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An Examination of Facilitators and Barriers to Care Receipt Among Specific Groups of LGBTQ+ and Cisgender Heterosexual Veterans

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Abstract

The present study examined rates and factors associated with past-year Veterans Health Administration (VHA) overall healthcare utilization and VA mental health treatment among LGBTQ+ and cisgender heterosexual veterans. Baseline data from a national longitudinal study of LGBTQ+ and cisgender heterosexual veteran VHA users and non-users (N = 1,062) were used in generalized linear models to estimate the predicted prevalence of VHA healthcare utilization for each LGBTQ+ and cisgender subgroup, stratified by gender. Additional multivariable regressions were guided by the Andersen health services utilization model. There were no significant

differences in healthcare utilization among women subgroups. Among men subgroups, cisgender gay men had lower predicted prevalence of VHA utilization than cisgender heterosexual and transgender men. In both the women's and men's models, VHA eligibility indicators and perceived lack of service availability were associated with increased odds for any past-year utilization; higher income, difficulty understanding eligibility/benefits, and logistical barriers were associated with decreased odds. Lifetime harassment at VHA was positively associated with past-year overall VHA utilization in women's models. LGBTQ+ specific factors explained significant variance in some models while transgender/gender diverse specific needs did not. These findings suggest that veterans generally need assistance navigating VHA eligibility issues and that LGBTQ+ veterans would benefit from systemic attention to provider sensitivity and availability of services focused on their needs. The high rates of harassment reported across women subgroups (19% to 25%) and by transgender men (38%) warrant institution-wide action.

Public Significance Statement:

This study suggests that veterans generally need more assistance navigating VHA eligibility. LGBTQ+ veterans would specifically benefit from systemic attention to provider sensitivity and increased availability of services focused on their needs to feel as though they are valued members of the veteran community. High rates of verbal harassment exposure reported by all the women subgroups and by transgender men (19–25%, 38%, respectively) warrant urgent institution-wide remedial action.

Keywords

healthcare utilization; military; sexual minority; gender minority; veterans

Introduction

Despite historic policies designed to keep them out of military service, there are an estimated one million lesbian, gay, bisexual, transgender, queer, and other sexual and gender minority (LGBTQ+) veterans in the United States (U.S. Department of Veterans Affairs, 2022). These veterans are at risk of having experienced military-specific systemic and interpersonal discrimination and minority stress (e.g., downstream effects of “Don’t Ask Don’t Tell”) (Livingston et al., 2019; Salomaa et al., 2023), which may, in turn, be associated with various health challenges, particularly if they contribute to refusal or delays in seeking needed healthcare. Indeed, past research suggests that LGBTQ+ veterans exhibit elevated rates of cumulative trauma, posttraumatic stress disorder (PTSD), depression, anxiety, substance use disorders, and suicidal thoughts and behaviors (Brown & Jones, 2016; Chang et al., 2023; Lehavot et al., 2022; Livingston et al., 2022). With regard to physical health, LGBTQ+¹ military personnel and veterans have been found to have higher rates of hypertension, obesity, and human immunodeficiency virus (HIV) than their non-LGBTQ+ (e.g. cisgender, heterosexual) counterparts (Lynch, Shipherd, et al., 2022; Mark et al., 2019). Also, both chronic pain and self-assessed fair/poor health status are more prevalent among

¹Please note that we use the “LGBTQ+” acronym generally, and in direct reference to our sample. When we reference other studies, we use the terminology used by the original author(s).

bisexual veterans under 40 years of age than among either their heterosexual or gay/lesbian peers (Houghtaling & Osypuk, 2023), suggesting that there may be important differences among subgroups of LGBTQ+ veterans (see also Carey et al., 2022).

As the single largest healthcare provider for LGBTQ+ people in the United States (Mattocks et al., 2014), the Veterans Health Administration (VHA) has prioritized the healthcare needs of LGBTQ+ veterans in the VHA's 2022–2028 Strategic Plan, emphasizing the need for safe and welcoming facilities that are free of harassment and discrimination and that meet the specific healthcare needs of these veterans (U.S. Department of Veterans Affairs, 2022). Given this federal healthcare priority, quantifying healthcare utilization rates among different sexual orientation and gender groups of veterans as well as ascertaining factors that likely influence such utilization may shed light on gaps that need to be addressed for VHA to fulfill its mission.

An examination of the extant literature reveals that much of the research on VHA utilization by LGBTQ+ veterans is confined to those already enrolled in VHA care (Kauth et al., 2014; Mattocks et al., 2015; Shipherd et al., 2018) or lacks a cisgender, heterosexual comparison group (Shipherd et al., 2012; Simpson et al., 2013) with few exceptions (see Livingston et al., 2022; Shipherd et al., 2021). A recent study by Hahn and colleagues (2023) sought to remedy these shortcomings by using Behavioral Risk Factor Surveillance System (BRFSS) data from 17 states to compare LGBTQ+ veterans and non-LGBTQ+ veterans on their primary source of healthcare. The authors found that while LGBTQ+ veterans were somewhat less likely than their cisgender, heterosexual counterparts to view VHA or military care as their primary source of healthcare (20% and 23%, respectively), the difference was not statistically significant. However, among the youngest age group, LGBTQ+ veterans were significantly less likely than their same-age cisgender, heterosexual peers to use VHA/military care.

Although the extant literature is informative, there is still much to learn about LGBTQ+ veterans and their use (or non-use) of VHA services. The current study addresses some of the remaining gaps by reporting on the rates and correlates of past year use of VHA healthcare generally and of VHA mental health treatment specifically in a large sample comprised of subgroups of LGBTQ+ and cisgender heterosexual veterans who were recruited nationally, outside the VHA. Consistent with past research and theory on healthcare utilization demonstrating that the decision to seek healthcare is multiply-determined (e.g., von Lengerke et al., 2014), the Andersen model of health services utilization (Andersen, 1995) was used as a framework to guide an inquiry into whether LGBTQ+ specific factors provide explanatory value above and beyond global factors.

The Andersen model considers the multitude of factors associated with healthcare utilization in that it ascertains the contributions of predisposing factors (e.g., individual characteristics such as age, sexual orientation, gender identity, race, ethnicity)², influencers of healthcare access (e.g., insurance status, employment status, service connection status, perceived

²Please note: Identity factors are not in and of themselves risk factors but are included as proxies for increased risk of exposure to identity-related negative experiences stemming from sexism, racism, heterosexism, etc. and other forms of oppression.

barriers related to eligibility and benefits, fitting in, staff sensitivity, logistics, availability of services), and healthcare needs (e.g., physical and mental health concerns) (Andersen, 1995). It provides a framework for rigorously examining factors that may inhibit or encourage healthcare utilization by all veterans as well as factors that may be specific to LGBTQ+ veterans. Regarding factors that may influence healthcare utilization by LGBTQ+ veterans, the extant literature has demonstrated that both transgender men and LGBTQ+ women report LGBTQ+ based discrimination (Ruben et al., 2019) and other problematic encounters in VHA settings (Berke et al., 2022; Chen et al., 2017; Dietert et al., 2017). Transgender men are more likely to report feeling less welcomed by their VHA providers than are transgender women or lesbian women (Kauth et al., 2019) and, historically, less than a third of both LGBTQ+ veterans and VHA providers have viewed the VHA as welcoming to LGBTQ+ veterans (Sherman et al., 2014). More recently, Kauth (2019) surveyed lesbian, gay, and transgender veterans finding that “most VHA users described their mental health and primary care providers as *somewhat* or *very welcoming* at their last visit (64.5% and 68.2%, respectively)”, and 18.1% describing their VHA facility as generally *not welcoming*. Additionally, LGBTQ+ women are likely to experience heightened levels of harassment relative to LGBTQ+ men (Shipherd, 2015). These disparities contribute to the negative experiences of LGBTQ+ veterans and are associated with reluctance to disclose sexual orientation to VHA providers and lower engagement in some services (Lehavot et al., 2013; Powell et al., 2022; Shipherd et al., 2018; Simpson et al., 2013).

Several studies focused on healthcare utilization among LGBTQ+ people have relied on the Andersen model (Baldwin et al., 2017; Currin et al., 2018; Diaz et al., 2022; Griffin et al., 2020; Lerner & Robles, 2017; Li et al., 2015; Simpson et al., 2013) and largely have found that non-discrimination policies, comfort in disclosure of sexual orientation, and experiences (or lack thereof) of discrimination are influencers of healthcare utilization and satisfaction. For example, in settings with non-discrimination legislation, amongst sexual minority women, there is an increased likelihood of disclosure of sexual orientation and higher satisfaction with care (Baldwin et al., 2017). Other studies have shown disclosure to be a significant correlate of increased mental health utilization (Currin et al., 2018) and that disclosure is positively associated with the perception that healthcare needs are adequately addressed (Griffin et al., 2020). In a study of transgender individuals, lack of knowledge regarding transgender issues, inappropriate (misgendering) use of pronouns, and other negative experiences with healthcare providers proved to be barriers to healthcare even during times of distress (Lerner & Robles, 2017).

