



Original article

Organizational Factors Associated with Screening for Military Sexual Trauma

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A B S T R A C T

Purpose: This exploratory study investigated organizational factors associated with receipt of military sexual trauma (MST) screening during an early timeframe of the Veterans Health Administration's (VHA) implementation of the universal MST screening policy.

Methods: The sample consisted of all VHA patients eligible for MST screening in fiscal year 2005 at 119 VHA facilities. Analyses were conducted separately by gender and by user status (i.e., new patients to the VHA health care system in FY 2005 and continuing users who had previously used the VHA health care system in the past year). Multivariate generalized estimating equations were used to assess the effects of facility-level characteristics and adjusted for person-level covariates.

Results: Facility-level mandatory universal MST screening policies were associated with increased odds of receiving MST screening among new female patients and both continuing and new male patients: Odds ratio (OR), 2.87 (95% confidence interval [CI], 1.39–5.89) for new female patients; OR, 8.15 (95% CI, 2.93–22.69) for continuing male patients; and OR, 4.48 (95% CI, 1.79–11.20) for new male patients. Facility-level audit and feedback practices was associated with increased odds of receiving MST screening among new patients: OR, 1.91 (95% CI, 1.26–2.91) for females and OR, 1.86 (95% CI, 1.22–2.84) for males. Although the facility-level effect for women's health clinic (WHC) did not emerge as significant, patient-level effects indicated that among these facilities, women who used a WHC had greater odds of being screened for MST compared with women who had not used a WHC: OR, 1.79 (95% CI, 1.18–2.71) for continuing patients and OR, 2.20 (95% CI, 1.59–3.04) for new patients.

Conclusion: This study showed that facility policies that promote universal MST screening, as well as audit and feedback practices at the facility, significantly improved the odds of patients receiving MST screening. Women veterans' utilization of a WHC was associated with higher odds of receiving MST screening. This study provides empirical support for the use of policies and audit and feedback practices which the VHA has used since the implementation of the MST screening directive to encourage compliance with VHA's MST screening policy and is likely associated with the present-day success in MST screening across all VHA facilities.

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Military sexual trauma (MST), which is defined by the Veterans Health Administration (VHA) as sexual assault or repeated, threatening sexual harassment that occurred during military service, is associated with a variety of physical and mental health diagnoses. Commonly associated diagnoses include posttraumatic stress disorder (PTSD), depression, and anxiety disorders, as well as obesity, liver disease, pulmonary disease, and hypertension (Frayne et al., 1999; Kang, Dalager, Mahan, & Ishii, 2005; Kimerling, Gima, Smith, Street, & Frayne,

2007; Murdoch, Polusny, Hodges, & O'Brien, 2004; Street, Gradus, Stafford, & Kelly, 2007; Street, Stafford, Mahan, & Hendricks, 2008; Vogt, Pless, King, & King, 2005). Because the VHA provides MST-related health care free of charge, broad MST screening is key to identifying patients with a history of MST and to facilitating access to free health and therapeutic services at the VHA (Kimerling, Street, Gima, & Smith, 2008). The VHA faces a particular challenge in screening veterans for MST given the wide range of clinical settings where veterans who have experienced MST are likely to seek care. Little attention, however, has been given to whether or how organizational factors promote MST screening within VHA facilities.

This study of organizational factors associated with MST screening in 2005 is uniquely positioned to ascertain influences in the early period of VHA's implementation of the MST screening policy. In 2000, the VHA mandated universal MST screening for all veterans using VHA facilities (VHA, 2000). Although 2010 rates of MST screening are near 97% among all outpatient users, there was substantial variability in the implementation of the MST screening mandate during the early years of this policy. Among outpatient VHA users in fiscal year (FY) 2005, the proportion who had been screened for MST ranged by facility from 13% to 98%¹ (Department of Veterans Affairs, Office of Mental Health Services Military Sexual Trauma Support Team, 2006). Furthermore, VHA programmatic responsibility for MST was transferred in early 2006 from the Women Veterans Health Strategic Health Care Group to the Office of Mental Health Services, reinforcing changing norms and beliefs that MST affects both women and men. Screening data showed that, although the detected proportion of MST among male VHA patients was relatively small compared with female VHA patients—22% of female and 1% of male VHA patients reported experiencing MST in 2003—these rates corresponded to similar sizes of clinical populations of 29,418 women and 31,797 men who seek services at VHA facilities (Kimerling et al., 2007). In studying organizational factors related to MST screening, it is important to consider differential influences on male, as well as female, veterans who use VHA facilities.

