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RESEARCH ARTICLE

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Primary sources of health care among LGBTQ+ veterans: Findings from the Behavioral Risk Factor Surveillance System

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Abstract

Objective: This study examined the primary source of health care between veterans with lesbian, gay, bisexual, queer and similar identities (LGBTQ+) and non-LGBTQ+ veterans.

Data Sources and Study Setting: Veterans ($N = 20{,}497$) from 17 states who completed the CDC's Behavioral Risk Factor Surveillance System from 2016 to 2020, including the Sexual Orientation and Gender Identity and Health Care Access modules.

Study Design: We used survey-weighted multiple logistic regression to estimate average marginal effects of the prevalence of utilization of Veteran's Health Administration (VHA)/military health care reported between LGBTQ+ and non-LGBTQ+ veterans. Prevalence estimates were adjusted for age group, sex, race and ethnicity, marital status, educational attainment, employment status, survey year, and US state.

Data Collection Methods: Study data were gathered via computer-assisted telephone interviews with probability-based samples of adults aged 18 and over. Data are publicly available.

Principal Findings: Overall, there was not a statistically significant difference in estimated adjusted prevalence of primary use of VHA/military health care between LGBTQ+ and non-LGBTQ+ veterans (20% vs. 23%, respectively, $p = 0.13$). When examined by age group, LGBTQ+ veterans aged 34 and younger were significantly less likely to report primary use of VHA/military health care compared to non-LGBTQ+ veterans (25% vs. 44%, respectively; $p = 0.009$). Similarly, in sex-stratified analyses, fewer female LGBTQ+ veterans than female non-LGBTQ+ veterans reported VHA/military health care as their primary source of care (13% vs. 29%, respectively, $p = 0.003$). Implications and limitations to these findings are discussed.

Conclusions: Female and younger LGBTQ+ veterans appear far less likely to use VHA/military for health care compared to their cisgender, heterosexual peers; however, because of small sample sizes, estimates may be imprecise. Future

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research should corroborate these findings and identify potential reasons for these disparities.

KEYWORDS
health care, health disparities, LGBTQ, veterans, Veterans Health Administration

What is known on this topic

- A growing number of veterans in the United States identify as lesbian, gay, bisexual, transgender, queer or use similar terms (LGBTQ+), but little is known about LGBTQ+ veterans' primary sources of health care.
- Discrimination against LGBTQ+ individuals in the military and in health care may make LGBTQ+ veterans less likely to seek care at the Veterans Health Administration (VHA).
- In recent years, VHA has implemented several programs to improve LGBTQ+ veteran care and reduce health disparities.

What this study adds

- Among veterans ages 34 and younger, LGBTQ+ veterans were significantly less likely to use VHA/military health care compared to non-LGBTQ+ veterans.
- Among veterans ages 35–64 and ≥65, there were no significant differences in VHA/military health care utilization between LGBTQ+ and non-LGBTQ+ veterans.
- Female LGBTQ+ veterans across age groups were significantly less likely to use VHA/military health care compared to non-LGBTQ+ female veterans.

1 | INTRODUCTION

Individuals who have lesbian, gay, bisexual, transgender, queer and similar identities (LGBTQ+) make up a growing and increasingly visible segment of the veteran population in the United States.[1] As the largest single health care provider in the country, the Veterans Health Administration (VHA) offers veterans broad-ranging services encompassing physical, behavioral, and social health domains. However, little is known about LGBTQ+ veterans' utilization of health care generally or VHA and military health plans specifically,[2] particularly compared to non-LGBTQ+ veterans. LGBTQ+ veterans have experienced a long history of discrimination in military service and in VHA,[3,4] which may contribute to discomfort in seeking care at VHA. Widespread minority stress experiences, some of which may be encountered in the VHA system, are thought to increase risk for mental, physical, and behavioral health concerns,[5–11] highlighting the need to better understand the health care utilization of this population.

Unfortunately, there is relatively scant information about the health care and health insurance utilization (e.g., TRICARE) among LGBTQ+ veterans. One of the only published reports from the US Transgender Survey indicated that 2% of the 27,715 transgender/gender nonconforming respondents reported coverage through TRICARE or military health systems.[12] Conversely, there is more research about health care utilization among LGBTQ+ veterans in the VHA system, as described below.

