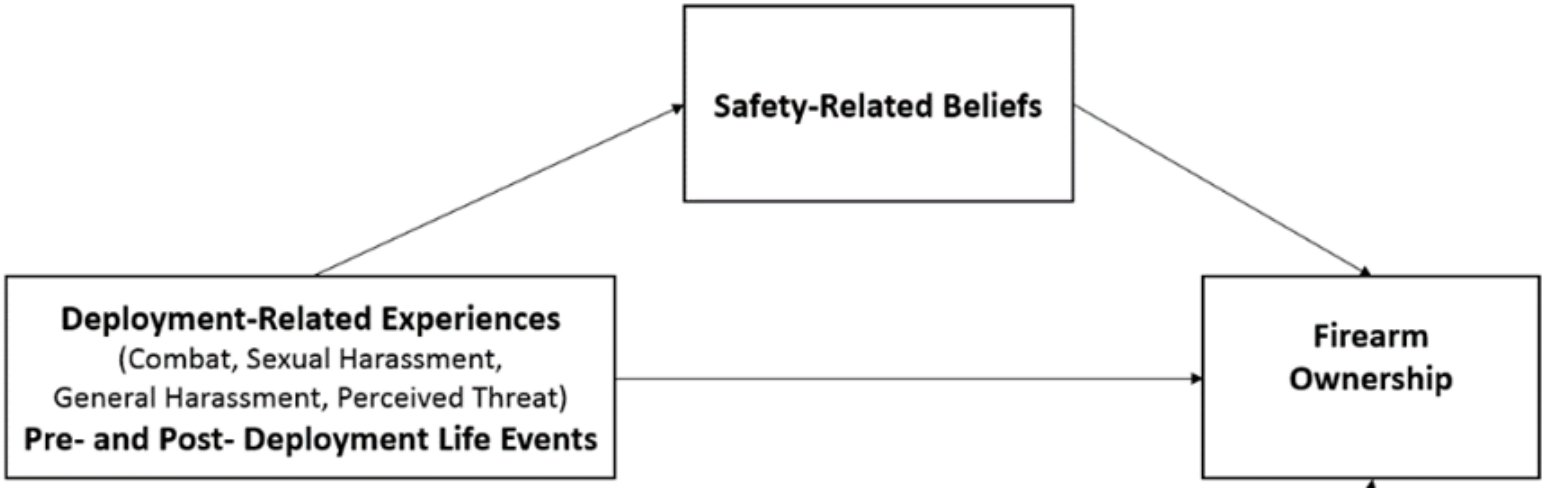
Firearm Access among Women Veterans Using VHA Reproductive Healthcare

- We conducted a secondary analysis of survey data collected with 350 post-9/11 women Veterans using VHA reproductive healthcare (HX002526-01A1; Hoffmire)
- Women Veterans who were currently married, who had current parenting responsibilities, and who reported a history of military sexual harassment were more likely to report having **household firearms.**
- Those who had experienced suicidal ideation (lifetime or in the past month) were more likely to report storing firearm(s) **loaded.**
- No significant associations with **personal firearm ownership**

Monteith, L.L., Holliday, R., Miller, C.N., Schneider, A.L., Brenner, L.A., & Hoffmire, C.A. (Under review). Firearm access among post-9/11 women veterans using reproductive healthcare.

Ongoing Research on Firearm Access among Women Veterans

Survey of approximately 545 previously-deployed women Veterans to examine the role of stressful and traumatic experiences preceding, during, and following deployment in relation to firearm ownership and storage. Safety-related beliefs will be examined as potential mediators.



Data collection recently completed (May 2020 – December 2020)

Team: Monteith, Holliday, Hoffmire, Miller, Schneider, Casiano, Karmozyn, Brenner, Simonetti, Iglesias, and Khan.

