

Original Investigation

Barriers to Care Among Transgender and Gender Nonconforming Adults

GILBERT GONZALES*
and CARRIE HENNING-SMITH†

**Vanderbilt University School of Medicine*; †*University of Minnesota School of Public Health*

Policy Points:

- Transgender and gender nonconforming (GNC) adults may experience barriers to care for a variety of reasons, including discrimination and lack of awareness by providers in health care settings.
- In our analysis of a large, population-based sample, we found transgender and GNC adults were more likely to be uninsured and have unmet health care needs, and were less likely to have routine care, compared to cisgender (nontransgender) women. Our findings varied by gender identity.
- More research is needed on transgender and GNC populations, including on how public policy and provider awareness affects health care access and health outcomes differentially by gender identity.

Context: Very little population-based research has examined health and access to care among transgender populations. This study compared barriers to care between cisgender, transgender, and gender nonconforming (GNC) adults using data from a large, multistate sample.

Methods: We used data from the 2014-2015 Behavioral Risk Factor Surveillance System to estimate the prevalence of having no health insurance, unmet medical care needs due to cost, no routine checkup, and no usual source of care for cisgender women ($n = 183,370$), cisgender men ($n = 131,080$), transgender women ($n = 724$), transgender men ($n = 449$), and GNC adults ($n = 270$). Logistic regression models were used to estimate odds ratios (OR) and 95%

confidence intervals (CI) for each barrier to care while adjusting for sociodemographic characteristics.

Findings: Transgender and GNC adults were more likely to be nonwhite, sexual minority, and socioeconomically disadvantaged compared to cisgender adults. After controlling for sociodemographic characteristics, transgender women were more likely to have no health insurance (OR = 1.60; 95% CI = 1.07-2.40) compared to cisgender women; transgender men were more likely to have no health insurance (OR = 2.02; 95% CI = 1.25-3.25) and no usual source of care (OR = 1.84; 95% CI = 1.18-2.88); and GNC adults were more likely to have unmet medical care needs due to cost (OR = 1.93; 95% CI = 1.02-3.67) and no routine checkup in the prior year (OR = 2.41; 95% CI = 1.41-4.12).

Conclusions: Transgender and GNC adults face barriers to health care that may be due to a variety of reasons, including discrimination in health care, health insurance policies, employment, and public policy or lack of awareness among health care providers on transgender-related health issues.

Keywords: transgender, barriers to care, LGBT health.

DISPARITIES IN HEALTH AND HEALTH CARE FOR LESBIAN, GAY, bisexual, and transgender (LGBT) populations have been identified and targeted for elimination by the National Academy of Medicine (formerly the Institute of Medicine)¹ and *Healthy People 2020* goals.² As a first step toward monitoring health disparities and achieving health equity for LGBT people, questions ascertaining sexual orientation have been added to federally sponsored health surveys in recent years.³ However, most federal health surveys still do not collect information on transgender status or gender identity.⁴⁻⁶ Thus, wide gaps remain in the data collection and knowledge on transgender and gender nonconforming (GNC) populations, or people whose gender identity or gender expression differs from their sex assigned at birth.⁷

The current knowledge on transgender health has largely relied on convenience samples confined to clinical settings⁸⁻¹¹ or samples recruited through transgender-serving advocacy organizations,^{7,12,13} health needs assessments in a few large states or metropolitan areas,¹⁴⁻¹⁸ and a limited number of individual states adding gender identity questions to statewide, population-based health surveys.¹⁹ These data sources have been instrumental to building awareness of the health issues faced by transgender and GNC populations, including higher rates

of HIV infection, mental health disorders, suicide attempts, cigarette use, and alcohol consumption. For example, according to the 2015 US Transgender Survey, the prevalence of HIV infection among transgender and GNC adults (1.4%) was 5 times the HIV infection prevalence in the general population (0.3%). Meanwhile, 40% of transgender adults had attempted suicide at some point in their lives, compared with 4.6% of the general population.²⁰ Recent studies using new data on transgender and GNC samples in representative health surveys have started to confirm the existence of physical, functional, and behavioral health disparities between transgender and cisgender people.^{21,22}

In order to manage chronic conditions, like HIV, and to mitigate mental health and substance use problems, stable access to medical care is necessary.^{23,24} However, transgender and GNC people may face social, structural, and economic barriers that inhibit their access to health care.²⁵ For instance, employment-based discrimination may prevent some transgender and GNC populations from obtaining jobs that offer employer-sponsored health insurance. Currently, federal law does not explicitly protect transgender populations from employment-based discrimination, and states vary in their discrimination protection policies.²⁶⁻²⁹ At the time of this writing, only 21 states prohibited discrimination in the workplace based on gender identity.³⁰ According to the 2015 US Transgender Survey, only 35% of transgender respondents had a full-time job and 15% of transgender respondents were unemployed—3 times higher than the national average (5%).²⁰

Meanwhile, applying for public health insurance programs—such as Medicare or Medicaid—presents bureaucratic hurdles. Some transgender and GNC individuals may require legal documents and identification that matches their current name and gender identity rather than the name and gender assigned at birth.³¹ Even when transgender and GNC populations are covered by private or public health insurance, many health plans do not cover transition-related services like hormonal therapy and gender reassignment surgery. Transitioning adults may not be able to afford the out-of-pocket expenses for transition-related procedures excluded from coverage, which can cost \$100 per month for hormonal therapy to over \$100,000 for some comprehensive transition procedures (eg, breast or chest surgery, hysterectomy, genital reconstruction, and facial reconstruction).^{14,32}