Because the VHA MST screening directive applies to all VHA users, another important consideration is that the population of VHA patients eligible for screening includes not only new VHA patients, but also on-going VHA users who for some reason had not yet been screened for MST. Previous research found that continuing VHA users who accessed VHA services but were not screened for MST had atypical utilization patterns, which may contribute to difficulties in being screened for MST (Kimerling et al., 2007). Little is known, however, about how facility characteristics may differentially influence the receipt of MST screening between continuing and new VHA users.

In this exploratory study, our primary objective was to examine whether organizational factors were associated with a veteran's receipt of MST screening in FY 2005. We examined these associations separately by gender for both continuing and new VHA users. Specifically, we investigated organizational factors related to specialized programming within the facility, implementation of facility-level policies and quality improvement practices, and patient volume characteristics.

We anticipated that veterans in facilities with specialized programs relevant to MST, such as a women's health clinic (WHC) or a specialized PTSD program, would have higher odds of

receiving MST screening. Providers in these programs have a heightened sensitivity to issues related to MST, most likely as a result of the frequency with which they encounter MST issues in these clinics (Washington, Caffrey, Goldzweig, Simon, & Yano, 2003). Similarly, providers in specialized PTSD programs may be especially sensitized to issues of MST because rates of MST in populations with PTSD are between three and four times higher than what is found in the general veteran population of VHA users (Clancy et al., 2006; Murdoch et al., 2004).

Other organizational factors, such as facility-level policies and quality improvement practices, may be associated with MST screening. Research on screening for other types of trauma, such as intimate partner violence, has shown that specific policies related to screening and institutional support increase the likelihood of providers engaging in patient screening (Colarossi, Breitbart, & Betancourt, 2010; O'Campo, Kirst, Tsamis, Chambers, & Ahmad, 2011). Quality improvement practices, such as audit and feedback, have been effective in changing health care providers' behaviors and screening practices (Chou, Vaughn, McCoy, & Doebbeling, 2011; Jamtvedt, Young, Kristoffersen, O'Brien, & Oxman, 2006; Nicol et al., 2011). We anticipated that veterans in facilities with a mandatory, universal MST screening policy at the facility and those in facilities engaged in audit and feedback of MST screening would have higher odds of receiving MST screening.

Patient volume characteristics might also influence MST screening practices. We anticipated that veterans in larger facilities and those in facilities with high patient-to-physician ratios would be less likely to receive MST screening. Higher patient-to-physician ratios may place time constraints on providers and thus may be negatively associated with the receipt of MST screening. Providers identified lack of time as a significant barrier to engaging in intimate partner violence screening (Colarossi et al., 2010). Because providers in larger facilities may also experience time constraints related to additional research and training responsibilities, we would expect that patients in larger facilities would be less likely to receive MST screening. Research on facility size and alcohol screening practices has shown lower likelihood of screening in larger, academic medical facilities (Desai, Rosenheck, & Craig, 2005).

As a secondary objective, we also examined if utilization of a WHC was associated with the receipt of MST screening. Given the high prevalence of MST among women and the sensitivity of WHC providers to MST issues, it is reasonable to expect that women who use WHCs would be more likely to be screened for MST than women who do not. No studies, however, have specifically investigated differences in the receipt of MST screening among women who use and do not use gender-specific health care clinics, such as WHCs. Other studies have found differences in the receipt of some types of gender-specific health care counseling and preventive services between women who use WHCs and those who do not use WHCs in small, general civilian samples (Harpole, Mort, Freud, Orav, & Brennan, 2000; Phelan, Burke, Deyo, Koepsell, & LaCroix, 2000). We anticipated that women who received care at a WHC would be more likely to receive MST screening than those who did not receive care at a WHC.