The Present Study

The present study builds primarily upon prior literature utilizing the Andersen model among LGBTQ+ veterans (Simpson et al., 2013) by using a larger national sample, stratifying by gender subgroup, and including cisgender heterosexual veterans to examine rates and influencers of all healthcare utilization as well as mental health treatment. Guided by the Andersen model, we examined predisposing factors, global influencing factors, and global (health) need factors as correlates of past-year use of VHA care for *all* healthcare concerns and past-year use of VHA care for *mental health* concerns. Additionally, we examined

whether including LGBTQ+-specific factors improved model fit for the relevant subgroups. Given gender differences in accessing and trusting healthcare (Davis et al., 2014), models were stratified by gender. Of note, the current study straddles phases 1 and 2 of Kilbourne et al.'s (2006) conceptual model pertaining to health disparities in that it seeks to detect and document any disparities in utilization rates among these groups of veterans (phase 1) and to add to the nascent literature base regarding potential explanatory influencers of such care receipt (phase 2). Findings may inform efforts to reduce disparities (phase 3).

Although it is not possible to “prove the null,” the limited prior literature base (see Hahn et al., 2023) suggested that there are not likely statistically significant or clinically meaningful differences between the overall (e.g., not stratified by age brackets) lesbian, gay, and bisexual (LGB) subgroups and the cisgender heterosexual veterans regarding whether they had used either type of VHA care in the past year as demonstrated by their predicted prevalences. However, based on the extant research (Livingston et al., 2022; Lynch, Livingston, et al., 2022; Shipherd et al., 2012; 2021), we hypothesized that transgender veterans would have higher rates of healthcare utilization compared to cisgender heterosexual veterans as demonstrated by their gender-stratified predicted prevalences. As detailed below in the data analysis section of the Methods, the analytic models evaluating the Andersen healthcare utilization model proceeded from gender-stratified comparisons of the cisgender heterosexual veterans with all the relevant LGBTQ+ veterans grouped together to models including just those identifying as LGBTQ+ and finally to models including those identifying as transgender or gender diverse. The latter two sets of models evaluated whether the addition of LGBTQ+-specific factors and transgender need factors, respectively, added significant variance to those models. For the LGBTQ+ subgroup models, we predicted that LGBTQ+ specific factors and needs would explain significant variance in VHA utilization, over and above the global factors. No other directional hypotheses were specified for the Andersen model analyses. Of note, given the sparse literature in this area, no directional hypotheses comparing utilization between transgender and cisgender LGBTQ+ veterans were specified, although we did hypothesize significant differences.

The authors acknowledge that our identities and collective positionality influence our approach to science, including the questions we decided to pose, and how we frame the findings. In accordance with best practices (Castillo & Babb, 2023), we provide this positionality statement. Our team consists primarily of researchers and clinicians (backgrounds in clinical and counseling psychology, epidemiology, social work, and public health), among only one of whom is a veteran who has used VHA for seven years. Our employment with VHA spans 1.5 years to over 30 years. The majority of the group is white; one member is Taiwanese American, one member is Korean American, and one member is Persian American. Our group is predominantly comprised of sexual minorities and cisgender people. We have diversity in disability status, age, immigration experience (e.g., second generation, more than seventh generation), and spiritual beliefs. We believe strongly in providing optimal clinical care for and improving research practices with LGBTQ+ veterans.

Method

Study Design and Procedures

Baseline data from a 27-month prospective cohort study were used for these analyses. Recruitment occurred online from September 2019 to December 2020. Recruitment strategies included 1) the distribution of online ads to veteran groups, LGBTQ+ veteran groups, and the broader LGBTQ+ community; 2) the use of Facebook ads managed by the study team; and 3) starting in May 2020, the use of Trialfacts, an online recruiting company. Please see Fan et al., (2023) for details regarding the decision to engage Trialfacts to recruit many of the LGBTQ+ veteran participants. Eligible participants were ≥ 18 years old and met the following inclusion criteria: prior military service, U.S. resident, internet access, valid contact information, correctly answered logic questions (i.e., simple questions designed to identify bots), and answered demographic questions. The project team reviewed responses to confirm logical response patterns to verify military service and validity of veteran status. Eligible participants were sent directions via email for completing the 60-to-90-minute online survey hosted by Cooperative Studies Program (CSP). Participants received \$30 upon completion of the survey. This study was approved by the VA Puget Sound IRB.

Participants

Demographic characteristics of this cohort are reported fully in Table 1. In summary, 1,062 veterans were recruited into nine subgroups defined by combining sex assigned at birth, current self-identified gender identity, and sexual orientation: cisgender heterosexual men ($n = 169$, 15.9%), cisgender gay men ($n = 189$, 17.8%), cisgender bisexual men ($n = 62$, 5.8%), transgender men ($n = 45$, 4.2%), cisgender heterosexual women ($n = 172$, 16.2%), cisgender lesbian women ($n = 154$, 14.5%), cisgender bisexual women ($n = 61$, 5.7%), transgender women ($n = 144$, 13.6%), and gender diverse, non-binary persons ($n = 66$, 6.2%). The transgender participants identified in all sexual orientations and dividing them further based on sexual orientation was not feasible: 47.1% identified as bisexual, 34.9% as lesbian or gay, and 18% as heterosexual.

Measures

VA Healthcare Utilization Outcomes.—Two dichotomous (yes/no) healthcare utilization outcomes were considered: past-year overall VA utilization and past-year VA mental healthcare utilization, which included treatment focused on substance use disorders (SUD).

Predisposing Factors—Predisposing factors included sexual and gender minority subgroup status, age, race/ethnicity, and recruitment source. We also computed a dichotomous marker for participant survey submission date (before 3/14/20 vs. 3/14/20 or later) to delineate the declaration of the COVID-19 public health emergency in the U.S. because of its impact on healthcare access.

Global Influencing Factors—Details on each of the global influencing factors likely to affect VHA utilization are found in Supplemental Table 1. Briefly, these factors included health insurance other than VHA, VHA care eligibility³, income, employment (note: retired

was considered unemployment), and marital status. Among the unemployed group, 345 participants were retired, and we grouped these participants with participants who were un/underemployed based on the notion that employed veterans have notable characteristics that might affect utilization (e.g., less time for appointments, more income, access to additional employer-sponsored health insurance). We examined the point prevalence by subgroup of those with an honorable discharge military status (consistent with VA eligibility) and found that virtually all study participants (95.5% to 100% across subgroups) reported honorable discharges. Because of the lack of variability, we did not include it as a potential influencing factor. Global influencing factors likely to act as barriers to accessing VHA care, found in Supplemental Table 2, were drawn from six themes adapted from The National Survey of Women Veterans (Washington et al., 2011): (1) eligibility and benefits, (2) fitting in, (3) staff sensitivity and skills, (4) quality of care perception, (5) availability of services, and (6) logistics. For each theme, participants responded to up to six items on a scale from 1 (“Not at all”) to 4 (“Greatly”); barrier theme scores were summed. Lifetime verbal harassment (yes/no) in a VHA setting was assessed.

Global Need Factors—Global needs not specific to LGBTQ+ veterans were summed for indications of mental health burden and indications of physical health burden (see Supplemental Table 4 for details). Each diagnosis, mental or physical health, was dichotomized (1=present, 0=absent) and a mental total and a physical total were each computed. Mental health indicators included a past-month positive screen for PTSD (Bovin et al., 2016), past 2-week depression (Kroenke et al., 2009), past-year problematic alcohol consumption (Saunders et al., 1993), and moderate to severe past-year drug use (Benjamini & Yekutieli, 2001; Skinner, 1982). Physical healthcare indicators were also summed and included lifetime heart attack, high blood pressure, high cholesterol, diabetes, asthma, chronic obstructive pulmonary disease (COPD), and cancer. Positive HIV status (positive, negative, or don’t know) was accounted for separately given that HIV is a well-established LGBTQ+-specific disparity (U.S. Centers for Disease Control and Prevention, 2024), at least among gay and bisexual men and transgender women. It also reflects sexual health in addition to being an indicator of general physical health. These factors were included to understand the distinct impact of healthcare needs on VHA utilization separate from influencing or predisposing factors.

LGBTQ+-Specific Factors—LGBTQ+ factors hypothesized to influence VHA healthcare utilization included availability of LGBTQ+ specific care, staff sensitivity and skills, and fitting in (see Supplemental Table 3 for details). Responses ranged from 1 (“Not at all”) to 4 (“Greatly”).

Transgender Need Factors—Transgender healthcare needs were tallied (yes/no) from receipt of hormones and receipt of gender-affirming or transition-related surgeries or procedures (e.g. chest or “top” surgery, facial reconstructive surgery). Veterans were prompted to report on their non-VA experiences with gender-affirming surgeries as this has bearing on their healthcare needs and utilization.

³Given data limitations, those categorized as eligible to receive VHA services were simply those who reported receiving VA disability, non-service-connected pension, or military health care coverage (TRICARE, VA or Military).

Data Analytic Plan

First, the unadjusted prevalence estimates and means of key study variables were computed. Next, generalized linear models (i.e., logistic regression) were run to estimate the model-predicted prevalence (i.e., marginal effects) of the two VHA utilization variables for each sexual orientation and gender identity subgroup adjusted for the predisposing factors: age, recruitment source, race, and survey timing, by transforming the logit into a response. For these and all subsequent models, sexual orientation and gender identity subgroup were also specifically assessed to see how their inclusion contributed to model fit. Models were run separately for participants identifying as men and as women. The gender diverse group was included as a separate subgroup in analyses of both men and women.