Recent policy changes have, at least theoretically, improved access to care for transgender and GNC individuals. For example, the Affordable Care Act (ACA) banned discrimination by qualified health providers, including physicians, hospitals, and clinics, on the basis of gender. Starting in 2014, the ACA prohibited insurers from denying coverage to individuals on the basis of their gender identity.⁴ Also in 2014, the US Department of Health and Human Services lifted a ban on Medicare coverage for gender reassignment surgery, which had been in place since 1989.³³ However, decisions about Medicare coverage for such procedures is left to insurers and providers who must determine whether gender reassignment surgery and related services are medically necessary.^{33,34}

Despite policy changes to improve access to health care for transgender and GNC individuals, substantial control is left in the hands of individual providers and health care facilities, many of whom may not be experienced or trained to treat this population.^{4,35} As a result, some transgender and GNC people may have difficulty identifying transgender-affirmative providers, or they may experience discrimination and lack of awareness among health care providers.^{7,14} In 2015, approximately one-third of transgender adults reported a negative experience with providers, such as refusal of care, verbal or physical harassment, or having to teach their health care providers about transgender health care.²⁰

This study compares different dimensions of health care access between transgender and GNC adults and cisgender (nontransgender) adults. Because access to care is influenced by multiple dimensions (including affordability, availability, acceptability, approachability, and appropriateness),³⁶ different barriers may preclude transgender and GNC adults from receiving care. Previous research suggests that transgender adults may experience coverage, affordability, and provider availability issues, but these studies were limited to nonrandom or relatively small samples.^{7,14,19} We extend this area of research by comparing 4 barriers to care by specific gender identity (ie, cisgender women, cisgender men, transgender women, transgender men, and GNC) using data from one of the first federally sponsored health surveys to collect information on transgender status. Because of social, structural, and economic barriers to care, we hypothesize that a gender minority identity (ie, transgender and GNC) will be associated with increased odds of experiencing barriers to health care.

Methods

Data Source and Study Sample

This study used cross-sectional data from the 2014-2015 Behavioral Risk Factor Surveillance System (BRFSS), a nationally representative health survey of the civilian noninstitutionalized adult population aged 18 years and older. The BRFSS is conducted annually by the Centers for Disease Control and Prevention (CDC) in partnership with state health departments in all 50 states, territories, and the District of Columbia. Approximately 450,000 adults are randomly selected for interview each year and are asked a standard core set of questions, including information about health conditions, behavioral risk factors, and access to health care. States have the option to add BRFSS-supported modules on specific topics, or states can choose to develop and include state-designed questions in their statewide BRFSS.

The BRFSS core questionnaire does not currently ascertain sexual orientation or gender identity, but a few states have independently added these questions to their BRFSS surveys in recent years.^{19,37} Since state-added questions are not submitted to the CDC and are maintained by individual states, studying sexual and gender minorities across jurisdictions has historically required permission from each state. However, the 2014-2015 BRFSS offered states an optional and unified module on sexual orientation and gender identity, which the CDC made publicly available for research. The following 27 states and Guam added sexual orientation and gender identity questions to their statewide BRFSS surveys in one or both years: Colorado, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Minnesota, Missouri, Montana, Nevada, New York, Ohio, Pennsylvania, Texas, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming.

In these states, participants were asked whether they considered themselves to be transgender, and if so, which of the following response categories did they consider themselves: (1) transgender, male-to-female (ie, transgender woman); (2) transgender, female-to-male (ie, transgender man); and (3) transgender, GNC. A detailed definition of gender identity was provided to the participant if they expressed confusion about the gender identity question. We classified participants as cisgender woman ($n = 183,370$), cisgender man ($n = 131,080$), transgender

woman ($n = 724$), transgender man ($n = 449$), and GNC ($n = 270$). We excluded participants who did not know the answer ($n = 1,138$) or refused to answer ($n = 1,468$). While very little research has examined nonresponse bias and misreporting issues for this gender identity item, a similar question was previously tested in the Massachusetts BRFSS¹⁹ and recommended for measuring transgender status.³⁷

Study Outcomes

We examined differences in 4 barriers to care ascertained from all adults in the core BRFSS questionnaire: no health insurance, no usual source of care, unmet medical care need due to cost, and no routine checkup. *No health insurance* was indicated when the participant said they did not have health care coverage at the time of the survey, including health insurance, prepaid plans such as HMOs, or governmental plans such as Medicare, Medicaid, TRICARE, or Indian Health Service. *No usual source of care* was indicated when a participant stated they did not have one specific person they think of as their personal doctor or health care provider. *Unmet medical care need due to cost* was indicated when the participant recalled a time in the past 12 months when they needed to see a doctor but could not afford to because of cost. *No routine checkup* was indicated when the participant stated that it had been more than one year since they last visited a doctor for a routine checkup. Transgender-specific health care questions were not included in the BRFSS.