Methods

Study Design and Subjects

This retrospective, cohort study included female and male veterans who used outpatient services in FY 2005 and were

¹ Not including one facility with known MST clinical reminder implementation problems.

eligible for MST screening (i.e., had not previously been screened for MST before FY 2005) at 119 VHA facilities. We excluded those VHA patients who had incongruent gender data in FY 2005. Among the 139 VHA facilities, we excluded 2 facilities with known MST clinical reminder problems, 4 facilities outside the continental United States (for which there is inconsistent data capture), and 14 facilities that had incomplete or no National Survey of MST Practice data. After exclusions, our sample consisted of 50,763 female and 1,004,758 male veterans in 119 VHA facilities.

We stratified analyses by veterans who were continuing or new users to the VHA health care system. There were 24,724 female and 560,379 male veterans who were continuing users, that is, they had at least one outpatient encounter at a VHA facility in the previous fiscal year and had not yet been screened for MST. There were 26,039 female and 444,379 male veterans who were new users, that is, they did not have an outpatient encounter at a VHA facility in the previous fiscal year.

Data Sources

For data on facility-level characteristics, we used the VHA's Outpatient Events File, VHA's Decision Support System Account Level Budget Cost Centers (Chow, Barnett, & Wagner, 2006), the New England PTSD Evaluation Center report on specialized PTSD programs in FY 2005 (Fontana, Rosenheck, Spencer, Gray, & New England PTSD Evaluation Center, 2005), the FY 2005 Plan of Care/Clinical Inventory Survey by the Women Veterans Health Strategic Health Care Group, and data from the National Survey of MST Practice (Street, Kelly, & Kimerling, 2006). The Account Level Budget Cost Centers data contain budgeted costs and workload for VHA clinics and were used for data on physician workload. The New England PTSD Evaluation Center report lists all specialized PTSD programs available across the VHA. The Plan of Care/Clinical Inventory surveyed all VHA facilities regarding the structure and provision of women's health care at their facilities. The National Survey of MST Practice was a national survey regarding facility policies and practices for MST-related care and was completed by the MST Coordinator at each facility during FY 2005.

For patient-level characteristics, such as MST screening status, demographic characteristics, and utilization information, we relied on VHA administrative datasets for FY 2005. MST screening status information was extracted from the clinical reminder in the patient's electronic medical record. The VHA's Outpatient Events File was used for demographic and clinical encounter information. Because VHA patients may access care at a number of VHA facilities, it was necessary to assign patients to a unique facility for purposes of merging data sets and conducting analyses. Veterans were assigned to a unique "home" facility, where they had the majority of their primary care visits. If a patient had equal numbers of primary care visits at multiple VHA facilities, we chose the facility where they had the most recent clinical visit as their "home" facility.

Measures

Dependent variables: Received MST screening

The VHA uses a clinical reminder in the patient's electronic medical record to screen for MST. The brief screening instrument contains the following items: "While you were in the military: (a) Did you receive uninvited and unwanted sexual attention, such as touching, cornering, pressure for sexual favors, or verbal

remarks?; (b) Did someone ever use force or threat of force to have sexual contact with you against your will?" Any response to the MST screening questions (yes, no, or decline) was counted as "Received MST Screening." Evidence of completion of the MST screen is recorded in the patient's electronic medical record.

