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Transgender And Cisgender US Veterans Have Few Health Differences

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ABSTRACT Transgender people have been able to serve openly in the military since June 2016. However, the administration of President Donald Trump has signaled its interest in reinstating a ban on transgender military service. In March 2018 President Trump issued a revised memorandum that stated, in part, that people with a “history or diagnosis of gender dysphoria” who “may require substantial medical treatment, including medications and surgery—are disqualified from military service except under certain limited circumstances.” Whether and how the health of transgender service members differs from that of cisgender service members (that is, those who identify with their sex assigned at birth) is largely unknown. This study used population-level data for 2014–16 from the Behavioral Risk Factor Surveillance System to compare the health of transgender and cisgender veterans and civilians. An estimated 0.5 percent of veterans in the sample identified themselves as transgender. While transgender civilians had worse health than cisgender civilians across most indicators, very few differences existed among veterans. However, transgender veterans had higher odds of having at least one disability compared to cisgender veterans, despite similar levels of access to health care. These findings largely suggest that transgender veterans do not have worse health than cisgender veterans.

From the 1960s until recently, transgender people were prohibited from serving openly in the US military.¹ On June 30, 2016, Ashton Carter, then secretary of defense in the administration of Barack Obama, lifted the ban and proposed a phased implementation plan that included the accession of transgender recruits by July 2017.² Following the change in administration after the election of Donald Trump, in June 2017 Defense Secretary James Mattis delayed the accession until January 2018.³ In a memo dated August 25, 2017, President Donald Trump directed the Pentagon to reinstate the ban.⁴ Yet the US Court of Appeals for the D.C. Circuit determined that accession must contin-

ue, and openly transgender individuals have been able to enlist since January 1, 2018.⁵ In March 23, 2018, a presidential memorandum replaced the August 2017 memo, stating intent to reinstate the ban.⁶ The cover memo from Secretary Mattis on a subsequent Department of Defense report asserted that the proposed ban is based on evidence that “there are substantial risks associated with allowing the accession and retention of individuals with a history or diagnosis of gender dysphoria and require, or have already undertaken, a course of treatment to change their gender.”⁷ The report stated that “exempting such persons from well-established mental health, physical health, and sex-based standards, which apply to all Service members,

including transgender Service members without gender dysphoria, could undermine readiness, disrupt unit cohesion, and impose an unreasonable burden on the military that is not conducive to military effectiveness and lethality.⁷ Nonetheless, transgender retention and recruitment will continue until the courts make a decision about enforcement of the ban.

The Obama administration policy to allow open military service was informed, at least in part, by reports from nonpartisan sources stating that prohibiting transgender people from serving was not grounded in medical or scientific reasoning, issues of military readiness, or the cost of providing this population with health care.^{8,9} These reports, along with several other studies on active and former transgender service members, relied on clinical and community-based samples^{10–13} because population-level data were not yet available. The current attention to US military policy on transgender military service, including a Veterans Health Administration (VHA) directive supporting “the respectful delivery of health care to transgender and intersex Veterans who are enrolled in the Department of Veterans Affairs (VA) health care system or are otherwise eligible for VA care,”¹⁴ underscores the importance of population-level research on the demographic and health characteristics of transgender adults who have served in the military.

Given the relatively short period of time during which transgender people have been able to serve openly in the US military,² and the lack of systematic data collection about assigned sex at birth and current gender identity in military personnel systems, information about transgender military personnel is quite limited. Population-level research on veterans is therefore critical to advancing our knowledge about transgender military service. Fundamental details about transgender veterans, many of whom likely concealed their gender identity during their service,¹⁵ have been largely absent from national surveillance, leaving unanswered questions about the size of the population and how their demographic and health characteristics compare to those of cisgender veterans and transgender civilians.