Statistical Analyses

We used descriptive statistics and 2-tailed t-tests to characterize the study sample and to estimate the prevalence of health care barriers by gender identity. We then estimated unadjusted and adjusted logistic regression models for each barrier to care measure comparing each gender identity (ie, cisgender men, transgender women, transgender men, and GNC) to cisgender women. We used cisgender women as the reference category because they reported the lowest prevalence in 3 of 4 barriers to care measured in this study. We chose to separate cisgender men and cisgender women (rather than combine them into a single reference category) because gender and traditional masculine beliefs play an important role in health care access, health services utilization, and help-seeking behaviors.^{38,39} We also decided not compare outcomes by natal sex

(ie, sex assigned at birth) because classifications by natal sex may preclude an analysis of GNC adults. Moreover, health care access may depend on one's current gender identity. Our fully adjusted regression models controlled for the following sociodemographic characteristics: age (18-24, 25-34, 35-44, 45-54, 55-64, ≥ 65 , missing), race and ethnicity (non-Hispanic white, non-Hispanic black, non-Hispanic other/multiple race groups, Hispanic, missing), sexual orientation (straight, lesbian or gay, bisexual, other, missing), partnership status (married or living with a partner, separated/divorced/widowed, never married, missing), the presence of a minor child in the household, educational attainment (less than high school, high school graduate, some college, \geq bachelor's degree, missing), household income in dollars (0-9,999, 10,000-19,999, 20,000-34,999, 35,000-49,999, 50,000-74,999, $\geq 75,000$, missing), employment status (employed, unemployed, not in labor force, missing), and survey year. All models included dummy variables indicating state of residence to control for differences in health care markets and health policies across states. Indicators for missing data were also included in multivariate models to maintain a robust sample of transgender and GNC adults. Results from the logistic regression models are presented as odds ratios (ORs) with 95% confidence intervals (CIs). We conducted all analyses in Stata version 14 using survey weights and the *svy* command to adjust standard errors for the complex survey design of the BRFS.

Results

Sample Characteristics by Gender Identity

Table 1 presents data on the sample characteristics by gender identity. Compared to cisgender women, transgender men, transgender women, and GNC individuals were more likely to be younger, nonwhite, and lesbian, gay, or bisexual. About 70% of cisgender adults were non-Hispanic white, but only 63% of transgender women, 48% of transgender men, and 55% of GNC adults considered their race/ethnicity as non-Hispanic white. Approximately 3.5% of cisgender adults identified as lesbian, gay, or bisexual, but more than 12% of transgender adults and more than 25% of GNC adults identified as lesbian, gay, or bisexual. Approximately half of all adults reported being married or living with a partner regardless of gender identity. More than 30% of cisgender and

Table 1. Sample Characteristics by Gender Identity^{a,b}

	Cisgender		Transgender		Gender Non-conforming (n = 270)
	Women (n = 183,370)	Men (n = 131,080)	Women (n = 724)	Men (n = 449)	
Weighted prevalence	51.9	47.5***	0.3***	0.2***	0.1***
Age, years					
18-24	11.4	12.8***	15.1	15.5	23.7**
25-34	14.9	16.3***	12.8	10.1*	15.2
35-44	15.6	16.3***	15.9	32.4**	14.2
45-54	17.7	18.2*	20.8	10.4***	10.3**
55-64	17.2	17.3	17.5	16.1	17.4
≥65	22.2	18.5***	17.0**	14.8**	19.1
Missing	0.9	0.6***	0.9	0.7	0.0***
Race/ethnicity					
Non-Hispanic white	69.8	69.9	62.6**	48.0***	54.6**
Non-Hispanic black	12.3	11.0***	13.2	11.3	11.4
Hispanic	10.6	10.8	11.2	26.7**	22.1*
Non-Hispanic other	5.9	6.5**	11.8**	9.1	10.6
Missing	1.2	1.7***	1.3	4.8	1.4

Continued

Table 1. *Continued*

	Cisgender		Transgender		Gender Non-conforming (n = 270)
	Women (n = 183,370)	Men (n = 131,080)	Women (n = 724)	Men (n = 449)	
Sexual orientation					
Straight	93.5	94.4***	77.6***	77.1**	62.7***
Lesbian or gay	1.1	1.9***	3.1**	4.1	6.7***
Bisexual	2.3	1.3***	10.9***	8.5**	21.2***
Other	0.5	0.3**	4.3*	1.8	4.2*
Missing	2.6	2.2**	4.1	8.7	5.2
Marital status					
Married or living with a partner	54.4	58.0***	52.6	49.3	48.5
Formerly married	24.3	15.6***	18.7**	19.6	19.2
Never married	20.8	25.9***	28.1**	29.7*	32.1**
Missing	0.5	0.5	0.6	1.4	0.3
Minor child in household					
Yes	38.3	34.1***	30.0**	46.8	24.0**
No	61.4	65.4***	69.9**	52.8*	76.0**
Missing	0.3	0.4**	0.1	0.4	0.0***