Facility-level variables

We included the following facility-level variables: Whether the facility had a WHC, whether the facility had a specialized PTSD program, whether the facility had a mandatory universal MST screening policy, whether the facility engaged in MST screening audits and feedback, facility size, and patient-to-physician ratio. Facilities were coded as having a WHC if they responded that their facility had a "separate women's health center providing primary care with dedicated or designated space." Forty-two facilities met this criterion for WHC. Facilities were also coded for the presence of a specialized PTSD program at their facility, having a mandatory universal MST screening policy at the facility, or having engaged in MST screening audits and feedback as reported in the National Survey of MST Practice. Facility size was calculated as the number of unique outpatients who used the VHA facility in FY 2005. Facilities were coded as "small" if they had fewer than 20,000 unique outpatients, "medium" if they had 20,000 to 40,000, and "large" if they had more than 40,000. Facilities were divided into those that had higher or lower than the median number of patients (375) per physician at their facility.

Patient-level variables

We included the following patient-level variables: Whether the patient used a WHC (for female patients only), race/ethnicity, age, and other medical insurance. VHA encounters have unique codes that designate the type of clinic where the patient received care. A patient was coded as having used a WHC if the patient had any clinical encounter using the WHC code (322) in a facility that reported having a WHC in FY 2005. Otherwise, the patient was coded as not having used a WHC. We coded this variable only for female patients only in the 42 facilities that reported having a WHC.

Statistical Analysis

We used chi-square analyses to assess differences between continuing and new user groups by gender (Table 1). We conducted multivariate analyses on the sample of patients who were due for MST screening in FY 2005 at all 119 VHA facilities. The multivariate analyses contained both facility- and patient-level variables (Table 2). We predicted a patient's receipt of MST screening using generalized estimating equations (Liang & Zeger, 1986) to adjust for clustering of patients within facilities. We conducted multivariate analyses separately for continuing and new users, by gender. All analyses are conducted using the patient as the level of analysis. We report the odds ratios (ORs) and their 95% confidence intervals (CI) for all analyses.

Results

Facility Characteristics

As Table 3 shows, about one third (35.3%) of the 119 VHA facilities in our sample had a WHC in FY 2005. Although WHCs are defined in multiple ways, the proportion of WHCs reported in this study is a conservative measure of WHCs reported by other

Table 1
Descriptive Characteristics of Veterans Health Administration (VHA) Patients Eligible for Military Sexual Trauma (MST) Screening* in Fiscal 2005

Patient-Level Variables	Female		<i>p</i> [‡]	Male		<i>p</i> [‡]
	Continuing Users (%) [†] (n = 24,724)	New Users (%) [†] (n = 26,039)		Continuing Users (%) [†] (n = 560,379)	New Users (%) [†] (n = 444,379)	
Any Women's Health Clinic visit in fiscal year 2005	39.0	32.6	<.001			
Race/ethnicity						
White	51.8	44.2	<.001	60.0	54.7	<.001
Black	22.0	23.4		12.7	12.2	
Hispanic	2.9	4.2		3.0	3.4	
Other	2.0	2.6		1.4	1.6	
Missing/unknown	21.3	25.7		22.8	28.2	
Age (in years)						
<34	17.9	37.1	<.001	2.4	9.4	<.001
35–44	21.2	22.3		5.1	9.0	
45–54	27.8	21.0		13.6	16.2	
≥55	33.1	19.7		78.8	65.4	
Insurance						
No insurance	60.8	73.4	<.001	40.6	57.7	<.001
Other medical insurance	39.2	26.7		59.4	42.3	

* Patients were considered eligible for MST screening if they had not been screened for MST before fiscal year 2005.

[†] Continuing users had ≥1 outpatient encounter at a VHA facility in the previous fiscal year; new users did not have an outpatient encounter at a VHA facility in the previous fiscal year.

[‡] *p*-values for chi-square analyses between continuing and new users.

studies in this timeframe (Bean-Mayberry, Yano, Caffrey, Altman, & Washington, 2007; Yano, Goldzweig, Canelo, & Washington, 2006). Nearly three quarters (73.1%) had a specialized PTSD program. Regarding MST-specific policies and quality improvement practices at the facility, nearly all facilities (89.9%) had a mandatory universal MST screening policy at the facility, but a much smaller proportion (39.5%) engaged in audits and feedback of MST screening.