Findings from prior research using clinical samples and nonprobability survey samples suggest that transgender people serve in the military at rates higher than the general population.^{12,16,17} Using data for 2008–09 from the community-based National Transgender Discrimination Survey on the prevalence of military service, coupled with transgender population estimates from the Massachusetts Behavioral Risk Factor Surveillance System (BRFSS) and the California Lesbians, Gays, Bisexuals, and Transgender Tobac-

co Survey, Gary Gates and Jody Herman estimated that 0.6 percent of adults who report service in the armed forces are transgender.¹² Their estimates suggest that transgender people are about twice as likely to have served in the armed forces than the general population, with transgender people assigned female at birth nearly three times as likely to serve as cisgender women. Jillian Shipherd and colleagues found three times the rate of military service among transgender women compared to the general population.¹⁶ In a study of information for the period 2000–11 from electronic health records (EHRs) in the VHA national database, John Bloisnich and colleagues found that the prevalence of *International Classification of Diseases* (ICD) diagnoses of gender dysphoria, formerly diagnosed as a “gender identity disorder,” was five times higher among VHA patients than among the US general population.¹⁷

Population-based studies have reported poorer mental and physical health¹⁸ and higher rates of smoking and poverty¹⁹ among transgender versus cisgender adults. Research using EHRs of veterans with a gender identity disorder diagnosis who received care in VHA facilities found higher prevalence of suicide risk;¹⁷ housing instability, financial strain, and sexual trauma;²⁰ and involvement with the criminal justice system, depression, hypertension, obesity, and poor mental health, compared to veterans without such a diagnosis.^{21,22} These studies excluded transgender people who did not have a gender identity disorder diagnosis or who sought care outside of the VHA system, and such people may have different health and health care needs from those included in the VHA research. Descriptive research using nonprobability data from the National Transgender Discrimination Survey found that a higher proportion of transgender veterans experienced job loss, eviction, and refusal of medical treatment due to discrimination, compared to transgender civilians.²³

What appears across this body of research is the suggestion of poorer health for transgender adults compared to cisgender adults, both in the general population and among veterans. However, because of the absence of probability-based research about transgender people who have served in the military, it is unclear whether observed patterns are generalizable. Some research suggests that racial differences in health outcomes are smaller among military service members and their families, compared to the civilian population—perhaps due in part to improved access to health care.²⁴ We hypothesized that transgender veterans would have poorer health than cisgender veterans, but that more differences in health would be observed between trans-

gender and cisgender civilians. This study fills an important gap by estimating the prevalence of transgender military service in a large, multi-state population-based survey sample.

Study Data And Methods

DATA We used data for 2014–16 from the BRFSS, a nationally representative annual survey led by the Centers for Disease Control and Prevention (CDC) that collects state-level data on health, behavioral risk factors, and sociodemographic characteristics of noninstitutionalized adults. Each year each state administers a set of core, optional, and state-added modules via interviewer-administered telephone (landline and cellular) surveys. The BRFSS median response rates for landline and cellular phones, respectively, were 48.7 percent and 40.5 in 2014, 48.2 percent and 47.2 percent in 2015, and 47.7 percent and 46.4 percent in 2016.

STUDY SAMPLE Our study sample included respondents who resided in the thirty-one states and one US territory²⁵ that administered the optional sexual orientation and gender identity module provided by the CDC at least once in the period 2014–16 (see online appendix exhibit A1).²⁶ The module was administered in ten states for all three years, in thirteen states and one territory for only two years, and in eight states for only one year. The module asks respondents if they consider themselves to be transgender and, if they answer in the affirmative, to select one of the following response options: “transgender, male-to-female,” “transgender, female-to-male,” or “transgender, gender nonconforming.”²⁷ Definitions of the terms *transgender* and *gender nonconforming* were provided as needed. Respondents could also report that they did not know or were not sure, or they could refuse to answer.

There were significant differences between respondents in states that did and did not administer the module, but these differences were substantively very small (appendix exhibit A2).²⁶ Therefore, findings from our sample of the thirty-one states and one territory may be generalizable to the larger United States.

MEASURES Transgender respondents included respondents who indicated that they were male-to-female, female-to-male, and gender nonconforming. Cisgender respondents included men and women who reported that they were not transgender.

We identified respondents as veterans if they answered in the affirmative to the question, “Have you ever served on active duty in the United States Armed Forces, either in the regular military or in a National Guard or military re-

serve unit?” The BRFSS does not collect data about era or branch of service. There was no difference between transgender and cisgender respondents in the proportion whose veteran status was missing or who refused to identify veteran status, consistent with prior findings.²⁸

In 2014–15 the sex of the respondent was determined by the interviewer according to the sound of the respondent’s voice. In 2016 sex was determined by asking the respondent, “Are you male or female?”