VHA/military health plans may play a critical role in reducing health disparities among LGBTQ+ veterans. Research in the general veteran population suggests that VHA performs similar or better on wide-ranging health outcomes and health care processes compared to non-VHA sites.[13,14] VHA has also developed unique provider training, system policies, and enhanced care access for several health-related issues specific for veterans, such as posttraumatic stress,[15] suicide prevention,[16] and military sexual trauma.[17] Further, VHA has implemented and nationally disseminated programs aimed specifically at improving the health of LGBTQ+ veterans,[18] such as expanding coverage of gender affirming care,[19] designation of an LGBTQ+ Veteran Care Coordinator at every VHA facility,[20] and provider trainings.[20,21] In contrast, policies of other public insurance programs, such as Medicare/Medicaid, may increase barriers to coverage of gender affirming care, in particular.[22,23]

However, studies have found that LGBTQ+ veterans experience dissatisfaction with VHA care, including concerns about safety, stigma, and discrimination.[24–26] For instance, LGBTQ+ women veterans report greater harassment at VHA and are more likely to miss an appointment due to concerns about the environment compared to non-LGBTQ+ women veterans.[26] Additionally, under the previous Department of Defense policy known as "Don't Ask, Don't Tell (DADT)," which barred LGB individuals from openly serving in the military, LGB individuals may have been dishonorably discharged,[4] making them ineligible for VHA care.[27] Since the repeal of DADT in 2011, veterans could appeal their discharge to become eligible,[28] but the damage of DADT still erodes LGBTQ+ veterans' trust in VHA despite never being a VHA policy.[25] Although these studies suggest factors that may dissuade or prevent LGBTQ+ veterans from using VHA health care, limited studies have directly compared VHA utilization between LGBTQ+ and non-LGBTQ+ veterans.

To date, studies of LGBTQ+ veterans have been limited to those already engaged in VHA health care. However, across all veterans, VHA provides care to less than 50% of the current US veteran population,[29] so although studies centered on LGBTQ+ veterans who use VHA are helpful, they may not generalize to LGBTQ+ veterans who use non-VHA care. Thus, population-based sampling is necessary to help fill gaps in knowledge about LGBTQ+ veterans who do not use VHA care. To our knowledge, no studies have used representative, probability-based sampling to examine differences in health care utilization between LGBTQ+ and non-LGBTQ+ veterans. Therefore, this study sought to address this gap by comparing reports of VHA/military health care use between these two groups using a probability-based sample of veterans from the CDC's Behavioral Risk Factor Surveillance System (BRFSS). Given the history of discrimination and stigma experienced by LGBTQ+ veterans, we hypothesized that this group would be less likely to report VHA/military as their primary source for health care compared to non-LGBTQ+ veterans. As an exploratory aim, we also examined cohort effects to identify potential differences in VHA use between LGBTQ+ veterans based on age and sex.

2 | METHODS

2.1 | Data source

This secondary analysis of data used the 2016–2020 Centers for Disease Control and Prevention's (CDC) BRFSS. The BRFSS is an annual computer-assisted telephone interview survey performed by all US states and territories using probability-based samples from their populations of non-institutionalized adults. The survey consists of a core questionnaire that all states and territories must administer, and states may choose optional modules to add to the core questionnaire, which includes a module for Sexual Orientation and Gender Identity (SOGI) and for Health Care Access (HCA). We focused our analysis on states that used both optional modules. Table S1 contains detailed data about the states included and their response rates. Additional information about the BRFSS methodology and survey data quality reports are available from the CDC.[30]

2.2 | Analytic sample

We used survey years 2016–2020 because they were the most recent years of data after the 2014–2015 overhaul of VHA access through the Veterans Choice Act.[31] Because our hypotheses focused on veterans' primary source of health care, we followed several steps to derive the analytic sample, depicted in Figure S1. First, there were 217,605 individuals who received both the SOGI and HCA modules. We then excluded $n = 42{,}452$ incomplete interviews. We also excluded individuals who either responded "Do not know" or refused to answer the survey item about military service history ($n = 234$). Once we had identified veterans in the sample ($n = 22{,}714$), we excluded individuals missing SOGI or HCA information, leaving a final analytic sample of 20,497 veterans.