Characteristics of Continuing and New Users

Table 1 shows that continuing users were characteristically different from new users in key demographic characteristics. Among female veterans, a slightly greater proportion of continuing users had used a WHC during the study period than new users. Proportionally more continuing users were White and older than 55 years than new users. Proportionally more

new users had missing/unknown race/ethnicity data, were younger than 34 and had no other type of insurance than continuing users. These differences were significant for both female and male veterans.

Organizational Factors Associated with Receipt of MST Screening

The overall screening rate in all 119 VHA facilities was 72.4% among female and 68.3% among male veterans (results not shown in tables). More new users were screened for MST in FY 2005 than continuing users. Among female veterans, 72.3% of new users were screened for MST versus 54.1% of continuing users. Similarly, among male veterans, 70.0% of new users were screened for MST versus 38.6% of continuing users.

As shown in Table 2, two facility-level characteristics were significantly and positively associated with receipt of MST screening—having a mandatory universal MST screening policy

Table 2
Factors Associated with Military Sexual Trauma (MST) Screening among Continuing and New Users* in Fiscal 2005

Parameters	Female				Male			
	Continuing Users (n = 24,724)		New Users (n = 26,039)		Continuing Users (n = 560,379)		New Users (n = 444,379)	
	OR	OR 95% CI	OR	OR 95% CI	OR	OR 95% CI	OR	OR 95% CI
Facility-level variables								
Women's Health Clinic	0.55	0.24–1.23	0.64	0.36–1.14	0.78	0.34–1.76	0.76	0.43–1.34
Specialized PTSD program	1.11	0.54–2.29	1.29	0.80–2.08	1.87	0.87–4.00	1.55	0.91–2.63
Mandatory universal MST screening policy at facility	1.60	0.61–4.23	2.87 [†]	1.39–5.89	8.15 [†]	2.93–22.69	4.48 [†]	1.79–11.20
MST screening audits and feedback at facility	1.44	0.71–2.92	1.91 [†]	1.26–2.91	1.02	0.50–2.08	1.86 [†]	1.22–2.84
Facility size								
Small (<20K outpatients) [‡]	2.20	0.68–7.10	1.60	0.66–3.86	3.88	0.93–16.27	1.77	0.79–3.96
Medium (20–40K outpatients) [‡]	1.23	0.54–2.79	1.15	0.66–2.02	2.09	0.86–5.07	1.22	0.70–2.12
High patient to physician ratio (>375:1)	0.77	0.32–1.88	1.06	0.48–2.32	0.74	0.30–1.83	1.28	0.60–2.70
Patient-level variable								
Used Women's Health Clinic	1.79 [†]	1.18–2.71	2.20 [†]	1.59–3.04				

Generalized estimating equation models include all variables above and the following additional patient-level variables: race/ethnicity, age, and insurance.

* Continuing users had at least one outpatient encounter at a Veterans Health Administration (VHA) facility in the previous fiscal year; new users did not have an outpatient encounter at a VHA facility in the previous fiscal year.

[†] *p* < .05.

[‡] Comparison group is large (>40K outpatients).

Table 3
Descriptive Characteristics of Veterans Health Administration Facilities in Fiscal 2005 ($n = 119$)

Variable	%
Facility-level variables	
Women's Health Clinic	35.3
Specialized PTSD program	73.1
Mandatory universal MST screening policy at facility	89.9
MST screening audits and feedback at facility	39.5
Facility size	
Small (<20K outpatients)	25.2
Medium (20–40K outpatients)	56.3
Large (>40K outpatients)	18.5
High patient to physician ratio (>375:1)	51.3

Abbreviations: PTSD, posttraumatic stress disorder; MST, military sexual trauma.

and MST screening audits and feedback. A mandatory universal MST screening policy was associated with almost three- to over four-fold greater odds of being screened for MST in both new female and male users. A mandatory universal MST screening policy was also associated with higher odds of being screened among continuing male, but not female, users. Similarly, new users in facilities that conducted MST screening audits and feedback had almost twice the odds of being screened for MST than new users in facilities that did not utilize audits and feedback. No other facility-level variables were significantly associated with receipt of MST screening.