Continued

Table 1. Continued

	Cisgender		Transgender		Gender Non-conforming (n = 270)
	Women (n = 183,370)	Men (n = 131,080)	Women (n = 724)	Men (n = 449)	
Educational attainment					
Less than high school	12.3	13.2**	22.0**	32.1***	19.7
High school graduate	28.6	31.1***	37.6**	41.9**	19.5
Some college	32.0	28.9***	25.0**	15.7***	31.5
≥Bachelor's degree	26.9	26.6	15.2***	9.6***	29.2*
Missing	0.2	0.3**	0.2	0.7	0.0***
Household income, \$					
0-9,999	5.1	3.6***	10.0**	8.0	5.8
10,000-19,999	11.7	9.4***	15.3	9.8	14.7
20,000-34,999	17.5	16.1***	24.2**	32.6**	21.3
35,000-49,999	11.6	12.9***	11.6	10.4	9.7
50,000-74,999	12.7	14.7***	9.9*	9.9	9.4
≥75,000	25.7	31.5***	19.6**	13.1**	29.3
Missing	15.7	11.9***	9.4***	16.2	10.0*
Employment status					
Employed	50.8	64.2***	52.9	50.5	45.9
Unemployed	5.3	6.1***	8.8	7.5	6.6
Not in labor force	43.3	29.0***	37.4*	37.2	46.6
Missing	0.6	0.7	0.9	4.8	0.9

*** $p < 0.001$; ** $p < 0.05$; * $p < 0.10$.^aData are from the 2014-2015 Behavioral Risk Factor Surveillance System.^b p -values indicate differences between cisgender women (ie, the reference category in this study) and each gender identity.

transgender adults had a minor child in the household; 24% of GNC adults had a minor child in the household.

Transgender and GNC adults reported education, income, and employment levels that are associated with barriers to care. For instance, transgender and GNC adults had lower levels of educational attainment. Approximately 32% of transgender men, 22% of transgender women, and 20% of GNC adults had less than a high school education, compared to approximately 13% of cisgender adults. Transgender and GNC adults also reported lower levels of household income. Approximately 50% of all transgender adults and 41% of GNC adults reported annual household incomes less than \$35,000, compared to one-third of cisgender adults. Employment status slightly varied across gender identity. Cisgender men were most likely to be employed (64.2%), followed by transgender women (52.9%), cisgender women (50.8%), transgender men (50.5%), and GNC adults (45.9%).

Barriers to Care by Gender Identity

Table 2 presents the prevalence and odds ratio of each barrier to care outcome by gender identity. Cisgender women were least likely to report having no health insurance (9.7%), no routine checkup in the prior year (24.3%), and no usual source of care (21.1%), and cisgender men were least likely to report unmet medical care needs due to cost (11.1%). Transgender men were most likely to report no health insurance (28.9%) and no usual source of care (41.3%). GNC adults were most likely to report unmet medical care needs due to cost (24.9%) and no routine checkup in the past year (42.5%).

Table 2 also presents the unadjusted and adjusted odds ratios from logistic regression models comparing each gender identity to cisgender women as the reference category. Since the unadjusted and adjusted odds ratios are similar in direction and magnitude—with some exceptions—we focus on the adjusted results. After controlling for demographic and socioeconomic covariates, transgender women were more likely to have no health insurance (OR = 1.60; 95% CI = 1.07-2.40) compared to cisgender women. Transgender men exhibited greater odds of having no health insurance (OR = 2.02; 95% CI = 1.25-3.25) and no usual source of care (OR = 1.84; 95% CI = 1.18-2.88) compared to cisgender women. GNC adults were more likely to report unmet medical care needs due to cost (OR = 1.93; 95% CI = 1.02-3.67) and no routine

Table 2. Prevalence and Odds Ratios of Barriers to Care by Gender Identity^a

	Weighted Prevalence (%)	Unadjusted OR (95% CI)	Adjusted OR (95% CI) ^b
No health insurance			
Cisgender women	9.7	1.00 [Ref]	1.00 [Ref]
Cisgender men	12.6	1.34 (1.27-1.42)***	1.35 (1.28-1.44)***
Transgender women	18.9	2.17 (1.44-3.27)***	1.60 (1.07-2.40)**
Transgender men	28.9	3.79 (2.28-6.30)***	2.02 (1.25-3.25)**
Gender nonconforming	13.9	1.50 (0.81-2.77)	1.47 (0.71-3.04)
Unmet medical care need due to cost			
Cisgender women	13.7	1.00 [Ref]	1.00 [Ref]
Cisgender men	11.1	0.79 (0.75-0.83)***	0.80 (0.76-0.84)***
Transgender women	18.1	1.39 (0.95-2.03)*	0.95 (0.61-1.47)
Transgender men	21.4	1.71 (0.97-3.01)*	1.07 (0.60-1.90)
Gender nonconforming	24.9	2.09 (1.14-3.81)**	1.93 (1.02-3.67)**

Continued

Table 2. *Continued*

	Weighted Prevalence (%)	Unadjusted OR (95% CI)	Adjusted OR (95% CI) ^b
No routine checkup			
Cisgender women	24.3	1.00 [Ref]	1.00 [Ref]
Cisgender men	33.5	1.57 (1.52-1.62)***	1.48 (1.43-1.53)***
Transgender women	28.0	1.21 (0.89-1.65)	1.09 (0.79-1.50)
Transgender men	32.4	1.49 (0.98-2.28)*	1.29 (0.85-1.96)
Gender nonconforming	42.5	2.30 (1.43-3.71)**	2.41 (1.41-4.12)**
No usual source of care			
Cisgender women	21.1	1.00 [Ref]	1.00 [Ref]
Cisgender men	30.9	1.67 (1.61-1.73)***	1.69 (1.63-1.75)***
Transgender women	29.2	1.54 (1.13-2.09)**	1.28 (0.94-1.74)
Transgender men	41.3	2.63 (1.71-4.04)***	1.84 (1.18-2.88)**
Gender nonconforming	32.1	1.77 (1.05-2.97)**	1.61 (0.90-2.85)

Abbreviations: OR, odds ratio; CI, confidence interval.