2.3 | Dependent variable

The HCA includes an item asking respondents, "What is the primary source of your health care coverage?" Response options were as follows: "a plan purchased through an employer or union"; "a plan that you or another family member buys on your own"; "Medicare; Medicaid or other state program"; "TRICARE, VA, or military"; "Indian Health Service, tribal health services"; "some other source"; or "none (no coverage)". We recoded these items into four categories: Employer-based/Purchased Plan (response options "a plan purchased through an employer or union" and "A plan that you or another family member buys on your own"); CMS ("Medicare, Medicaid or other state program"); VHA/military care ("TRICARE, VA, or Military"); and other care. We also dichotomized this primary outcome variable into VHA/military-related care vs. other forms of care.

2.4 | Independent variables

The key independent variable was sexual and gender minority status, derived from respondents who either identified their sexual orientation as gay/lesbian, bisexual, or something else or identified their gender identity as transgender or nonbinary. Because of limited sample size, we combined veterans into LGBTQ+ or non-LGBTQ+. Transgender and nonbinary individuals who identified their sexual orientation as heterosexual were included in the LGBTQ+ group.

Other key covariates that could be related to the primary source of health care included age in years, sex (which was gathered as male or female), and current marital status (married/partnered; formerly married [i.e., separated, divorce, widowed] or never married). We also included employment status categorized as employed, unemployed, out of the workforce (i.e., homemaker, student, unable to work), or retired. Race and ethnicity were categorized as White non-Hispanic, Black/African American non-Hispanic, other racial identity non-Hispanic, multiple racial identities non-Hispanic, and Hispanic. Additionally, we included educational attainment as less than high school diploma, high school diploma or GED, some college, or college degree. For employment, race and ethnicity, and educational status, we report the granularity of categories listed above in the analyses of the sample overall. However, due to small sample sizes in the age- and sex-stratified analyses, we dichotomized these measures into employed versus out of the workforce; White, non-Hispanic versus minoritized race/ethnicity; any post-secondary education versus a high school diploma, GED, or less.

2.5 | Analysis

We used bivariate analyses to compare unadjusted differences in all variables between LGBTQ+ and non-LGBTQ+ veterans. We used multiple logistic regression to determine the association of LGBTQ+ identity with utilization of VHA/military health care adjusted for age, sex, race and ethnicity, marital status, educational attainment, employment status, survey year, and state of residence. However, rather than

TABLE 1 Sociodemographics of LGBTQ+ and non-LGBTQ+ US military veterans, 17 states' Behavioral Risk Factor Surveillance System (BRFSS) surveys, 2016–2020

Sociodemographics	Overall (*n* = 20,497) *n* (%)	LGBTQ+ Veterans (*n* = 693) *n* (%)	Non-LGBTQ+ Veterans (*n* = 19,804) *n* (%)	*p*
Sex				
Male	18,497 (89)	530 (62)	17,967 (90)	<0.001
Female	1996 (11)	163 (38)	1833 (10)	
Race and ethnicity				
White, non-hispanic	16,631 (73)	522 (63)	16,109 (74)	0.069
Black/African American, non-hispanic	1899 (14)	80 (14)	1819 (14)	
Other racial identity, non-hispanic	491 (3)	24 (7)	467 (3)	
Multiple racial identities, non-hispanic	428 (1)	25 (2)	403 (1)	
Hispanic	668 (8)	33 (15)	635 (7)	
Age groups				
<34	1160 (11)	71 (21)	1089 (10)	0.005
35–64	7108 (42)	265 (39)	6843 (42)	
≥65	12,229 (47)	357 (39)	11,872 (47)	
Partnership status				
Married/partnered	12,646 (67)	310 (52)	12,336 (67)	<0.001
Formerly married	6268 (24)	209 (20)	6059 (24)	
Never married	1512 (9)	173 (28)	1339 (9)	
Educational attainment				
Any post-secondary education	14,366 (67)	475 (68)	13,891 (67)	0.763
HS Diploma, GED, or less	6090 (33)	215 (32)	5875 (33)	
Employment status				
Employed	7272 (44)	238 (41)	7034 (45)	0.520
Out of workforce	13,135 (56)	450 (59)	12,685 (55)	
Primary source of health care coverage				
Employer-based/purchased plan	6180 (37)	205 (43)	5975 (37)	0.276
Medicaid/medicare	9546 (38)	297 (33)	9249 (38)	
VHA/military	4192 (22)	163 (20)	4029 (23)	
Other	560 (3)	27 (4)	533 (2)	
VHA/military versus non-VHA/military as primary source				
Non-VHA	16,286 (78)	529 (80)	15,757 (77)	0.348
VHA	4192 (22)	163 (20)	4029 (23)	