Demographic characteristics collected included age (18–34, 35–44, 45–54, 55–64, or 65 and older), race or ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, or other or multiple), educational attainment (did not graduate from high school, high school graduate, attended college or technical school, or college or technical school graduate), annual income (less than \$15,000, \$15,000–\$24,999, \$25,000–\$34,999, \$35,000–\$49,999, or \$50,000 or more), employment status (employed, unemployed, retired, not looking for work, or unable to work), marital status (married or partnered; divorced, separated, or widowed; or never married), presence of children in the household (yes or no), and sexual orientation (heterosexual, lesbian, gay, or bisexual).

Three behaviors related to health were examined: heavy episodic drinking (defined as having four [for females] or five [for males] or more drinks on at least one occasion in the past thirty days), current smoking (smoking cigarettes every day or some days), and no exercise (not doing any physical activity or exercise other than that involved in their regular job during the past thirty days).

Three measures of health care use were created: had a routine primary care visit in the past year, had a primary care provider, and delayed accessing medical care because of cost.

We included four dummy variables for health-related quality-of-life measures from the Healthy Days Core Module in BRFSS: fair or poor health, frequent poor physical health (fourteen or more poor physical health days in the prior thirty days), frequent mental distress (fourteen or more poor mental health days in the past thirty days), and frequent limitations (fourteen or more days during which poor physical or mental health led to activity restrictions in the past thirty days).

Respondents were asked whether they had at least one of five disability types: vision (being blind or serious difficulty seeing), self-care (difficulty dressing or bathing), mobility serious difficulty walking or climbing stairs), cognition (serious difficulty concentrating, remembering, and making decisions), or independent living

(difficulty doing errands alone, such as visiting a doctor's office or shopping).

Respondents were considered to have multiple chronic conditions if they reported having two or more of the following conditions: coronary heart disease or myocardial infarction, asthma, arthritis, diabetes (excluding diabetes during pregnancy), cancer (excluding skin cancer), stroke, chronic obstructive pulmonary disease, emphysema, chronic bronchitis, or kidney disease. Respondents were classified as having a depressive disorder if they reported ever having been told by a health care provider that they had such a disorder.

STATISTICAL ANALYSES First, the BRFSS data for 2014–16 were pooled across states and over time and reweighted to make the sample representative of the thirty-one states and one territory that administered the sexual orientation and gender identity module at least once during that time period (leaving 525,671 respondents). To accomplish this, each survey weight in each year was multiplied by the number of all respondents surveyed in that year and then divided by the number of respondents surveyed during the time period for each state.

Next, we excluded the 641 (0.12 percent) respondents who did not answer the question about veteran status, the 2,964 (0.56 percent) who did not know or were not sure about their gender identity, the 4,281 (0.81 percent) who refused to answer the gender identity question, and the 370 (0.07 percent) with a missing response on the gender identity item. The excluded respondents, compared to included respondents, were more likely to be older, less educated, less likely to be married or partnered, and less likely to be white. (For demographic characteristics of respondents by responses to the question, “Do you consider yourself to be transgender?,” see appendix exhibit A3.)²⁶ This resulted in an analytic sample of 517,539 respondents: 320 transgender veterans, 1,898 transgender civilians, 66,677 cisgender veterans, and 448,644 cisgender civilians.

We then estimated the prevalence of transgender respondents among veterans and civilians. Descriptive statistics were estimated for transgender and cisgender veterans and civilians, and Pearson chi-square tests were used to compare differences in proportions between groups. Next, we estimated the weighted prevalence and odds of each health outcome using logistic regression models, comparing transgender to cisgender people among veterans and civilians. We controlled for factors that were believed to influence both the probability of the outcome and that of identifying as a veteran. These included sex (male or female), age, race or ethnicity, and state

or territory of residence.

All analyses were conducted in September 2017, using Stata version 13 svy commands to address design characteristics and incorporate sampling weights.