Correlates of Past-Year VHA Overall and Mental Healthcare Utilization for the Full Sample, Stratified by Gender—Two sets of multivariable stepwise logistic regression models, one for each outcome, were run to understand the predictive roles of predisposing factors, global influencing factors (facilitators and barriers), and global need in past-year VHA utilization of any healthcare and mental healthcare. The first step, within each set of models, included a model with only the predisposing factors as covariates. The second step included the predisposing factors and global influencing factors. The third included predisposing and global need factors (without global external factors). The final model included all predisposing factor covariates and only the statistically significant global influencing factors and global need covariates. Physical healthcare need factors (sum of physical health comorbidities, HIV positive status) were excluded from VHA past-year mental health utilization models. The above set of models was run on each gender (men and women) separately and included all subgroups: cisgender heterosexual, gay/lesbian, bisexual, transgender, and gender diverse. We ran an omnibus Wald test for each final model that assessed whether inclusion of sexual orientation and gender identity group improved model fit. If so, we also tested pairwise comparisons between each sexual orientation and gender identity subgroup.

Correlates of Past-Year VHA Overall and Mental Healthcare Utilization for the LGBTQ+ Sample, Stratified by Gender—We ran additional multivariable models, also by gender subgroup, that built upon the final model run on all subgroups, assessing associations of LGBTQ+-specific factors with past-year overall and mental health VHA utilization outcomes to understand which, if any, were statistically significant determinants for these outcomes amongst the LGBTQ+ participants. Because these LGBTQ+-specific factors were administered only to LGBTQ+ veterans, these models excluded cisgender heterosexual individuals within the group predisposing factor. Inclusion of sexual orientation and gender identity group were tested here to see if they improved model fit.

Correlates of Past-Year VHA Overall Utilization for the Transgender and Gender Diverse Sample, Stratified by Gender—Lastly, we ran multivariable models using the final models run on the LGBTQ+ subgroups with the addition of transgender need factors for past-year VHA overall utilization only. Transgender needs were only administered to those identifying as transgender and gender diverse and, thus, models with

these covariates excluded cisgender individuals. These factors pertain to overall healthcare and were not used in models for past-year VHA mental healthcare utilization.

For the LGBTQ+-specific factors and transgender needs models, we included these covariates along with the relevant subgroups, all other predisposing factors, and the statistically significant global influencing factors and global need variables from models in the full sample. Using likelihood ratio tests, we compared the model fit of these models to models that did not include the LGBTQ+ specific factors or transgender needs to understand if the addition of LGBTQ+ specific factors or transgender needs improved model fit for the LGBTQ+ subgroups. See Table 1 for a depiction of how regression models were built for both outcomes.

P-values for covariates from all models (full sample and both LGBTQ+ specific models) within each outcome and gender were adjusted for type 1 error using the Benjamini and Yekutieli correction (Benjamini & Yekutieli, 2001; Yekutieli & Benjamini, 1999). False discovery rate-corrected p-values of ≤ 0.05 were considered statistically significant. Analyses were conducted using Stata 15.0 and R version 3.2.3.

Results

Descriptive Analyses

Table 1 shows the raw counts and percentages or means and standard deviations of all variables for each sexual orientation and gender identity subgroup, stratified by gender, without controlling for potential covarying relationships among demographic variables and utilization factors (e.g., for income counts and percentages, not accounting for younger people generally having lower income than older people). Although significance testing was not done, observations regarding noteworthy patterns are offered.

In the past year, most veterans (60.6%) had utilized VHA care, and less than one-third (29.4%) utilized VHA mental health care. Most participants in the sexual orientation and gender identity minority subgroups submitted their survey post-onset of the COVID-19 pandemic.

Predisposing Factors—Descriptively, heterosexual study participants were older (>65) than other participant groups, and most of the study sample identified as white, non-Hispanic. Cisgender heterosexual men and women subgroups were primarily recruited through community and listserv sources (>55%), and LGBTQ+ subgroups through Trialfacts (40–67%).

Global Influencing Factors—Less than half of cisgender bisexual men, cisgender bisexual women, and transgender men (44% to 49%) reported having health insurance coverage. Large proportions of every group responded in ways indicating eligibility to receive VHA care (63%–84%), but gay men, lesbian women, transgender women, and gender diverse persons were less likely than other groups to respond in these ways. Cisgender heterosexual men and women reported the highest income ($\geq \$70K$). Except for transgender men, over 40% of participants in each subgroup were married. Compared

to all other subgroups, cisgender heterosexual men were most likely to not be employed (57.4%; of note, 88 of the 97 cisgender heterosexual men who were not employed were retired, which tracks with their overall older age). Cisgender heterosexual men were also least likely to report global barriers (not specific to LGBTQ+) to VHA care. Gender diverse participants reported the greatest barriers to VHA care regarding eligibility and benefits, logistics, and staff sensitivity and skills. Transgender men had the greatest barriers regarding availability of services (general and LGBTQ+ services), quality of care perception, as well as the highest rates of experiencing verbal harassment (37.8%) in a VHA setting. All women subgroups and gender diverse participants were markedly more likely to have experienced verbal harassment than cisgender men. Cisgender bisexual women were most likely to report not fitting in as a global barrier to VHA care.

LGBTQ+-Specific Factors—Availability of LGBTQ+ services was reported as a barrier by transgender men and women and gender diverse subgroups to a greater extent than all other subgroups. Cisgender lesbian women, transgender men and women, and gender diverse subgroups were most likely to perceive VHA's sensitivity to LGBTQ+ issues as a barrier to accessing VHA care. Not fitting in (feeling like VHA is mainly for heterosexual, cisgender veterans) was highest for transgender men and women and gender diverse subgroups.

Global Healthcare Need Factor: Transgender men were especially likely (60%) to report two or more mental health disorders relative to other men subgroups. Cisgender heterosexual men were substantially older than all other subgroups and reported having four or more physical health conditions (18.4%) compared to other subgroups. There was substantial variability in rates of HIV-positive status across subgroups (0–13.2%).

Transgender Need Factors—Rates of lifetime gender affirming hormone use were high for transgender men and women (82% and 89%, respectively), and over two-thirds of transgender men and over 40% of transgender women reported receipt of gender affirming surgery. Gender diverse participants were substantially less likely to report receipt of either gender affirming hormones (14%) or surgery (6%).

Predicted Prevalences of Healthcare Utilization Outcomes and Between-group Comparisons

The predicted prevalences adjusted for age, recruitment source, race, and survey timing for VHA past-year overall utilization and mental health treatment utilization for both men and women subgroups and gender diverse participants are shown in Table 2.

There were no statistically significant differences in either type of past year healthcare utilization outcomes among women subgroups with the groups ranging from 59.7% of both the lesbian and bisexual women to 62.4% of the cisgender heterosexual women having reported any past-year VHA utilization and ranging from 32.1% of the bisexual women to 42.1% of the cisgender heterosexual women having reported VHA mental health treatment.

Across men, cisgender gay men had a lower predicted prevalence of VHA past-year utilization (53.4%) compared to cisgender heterosexual men (65.6%) and transgender

men (80.5%). Transgender men also had a higher predicted prevalence of VHA past-year utilization than gender diverse participants. With respect to past-year VHA mental health treatment, transgender men had a higher predicted prevalence (65.3%) compared to all the other men subgroups and gender diverse participants; the range for the remaining groups was 33.3% to 42.0%.

Gender-Stratified Multivariable Logistic Regression Analyses

Correlates of Past-year VHA Utilization

Women.: With predisposing factors included as covariates, the global influencing factors that were significantly *positively* associated with past-year VHA utilization were VHA eligibility, availability of services as a barrier, and reports of verbal harassment⁴ (see Table 3). Household income, unclear eligibility and benefits status, and logistical concerns were *negatively* associated with past year VHA utilization. There were no statistically significant differences in VHA utilization between any of the subgroups or any predisposing factors after adjusting for all covariates.

Among the marginalized sexual orientation and gender identity subgroups, the inclusion of LGBTQ+-specific factors significantly improved model fit (likelihood ratio test $p = 0.022$); however, none were statistically significant individually, and their inclusion did not change the strength and direction of other estimates. There were no statistically significant associations between transgender need factors and VHA utilization among transgender and non-binary individuals, and the likelihood ratio test comparing a model with the transgender-specific needs to one without was not statistically significant (likelihood ratio test $p = 0.782$).

Men.: The pattern of results among men in the full sample was similar to the women's results (see Table 4), including direction and magnitude, except that verbal harassment did not contribute significantly to the model. Additionally, count of mental health conditions as a global need was significantly associated with overall VHA utilization.

Correlates of Past-year VA Mental Health Treatment

Women.: As shown in Table 5, among the full sample of women, VHA eligibility and count of mental health conditions were significantly associated with greater likelihood of mental health care utilization. No other factors were associated with utilization and there were no significant differences in this outcome between the sexual orientation and gender identity subgroups. Among marginalized sexual orientation and gender identity groups, further inclusion of LGBTQ+-specific factors improved model fit (likelihood ratio test $p = 0.011$), but none were statistically significant individually, and did not change the strength or direction of other estimates.