Note: Frequencies are unweighted; percentages are weighted. Because of survey weights, arithmetic percentages calculated from raw frequencies cannot be compared with survey weighted percentages.

report odds ratios, we estimated average marginal effects for adjusted prevalence estimates of VHA utilization between LGBTQ+ and non-LGBTQ+ veterans while accounting for other sociodemographic factors.

We conducted three sets of analyses. First, we examined the overall sample. Then, we stratified by age groups based on prior research that veterans younger than 35 and over 65 are, on average, most likely to use VHA compared to other age groups,[32] which supported three groups: ≤34, 35–64, and ≥65. We also stratified by sex because prior literature illustrates differences in VHA utilization between male and female veterans.[33,34] The BRFSS variable for sex is denoted as male or female, but it is unclear from survey documentation whether the variable represents sex assigned at birth, the respondent's current self-identified sex, or sex as denoted by the interviewer. All analyses were conducted using StataMP version 17 and used survey and post-stratification weighting to account for the complex sampling design of the BRFSS and address noncoverage and nonresponse errors. For bivariate analyses, we report unweighted frequencies and weighted proportions. For marginal effects we used survey weighted postestimation in Stata with margins,[35] and we report adjusted prevalence estimate with 95% confidence intervals (CI). The institutional review board of VA Pittsburgh Health care System approved this study.

TABLE 2 Sociodemographics of LGBTQ+ and non-LGBTQ+ US military veterans stratified by age cohort, 17 states' BRFSS surveys, 2016–2020

	Aged ≤34			Aged 35–64			Aged ≥65		
Sociodemographics	LGBTQ+ Veterans ($n = 71$) n (%)	Non-LGBTQ + Veterans ($n = 1089$) n (%)	p	LGBTQ+ Veterans ($n = 265$) n (%)	Non-LGBTQ + Veterans ($n = 6843$) n (%)	p	LGBTQ+ Veterans ($n = 357$) n (%)	Non-LGBTQ + Veterans ($n = 11,872$) n (%)	p
Sex									
Male	37 (30)	912 (83)	<0.001	170 (53)	5736 (86)	<0.001	323 (87)	11,319 (96)	0.004
Female	34 (70)	177 (17)		95 (47)	1104 (14)		34 (13)	552 (4)	
Race and ethnicity									
White, non-hispanic	42 (34)	783 (62)	0.012	190 (58)	4934 (63)	0.529	290 (84)	10,392 (86)	0.540
Minoritized race/ethnicity	29 (66)	291 (38)		69 (42)	1744 (37)		64 (16)	1289 (14)	
Partnership status									
Married/partnered	36 (36)	554 (50)	0.252	110 (59)	4438 (69)	<0.001	164 (55)	7344 (69)	<0.001
Formerly married	10 (8)	142 (10)		81 (20)	1833 (22)		118 (28)	4084 (28)	
Never married	25 (57)	390 (39)		73 (22)	535 (8)		75 (17)	414 (3)	
Educational attainment									
Any post-secondary	48 (71)	768 (67)	0.713	196 (76)	4944 (70)	0.361	231 (60)	8179 (65)	0.404
HS Diploma, GED, or Less	22 (29)	321 (33)		68 (24)	1886 (30)		125 (40)	3668 (35)	
Employment status									
Employed	47 (49)	845 (77)	0.024	147 (66)	4519 (69)	0.595	44 (13)	1670 (16)	0.528
Out of workforce	23 (51)	234 (23)		115 (34)	2273 (31)		312 (87)	10,178 (84)	
Primary source of health care coverage									
Employer-based/purchased	32 (55)	516 (47)	0.072	114 (55)	3711 (57)	0.905	59 (26)	1748 (17)	0.112
Medicaid/medicare	9 (20)	81 (7)		56 (14)	957 (12)		232 (58)	8211 (67)	
VHA/military	28 (19)	468 (45)		85 (27)	1953 (27)		50 (13)	1608 (14)	
Other	2 (6)	24 (2)		10 (4)	209 (3)		15 (3)	300 (2)	
VHA/military versus non-VHA/military as primary source									
Non-VHA/military	43 (81)	621 (55)	0.003	180 (73)	4877 (73)	0.978	306 (87)	10,259 (86)	0.908
VHA/military	28 (19)	468 (45)		85 (27)	1953 (27)		50 (13)	1608 (14)	

Note: Frequencies are unweighted; percentages are weighted. Because of survey weights, arithmetic percentages calculated from raw frequencies cannot be compared with survey weighted percentages.