LIMITATIONS This study had several limitations. First, the population of transgender veterans is relatively small, which may have reduced the study's statistical power to detect between-group differences.

Second, veteran status was self-reported and could not be corroborated with official records that typically define veteran status.

Third, although some active-duty personnel were included in the survey, people currently on active duty were not accurately represented because people living on US military bases are considered to be part of an institutionalized population.

Fourth, this study sample included only thirty-one of the fifty states. However, as the demographic characteristics of the respondents in the states that did and those that did not administer the sexual orientation and gender identity module were similar, this study may be representative of the US population.

Fifth, as is the case with other survey instruments, many of the BRFSS questions could be subject to measurement error and prone to recall bias (for instance, questions with a twelve-month recall time frame).

Sixth, before 2016, a respondent's sex could be assumed and input by the interviewer, which could have introduced misclassification bias among transgender respondents in the male/female demographic gender variable.²⁹

Seventh, the way in which transgender identity was assessed may have excluded some gender-minority people or classified them as cisgender (for instance, if they did not identify with the terms *male-to-female*, *female-to-male*, and *gender nonconforming*), biasing results toward the null.

Study Results

An estimated 0.05 percent (95% confidence interval: 0.038, 0.065) of the multistate sample in 2014–16 identified as transgender and veteran, which would translate to 163,100 (124,000–212,000) people based on a US population size of 326.2 million (see appendix exhibit A4).²⁶ Approximately 10.4 percent (95% CI: 8.0, 13.4) of all transgender people and 10.1 percent (95% CI: 10.0, 10.3) of cisgender people identified as veterans (appendix exhibit A5).²⁶

The prevalence of veteran status across transgender identity groups was statistically undifferentiated: 11.0 percent (95% CI: 8.6, 14.0) of male-to-female people, 7.9 percent (95% CI:

3.1, 18.7) of female-to-male people, and 12.2 percent (95% CI: 7.6, 19.0) of gender-nonconforming people identified as veterans. Among cisgender respondents, 19.2 percent (95% CI: 18.6, 19.5) of males and 1.7 percent (95% CI: 1.6, 1.9) of females identified as veterans (appendix exhibit A5).²⁶

DIFFERENCES AMONG VETERANS BY TRANSGENDER STATUS Compared to cisgender veterans, a higher proportion of transgender veterans were high school graduates or less; had an income of less than \$15,000; were Hispanic, ages 18–34, and not married or partnered; and identified as lesbian, gay, or bisexual (exhibit 1). The two groups looked similar in terms of employment, presence of a child in the household, and insurance status. Transgender veterans had a higher unadjusted prevalence of mental distress, at least one disability, and depression, compared to cisgender veterans (exhibit 2). Transgender veterans had 1.64 higher adjusted odds of having at least one disability compared to cisgender veterans (exhibit 3). However, no significant ($p < 0.05$) differences were observed in odds of all other health outcomes.

DIFFERENCES AMONG CIVILIANS BY TRANSGENDER STATUS Differences in demographic characteristics between transgender and cisgender civilians were similar to differences within the veteran population, except that a lower proportion of transgender civilians were employed and had health insurance compared to cisgender civilians (exhibit 1). Transgender civilians had a higher prevalence of nearly all health outcomes except for heavy episodic drinking and multiple chronic conditions, compared to cisgender civilians (exhibit 2). Transgender civilians had greater adjusted odds of having no exercise, poor quality of life (across all four health-related quality-of-life measures), and at least one disability; not receiving primary care in the past year; delaying care because of cost; and having multiple chronic conditions and depression, compared to cisgender civilians (exhibit 3).

Discussion

There are an estimated 163,000 transgender veterans in the United States. Contrary to prior studies that report an overrepresentation of transgender people in the military,¹² our study found no difference in the overall proportion of veterans among transgender and cisgender respondents. However, we observed stark differences in veteran status among transgender people when we compared them according to sex assigned at birth. Transgender people assigned male at birth were less likely to be veterans than cisgender males (11.0 percent versus 19.2 per-

cent). Transgender people assigned female at birth were nearly five times more likely to be veterans than cisgender females (7.9 percent versus 1.7 percent).