*** $p < 0.001$; ** $p < 0.05$; * $p < 0.10$.

^aData are from the 2014-2015 Behavioral Risk Factor Surveillance System.

^bAdjusted OR estimates are from logistic regression models adjusting for age, race/ethnicity, sexual orientation, relationship status, children in the household, educational attainment, household income, employment status, state of residence, and survey year.

checkup (OR = 2.41; 95% CI = 1.41-4.12) compared to cisgender women.

While not the primary focus of this study, cisgender men were more likely to have no health insurance (OR = 1.35; 95% CI = 1.28-1.44), no routine checkup in the prior year (OR = 1.48; 95% CI = 1.43-1.53), and no usual source of care (OR = 1.69; 95% CI = 1.63-1.75) after controlling for sociodemographic variables. Cisgender men were also less likely to have unmet medical care needs due to cost (OR = 0.80; 95% CI = 0.76-0.84) compared to cisgender women.

Discussion

Our study used data from 27 states and Guam that collected gender identity information in their 2014-2015 BRFSS surveys. We found significant differences in barriers to health care between transgender and cisgender adults. Specifically, we found that transgender and GNC adults were more likely to be uninsured, to have no usual source of care, and to have experienced barriers to care due to cost compared with cisgender women, the comparison group used in this study—and these differences varied by gender identity. While transgender and GNC adults demonstrated worse access to care compared to cisgender women across nearly all measures in univariate analyses, some of these relationships were tempered after adjusting for sociodemographic characteristics. These findings are possibly due to several factors associated with differential socioeconomic conditions. For instance, transgender and GNC adults reported lower levels of education, employment, and household income compared to their cisgender peers—so they may be less likely to have health insurance through employment or less likely to afford regular medical care. Therefore, controlling for socioeconomic status may explain why some of the differences in access to care diminished in multivariate analyses.

Not all disparities in accessing care for transgender and GNC adults diminished after adjusting for sociodemographic characteristics, which suggests that other factors may be at play. Both transgender women and transgender men reported high uninsurance rates compared to cisgender women—even after controlling for demographic and socioeconomic factors. Thus, transgender adults may experience barriers to enrolling in public health plans, or health insurance outreach campaigns may not

adequately target or reach transgender individuals. Additionally, some transgender adults may avoid health insurance altogether, as health plans have historically not covered transition-related services. Meanwhile, GNC adults were most likely to lack a routine checkup, compared to female cisgender adults. Discrimination or lack of awareness on the part of providers in health care settings may expose some GNC adults to uncomfortable situations that may lead them to avoid the health care system. Future research should continue to explore the causes and consequences of provider approachability and accessibility issues among transgender and GNC adults.

While we had hypothesized that transgender and GNC adults would experience more barriers to care than their cisgender counterparts, we also found that cisgender men experienced greater odds of having no health insurance, no routine checkups, and no usual source of care compared to cisgender women. We were surprised to find that cisgender men experienced barriers to care similar to those of transgender and GNC adults in all areas except having unmet medical care needs due to cost, but this finding provides further evidence that access to health care is patterned by gender. Although explaining differences among cisgender adults is beyond the scope of this paper, we postulate that traditional masculinity beliefs influence help-seeking behaviors and health services utilization.³⁹⁻⁴¹ Some cisgender men may adopt masculine attitudes toward the health care system and reject assistance from providers to demonstrate “manhood.”⁴⁰ Combined with our findings of differences within the transgender and GNC community, these results indicate that gender identity influences how adults interact with the health care system, which deserves further attention from quantitative and qualitative researchers.

Our study provides important baseline estimates of barriers to care needed to monitor evolving public policies affecting transgender and GNC individuals. For example, the Affordable Care Act (ACA) expanded health insurance to over 20 million Americans, including many LGBT people.⁴² Additionally, in May 2016, the US Department of Health and Human Services Office for Civil Rights (OCR) issued final rules outlining new nondiscrimination protections for transgender individuals.^{43,44} According to the OCR rule, health insurers, health care programs, and health care facilities receiving federal funds are not allowed to discriminate against transgender individuals under Section 1557 of the Affordable Care Act. The new rule did not explicitly

require health plans to cover transition-related services, but Medicare⁴⁵ and a growing number of state Medicaid programs³⁰ and employers^{46,47} are covering transition-related services. However, in December 2016, a federal district court imposed a nationwide injunction on the OCR rule, prohibiting the department from enforcing gender identity anti-discrimination regulations. This ruling, combined with evidence from our analysis that transgender and GNC adults face disproportionate barriers to accessing care, should serve as a call to researchers to focus on these issues. Having more data and research on transgender and GNC people will help inform ongoing policy debates on these populations.

