


Delays in Accessing Healthcare Across the Gender Spectrum in the All of Us Research Program



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ABSTRACT

BACKGROUND: Gender minorities and cisgender women face barriers to healthcare access. Prior work suggests cost may represent a particular barrier to accessing care for transgender and gender diverse (TGD) individuals.

OBJECTIVE: To examine odds of delaying care for any reason and, secondarily, for 7 specific reasons among TGD individuals and cisgender women compared with cisgender men in the All of Us Research Program.

DESIGN: We calculated the odds of delayed care by gender identity relative to cisgender men using multivariable-adjusted logistic regression, with adjustment for age, race, income, education, and Charlson comorbidity index.

PARTICIPANTS: We examined 117,806 All of Us participants who completed the healthcare access and utilization survey.

MAIN MEASURES: The primary outcome was self-reported delayed care in the past 12 months for any of 7 potential reasons: cost (out-of-pocket cost, co-payment costs, and/or high deductible), lack of childcare, lack of eldercare, nervousness associated with visiting the healthcare provider, rurality, inability to take time off work, and lack of transportation.

KEY RESULTS: Compared with cisgender men, the multivariable-adjusted odds ratio (OR) for delaying care for any reason was 1.48 (95% CI, 1.44–1.53; $P < 0.001$) among cisgender women, 1.65 (95% CI, 1.24–2.21; $P < 0.001$) among TGD individuals assigned male at birth, and 2.76 (95% CI, 2.26–3.39; $P < 0.001$) among TGD individuals assigned female at birth. Results were consistent across multiple sensitivity analyses. TGD individuals were substantially more likely to cite nervousness with visiting a healthcare provider as a barrier, whereas cisgender women were more likely to delay care due to lack of childcare coverage.

CONCLUSIONS: Cisgender women and TGD individuals were more likely to delay seeking health care compared with cisgender men, and for partially different reasons. These findings highlight the need to address common and distinct barriers to care access among marginalized groups.

KEY WORDS: healthcare access; disparities; transgender; gender diverse

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INTRODUCTION

Reducing inequities in healthcare access represents a key priority in the USA.¹ Marginalized populations, including sexual, gender, and racial/ethnic minorities, face barriers to access.^{2,3} An analysis of the 2016–2019 Behavioral Risk Factor Surveillance System (BRFSS) found that 14% of US adults, and 27% of those with economic disadvantage, had difficulty accessing medical care.⁴ Data from the 2016–2019 BRFSS suggested that women, despite lower uninsurance rates, are more likely than men to delay and forego care due to cost,⁵ but prior BRFSS data from 2014 to 2015 suggest men may be more likely to delay care.⁶ Transgender and gender diverse (TGD) individuals encompass those who identify as transgender, nonbinary, genderfluid, genderqueer, or two spirit.⁷ TGD individuals face discrimination at the individual level, structural level,⁸ and in healthcare settings.⁹ While research on TGD individuals has increased significantly in recent years, this population remains understudied.² In the 2014–2015 BRFSS, compared with cisgender women, TGD individuals were more likely to have forgone care due to cost and to not have had a routine checkup in the past year.⁶ More recent data from the 2019–2020 BRFSS study found that both rural and urban TGD individuals were more likely to delay care due to cost.¹⁰

The All of Us Research Program healthcare access and utilization survey provides complementary and additional information to the BRFSS in ascertaining a more comprehensive set of potential reasons for delayed care and by incorporating electronic health record (EHR) data, in addition to self-reported comorbidities. The All of Us Research Program also uses a validated 2-step approach to ascertaining gender identity,¹¹ whereas the BRFSS uses a one-step approach in a transgender specific survey (adopted by 32 states by 2020)^{6,10} that has been criticized for inaccurately gathering sex assigned at birth and generating higher levels of missing data than the two-step approach.^{10,12} Using contemporary data from the All of Us Research Program, we examined differences in

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rates of delayed care across different gender identities and self-reported reasons for delaying care. We hypothesized that cisgender women and TGD individuals would be more likely than cisgender men to delay seeking care.

METHODS

The All of Us Program is an ongoing national initiative to collect survey, electronic health record, and other data from 1 million Americans. As there is intentional oversampling of previously underrepresented groups, All of Us is not a representative sample of the US population. Enrollment is open to anyone aged 18 years and older who resides in the USA. All of Us primarily recruits patients out of health centers, including the Veterans Health Administration, regional health centers, and federally qualified health centers with additional recruitment at community centers. Participants may also enroll through the All of Us website and then visit their nearest designated clinic or laboratory to complete biometric measurements.¹³⁻¹⁵ Researchers may request data access at <https://www.researchallofus.org/>. The All of Us Program was approved by a dedicated All of Us Institutional Review Board.