Men.: Among global influencing factors and healthcare needs in the full sample of men (see Table 6), VHA eligibility and count of mental health conditions were significantly

⁴Cross tabulations support this finding that veterans with past-year VA healthcare experience are more likely to know about the lack of service availability and/or have experienced harassment.

associated with greater likelihood of mental healthcare utilization. Perception of eligibility and benefits as a barrier were significantly and negatively associated with this outcome. No other global influencing factors showed significant associations. Significant differences in mental healthcare utilization between groups were detected from the omnibus Wald test ($p=0.003$). Pairwise comparisons showed transgender men having higher odds of mental healthcare utilization than heterosexual and bisexual men. Among the LGBTQ+ individuals, the inclusion of LGBTQ+-specific factors in the model significantly improved model fit (likelihood ratio test $p = 0.030$), but none were statistically significant individually and inclusion had no notable influence on the strength and direction of other estimates.

Across all models, submission date (pre vs. post onset of the COVID-19 pandemic) was not a statistically significant determinant of healthcare utilization.

Discussion

In this study, a high proportion of our sample used any VHA treatment in the past year (60.6%). However, less than one-third (29.4%) of the current sample utilized VHA mental health care in the past year. Across the men subgroups, cisgender gay men were less likely to have utilized VHA care overall than cisgender heterosexual men and transgender men, with this latter group reporting substantially higher utilization rates than the other men subgroups. Regarding past-year VHA mental health treatment, transgender men also had substantially higher utilization rates than the other men subgroups. In contrast to our *a priori* hypothesis, we found no between-group differences in utilization rates on either utilization outcome among the women subgroups, including the transgender women. This finding is a departure from other research indicating that transgender women are more likely to use VHA healthcare than other veterans (Shipherd et al., 2012), but the earlier investigation compared transgender women to the published utilization rate for veterans at large, a group largely comprised of cisgender men. Thus, transgender women's VHA utilization has not previously been compared to those in their same gender group (i.e., women) and future research should further evaluate utilization rates within and across gender groups to see if this finding is supported.

Several influencing factors applicable to all veterans were related to VHA care utilization for all subgroups in both expected and unexpected ways. First, as expected, those who responded in ways that implied VHA eligibility were far more likely to have received care than those who did not. In contrast, but also as expected, challenges in navigating VHA benefits were associated with veterans being 30–40% less likely to have utilized any VHA healthcare in the past year, and these challenges were associated with lower past-year utilization of mental health treatment among men subgroups specifically. Across both the women and men subgroups, logistical barriers were associated with lower likelihood of receiving any VHA care. Perceived lack of service availability was positively related to VHA care, which although interesting, is perhaps not surprising given that people who need more care may also have interfaced with VHA regularly enough to understand which needed, or wanted, healthcare services are unavailable. Interestingly, logistical barriers and perceived lack of availability of care were not associated with mental health treatment. These findings are largely consistent with predictions from the Andersen model (1995),

but suggest differences between VHA utilization overall and VHA mental health treatment utilization. It is possible that VHA mental health utilization is difficult to predict given its relatively low base rate, or perhaps other factors are more impactful when predicting mental health treatment utilization. Regarding perceptions of service availability specifically, the following questions may be fruitful to pursue in future research: 1) are mental health care appointments more readily available than those for physical health care? 2) are veterans more willing to wait for mental health care than for physical health care? 3) is it harder to access mental health care in the community (i.e., outside of VHA) than it is to care for physical health issues? 4) are there barriers that prevent veterans from using VHA mental healthcare services regardless of their availability?

Regarding income, in a departure from the Andersen model we found that veterans with lower incomes were more likely than those with higher incomes to have utilized VHA care. Although research using the Andersen model typically finds that higher income is associated with greater likelihood of healthcare utilization (Andersen, 1995; Currin et al., 2018); the present finding is consistent with past research on VHA utilization (Kline et al., 2022), whereby veterans with lower income are prioritized for eligibility and tend to have fewer options to receive their care elsewhere (i.e., through employer-based insurance for example) (Cohen & Boersma, 2023; Fink et al., 2022; Meffert et al., 2019). Descriptively, in the current sample we see both lower income and lack of commercial health insurance being especially likely for bisexual men, transgender men, and gender diverse persons. Further, it is noteworthy that the responses of over one-third of the bisexual men and the gender diverse persons implied ineligibility for VHA care, suggesting that these groups may be at particular risk of not having adequate access to needed healthcare.

Our descriptive findings suggest that initiatives to increase engagement in VHA care should pay particular attention to groups that tend to utilize VHA care at lower rates relative to other groups (i.e., gender diverse individuals and cisgender gay men) as well as groups that are especially likely to have lower incomes and lack adequate healthcare access (i.e., bisexual men, transgender men, and gender diverse persons). To increase engagement, the VHA may consider promoting and advocating ways to decrease barriers to eligibility for LGBTQ+ veterans. For example, VHA could advocate that DoD follow through on plans to centrally revise veterans' discharge statuses if based on sexual orientation (Vergun, 2023), take steps to increase awareness and clarity regarding VHA benefits, reduce logistical barriers, increase availability of care, and increase provision of and awareness about LGBTQ+ specific healthcare through outreach by the VHA LGBTQ+ Veteran Care Coordinators (VCC). LGBTQ+ VCC's are available in every VA healthcare system to help "answer your questions, advocate for your right to quality care, handle complaints or concerns you have about your care, and help you get started with services for LGBTQ+ Veterans" (U.S. Department of Veterans Affairs, Patient Care Services, 2024).

Turning to verbal harassment, a key global influencing factor specific to the VHA environment, we found that such experiences were positively and significantly associated with VHA care overall in the women's, but not the men's models. Although it is counterintuitive that such negative exposures are associated with greater likelihood of having used VHA services, women veterans must have experience with VHA care to have been

verbally harassed in those settings. The troublingly large proportions of such exposures across all women subgroups (19% to 25%) not only reflects the intersectional nature of such harassment (i.e., that cisgender men veterans, regardless of sexual orientation, are less likely than all women veterans to have such experiences when accessing healthcare at VA) but also indicates that VHA needs to increase efforts to address this issue to improve the care environment for all women. Moreover, the even higher rates of verbal harassment reported by transgender men (37.8%) suggest that their safety and well-being while in VHA care environments especially needs to be prioritized. From an intersectional perspective (Everett et al., 2019; Mink et al., 2014), differences in verbal harassment can be explained by differences in sexism, heterosexism, and transnegativity. LGBTQ+ veterans, as a group, have elevated odds of experiencing heterosexism, but LGBTQ+ women and transgender men also have greater odds of being subjected to sexism, while transgender men must also contend with potential transnegativity. Differences in sexist and transnegative experiences based on gender may be driving the positive relationship between verbal harassment and utilization for some LGBTQ+ subgroups and not others. Although the ability to access no- or low-cost care through VHA is important to many veterans, the emotional and psychological cost of receiving care is likely quite high in environments fraught with verbal harassment and the risk of such harassment (Kauth et al., 2019; Sherman et al., 2014; Shipherd, 2015).

When it comes to LGBTQ+ specific influencing factors, our results indicate that the inclusion of all these factors together improved model fit for both VHA utilization generally and VHA mental health treatment among the women and for VHA mental health treatment among the men. However, none of the factors were significant individually. Thus, consistent with the VHA's 2022–2028 Strategic Plan, which states that facilities need to be safe and welcoming for LGBTQ+ veterans and meet their specific healthcare needs (U.S. Department of Veterans Affairs, 2022), our results suggest that the combination of the degree of provider sensitivity to LGBTQ+ issues, availability of LGBTQ+ services, and the extent to which one has a sense of fitting in help to explain healthcare utilization patterns. Logically, it is likely that greater provider sensitivity and greater availability of LGBTQ+ services lead LGBTQ+ veterans to feel as though they are welcome and fit in, but this has yet to be experimentally tested. These findings lend support to increasing attention to the social safety perspective (Diamond & Alley, 2022), which posits that reliable social connection, inclusion, and protection are universal human needs. Recent work has explored this perspective among LGBTQ+ individuals, suggesting that even in the absence of minority stress, social safety is essential to the health of stigmatized individuals (Diamond & Alley, 2022). When combined, these LGBTQ+ factors examined in our models may work in harmony to foster that sense of social safety. The recently developed *Pride In All Who Served* health education group is a promising intervention for LGBTQ+ veterans (Lange et al., 2023) that could be used to systematically evaluate this supposition.

The finding that the combination of LGBTQ+ specific factors explain significant variance in models predicting VHA utilization also underscores the need to invite LGBTQ+ veterans to help inform the VHA regarding ways to ensure safe and effective healthcare that meets their needs. A particular focus should be on subgroups that report higher dissatisfaction rates and verbal harassment at the VHA. Additionally, policies and staff training are needed to mitigate the elevated rates of harassment experienced by transgender men and

women overall (see Berke et al., 2022). One possibility is the expansion of the VHA's bystander intervention training to ensure that staff and veterans can identify harassment, have practiced safe ways to intervene, and are prepared to provide support to the victims of such encounters. Of note, because VHA facilities differ in tangible and intangible ways, best practice guidelines for implementing and maintaining bystander intervention training indicate that inputs from local interested parties are needed to meet the needs at the local level (Fenwick et al., 2021; Relyea et al., 2020). Recent qualitative work by Singh and colleagues (2024) also indicates that providers have knowledge gaps in best practices for care provision for LGBTQ+ veterans and that further investment in training and ongoing consultation is needed (Singh et al., 2024). One possible way to address these provider knowledge gaps is for the VHA's LGBTQ+ Veteran Care Coordinator program to be expanded and fully supported such that they have the time and training to do the necessary teaching and consultation, ideally directly informed by their LGBTQ+ veteran patients. However, a survey of these providers revealed that they need more basic support for their already assigned duties (see Valentine et al., 2021) so duty expansion would almost certainly require substantial institutional investment.