Limitations

There were several limitations to using the 2014-2015 BRFSS for this study. First, data from the BRFSS were cross-sectional and cannot be used to make conclusions about causality. Next, all responses to the BRFSS were self-reported, which can lead to recall and response bias when describing access to care and sociodemographic characteristics. Additionally, reporting gender identity may suffer from selection bias, measurement error, and limited generalizability. Our sample of transgender and GNC adults only includes noninstitutionalized adults randomly selected among landline and cell phone users who were comfortable disclosing their gender identity. Missing from our analysis were homeless adults and adults residing in institutionalized settings, such as nursing homes, institutionalized medical facilities, incarceration facilities, and homeless shelters. Our study may be missing transgender and GNC individuals from the lower end of the socioeconomic spectrum who were not captured by the BRFSS, suggesting wider disparities in access to care than those measured in this study. Meanwhile, because of the relatively small sample size of transgender and GNC individuals, even a small amount of measurement error by cisgender respondents (ie, inaccurately reporting gender identity) or miscoding by interviewers could have a measurable impact on our results. Very little research has been conducted on the extent of transgender and gender identity misclassification in health surveys. However, preliminary research indicates that 30% of transgender individuals in the BRFSS were asked sex-specific questions (eg, about cancer screenings, hysterectomies, and pregnancies) that conflicted with their self-reported natal sex—possibly because

interviewers did not ask sex or gender identity in the core questionnaire and assumed a respondent's sex based on the sound of their voice.⁴⁸ We did not examine sex-specific health care outcomes, but more research is needed to understand the causes of misclassification and how to minimize misclassification in health surveys.

Our results may not be generalizable to the entire US transgender population, as our study included data from only 27 states and Guam. In particular, southern states were underrepresented. This may be problematic in that it excludes transgender and GNC adults living in some of most hostile policy environments for transgender and GNC people. We hope that additional states will follow suit and add questions on sexual orientation and gender identity to future BRFSS surveys or that questions on sexual orientation and gender identity will be added to the core BRFSS questionnaire. We also urge more research on the measurement of gender identity in federal surveys. This study used a single-item question to ascertain transgender status, but researchers should continue to explore health outcomes for transgender people who may not identify as one of the transgender categories used in this study but prefer to use nonbinary categories across the gender spectrum. Other research should examine transgender health outcomes using alternative questions for measuring gender identity, including a 2-step approach whereby current gender identity is compared to sex assigned at birth.³⁷

Our study would have benefited from additional data missing in the BRFSS. For example, while our study examines barriers to care commonly assessed in the general population, we were unable to measure barriers to transgender-specific health care, such as access to hormone therapy, counseling, and surgical procedures. The BRFSS also does not collect information on transgender-specific experiences in health care settings, where many transgender and GNC patients have reported provider-based discrimination (eg, refusal of care) and lack of knowledge among medical providers.⁷ Additional waves of the US Transgender Survey should continue to explore these issues over time. Finally, future research should explore differences in the experiences of subgroups within the transgender and GNC population, such as those who identify with other marginalized groups, including racial and ethnic minorities, individuals living with disabilities, and populations from rural or impoverished backgrounds.

Conclusions

This study identified barriers to care by gender identity. We found that transgender and GNC adults were more likely to be uninsured, to have no usual source of care, and to forgo needed medical care due to cost, compared with cisgender women, the comparison group used in this study. These results should raise concerns that transgender and GNC individuals lack equitable access to health care. Given the unique health care needs of the transgender and GNC population, the findings from this study should serve as a call to improve access to care for transgender and GNC adults. Doing so may include addressing insurance-based and financial barriers to care, creating welcoming environments, and training providers on issues related to gender identity. With recent, and growing, public attention paid to the transgender and GNC community, the time to address these issues is now.

References

1. Institute of Medicine. *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*. Washington, DC: The National Academies Press; 2011.
2. Healthy People 2020. Lesbian, Gay, Bisexual, and Transgender Health. <http://www.healthypeople.gov/2020/topics-objectives/topic/lesbian-gay-bisexual-and-transgender-health>. Accessed February 17, 2016.
3. Ward BW, Dahlhamer JM, Galinsky AM, Joestl SS. Sexual orientation and health among US adults: National Health Interview Survey, 2013. *Natl Health Stat Report*. 2014;2(77):1-12. <http://www.ncbi.nlm.nih.gov/pubmed/25025690>. Accessed September 19, 2017.
4. Stroumsa D. The state of transgender health care: policy, law, and medical frameworks. *Am J Public Health*. 2014;104(3):e31-e38. <https://doi.org/10.2105/AJPH.2013.301789>.
5. Conron KJ, Landers SJ, Reisner SL, Sell RL. Sex and gender in the US health surveillance system: a call to action. *Am J Public Health*. 2014;104(6):970-976. <https://doi.org/10.2105/Ajph.2013.301831>.
6. Meyer IH. Why lesbian, gay, bisexual, and transgender public health? *Am J Public Health*. 2001;91(6):856-859. <https://doi.org/10.2105/AJPH.91.6.856>.