Our estimates of transgender military service are similar to one prior estimate that relied upon nonprobability data from the National Transgender Discrimination Survey,¹² but they likely vary from prior nonprobability studies because of differences in sampling methods. And while we believe that our probability-based estimates are an improvement over most prior research, our findings may be underestimated for at least two reasons. First, the BRFSS is designed to sample noninstitutionalized adults. Transgender people—particularly transgender male-to-female veterans—have high rates of incarceration³⁰ and homelessness.²¹ Second, the survey is conducted by telephone. The risk of housing instability along with elevated rates of poverty of transgender people may have reduced their ownership of and access to cellular or landline telephones. Consequently, it is unclear how or if the most marginalized members of the transgender population are represented in the BRFSS, which may result in a “healthier” sample. Further research is needed to test the true representation of minority populations in federal health surveillance surveys.

We hypothesized that transgender veterans would have worse health than cisgender veterans and that more differences based on gender identity would be observed in the civilian population. In contrast to our primary hypothesis and prior research, we found few differences in health among veterans. Transgender veterans were more likely to have at least one disability compared to cisgender veterans, but no other significant differences were observed.

Consistent with our secondary hypothesis, we found that across most health indicators, transgender civilians were more disadvantaged compared to cisgender civilians. The few differences observed among veterans might be explained by the nature of the veteran population, which might be more resilient and homogeneous in health due to both military enlistment and active-duty screening criteria and the controlled military environment and training (for instance, structured food availability, regular exercise, and social support), known as the “healthy soldier effect.”^{31–33} Thus, it is possible that military service improves transgender health to the extent that common health disparities detected between transgender and cisgender people in the civilian population are not as pronounced among transgender and cisgender current and former military populations. This highlights the importance of military service as a potentially

EXHIBIT 1
Demographic characteristics of the study sample by veteran status and gender identity

	Veteran (%)			Civilian (%)		
	Transgender (320, 0.5%)	Cisgender (66,677, 98.1%)	p value	Transgender (1,898, 0.5%)	Cisgender (448,644, 98.2%)	p value
Male	79.5	91.1	0.06	56.1	43.2	<0.001
Female	20.5	8.9		43.9	56.8	
RACE/ETHNICITY						
Non-Hispanic white	56.7	75.0	0.06	53.0	61.5	0.03
Non-Hispanic black	14.5	11.2		14.1	10.5	
Hispanic	17.5	6.9		20.5	17.7	
Other or multiple	6.2	3.4		8.4	7.3	
AGE GROUP (YEARS)						
18-34	25.3	11.8	0.03	38.0	30.0	<0.001
35-44	6.6	9.6		18.9	17.0	
45-54	17.4	15.4		13.4	18.2	
55-64	18.8	17.4		16.9	17.4	
65 and older	31.8	45.8		12.9	17.4	
EDUCATION						
Less than high school	10.3	5.8	0.06	26.2	15.1	<0.001
Graduated from high school	41.2	29.5		33.5	27.8	
Attended college	32.8	38.3		27.2	30.2	
Graduated from college	15.6	26.2		12.6	26.6	
ANNUAL INCOME						
Less than \$15,000	21.0	4.9	<0.001	19.0	9.9	<0.001
\$15,000-\$24,999	17.5	11.5		19.9	14.0	
\$25,000-\$34,999	7.5	9.9		12.3	8.7	
\$35,000-\$49,999	16.0	15.2		8.3	11.3	
\$50,000 or more	27.5	48.0		26.6	41.4	
EMPLOYMENT						
Employed	43.6	45.0	0.15	53.6	58.2	<0.001
Unemployed	4.1	3.6		9.7	5.7	
Not looking for work	2.5	2.9		11.9	13.3	
Retired	37.1	42.5		12.1	15.4	
Unable to work	12.4	5.5		10.9	6.7	
MARITAL STATUS						
Married or partnered	49.3	64.9	0.04	45.8	55.1	<0.001
Divorced, widowed, separated	25.8	24.1		18.7	19.6	
Never married	24.9	10.7		34.6	24.8	
CHILD IN HOUSEHOLD						
No	82.4	76.9	0.48	63.4	60.9	0.55
Yes	17.6	22.8		36.1	38.6	
SEXUAL ORIENTATION						
Heterosexual	65.2	96.2	<0.001	64.5	93.3	<0.001
Lesbian or gay	16.5	1.2		9.4	1.7	
Bisexual	12.3	1.3		13.8	2.0	
INSURANCE STATUS						
Insured	91.7	94.7	0.21	80.6	87.7	<0.001
Uninsured	8.2	5.0		17.6	11.8	