Additionally, given that culture change is needed on multiple levels (Sloan & Shipherd, 2019), VHAs are encouraged to be explicitly welcoming to LGBTQ+ veterans, provide inclusive materials in facilities and in educational materials, expand the availability of women's and LGBTQ+ clinics, ensure gender inclusive restrooms, hire and retain staff that represent various identities, cultivate a safe and inclusive culture among staff and employees, and provide gender-affirming medical interventions including surgery. We also suggest that the VHA LGBTQ+ Veteran Care Coordinator be the sole job for one or more staff members at each facility to ensure they have the time and resources to provide safe and effective healthcare for all veterans.

Limitations

The current study utilized a multi-pronged national recruitment strategy that was broadly inclusive of LGBTQ+ and cisgender heterosexual veterans, but the resulting sample is a convenience sample rather than a random, probability sample. Although we intentionally did not recruit through VHA channels, an unexpectedly large proportion of our sample reported having used VHA services in the past year, which may mean that veterans whose discharge statuses are not consistent with VHA eligibility (U.S. Department of Veterans Affairs, 2024) are under-represented as they may have been reluctant to participate in a VHA research study. Likewise, because of under-representation of some groups (e.g., across races and ethnicities, age groups, etc.), we were unable to evaluate additional intersectional identities and some of our LGBTQ+ subgroups were small and thus some models were under-powered. Additionally, this study emphasizes access to VHA care, and we are not able to speak to whether veterans are receiving a frequency/level of VHA services that adequately meets their unique needs, nor do we extensively evaluate the experiences of veterans receiving VHA care. For some personal characteristic and need factors, we favored parsimony over detail (e.g., grouping retirees with those who were unemployed, using a count of positive screens for mental health disorder rather than severity scores, etc.) and thereby may have sacrificed more nuanced findings that might have resulted. Finally,

approximately one-third of the sample was recruited after the public health emergency declaration pertaining to COVID-19 and while we did not find that inclusion of a pandemic onset date-marker was a significant factor in the models, our findings may still have been affected by healthcare access barriers directly related to the pandemic. We also acknowledge the lack of inclusion of type of care (virtual vs. in person) may be a limitation that could be explored in future research.

Conclusions

Study limitations notwithstanding, findings from the current study suggest that veterans generally need assistance navigating VHA eligibility issues regardless of their sexual orientation or gender identity. The results further suggest that LGBTQ+ veterans would benefit from systemic attention to provider sensitivity and increased availability of services focused on their needs. Attention to these issues institution-wide would likely facilitate LGBTQ+ veterans feeling as though they “fit in” and are valued members of the veteran community that VHA is honored to serve. Finally, although exposure to harassment in VHA settings was found to be positively correlated with care receipt among women, the high rates of such negative exposures reported by these veterans (all women subgroups: 19% to 25%) as well as by transgender men (38%) warrant urgent institution-wide remedial action.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Factors and Outcomes by Subgroup^a

Factors	Cisgender Heterosexual men (n=169)	Cisgender Gay men (n=189)	Cisgender Bisexual men (n=62)	Transgender men (n=45)	Cisgender Heterosexual women (n=172)	Cisgender Lesbian women (n=154)	Cisgender Bisexual women (n=61)	Transgender women (n=144)	Gender diverse (n=66)	Overall (N=1062)
Predisposing Factors, n (%):										
Age ^b										
20-25	1 (0.6)	2 (1.1)	3 (4.8)	4 (8.9)	0 -	3 (1.9)	5 (8.2)	1 (0.7)	4 (6.1)	23 (2.2)
26-35	11 (6.5)	25 (13.2)	10 (16.1)	17 (37.8)	14 (8.1)	29 (18.8)	25 (41.0)	23 (16.0)	21 (31.8)	175 (16.5)
36-45	21 (12.4)	37 (19.6)	13 (21.0)	9 (20.0)	30 (17.4)	28 (18.2)	22 (36.1)	37 (25.7)	17 (25.8)	214 (20.2)
46-55	31 (18.3)	39 (20.6)	18 (29.0)	7 (15.6)	38 (22.1)	31 (20.1)	3 (4.9)	31 (21.5)	11 (16.7)	209 (19.7)
56-65	27 (16.0)	39 (20.6)	9 (14.5)	7 (15.6)	53 (30.8)	45 (29.2)	5 (8.2)	28 (19.4)	11 (16.7)	224 (21.1)
>65	78 (46.2)	47 (24.9)	9 (14.5)	1 (2.2)	37 (21.5)	18 (11.7)	1 (1.6)	24 (16.7)	2 (3.0)	217 (20.4)
Race/ Ethnicity										
White, non- Hispanic	132 (78.1)	159 (84.1)	50 (80.6)	29 (64.4)	123 (71.5)	126 (81.8)	47 (77.0)	122 (84.7)	49 (74.2)	837 (78.8)
Black, non- Hispanic	6 (3.6)	4 (2.1)	1 (1.6)	3 (6.7)	18 (10.5)	10 (6.5)	3 (4.9)	1 (0.7)	3 (4.5)	49 (4.6)
Other race, non-Hispanic	5 (3.0)	6 (3.2)	0 -	1 (2.2)	5 (2.9)	3 (1.9)	0 -	1 (0.7)	1 (1.5)	22 (2.1)
Multiracial, non-Hispanic	6 (3.6)	5 (2.6)	2 (3.2)	9 (20.0)	9 (5.2)	7 (4.5)	7 (11.5)	12 (8.3)	6 (9.1)	63 (5.9)
Hispanic	20 (11.8)	15 (7.9)	9 (14.5)	3 (6.7)	17 (9.9)	8 (5.2)	4 (6.6)	8 (5.6)	7 (10.6)	91 (8.6)
Recruitment source										
Facebook	43 (25.4)	49 (25.9)	7 (11.3)	8 (17.8)	68 (39.5)	34 (22.1)	18 (29.5)	34 (23.6)	7 (10.6)	268 (25.2)
Community/ listserv	111 (65.7)	64 (33.9)	13 (21.0)	15 (33.3)	96 (55.8)	53 (34.4)	14 (23.0)	44 (30.6)	20 (30.3)	430 (40.5)
Trialfacts	15 (8.9)	76 (40.2)	42 (67.7)	22 (48.9)	8 (4.7)	67 (43.5)	29 (47.5)	66 (45.8)	39 (59.1)	364 (34.3)
COVID pandemic onset										
Survey submission	95 (56.2)	54 (28.6)	9 (14.5)	12 (26.7)	82 (47.7)	53 (34.4)	11 (18.0)	51 (35.4)	15 (22.7)	382 (36.0)