7. Grant JM, Mottett LA, Tanis J, Harrison J, Herman JL, Keisling M. *Injustice at Every Turn: A Report of the National Transgender Discrimination Survey*. Washington, DC: National Center for Transgender Equality and National Gay and Lesbian Task Force; 2011. [https://doi.org/10.1016/S0016-7878\(90\)80026-2](https://doi.org/10.1016/S0016-7878(90)80026-2).
8. Bazzi AR, Whorms DS, King DS, Potter J. Adherence to mammography screening guidelines among transgender persons and sexual minority women. *Am J Public Health*. 2015;105(11):2356-2358. <https://doi.org/10.2105/AJPH.2015.302851>.
9. Kauth MR, Shipherd JC, Lindsay J, Blosnich JR, Brown GR, Jones KT. Access to care for transgender veterans in the Veterans Health Administration: 2006-2013. *Am J Public Health*. 2014;104(Suppl. 4):2013-2015. <https://doi.org/10.2105/AJPH.2014.302086>.
10. Blosnich JR, Brown GR, Shipherd JC, Kauth M, Piegari RI, Bossarte RM. Prevalence of gender identity disorder and suicide risk among transgender veterans utilizing Veterans Health Administration care. *Am J Public Health*. 2013;103(10):27-32. <https://doi.org/10.2105/AJPH.2013.301507>.
11. Blosnich JR, Bossarte RM, Silenzio VMB. Suicidal ideation among sexual minority veterans: results from the 2005-2010 Massachusetts Behavioral Risk Factor Surveillance Survey. *Am J Public Health*. 2012;102(Suppl. 1):2008-2011. <https://doi.org/10.2105/AJPH.2011.300565>.
12. Fredriksen-Goldsen KI, Cook-Daniels L, Kim HJ, et al. Physical and mental health of transgender older adults: an at-risk and underserved population. *Gerontologist*. 2014;54(3):488-500. <https://doi.org/10.1093/geront/gnt021>.
13. Kosenko K, Rintamaki L, Raney S, Maness K. Transgender patient perceptions of stigma in health care contexts. *Med Care*. 2013;51(9):819-822. <https://doi.org/10.1097/MLR.0b013e31829fa90d>.
14. Sanchez NF, Sanchez JP, Danoff A. Health care utilization, barriers to care, and hormone usage among male-to-female transgender persons in New York City. *Am J Public Health*. 2009;99(4):713-719. <https://doi.org/10.2105/AJPH.2007.132035>.
15. Weiss Wiewel E, Torian LV, Merchant P, Braunstein SL, Shepard CW. HIV diagnoses and care among transgender persons and comparison with men who have sex with men: New York City. *Am J Public Health*. 2015:e1-e6. <https://doi.org/10.2105/AJPH.2015.302974>.
16. Nuttbrock L, Bockting W, Rosenblum A, et al. Gender abuse and major depression among transgender women: a prospective study of vulnerability and resilience. *Am J Public Health*.

- 2014;104(11):2191-2198. <https://doi.org/10.2105/AJPH.2013.301545>.
17. Bradford J, Reisner SL, Honnold JA, Xavier J. Experiences of transgender-related discrimination and implications for health: results from the Virginia transgender health initiative study. *Am J Public Health*. 2013;103(10):1820-1829. <https://doi.org/10.2105/AJPH.2012.300796>.
 18. Xavier J, Honnold JA, Bradford J; Virginia Department of Health. The health, health-related needs, and lifecourse experiences of transgender Virginians. <http://www.vdh.virginia.gov/content/uploads/sites/10/2016/01/THISFINALREPORTVol1.pdf>. Published 2007. Accessed September 19, 2017.
 19. Conron KJ, Scott G, Stowell GS, Landers SJ. Transgender health in Massachusetts: results from a household probability sample of adults. *Am J Public Health*. 2012;102(1):118-122. <https://doi.org/10.2105/AJPH.2011.300315>.
 20. James SE, Herman JL, Rankin S, Keisling M, Mottet L, Anafi M. *The Report of the 2015 US Transgender Survey*. Washington, DC: National Center for Transgender Equality; 2016.
 21. Meyer IH, Brown TNT, Herman JL, Reisner SL, Bockting WO. Demographic characteristics and health status of transgender adults in select US regions: Behavioral Risk Factor Surveillance System, 2014. *Am J Public Health*. 2017;107(4):582-589. <https://doi.org/10.2105/AJPH.2016.303648>.
 22. Streed CG, McCarthy EP, Haas JS. Association between gender minority status and self-reported physical and mental health in the United States. *JAMA Intern Med*. 2017:e1-e3. <https://doi.org/10.1001/jamainternmed.2017.1460>.
 23. Cunningham WE, Hays RD, Ettl MK, et al. The prospective effect of access to medical care on health-related quality-of-life outcomes in patients with symptomatic HIV disease. *Med Care*. 1998;36(3):295-306.
 24. Gelberg L, Andersen RM, Leake BD. The Behavioral Model for Vulnerable Populations: application to medical care use and outcomes for homeless people. *Health Serv Res*. 2000;34(6):1273-1302.
 25. Cruz TM. Assessing access to care for transgender and gender nonconforming people: a consideration of diversity in combating discrimination. *Soc Sci Med*. 2014;110:65-73. <https://doi.org/10.1016/j.socscimed.2014.03.032>.
 26. US Equal Employment Opportunity Commission. What you should know about EEOC and the enforcement protections for LGBT workers. https://www.eeoc.gov/eeoc/newsroom/wysk/enforcement_protections_lgbt_workers.cfm. Accessed June 17, 2016.