Patient Utilization of WHC and Receipt of MST Screening

Table 2 also shows the patient-level results for women who used a WHC, among the subset of facilities that had a WHC. For both new and continuing female veterans, those who used a WHC had significantly higher odds of receiving MST screening than those who did not use a WHC.

Discussion

Mandatory Universal MST Screening Policy at the Facility

Findings from this study show that facility-level policies, such as a mandatory universal MST screening policy at the facility, are associated with increased odds of a patient receiving MST screening. Although MST has long been viewed as an issue specific to women, implementation of facility-level policies that support and encourage screening in male as well as female patients seems to be effective in improving the likelihood of MST screening in both new and continuing male VHA users. Other outside influences, such as the transfer of programmatic responsibility for MST from the Women Veterans Health Strategic Health Care Group to the Office of Mental Health Services and the implementation of public laws that extended free MST-related treatment within the VHA to both men and women (United States Congress, 1994), may have contributed to a growing awareness of the importance of MST screening in men.

Although MST screening is universally mandated at all VHA facilities, there are no direct incentives associated with MST screening performance, because it is not an official performance measure. The identification of organizational factors that promote MST screening compliance, therefore, is especially important to achieving facility compliance with MST screening objectives. It should be noted that the VHA is the only national health care system with a universal sexual trauma screening

policy. Successful facility-level adoption of the national MST screening directive represents considerable achievement on the part of VHA leadership and sexual trauma advocates in addressing these issues in local health care settings.

Audit and Feedback of MST Screening at the Facility

Auditing and feedback of MST screening at the facility was associated with increased odds of receiving MST screening. Our findings on the significance of audit and feedback to MST screening confirm previous findings from other health care quality improvement initiatives (Chou et al., 2011; Jamtvedt et al., 2006; Nicol et al., 2011). The reason why the audit and feedback association was found only in new VHA users likely stems from the fact that providers may have been less able to follow up on screening feedback for continuing users because of their atypical utilization pattern, that is, having fewer primary care visits and receiving health care services in both VHA and non-VHA settings (Kimerling et al., 2007). This finding provides empirical support for local as well as national audit and feedback activities, such as VHA's national MST screening audits, which began in FY 2005. These national, annual audits (the MST Screening Report) document the proportion of VHA outpatient users at each VHA facility who received MST screening and establish a benchmark for all VHA facilities. The MST Screening Report is distributed throughout the VHA system and informs leaders at the national, regional, and local levels. These annual reports are an example of how audit and feedback activities can be successfully incorporated to meet program objectives, as evidenced by annual improvements in VHA's national MST screening rate (Department of Veterans Affairs, Office of Mental Health Services Military Sexual Trauma Support Team, 2006, 2010).

Specialized Programs and Receipt of MST Screening

Specialized programs, such as a WHC or a specialized PTSD program, were not associated with higher odds of MST screening in FY 2005. Previous literature suggests that providers in specialized program settings may be especially sensitized to issues related to MST (Clancy et al., 2006; Murdoch et al., 2004; Washington et al., 2003). The diffusion of innovation framework (Damanpour, 1991, 2006) suggests that specialized knowledge from providers in WHCs and specialized PTSD programs might spread throughout a facility. The fact that we did not see effects for WHCs and specialized PTSD programs may indicate that diffusion of specialized knowledge did not occur or had already occurred and diffused equally throughout all VHA facilities, including to facilities that did not have a WHC or a specialized PTSD program.