Factors	Cisgender Heterosexual men (n=169)	Cisgender Gay men (n=189)	Cisgender Bisexual men (n=62)	Transgender men (n=45)	Cisgender Heterosexual women (n=172)	Cisgender Lesbian women (n=154)	Cisgender Bisexual women (n=61)	Transgender women (n=144)	Gender diverse (n=66)	Overall (N=1062)
prior to 3/14/2020										
Survey submission on/ after 3/14/2020	74 (43.8)	135 (71.4)	53 (85.5)	33 (73.3)	90 (52.3)	101 (65.6)	50 (82.0)	93 (64.6)	51 (77.3)	680 (64.0)
Global Influencing Factors										
Health insurance, n (%)										
Yes	125 (74.0)	120 (63.5)	30 (48.4)	22 (48.9)	106 (61.6)	97 (63.0)	27 (44.3)	106 (73.6)	40 (60.6)	673 (63.4)
No	43 (25.4)	69 (36.5)	32 (51.6)	22 (48.9)	66 (38.4)	57 (37.0)	34 (55.7)	38 (26.4)	26 (39.4)	387 (36.4)
Missing	1 (0.6)	0 -	0 -	1 (2.2)	0 -	0 -	0 -	0 -	0 -	2 (0.2)
VA eligible, n (%)										
Yes	128 (75.7)	123 (65.1)	46 (74.2)	38 (84.4)	134 (77.9)	106 (68.8)	46 (75.4)	90 (62.5)	43 (65.2)	754 (71.0)
No	41 (24.3)	66 (34.9)	16 (25.8)	7 (15.6)	38 (22.1)	48 (31.2)	15 (24.6)	54 (37.5)	23 (34.8)	308 (29.0)
Income, n (%)										
<15K	5 (3.0)	12 (6.3)	3 (4.8)	1 (2.2)	3 (1.7)	5 (3.2)	1 (1.6)	15 (10.4)	7 (10.6)	52 (4.9)
15-<20K	1 (0.6)	6 (3.2)	2 (3.2)	0 -	5 (2.9)	6 (3.9)	0 -	11 (7.6)	3 (4.5)	34 (3.2)
20-<25K	8 (4.7)	7 (3.7)	6 (9.7)	7 (15.6)	5 (2.9)	3 (1.9)	0 -	7 (4.9)	5 (7.6)	48 (4.5)
25-<30K	3 (1.8)	7 (3.7)	5 (8.1)	3 (6.7)	3 (1.7)	9 (5.8)	4 (6.6)	6 (4.2)	3 (4.5)	43 (4.0)
30-<40K	9 (5.3)	16 (8.5)	4 (6.5)	5 (11.1)	13 (7.6)	18 (11.7)	14 (23.0)	15 (10.4)	4 (6.1)	98 (9.2)
40-<50K	9 (5.3)	15 (7.9)	9 (14.5)	8 (17.8)	15 (8.7)	17 (11.0)	7 (11.5)	18 (12.5)	10 (15.2)	108 (10.2)
50-<60K	16 (9.5)	20 (10.6)	4 (6.5)	4 (8.9)	13 (7.6)	17 (11.0)	4 (6.6)	13 (9.0)	7 (10.6)	98 (9.2)
60-<70K	16 (9.5)	13 (6.9)	5 (8.1)	3 (6.7)	14 (8.1)	7 (4.5)	5 (8.2)	15 (10.4)	6 (9.1)	84 (7.9)
70-<80K	22 (13.0)	14 (7.4)	7 (11.3)	3 (6.7)	18 (10.5)	12 (7.8)	12 (19.7)	12 (8.3)	3 (4.5)	103 (9.7)
80-<90K	11 (6.5)	15 (7.9)	5 (8.1)	1 (2.2)	10 (5.8)	8 (5.2)	4 (6.6)	5 (3.5)	2 (3.0)	61 (5.7)
90-<100K	8 (4.7)	10 (5.3)	0 -	4 (8.9)	12 (7.0)	9 (5.8)	2 (3.3)	1 (0.7)	1 (1.5)	47 (4.4)
≥100K	58 (34.3)	54 (28.6)	12 (19.4)	4 (8.9)	60 (34.9)	42 (27.3)	8 (13.1)	25 (17.4)	15 (22.7)	278 (26.2)
Missing	3 (1.8)	0 -	0 -	2 (4.4)	1 (0.6)	1 (0.6)	0 -	1 (0.7)	0 -	8 (0.8)
Employment, n (%)										

Factors	Cisgender Heterosexual men (n=169)	Cisgender Gay men (n=189)	Cisgender Bisexual men (n=62)	Transgender men (n=45)	Cisgender Heterosexual women (n=172)	Cisgender Lesbian women (n=154)	Cisgender Bisexual women (n=61)	Transgender women (n=144)	Gender diverse (n=66)	Overall (N=1062)
Yes	70 (41.4)	98 (51.9)	39 (62.9)	22 (48.9)	82 (47.7)	77 (50.0)	36 (59.0)	81 (56.3)	38 (57.6)	543 (51.1)
No	97 (57.4)	90 (47.6)	22 (35.5)	21 (46.7)	90 (52.3)	77 (50.0)	25 (41.0)	62 (43.1)	27 (40.9)	511 (48.1)
Missing	2 (1.2)	1 (0.5)	1 (1.6)	2 (4.4)	0 -	0 -	0 -	1 (0.7)	1 (1.5)	8 (0.8)
Married or domestic partnership, n (%)										
Yes	136 (80.5)	89 (47.1)	27 (43.5)	9 (20.0)	94 (54.7)	68 (44.2)	26 (42.6)	60 (41.7)	36 (54.5)	545 (51.3)
No	33 (19.5)	99 (52.4)	35 (56.5)	36 (80.0)	78 (45.3)	86 (55.8)	35 (57.4)	84 (58.3)	30 (45.5)	516 (48.6)
Missing	0 -	1 (0.5)	0 -	0 -	0 -	0 -	0 -	0 -	0 -	1 (0.1)
Eligibility and benefits-barrier to VA care										
Mean (SD)	4.98 (2.5)	5.61 (2.7)	5.13 (2.6)	5.58 (2.8)	5.34 (2.5)	5.58 (2.8)	5.87 (2.6)	5.73 (2.8)	6.39 (2.9)	5.51 (2.7)
Fitting in- barrier to VA care										
Mean (SD)	7.61 (2.7)	8.79 (3.4)	8.92 (3.3)	9.67 (3.9)	9.13 (3.6)	9.36 (3.6)	11.3 (4.3)	8.76 (3.7)	10.6 (4.5)	9.04 (3.6)
Staff sensitivity and skills- barrier to VA care										
Mean (SD)	3.62 (1.3)	4.16 (2.1)	4.36 (2.0)	5.6 (2.7)	4.9 (2.3)	5.38 (2.4)	5.69 (2.4)	4.68 (2.2)	6.05 (2.9)	4.72 (2.3)
Quality of care perception- barrier to VA care										
Mean (SD)	6.32 (2.5)	6.4 (2.8)	6.82 (2.7)	8.84 (3.4)	7.22 (3.1)	7.24 (3.3)	7.46 (3.4)	7.47 (3.4)	7.91 (3.5)	7.07 (3.1)
Availability of services-barrier to VA care										
Mean (SD)	1.52 (0.8)	1.45 (0.8)	1.46 (0.9)	2.64 (1.2)	1.77 (1.0)	1.71 (1.0)	1.77 (1.0)	2.13 (1.1)	1.82 (1.1)	1.73 (1.0)
Logistics- barrier to VA care										
Mean (SD)	10.2 (3.5)	10.3 (3.7)	10.3 (4.0)	10.4 (3.8)	10.6 (3.5)	10.3 (3.1)	10.7 (3.8)	9.56 (3.2)	11.2 (3.8)	10.3 (3.5)

Factors	Cisgender Heterosexual men (n=169)	Cisgender Gay men (n=189)	Cisgender Bisexual men (n=62)	Transgender men (n=45)	Cisgender Heterosexual women (n=172)	Cisgender Lesbian women (n=154)	Cisgender Bisexual women (n=61)	Transgender women (n=144)	Gender diverse (n=66)	Overall (N=1062)
VA verbal harassment, n (%)										
Yes	11 (6.5)	20 (10.6)	11 (17.7)	17 (37.8)	33 (19.2)	35 (22.7)	15 (24.6)	36 (25.0)	13 (19.7)	191 (18.0)
No	157 (92.9)	169 (89.4)	51 (82.3)	28 (62.2)	139 (80.8)	119 (77.3)	46 (75.4)	107 (74.3)	53 (80.3)	869 (81.8)
Missing	1 (0.6)	0 -	0 -	0 -	0 -	0 -	0 -	1 (0.7)	0 -	2 (0.2)
Global Need Factors, n (%)										
Mental health disorders (sum)										
0	91 (53.8)	102 (54.0)	25 (40.3)	12 (26.7)	89 (51.7)	66 (42.9)	22 (36.1)	57 (39.6)	25 (37.9)	489 (46.0)
1	27 (16.0)	30 (15.9)	20 (32.3)	6 (13.3)	25 (14.5)	32 (20.8)	12 (19.7)	27 (18.8)	6 (9.1)	185 (17.4)
2	42 (24.9)	48 (25.4)	13 (21.0)	19 (42.2)	50 (29.1)	47 (30.5)	24 (39.3)	49 (34.0)	29 (43.9)	321 (30.2)
3	8 (4.7)	8 (4.2)	1 (1.6)	8 (17.8)	8 (4.7)	6 (3.9)	2 (3.3)	11 (7.6)	5 (7.6)	57 (5.4)
4	1 (0.6)	1 (0.5)	2 (3.2)	0 -	0 -	3 (1.9)	1 (1.6)	0 -	1 (1.5)	9 (0.8)
Missing	0 -	0 -	1 (1.6)	0 -	0 -	0 -	0 -	0 -	0 -	1 (0.1)
Physical health comorbidities (sum)										
0	34 (20.1)	42 (22.2)	19 (30.6)	17 (37.8)	45 (26.2)	45 (29.2)	31 (50.8)	42 (29.2)	27 (40.9)	302 (28.4)
1	33 (19.5)	51 (27.0)	12 (19.4)	17 (37.8)	49 (28.5)	48 (31.2)	19 (31.1)	39 (27.1)	25 (37.9)	293 (27.6)
2	38 (22.5)	46 (24.3)	17 (27.4)	6 (13.3)	50 (29.1)	39 (25.3)	9 (14.8)	37 (25.7)	10 (15.2)	252 (23.7)
3	33 (19.5)	28 (14.8)	7 (11.3)	3 (6.7)	17 (9.9)	13 (8.4)	2 (3.3)	15 (10.4)	4 (6.1)	122 (11.5)
4	18 (10.7)	9 (4.8)	4 (6.5)	2 (4.4)	9 (5.2)	7 (4.5)	0 -	10 (6.9)	0 -	59 (5.6)
5	9 (5.3)	11 (5.8)	1 (1.6)	0 -	2 (1.2)	2 (1.3)	0 -	0 -	0 -	25 (2.4)
6	3 (1.8)	2 (1.1)	1 (1.6)	0 -	0 -	0 -	0 -	0 -	0 -	6 (0.6)
7	0 -	0 -	0 -	0 -	0 -	0 -	0 -	1 (0.7)	0 -	1 (0.1)
Missing	1 (0.6)	0 -	1 (1.6)	0 -	0 -	0 -	0 -	0 -	0 -	2 (0.2)
LGBTQ+ Specific Factors										
HIV positive										
Yes	2 (1.2)	25 (13.2)	3 (4.8)	1 (2.2)	0 -	1 (0.6)	0 -	1 (0.7)	0 -	33 (3.1)