27. Herman JL; The Williams Institute. The cost of employment and housing discrimination against transgender residents of New York. <http://williamsinstitute.law.ucla.edu/wp-content/uploads/Herman-NY-Cost-of-Discrimination-April-2013.pdf>. Published April 2013. Accessed September 19, 2017.
28. Koch K, Bales RA. Transgender employment discrimination. *UCLA Womens Law J*. 2008;17:243-267.
29. Reisner SL, Hughto JMW, Dunham EE, et al. Legal protections in public accommodations settings: a critical public health issue for transgender and gender-nonconforming people. *Milbank Q*. 2015;93(3):484-515. <https://doi.org/10.1111/1468-0009.12127>.
30. Warbelow S, Persad X. *2015 State Equality Index*. Vol 53. Washington, DC: Human Rights Campaign Foundation; 2016. <https://doi.org/10.1017/CBO9781107415324.004>.
31. Braine N. Sexual minority women who use drugs: prejudice, poverty, and access to care. *Sex Res Soc Policy*. 2014;11(3):199-210. <https://doi.org/10.1007/s13178-014-0155-8>.
32. Transgender Law Center. Recommendations for transgender health care. <http://www.transgenderlaw.org/resources/tlhealth.htm>. Accessed July 5, 2016.
33. National Center for Transgender Equality. Medicare and transgender people. <http://www.transequality.org/know-your-rights/medicare>. Published 2014. Accessed April 30, 2017.
34. Green J. Transsexual surgery may be covered by Medicare. *LGBT Heal*. 2014;1(4):256-258. <https://doi.org/10.1089/lgbt.2014.0076>.
35. Obedin-Maliver J, Goldsmith ES, Stewart L, et al. Lesbian, gay, bisexual, and transgender-related content in undergraduate medical education. *JAMA*. 2011;306(9):971-977.
36. Levesque J-F, Harris MF, Russell G. Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *Int J Equity Health*. 2013;12(1):18. <https://doi.org/10.1186/1475-9276-12-18>.
37. Gender Identity in U.S. Surveillance (GenIUSS) Group; The Williams Institute. Best practices for asking questions to identify transgender and other gender minority respondents on population-based surveys. <http://williamsinstitute.law.ucla.edu/wp-content/uploads/geniuss-report-sep-2014.pdf>. Published September 2014. Accessed September 19, 2017.
38. Andersen R, Newman JF. Societal and individual determinants of medical care utilisation in the United States. *Milbank Q*. 2005;83(4):1-28. <https://doi.org/10.1111/j.1468-0009.2005.00428.x>.

39. Galdas PM, Marshall P. Men and health help-seeking behaviour: literature review. *J Adv Nurs*. 2005;49(6):616-623.
40. Courtenay WH. Constructions of masculinity and their influence on men's well-being: a theory of gender and health. *Soc Sci Med*. 2000;50(10):1385-1401. [https://doi.org/10.1016/S0277-9536\(99\)00390-1](https://doi.org/10.1016/S0277-9536(99)00390-1).
41. Mahalik JR, Burns SM, Syzdek M. Masculinity and perceived normative health behaviors as predictors of men's health behaviors. *Soc Sci Med*. 2007;64(11):2201-2209. <https://doi.org/10.1016/j.socscimed.2007.02.035>.
42. Gonzales G, Henning-Smith C. The Affordable Care Act and health insurance coverage for lesbian, gay, and bisexual adults: analysis of the Behavioral Risk Factor Surveillance System. *LGBT Heal*. 2017;4(1):62-67. <https://doi.org/10.1089/lgbt.2016.0023>.
43. Baker K. LGBT protections in Affordable Care Act section 1557. *Health Affairs Blog*. <http://healthaffairs.org/blog/2016/06/06/lgbt-protections-in-affordable-care-act-section-1557/>. Published June 6, 2016. Accessed September 19, 2017.
44. Nondiscrimination in health programs and activities. *Fed Regist*. 2016;45(92):31375-31473.
45. Department of Health and Human Services. *National Coverage Determination 140.3, Transsexual Surgery: Decision No. 2576*. Washington, DC: Department of Health and Human Services; 2014. <https://www.hhs.gov/sites/default/files/static/dab/decisions/board-decisions/2014/dab2576.pdf>.
46. Japsen B. More employers cover transgender surgery as politics shift. *Forbes*. May 17, 2016. <http://www.forbes.com/sites/brucejapsen/2016/05/17/as-transgender-politics-shift-more-employers-cover-gender-surgery/#550247ab3216>. Accessed September 19, 2017.
47. Human Rights Campaign Foundation. *Corporate Equality Index 2016*. Washington, DC: Human Rights Campaign Foundation; 2016.
48. Riley NC, Blossnich JR, Bear TM, Reisner SL. Vocal timbre and the classification of respondent sex in US phone-based surveys. *Am J Public Health*. 2017;107(8):1290-1294. <https://doi.org/10.2105/AJPH.2017.303834>.

Funding/Support: Gilbert Gonzales received support from the Robert Wood Johnson Foundation (Grant #74174) during this project.

Conflict of Interest Disclosures: Both authors completed the ICMJE Form for Disclosure of Potential Conflicts of Interest. No conflicts were disclosed.

Acknowledgments: We would like to thank the conference participants at the 2017 meeting of the European Survey Research Association for their helpful comments on an earlier version of this manuscript.

Address correspondence to: Gilbert Gonzales, Department of Health Policy, Vanderbilt University School of Medicine, 2525 West End, Ste 1200, Nashville, TN 37203 (email: gilbert.gonzales@vanderbilt.edu).