SOURCE Authors' analysis of data for 2014-16 from the Behavioral Risk Factor Surveillance System. **NOTES** The category of missing data for each variable was excluded, and thus some percentages do not sum to 100. Sampling weights were used; see the text for details. For significance, Pearson chi-square tests were used; see the text for details.

independent social determinant of health.

Additionally, few health differences based on gender identity among veterans could be attributed to access to health insurance and health care. In this study, transgender civilians (but

not veterans) were less likely to have health insurance and be employed compared to their cisgender peers. This is consistent with prior research showing that veterans are more likely to have health insurance, a regular provider of

EXHIBIT 2

Health indicators, behaviors, and use of health care in the study sample, by veteran status and gender identity

	Veteran (%)			Civilian (%)		
	Transgender	Cisgender	p value	Transgender	Cisgender	p value
HEAVY EPISODIC DRINKER						
Yes	14.6	14.2	0.72	15.8	15.9	0.96
No	80.6	82.5		80.5	80.6	
CURRENT SMOKER						
Yes	26.4	16.5	0.24	19.6	15.8	0.01
No	71.6	82.1		79.7	82.2	
NO EXERCISE						
Yes	22.3	24.7	0.79	35.1	24.3	<0.001
No	77.7	75.1		63.9	75.5	
FAIR OR POOR HEALTH						
Yes	25.9	19.2	0.14	21.7	17.4	0.02
No	73.9	80.6		78.0	82.3	
POOR PHYSICAL HEALTH						
Yes	14.5	14.4	0.11	14.8	11.4	<0.001
No	80.7	83.9		81.7	86.9	
MENTAL DISTRESS						
Yes	16.8	8.7	0.01	21.0	11.1	<0.001
No	82.3	89.8		76.9	87.4	
LIMITATIONS						
Yes	15.5	9.1	0.19	13.1	7.7	<0.001
No	37.0	36.9		45.6	44.9	
AT LEAST 1 DISABILITY						
Yes	38.0	26.2	0.03	35.5	21.5	<0.001
No	62.0	73.8		64.5	78.5	
NO PRIMARY CARE VISIT WITHIN PAST 12 MONTHS						
Yes	17.6	19.2	0.34	28.8	28.9	<0.001
No	79.7	79.8		65.4	68.8	
DELAYED CARE DUE TO COST						
Yes	12.9	6.9	0.19	22.8	13.0	<0.001
No	87.1	92.9		76.5	86.8	
NO PRIMARY CARE PROVIDER						
Yes	13.6	14.7	0.23	28.3	20.8	<0.001
No	84.8	84.9		70.6	78.7	
DEPRESSION						
Yes	23.3	15.1	0.05	29.4	17.1	<0.001
No	75.7	84.5		68.6	82.4	
2 OR MORE CHRONIC CONDITIONS						
Yes	40.0	34.2	0.46	26.1	22.6	0.14
No	60.0	65.8		73.9	77.4	

SOURCE Authors' analysis of data for 2014–16 from the Behavioral Risk Factor Surveillance System.

NOTES The category of missing data for each variable was excluded, and thus some percentages do not sum to 100. Sampling weights were used; see the text for details. For significance, Pearson chi-square tests were used; see the text for details. Disabilities are explained in the text.

care, and no barriers to cost compared to civilians.^{34,35} However, prior studies have not considered costs related to a broad range of gender-affirming services.

Alternatively, the limited number of health differences observed in the veteran population could be attributed to high rates of suicide-related events (that is, a survival bias)¹⁷ or attrition,

including discharge,³⁶ from the military. Transgender veterans may represent a particularly resilient subset of transgender people.