Factors	Cisgender Heterosexual men (n=169)	Cisgender Gay men (n=189)	Cisgender Bisexual men (n=62)	Transgender men (n=45)	Cisgender Heterosexual women (n=172)	Cisgender Lesbian women (n=154)	Cisgender Bisexual women (n=61)	Transgender women (n=144)	Gender diverse (n=66)	Overall (N=1062)
Availability of LGBTQ+ specific services-barrier to VA care	NA	3.33 (2.0)	2.89 (1.5)	4.93 (2.0)	NA	3.32 (2.0)	2.53 (1.0)	4.39 (2.3)	4.06 (2.2)	3.6 (2.1)
Mean (SD)										
Staff sensitivity and skills to LGBTQ+ issues-barrier to VA care	NA	2.03 (1.1)	1.9 (1.1)	2.51 (1.1)	NA	2.15 (1.1)	1.87 (1.0)	2.32 (1.1)	2.35 (1.1)	1.83 (1.1)
Mean (SD)										
Fitting in based on LGBTQ+ status-barrier to VA care	NA	1.61 (1.0)	1.56 (0.9)	2.51 (1.2)	NA	1.79 (1.1)	1.89 (1.2)	2.11 (1.2)	2.45 (1.2)	1.66 (1.1)
Mean (SD)										
Transgender Need Factors, n (%)										
Receipt of hormones										
Yes	0	0	0	37 (82.2)	0	0	0	128 (88.9)	9 (13.6)	174 (16.4)
Gender surgery										
Yes	0	0	0	29 (64.4)	0	0	0	62 (43.1)	4 (6.1)	95 (8.9)
Outcomes, n (%)										
VA past year any utilization										
Yes	113 (67.3)	100 (52.9)	38 (61.3)	36 (80.0)	107 (62.2)	92 (59.7)	36 (59.0)	87 (60.4)	35 (53.0)	644 (60.6)
VA past year mental health utilization										
Yes	34 (33.7)	54 (41.2)	17 (32.7)	28 (66.7)	49 (40.5)	44 (33.3)	19 (34.6)	47 (35.9)	20 (38.5)	312 (29.4)

Note.

^aRegression models (tables 2–6) were run for men and women separately and adjusted for subgroup.^bMinimal eligibility age was 18 but lowest self-reported age was 20.

Table 2

Predicted Prevalences (%) of VA Utilization for Women and Men and Gender Diverse Subgroups (N=1,062)*

Outcome	Women			
	Heterosexual (N=172)	Lesbian (N=154)	Bisexual (N=61)	Transgender (N=144)
VA past-year utilization % (95% CI)	62.5 (54.8–70.3)	59.7 (52.0–67.5)	59.7 (47.0–72.4)	60.2 (52.1–68.2)
VA past-year mental health or substance use treatment % (95% CI)	42.1 (32.6–51.7)	33.8 (25.7–41.9)	32.1 (19.7–44.5)	36.4 (28.2–44.7)
	Men			
	Heterosexual (N=169)	Gay (N=189)	Bisexual (N=62)	Transgender (N=45)
VA past-year utilization % (95% CI) ^{a,f,i,j}	65.6 (58.0–73.6)	53.4 (46.3–60.6)	62.8 (50.5–75.1)	80.5 (68.7–92.3)
VA past-year mental health or substance use treatment % (95% CI) ^{c,f,h,i,j}	33.5 (23.4–43.6)	42 (33.5–50.6)	33.3 (20.0–46.6)	65.3 (50.3–80.4)
				37.2 (23.8–50.7)

* Models were adjusted for age, race, and recruitment source and run separately for men and women subgroups with gender diverse participants included in each model

Note. Superscripts indicate significant pairwise differences at $p < .05$ between the following groups:

^a Heterosexual – Gay.

^b Heterosexual – Bisexual.

^c Heterosexual – Transgender.

^d Heterosexual – Gender diverse.

^e Gay – Bisexual.

^f Gay – Transgender.

^g Gay – Gender diverse.

^h Bisexual – Transgender.

ⁱ Bisexual – Gender diverse.

^j Transgender – Gender diverse.

Table 3

Odds ratios for VA Utilization-past year for women and Gender Diverse Subgroups (N=597)

	All women subgroups		LBTQ+ women subgroups		TQ+ subgroups	
Predisposing Factors						
Lesbian women	1.2	(0.6–2.5)	—		—	
Bisexual women	1.3	(0.5–3.2)	1.1	(0.4–3.0)	—	
Transgender women	1	(0.5–2.0)	0.6	(0.3–1.3)	—	
Gender diverse	1	(0.4–2.4)	0.7	(0.3–1.8)	1.2	(0.3–4.6)
Age	1.2	(1.0–1.4)	1.2	(0.9–1.5)	1.3	(0.9–1.9)
Race/Ethnicity						
Other	0.9	(0.5–1.9)	1	(0.4–2.6)	1.3	(0.4–4.5)
Hispanic	2.6	(1.0–7.1)	2.1	(0.6–7.7)	1.8	(0.4–8.3)
Recruitment source (ref: Facebook)						
Other	0.9	(0.5–1.7)	0.8	(0.3–1.9)	0.7	(0.2–2.6)
Trialfacts	1	(0.5–2.1)	1.4	(0.6–3.4)	1	(0.3–3.6)
COVID pandemic (ref: March 13, 2020, and earlier)	0.7	(0.4–1.2)	0.4	(0.2–0.9) [‡]	0.6	(0.2–2.1)
Global Influencing Factors						
Health insurance	[†]		[†]		[†]	
VA eligible	11.5	(6.6–20.0) [*]	17.8	(8.6–37.1) [*]	11.5	(4.6–28.7) [*]
Income	0.9	(0.8–0.9) [*]	0.9	(0.8–0.9) [*]	0.9	(0.8–1.0)
Employment	[†]		[†]		[†]	
Married or domestic partnership	[†]		[†]		[†]	
Eligibility and benefits-barrier to VA care	0.7	(0.7–0.8) [*]	0.7	(0.6–0.8) [*]	0.7	(0.6–0.8) [*]
Fitting in-barrier to VA care	[†]		[†]		[†]	
Staff sensitivity and skills-barrier to VA care	[†]		[†]		[†]	
Quality of care perception-barrier to VA care	[†]		[†]		[†]	
Availability of services-barrier to VA care	1.8	(1.4–2.4) [*]	2.1	(1.3–3.1) [*]	2.9	(1.6–4.9) [*]
Logistics-barrier to VA care	0.8	(0.8–0.9) [*]	0.8	(0.7–0.9) [*]	0.8	(0.7–0.9) [‡]
VA verbal harassment	2.7	(1.4–5.2) [*]	4.3	(1.8–10.1) [*]	3.2	(1.0–10.4)
Global Need Factors						
Mental health disorders (sum)	1.4	(1.1–1.8) [‡]	1.4	(1.0–1.9)	—	
Physical health comorbidities (sum)	[†]		[†]		[†]	
HIV positive	[†]		[†]		[†]	
LGBTQ+ Specific Factors						
Availability of LGBTQ+ specific services-barrier to VA care	—		1.2	(1.0–1.5)	—	
Staff sensitivity and skills to LGBTQ+ issues-barrier to VA care	—		0.6	(0.4–0.9) [‡]	0.9	(0.6–1.5)
Fitting in based on LGBTQ+ status-barrier to VA care	—		1.3	(0.9–1.9)	—	
Transgender Need Factors						

	All women subgroups	LBTQ+ women subgroups	TQ+ subgroups
Receipt of hormones	—	—	1 (0.2–4.0)
Gender surgery	—	—	0.7 (0.2–2.0)

* FDR-corrected p-value is significant at the 0.05 level

[†] Not significant in initial stepwise models using only Predisposing + Global Influencing factors or only Predisposing + Global Need Factors; therefore, not used in models on all women subgroups with Predisposing + Global Influencing and Need factors and subsequently not used in minority group models

[‡] Significant in regression model and not significant after correcting for type 1 error

— Variable not used in model

Table 4

Odds ratios for VA Utilization-past year for men and Gender Diverse Subgroups (N=531)