3 | RESULTS

In the analytic sample of veterans, a weighted 3% ($n = 693$) identified as LGBTQ+. The composition of the LGBTQ+ veteran group was as follows: 239 lesbian/gay, 242 bisexual, 155 some other sexual orientation, 68 transgender, and 12 gender nonconforming. Twenty-three transgender or gender nonconforming individuals also reported an LGBQ+ identity; 57 reported a heterosexual identity. LGBTQ+ veterans were significantly more likely to be female ($p < 0.001$), younger ($p = 0.005$), and never married ($p < 0.001$) compared to non-LGBTQ+ veterans (Table 1). However, groups did not significantly differ on race/ethnicity, educational attainment, employment status, or primary source of health care coverage. Table 2 displays additional demographic information and comparisons stratified by age groups. Of note, when stratified, the estimated prevalence of LGBTQ+ veterans among the 34 years and younger group was 7% (weighted) and the prevalence was 3% (weighted) in both the 35–64 age group and the 65 and older age group.

In the analysis of the sample overall, the unadjusted prevalence of VHA/military health plans was 23% for non-LGBTQ+ veterans and 20% for LGBTQ+ veterans, which was not statistically

TABLE 3 Sociodemographics of LGBTQ+ and non-LGBTQ+ US military veterans stratified by sex, 17 states' BRFSS surveys, 2016–2020

Sociodemographics	Male			Female		
	LGBTQ+ Veterans ($n = 530$) *n* (%)	Non-LGBTQ+ Veterans ($n = 17,967$) *n* (%)	*p*	LGBTQ+ Veterans ($n = 163$) *n* (%)	Non-LGBTQ+ Veterans ($n = 1833$) *n* (%)	*p*
Age group						
<34	37 (11)	912 (9)	0.207	34 (39)	177 (19)	0.061
35–64	170 (33)	5736 (40)		95 (48)	1104 (62)	
≥65	323 (56)	11,319 (50)		34 (13)	552 (19)	
Race and ethnicity						
White, non-hispanic	412 (75)	14,829 (75)	0.991	110 (43)	1278 (58)	0.127
Minoritized race/ethnicity	111 (25)	2810 (25)		51 (57)	514 (42)	
Partnership status						
Married/partnered	240 (52)	11,419 (68)	<0.001	70 (53)	914 (54)	0.017
Formerly married	158 (24)	5336 (23)		51 (14)	723 (32)	
Never married	131 (24)	1156 (8)		42 (33)	183 (14)	
Educational attainment						
Any post-secondary	344 (61)	12,383 (66)	0.166	131 (82)	1505 (79)	0.618
HS Diploma, GED, or less	185 (39)	5551 (34)		30 (18)	323 (21)	
Employment status						
Employed	160 (36)	6138 (44)	0.044	78 (51)	893 (53)	0.824
Out of workforce	366 (64)	11,755 (56)		84 (49)	930 (47)	
Primary source of health care coverage						
Employer-based/ purchased	138 (30)	5232 (36)	0.036	67 (65)	742 (44)	0.053
Medicaid/medicare	246 (40)	8682 (39)		51 (22)	565 (24)	
VHA/military	121 (24)	3551 (22)		42 (13)	477 (28)	
Other	24 (6)	484 (3)		3 (0.3)	49 (3)	
VHA/military versus non-VHA/military as primary source						
Non-VHA/military	408 (76)	14,398 (78)	0.507	121 (87)	1356 (72)	0.009
VHA/military	121 (24)	3551 (22)		42 (13)	477 (28)	

Note: Frequencies are unweighted; percentages are weighted. Because of survey weights, arithmetic percentages calculated from raw frequencies cannot be compared with survey weighted percentages.

different (Table 1). The most common source of health care coverage for LGBTQ+ veterans was employer-based/purchased care (43%), followed by veterans who reported CMS as their primary source of coverage (33%). After adjusting for sex, race and ethnicity, age group, partnership status, educational attainment, employment status, survey year, and state of residence, the adjusted prevalence of reporting VHA/military health plans as their primary source of care still did not significantly differ from non-LGBTQ+ veterans (22%, 95% CI, 21–24) LGBTQ+ veterans (18%, 95% CI, 12–24, $p = 0.126$) (Table 4).