Ongoing Research on Firearm LMS among Women Veterans

Title: Perspectives of Female Veterans, VHA Providers, and Family Members on Preventing Firearm-Inflicted Suicides among Female Veterans (HX003074)

Team: Monteith, Holliday, Brenner, Simonetti, Karmozyn, Miller

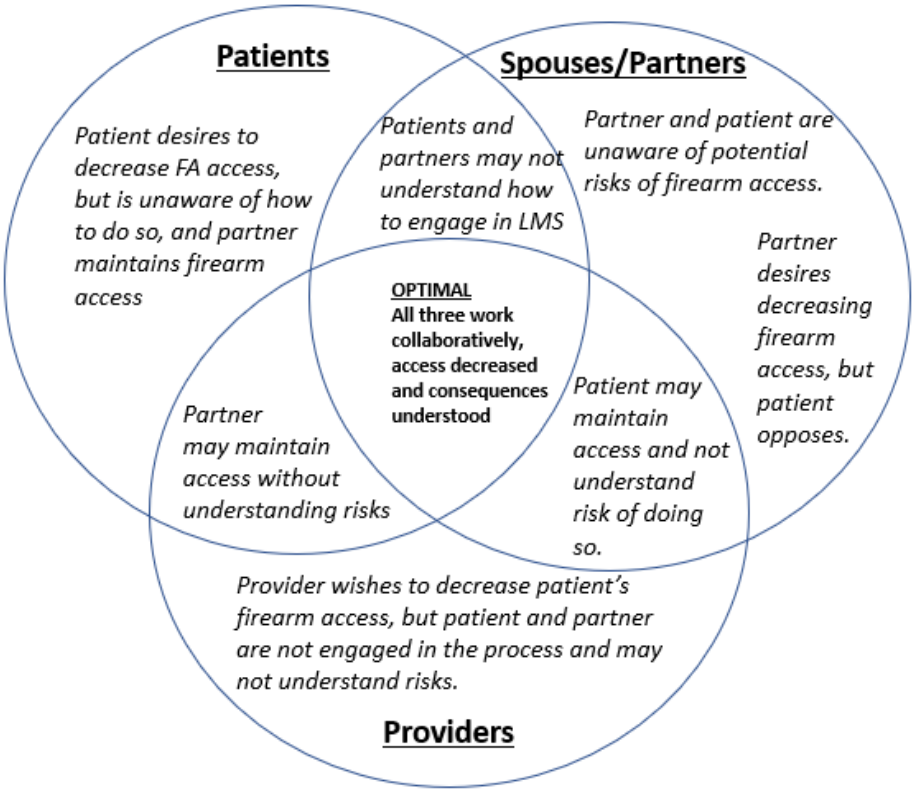


Figure 2. *Synergistic Need to Understand Perspectives of Female Veterans, Spouses/Partners, & Providers to Prevent Firearm Suicide*

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Ongoing Research on Firearm Access among Women Veterans

Title: Perspectives of Female Veterans, VHA Providers, and Family Members on Preventing Firearm-Inflicted Suicides among Female Veterans (HX003074)

Aims:

1. Describe female Veterans' perspectives, experiences, and preferences regarding firearm access and firearm lethal means safety (LMS). Explore the extent to which these vary based on interpersonal violence history

2. Explore female Veterans' partners' perspectives and experiences supporting female Veterans in firearm-related LMS

3. Describe VHA mental health (MH) and primary care (PC) providers' perspectives and experiences on assessing firearm access and conducting firearm LMS with female Veterans