	All men subgroups		GBTQ+ men subgroups		TQ+ subgroups	
	Predisposing Factors					
Group						
Gay men	0.7	(0.4–1.4)	—		—	
Bisexual men	0.7	(0.3–2.0)	0.9	(0.3–2.2)	—	
Transgender men	0.9	(0.2–3.2)	0.9	(0.2–3.3)	—	
Gender diverse	0.6	(0.2–1.5)	0.6	(0.2–1.4)	1.5	(0.1–17.0)
Age	1.1	(0.9–1.4)	1.2	(0.9–1.6)	2.2	(1.1–4.4) [‡]
Race/Ethnicity						
Other	1.0	(0.4–2.2)	0.7	(0.2–2.0)	1.0	(0.1–8.5)
Hispanic	0.6	(0.2–1.3)	0.7	(0.2–2.0)	4.9	(0.3–86.4)
Recruitment source (ref: Facebook)						
Other	1.1	(0.6–2.2)	1.6	(0.6–4.0)	3.4	(0.3–42.5)
Trialfacts	1.1	(0.5–2.5)	1.2	(0.5–3.2)	1.7	(0.1–26.8)
COVID pandemic (ref: March 13, 2020, and earlier)	0.8	(0.4–1.4)	1.1	(0.5–2.5)	3.2	(0.4–26.4)
	Global Influencing Factors					
Health insurance	[†]		[†]		[†]	
VA eligible	11	0 (6.0–20.2) [*]	12.1	(5.6–26.0) [*]	24.6	6 (2.7–224.6) [‡]
Income	0.9	(0.8–1.0) [*]	0.9	(0.8–1.0) [‡]	0.8	(0.7–1.0)
Employment	[†]		[†]		[†]	
Married or domestic partnership	[†]		[†]		[†]	
Eligibility and benefits-barrier to VA care	0.7	(0.6–0.7) [*]	0.6	(0.5–0.7) [*]	0.6	(0.4–0.8) [*]
Fitting in-barrier to VA care	[†]		[†]		[†]	
Staff sensitivity and skills-barrier to VA care	[†]		[†]		[†]	
Quality of care perception-barrier to VA care	[†]		[†]		[†]	
Availability of services-barrier to VA care	2.2	(1.5–3.2) [*]	2.1	(1.3–3.3) [*]	3.8	(1.3–10.7) [‡]
Logistics-barrier to VA care	0.8	(0.8–0.9) [*]	0.8	(0.8–0.9) [*]	0.8	(0.6–1.1)
VA verbal harassment	3.3	(1.3–8.6) [‡]	2.6	(0.8–7.8)	—	
	Global Need Factors					
Mental health disorders (sum)	1.7	(1.3–2.3) [*]	2	(1.4–2.8) [*]	2	(0.9–4.3)
Physical health cobmorbidities (sum)	1.2	(1.0–1.5)	—		—	
HIV positive	2.4	(0.7–9.0)	—		—	
	LGBTQ+ Specific Factors					
Availability of LGBTQ+ specific services-barrier to VA care	—		1.1	(0.9–1.4)	—	
Staff sensitivity and skills to LGBTQ+ issues-barrier to VA care	—		0.7	(0.4–1.1)	—	
Fitting in based on LGBTQ+ status-barrier to VA care	—		1.5	(1.0–2.3)	—	

	All men subgroups	GBTQ+ men subgroups	TQ+ subgroups
Transgender Need Factors			
Receipt of hormones	—	—	0.6 (0.1–5.7)
Gender Surgery	—	—	10.3 (0.6–180.2)

* FDR-corrected p-value is significant at the 0.05 level

[†] Not significant in initial stepwise models using only Predisposing + Global Influencing factors or only Predisposing + Global Need Factors; therefore, not used in models on all men subgroups with Predisposing + Global Influencing and Need factors and subsequently not used in minority group models

[‡] Significant in regression model and not significant after correcting for type 1 error

— Variable not used in model

Table 5

Odds ratios for VA mental health or substance use treatment-past year for women and Gender Diverse Subgroups (N=597)

	All women subgroups		LBTQ+ women subgroups	
	Predisposing Factors			
Group				
Lesbian women	0.7	(0.4–1.4)	—	
Bisexual women	0.8	(0.4–1.9)	1	(0.4–2.3)
Transgender women	1	(0.5–1.8)	1.4	(0.8–2.6)
Gender diverse	1.1	(0.5–2.6)	1.5	(0.6–3.5)
Age	1	(0.9–1.2)	1	(0.8–1.3)
Race/Ethnicity				
Other	1	(0.6–1.9)	0.9	(0.4–2.0)
Hispanic	1.7	(0.8–3.6)	1.6	(0.6–4.2)
Recruitment source (ref: Facebook)				
Other	0.9	(0.5–1.6)	1	(0.5–2.2)
Trialfacts	0.9	(0.5–1.8)	1.1	(0.5–2.3)
COVID pandemic (ref: March 13, 2020, and earlier)	0.9	(0.5–1.5)	0.8	(0.4–1.8)
	Global Influencing Factors			
Health insurance	†		†	
VA eligible	6.2	(3.4–11.5) *	7.5	(3.6–15.4) *
Income	0.9	(0.9–1.0) ‡	0.9	(0.9–1.0)
Employment	†		†	
Married or domestic partnership	†		†	
Eligibility and benefits-barrier to VA care	†		†	
Fitting in-barrier to VA care	†		†	
Staff sensitivity and skills-barrier to VA care	†		†	
Quality of care perception-barrier to VA care	†		†	
Availability of services-barrier to VA care	†		†	
Logistics-barrier to VA care	†		†	
VA verbal harassment	1.4	(0.8–2.2)	—	
	Global Need Factors			
Mental health disorders (sum)	1.6	(1.3–1.9) *	1.7	(1.3–2.2) *
	LGBTQ+ Specific Factors			
Availability of LGBTQ+ specific services-barrier to VA care	—		1	(0.8–1.2)
Staff sensitivity and skills to LGBTQ+ issues-barrier to VA care	—		0.6	(0.4–0.9) ‡
Fitting in based on LGBTQ+ status-barrier to VA care	—		1.1	(0.8–1.5)

* FDR-corrected p-value is significant at the 0.05 level

[†]Not significant in initial stepwise models using only Predisposing + Global Influencing factors or only Predisposing + Global Need Factors; therefore, not used in models on all women subgroups with Predisposing + Global Influencing and Need factors and subsequently not used in minority group models

[#]Significant in regression model and not significant after correcting for type 1 error

— Variable not used in model

Table 6

Odds ratios for VA mental health or substance use treatment-past year for men and Gender Diverse Subgroups (N=531)

	All men subgroups		GBTQ+ men subgroups		
	Predisposing Factors				
Group ^{c,h}					
Gay men	2.6	(1.3–5.2) [‡]	—		
Bisexual men	1.4	(0.6–3.5)	0.5	(0.2–1.2)	
Transgender men	6.4	(2.4–17.3) [*]	2	(0.8–5.3)	
Gender diverse	2.6	(1.0–6.6)	0.8	(0.3–2.0)	
Age	1	(0.9–1.3)	1	(0.8–1.3)	
Race/Ethnicity					
Other	1	(0.4–2.2)	0.6	(0.2–1.8)	
Hispanic	0.9	(0.3–2.1)	0.7	(0.2–2.1)	
Recruitment source (ref: Facebook)					
Other	0.8	(0.4–1.7)	0.7	(0.3–1.8)	
Trialfacts	0.9	(0.4–2.0)	0.8	(0.3–2.0)	
COVID pandemic (ref: March 13, 2020, and earlier)	0.6	(0.3–1.2)	0.8	(0.3–2.0)	
	Global Influencing Factors				
Health insurance	[†]		[†]		
VA eligible	7.5	(3.4–16.5) [*]	7.4	(3.0–18.3) [*]	
Income	[†]		[†]		
Employment	[†]		[†]		
Married or domestic partnership	[†]		[†]		
Eligibility and benefits-barrier to VA care	0.8	(0.7–0.9) [*]	0.7	(0.6–0.8) [*]	
Fitting In-barrier to VA care	[†]		[†]		
Staff sensitivity and skills-barrier to VA care	[†]		[†]		
Quality of care perception-barrier to VA care	[†]		[†]		
Availability of services-barrier to VA care	[†]		[†]		
Logistics-barrier to VA care	[†]		[†]		
VA verbal harassment	[†]		[†]		
	Global Need Factors				
Mental health disorders (sum)	2.2	(1.7–2.9) [*]	2.4	(1.7–3.3) [*]	
	LGBTQ+ Specific Factors				
Availability of LGBTQ+ specific services-barrier to VA care	—		1.1	(0.9–1.4)	
Staff sensitivity and skills to LGBTQ+ issues-barrier to VA care	—		0.6	(0.4–0.9) [‡]	
Fitting in based on LGBTQ+ status-barrier to VA care	—		1.6	(1.1–2.4) [‡]	

Note.

-Superscripts indicate significant pairwise differences at $p < .05$ between the following groups:

^a Heterosexual – Gay.

^b Heterosexual – Bisexual.

^c Heterosexual – Transgender.

^d Heterosexual – Gender diverse.

^e Gay – Bisexual.

^f Gay – Transgender.

^g Gay – Gender diverse.

^h Bisexual – Transgender.

ⁱ Bisexual – Gender diverse.

^j Transgender – Gender diverse.

-Models were adjusted for age, race, and recruitment source

* FDR-corrected p-value is significant at the 0.05 level

[†] Not significant in initial stepwise models using only Predisposing + Global Influencing factors or only Predisposing + Global Need Factors; therefore, not used in models on all men subgroups with Predisposing + Global Influencing and Need factors and subsequently not used in minority group models

[‡] Significant in regression model and not significant after correcting for type 1 error

— Variable not used in model