In age-stratified models, the only demographic difference consistent across age strata was sex, in that greater proportions of LGBTQ+ veterans were female when compared to non-LGBTQ+ veterans (Table 2). Being currently married/partnered was less prevalent among LGBTQ+ than non-LGBTQ+ veterans in the 35–64 and ≥65 age groups.

When examining utilization of VA/Military health plans vs. non-VA/Military health plans as primary coverage stratified by age, LGBTQ+ veterans ages 34 years and younger were significantly less likely to use VA/Military health plans (25%, 95% CI, 11%–38%) compared to non-LGBTQ+ veterans (44%, 95% CI, 38–50; $p = 0.009$; Table 4). In contrast, prevalence of VHA/military health plan use among LGBTQ+ veterans (26%, 95% CI, 17%–35%) was not significantly different than non-LGBTQ+ veterans (27%, 95% CI, 24%–29%) in the 35–64 age group ($p = 0.94$). Further, LGBTQ+ veterans (12%, 95% CI, 6%–18%) and non-LGBTQ+ veterans (14%, 95% CI, 12%–15%) in the 65 and older age group did not significantly differ in use of VA/Military health care ($p = 0.50$).

Finally, when stratifying by sex, among both male and female veteran groups, being married/partnered was less common among LGBTQ+ than non-LGBTQ+ individuals (Table 3). CMS was the most

TABLE 4 Estimated adjusted prevalence of VHA/military health care utilization by LGBTQ+ status among US military veterans stratified by age group and by sex, 17 states' BRFSS surveys, 2016–2020

	Non-LGBTQ+ Veterans % (95% CI)	LGBTQ+ Veterans % (95% CI)	p[a]
Overall[b]	22 (21–24)	18 (12–24)	0.126
By age group[c]			
<34	44 (38–50)	25 (11–38)	0.009
35–64	27 (24–29)	26 (17–35)	0.936
≥65	14 (12–15)	12 (6–18)	0.504
By sex[d]			
Male	23 (17–29)	22 (20–23)	0.686
Female	29 (24–34)	13 (5–22)	0.003

[a]Difference in adjusted prevalence estimates between LGBTQ+ and Non-LGBTQ+ within each stratum.
[b]Adjusted prevalence are postestimations from logit models adjusted for sex, age group, race and ethnicity, partnership status, educational attainment, employment status, survey year, and US state.
[c]Adjusted prevalence are postestimations from logit models adjusted for sex, race and ethnicity, partnership status, educational attainment, employment status, survey year, and US state.
[d]Adjusted prevalence are postestimations from logit models adjusted for age group, race and ethnicity, partnership status, educational attainment, employment status, survey year, and US state.

common primary form of health care coverage for males, regardless of LGBTQ+ status. Among females, employer-based/purchased health care was the most endorsed primary source of health care. Male LGBTQ+ veterans (22%, 95% CI, 20%–23%) and male non-LGBTQ+ veterans (23%, 95% CI, 17%–29%) reported comparable prevalence of VA/Military health plan use ($p = 0.69$). In contrast, female LGBTQ+ veterans were significantly less likely to report VA/Military health plan use (13%, 95% CI, 5%–22%) compared to female non-LGBTQ+ veterans (29%, 95% CI, 24%–34%, $p = 0.003$).