Our results differ from VHA EHR studies^{17,20,21,37} for several reasons. First and most important, our study used self-reported gender identity, and VHA studies have used proxy definitions of transgender status through ICD diagnosis codes. Despite the great strides made by the VHA to improve transgender health care,³⁸ transgender veterans might not seek care at the VHA, or they might not have a diagnosis related to gender identity disorder. Second, our analysis used representative samples of adults, and EHR studies, by their nature, are of nonprobability clinical populations. Thus, EHR-based samples would likely have magnified health disparities because they contain only people seeking medical care.³⁹ Therefore, it is not surprising that our results diverge from those of VHA studies that show pronounced health disparities between transgender and cisgender veterans. Our study—which fills a gap by examining a population-based, multistate sample of transgender veterans—complements evidence from VHA studies on transgender veterans' health.

This study shows that transgender veterans differ from cisgender veterans in many demographic and economic factors. Transgender veterans had higher rates of poverty and less education and were less likely to be married or partnered, compared to cisgender veterans. Despite these demographic factors that can increase risk of poor health, transgender veterans differed only on the probability of having at least one disability.

Public policy regarding transgender military service should take two points into account: that transgender veterans seem to have few differences in health compared to cisgender veterans, and that transgender people on active duty report fewer lifetime mental and physical health problems compared to transgender veterans.¹⁵ Unless none of the transgender veterans in this sample had a gender dysphoria diagnosis, our findings do not substantiate the current administration's concerns about transgender readiness as a result of any "mental health problems associated with gender dysphoria."⁷

Future research examining age at transition, outness, levels of acceptance among commanding officers and fellow soldiers, and intersectional identities such as race/ethnicity⁴⁰ is needed to provide more context for these results. Finally, research is urgently required to understand the determinants of disability that are less likely to be attenuated by military service, including exposure to combat and other occupational hazards.

EXHIBIT 3

Odds of transgender veterans and civilians having selected health indicators, behaviors, and use of health care, compared to cisgender veterans and civilians

	Veterans		Civilians	
	Adjusted OR	95% CI	Adjusted OR	95% CI
HEALTH BEHAVIOR				
Heavy episodic drinking	0.815	0.397, 1.672	0.817	0.605, 1.102
Current smoker	0.760	0.419, 1.379	1.248*	0.960, 1.624
No exercise	0.814	0.496, 1.337	1.630****	1.274, 2.086
HEALTH-RELATED QUALITY-OF-LIFE MEASURES				
Poor or fair health	1.556*	0.962, 2.518	1.766****	1.352, 2.306
Frequent poor physical health	0.726	0.429, 1.229	1.606****	1.233, 2.091
Frequent poor health limited activities	0.960	0.467, 1.972	1.842***	1.221, 2.779
Frequent mental distress (≥14 days)	1.778	0.853, 3.707	2.356****	1.728, 3.211
At least 1 disability	1.636**	1.050, 2.550	2.495****	1.928, 3.229
HEALTH CARE ACCESS AND SERVICES				
No primary care visit in past year	0.776	0.339, 1.774	0.767**	0.601, 0.979
No visit because of cost	1.039	0.487, 2.215	1.647****	1.169, 2.322
No primary health care provider	1.085	0.511, 2.301	1.029	0.748, 1.414
CHRONIC CONDITIONS				
Multiple chronic conditions	1.116	0.700, 1.780	1.670****	1.284, 2.171
Diagnosed depression	0.961	0.553, 1.672	2.652****	2.045, 3.440

SOURCE Authors' analysis of data for 2014–16 from the Behavioral Risk Factor Surveillance System. **NOTES** Each row represents a single model, adjusted for age, race, health insurance, sex, and state (territory) of residence. OR is odds ratio. CI is confidence interval. **p* < 0.10 ***p* < 0.05 ****p* < 0.01 *****p* < 0.001

Conclusion

This study offers new population-level evidence that there are few health differences between transgender veterans and cisgender veterans. Our data suggest that transgender people serve at similar rates compared to cisgender people.

These findings provide a unique snapshot of transgender veterans' health that adds to prior evidence using clinical data and samples of transgender civilians. More nationally representative research is needed on transgender veterans to inform readiness policies. ■

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