Conclusions

Summary

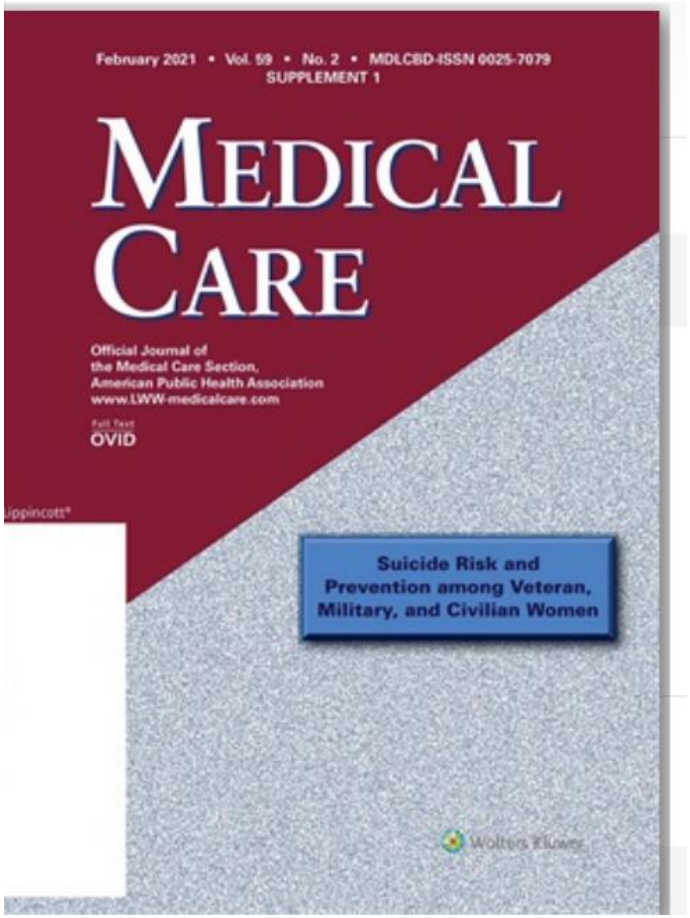
- Trauma (e.g., interpersonal violence) appears to be important for understanding S-SDV among women Veterans.
- Potential mechanisms by which this occurs may include interpersonal (e.g., thwarted belonging) and institutional factors (e.g., IB), as well as altered beliefs regarding trust and safety.
- Safety-related beliefs may result in increased access to lethal means (i.e., firearms) through acquisition or unsafe storage (e.g., unlocked, loaded, nearby).
- Research is underway to understand women Veterans' perspectives regarding firearm LMS interventions to prevent suicide, including whether such efforts should be tailored based on interpersonal violence history.
- Women who experience MST may be reticent to seek VHA care due to IB. As IB is associated with increased willingness to seek non-VHA care, community providers and institutions are essential for ensuring robust suicide prevention efforts for women MST survivors in the community.

Future Research

- Nonetheless, the factors that place individuals at risk for S-SDV are complex and multi-faceted, and identifying other factors is also important.
- Continuing to develop, test, and adapt theories to understand and prevent S-SDV among women Veterans is essential.
- Finally, there remains a need to understand the extent to which S-SDV interventions and assessment methods should be tailored by gender.

Recent Increases in Knowledge

https://journals.lww.com/lww-medicalcare/toc/2021/02001



Accelerating Research on Suicide Risk and Prevention in Women Veterans Through Research-Operations Partnerships

Claire A. Hoffmire, PhD,† Lauren M. Denneson, PhD,‡§ Lindsey L. Monteith, PhD,*‖ Melissa E. Dichter, PhD,¶# Jaimie L. Gradus, DMSc, DSc,**†† Maurand M. Cappelletti, PhD,* Lisa A. Brenner, PhD,*†‖‡‡ and Elizabeth M. Yano, PhD, MSPH§§‖‖*

Applying Research to Advance Suicide Prevention in Women Veterans

Jennifer L. Strauss, PhD,† Laura J. Miller, MD,*‡ and Susan Strickland, PhD*§*

Women and Suicide

Moving Forward on a Troubling Problem

Robert W. O'Brien, PhD and Naomi Tomoyasu, PhD

For more information, questions, or comments…

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Rocky Mountain MIRECC for Veteran Suicide Prevention
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Thank you.