4 | DISCUSSION

To our knowledge, this is the first empirical study of health care coverage utilization among LGBTQ+ veterans using a robust, probability-based sample from a geographically diverse group of US states. Although not inclusive of all US states, the prevalence of LGBTQ+ veterans aligns with other reports derived from other datasets using national or representative samples of current or former military personnel. For example, the prevalence of LGBTQ+ individuals among the youngest age group of 18–35 was 7% in the present study. In the 2018 Department of Defense Health Related Behaviors Survey (DOD-HRBS), of which 71% of the sample was under the age of 35, LGBTQ+ individuals comprised 6.3% of the sample.[36] Additionally, LGBTQ+ identities were overrepresented among female veterans compared to male veterans: where 1 in 10 non-LGBTQ+ veterans was female, nearly 4 in 10 LGBTQ+ veterans were female. This also corroborates patterns found in other studies. The Women's Reproductive Health Survey in 2020 found that among a sample of nearly 24,000 active duty servicewomen, 17% identified as lesbian/gay or bisexual (LGB).[37] In the 2018 DOD-HRBS, 4.1% of men identified as gay or bisexual whereas nearly 18% of women identified as LGB.[36]

When examined together, there were no statistically significant differences between the prevalence of LGBTQ+ and non-LGBTQ+ veterans who reported VHA/military as their primary source of health care, despite LGBTQ+ veterans experiencing significantly greater health burden compared to non-LGBTQ+ veterans.[6,7,9,38] However, exploratory findings suggest that both younger LGBTQ+ veterans and female LGBTQ+ veterans are significantly less likely to use VHA/military as their primary source of health care when compared to their non-LGBTQ+ veteran peers, respectively. Thus, despite evidence that younger veterans are more likely to report VHA use on average compared to veterans ages 35–65,[32] the present findings suggest that there are important subgroup differences that have not been uncovered in prior aggregate analyses.

Prior research with sexual minority veterans indicates that LGB and heterosexual veterans have similar rates of having health care coverage,[39] but the present results revealed differences within types of coverage. Our findings that younger and female veterans are less likely to use VHA/military as their primary source of health care seem robust because they were detected even with small samples of female LGBTQ+ veterans and LGBTQ+ veterans aged 34 and under. However, it remains unclear why there were differences in prevalence of VHA/military as the primary source of care for younger veterans but not for older veterans. One potential reason is differences in combat exposure by war era, which roughly maps onto the age cohorts examined here. For example, a study of Vietnam Era veterans noted that LGB veterans were significantly less likely to report military service in theater than heterosexual veterans,[38] and results from the 2016 Millennium Cohort Study noted that LGB veterans were less likely to report deployment than heterosexual veterans.[40] If LGB veterans are less likely than heterosexual veterans to have combat-related injuries or conditions, it may decrease the likelihood of seeking medical systems specializing in combat-related conditions (like VHA) or decrease the likelihood of service-connection qualification for subsidized VHA health care. However, both combat exposure and service-connected disability information, which are absent from the BRFSS, would be needed to test this hypothesis.

That significantly lower proportions of LGBTQ+ female veterans than non-LGBTQ+ veterans utilized VHA/military health care likely has complex roots. It is possible that discrimination, sexual harassment, and sexual assault, which is unfortunately overrepresented among female active duty personnel and veterans,[41,42] dissuade female veterans from seeking care in an institution (i.e., the VHA) that is viewed as an extension of the DoD. For instance, Monteith et al. found that the construct of institutional betrayal was significantly predictive of women veteran MST survivors to endorse lower willingness to seek care from the VHA versus non-VHA health care sources.[43] Previous research suggests that sexual minority female veterans are more likely than heterosexual female veterans to report histories of

violence victimization.[6] VHA/military health systems should develop and evaluate efforts to increase outreach to and build safer, more welcoming clinical environments for female veterans, particularly LGBTQ+ female veterans.[44]

Additionally, legacies of discrimination against LGBTQ+ individuals in the military[25,40,45] may have chilling effects on LGBTQ+ veterans pursuing VHA as a primary source of health care. This discrimination maybe particularly pronounced for female veterans, who experienced a disproportionately high burden of DADT investigations relative to their male peers.[46] Unfortunately, the BRFSS does not collect information about combat exposure during military service, timing or duration of military service to determine exposure to the prior anti-LGBTQ+ Department of Defense policies, or service-related disability information. Thus, further research is necessary to explore motivations behind options of care available to LGBTQ+ veterans and personal or logistic factors for choosing health care coverage.

It is also possible that the differences identified here are influenced by geographic factors. For example, rural communities, which have more limited access to any form of health care, tend to be older and comprise more veterans and uninsured individuals compared to urban areas.[47] Further, LGBTQ+ health care centers are predominately found in urban areas.[48] Thus, if younger LGBTQ+ veterans are more likely to live in urban areas, they may have more options for care outside of VHA. However, this geographic information is not readily available in the BRFSS, suggesting an important future direction to test this possibility.