Patient Utilization of WHC and Receipt of MST Screening

Our findings regarding patient-level predictors of MST screening provide some evidence, however, that WHCs have specialized expertise in MST screening even though that expertise may or may not have diffused throughout the medical center. Female patients who used a WHC were more likely to have received screening for MST than women who did not use the WHC, consistent with the hypothesis that special expertise and sensitivity to sexual trauma issues in these clinics may confer higher odds of receiving MST screening. It should be noted that VHA facilities vary widely in the structure of WHCs and whether

or not female patients can choose to receive care in WHCs (Yano, Washington, Goldzweig, Caffrey, & Turner, 2003). Because facilities differ in their methods of assignment of female patients to WHCs, these findings refer to women who received care in WHCs but inferences should not be made about choice to receive care at a WHC.

A potential contributing factor in the increased odds of screening for MST in WHCs may be that providers in these settings see a higher base rate of patients with histories of MST, thereby increasing providers' comfort addressing this topic. If given a choice, women with a history of MST may preferentially seek care in a WHC and may, therefore, be more likely to utilize WHCs. Characteristics of WHCs that may appeal to women include the fact that the majority of women in WHCs are assigned to women providers and that WHCs provide increased privacy and spatial separation from clinical areas utilized by male veterans (Yano et al., 2003). Current VHA policies related to gender-concordant care and access to a Comprehensive Women's Health Provider are likely to address women veterans' preferences for care, especially for female patients with histories of MST, and will likely expand many of the beneficial characteristics of WHCs to women outside of the WHC setting (VHA, 2008, 2010).

Although we found evidence of MST specialization in WHCs, we did not find evidence that supported diffusion of specialization from WHCs to the facility at large. Networking and other opportunities that facilitate knowledge sharing, for example, colleague-to-colleague influential conversations, multidisciplinary clinical forums, or expert presentations at department meetings (Jippes et al., 2010; Keating, Ayanian, Cleary, & Marsden, 2007), may help to spread information related to MST screening. Another approach that the VHA has used to diffuse MST information within a facility is the use of MST Coordinators. There is an MST Coordinator at each VHA facility who provides education and outreach to providers and veterans on issues related to MST screening and treatment. MST Coordinators network with providers in a variety of clinical settings and are an example of using a specialized resource to disseminate knowledge throughout a facility. Future studies could investigate the association between specific MST Coordinator practices or characteristics and MST screening rates within a facility.

Limitations

Because there is no temporal element in our study, causal inferences between both patient- and facility-level variables and MST screening cannot be drawn. Results of this study, however, highlight associations between organizational characteristics and MST screening. Future studies should investigate how specific changes in organizational structure or processes may be directly linked to MST screening.

Given that we did not have information on providers, we were unable to control for provider characteristics and were unable to assess whether provider characteristics were associated with an individual's likelihood of being screened for MST. Gender concordance between providers and patients, for example, has been shown to influence screening behavior (Bean-Mayberry, Chang, McNeil, & Scholle, 2006; Harpole et al., 2000). Additional research investigating both provider and facility characteristics, including interactions between the two, and on the type of clinicians who conduct MST screening (e.g., nurses, doctors, or mental health professionals) could further elucidate variables that influence MST screening. Other information on

provider behavior, such as social networks and their contact with WHC opinion leaders at their facility, may have important associations that were not captured in this study.

Finally, the exclusion of 14 facilities that were missing survey information from the National Survey of MST Practice (Street et al., 2006) represents a minor limitation of this study. The 119 VHA facilities included in this study are representative of VHA facilities nationally. Consequently, we expect that the findings reported here would be relatively unchanged if the 14 facilities with missing survey information had been included.

Conclusion

This study showed that facility policies that promote universal MST screening, as well as audit and feedback practices at the facility, significantly improved the odds of patients receiving MST screening. Women veterans' utilization of a WHC was associated with higher odds of receiving MST screening. This study provides empirical support for the use of policies and audit and feedback practices, which the VHA has used since the implementation of the MST screening directive. These actions have encouraged compliance with the VHA's MST screening objective, and, accordingly, are likely associated with the current high rates of MST screening across all VHA facilities.

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Dr. Hyun had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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