Importantly, VHA has taken steps in recent years to improve the care of LGBTQ+ veterans at VHA.[4,18,20] For example, beginning in 2016, every VHA designates at least one LGBTQ+ Veteran Care Coordinator to address the needs of LGBTQ+ veterans and disseminate best practices to providers. Similarly, veterans appear to be growing more comfortable disclosing their sexual orientation to VHA providers,[49] which may support updates to VHA's medical record system to include SOGI as readily viewable fields and alert providers to collect this information from patients.

Despite these changes, our findings suggest additional work is needed to address potential barriers to VHA care particularly among younger and female LGBTQ+ veterans. Many existing studies of LGBTQ+ veteran health have focused on veterans already engaged in VHA care. The present study's use of a population-level sample highlights an important gap in health equity among veterans. Ongoing efforts to improve VHA care may need to place additional focus on outreach to LGBTQ+ veterans who are not making use of VHA care.

There may be significant downstream effects related to reduced prevalence of VHA/military health plan use among some LGBTQ+ veterans. If LGBTQ+ veterans eligible for VHA services choose to seek care elsewhere, they may incur significant medical costs that would otherwise be covered by VHA. Further, LGBTQ+ veterans, particularly those who live in more rural environments, may have limited access to specialty LGBTQ+ or veteran-specific care.[15–17,48] VHA has placed considerable focus on improving health care access, such as through initiatives to provide Internet connection and tablets for telehealth visits at no cost to eligible veterans.[50] These initiatives may be especially impactful for rural LGBTQ+ veterans, who may have more difficulty accessing care and have greater reports of anxiety/depression and tobacco use compared to urban/suburban groups.[51] Similarly, co-located care medical models, such as those employed by many VHA health care centers, may provide higher quality care at lower cost than segmented care.[52] LGBTQ+ specialty care outside of VHA tends to be found in community health centers with limited services.[48] Thus, even if LGBTQ+ veterans have access to specialty LGBTQ+ care, they may miss out on benefits of co-located care afforded by VHA.

There are several limitations to note. The BRFSS item assessing primary source of health care was not specific to only VHA, but also included military health care, so it precluded the ability to specifically address VHA care. However, the BRFSS does not include populations living in congregate settings, including active-duty military, in its sampling frames and counts these segments of the general population within noncoverage error.[53] Consequently, this suggests most individuals in the sample were veterans (rather than active duty), and, therefore, were more likely using VHA rather than military health care services. Unfortunately, due to the wording of the survey question that combined VHA with military health care, it is not possible to disaggregate. In addition, only a subset of states was included in this sample, limiting ability to generalize these findings to the entire US. Similarly, results may be limited by smaller sample size in some comparison groups, such as female LGBTQ+ veterans. Our sample size of LGBTQ+ veterans did not allow for more specific examination of potential within-group differences (e.g., lesbian/gay vs. bisexual, sexual minority vs. gender minority) or intersectional differences in VHA/military health plan use among LGBTQ+ veterans with multiple marginalized identities beyond sex and age. There are likely important differences in the health care needs among these different populations, and future studies are needed to define and more fully address the needs of LGBTQ+ veterans. Veteran status was self-reported and could not be verified against official records of military service history, which could introduce misclassification bias. Lastly, the collection of sex was unclear as to whether it was sex assigned at birth or self-identified by the respondent, which could also introduce misclassification bias that could differentially affect the LGBTQ+ group.[54]

In aggregate analyses, we did not observe a statistically significant difference between LGBTQ+ and non-LGBTQ+ veterans' utilization of VHA/military. However, age-stratified and sex-stratified models revealed important differences among the youngest generation of veterans and female veterans. More research is needed to identify potential reasons why younger LGBTQ+ veterans and female LGBTQ+ veterans are less likely to report VHA/military health care than their heterosexual peers and to further unpack potential subgroup differences in the needs and health care use of diverse LGBTQ+ veterans. To facilitate future research, administrative data systems in health care settings need to include SOGI data and, in the case of non-VHA health systems, collection of veteran status.[55,56]

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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SUPPORTING INFORMATION

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