We included participants from All of Us version 5 (data collected May 6, 2018–April 1, 2021; last accessed November 13, 2023) with available medical history data who completed the healthcare access and utilization survey. The study exposure was gender identity, categorized as (1) TGD assigned female sex at birth, (2) TGD assigned male

sex at birth, (3) cisgender women, or (4) cisgender men. As noted earlier, gender identity was determined via a two-step approach in which participants were asked to report their sex assigned at birth (male, female, intersex), and their gender identity (man, woman, nonbinary, transgender, or none of the above). If participants selected nonbinary, transgender, or none of the above, they were asked to select one or multiple additional identifiers: trans man/transgender man/female-to-male, trans woman/transgender woman/male-to-female, genderqueer, genderfluid, gender variant, or two-spirit.¹⁶ Participants who were assigned female at birth and selected man, transgender, nonbinary, or “none of these describe me” were categorized TGD assigned female at birth. Participants who were assigned male at birth and selected woman, transgender, nonbinary, or “none of these describe me” were categorized TGD assigned male at birth. Individuals ($n=2076$) who did not indicate sex assigned at birth, did not indicate gender identity, or indicated intersex were excluded from analyses¹⁶ (Fig. 1). Intersex individuals were excluded due to privacy concerns for small sample size (<20) of these individuals among those who answered the healthcare access and utilization survey.

The primary outcome was self-reported delayed care in the past 12 months for any of the following potential reasons: out-of-pocket cost for a service or procedure, co-payment costs, high deductible, lack of childcare, lack of eldercare, nervousness associated with visiting the healthcare provider, rurality, inability to take time off work, and lack of transportation. We separately examined 7 potential reasons for delayed care as secondary outcomes, with out-of-pocket cost for a service or

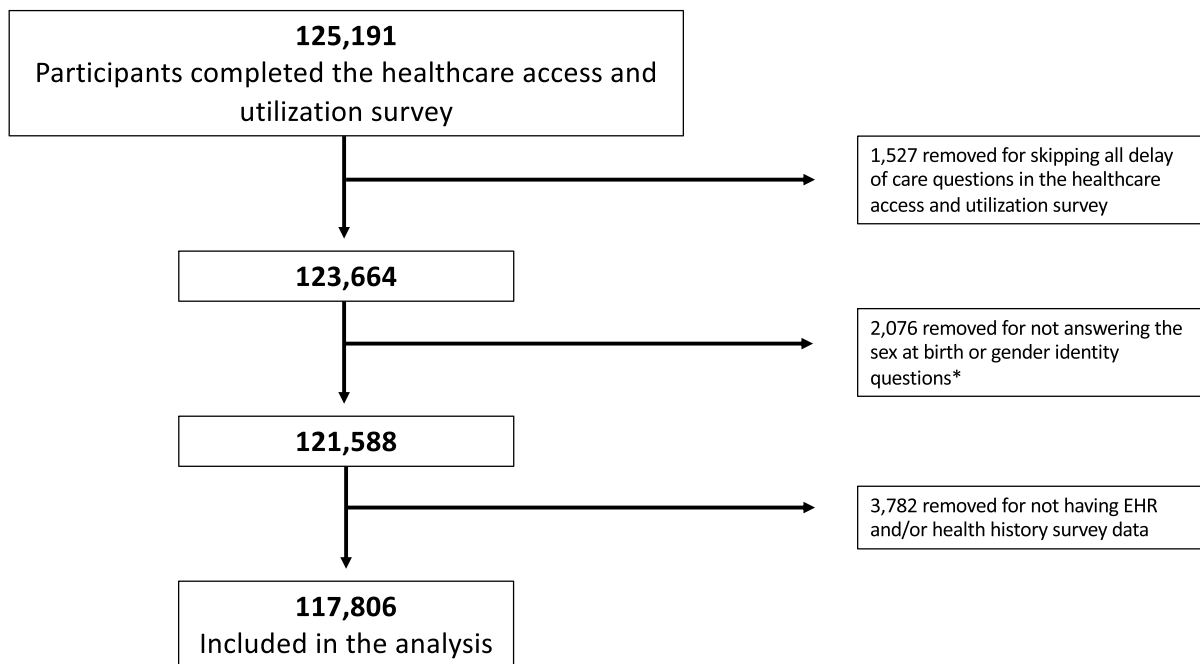


Figure 1 Creation of the study cohort. The asterisk denotes that answers excluded for reported sex at birth were skipped, prefer not to answer, intersex, no matching concept, or none.

procedure, co-payment costs, and high deductible combined into one category due to substantial overlap. We calculated the odds of delayed care by gender identity using multivariable-adjusted logistic regression relative to cisgender men, adjusted for covariates that may strongly influence whether and how participants seek healthcare and may differ by TGD status: age, race, income, education, and Charlson comorbidity index, a measure of health status based on several comorbidities.¹⁷ Components of the Charlson comorbidity index include prior myocardial infarction, congestive heart failure, peripheral vascular disease, cerebrovascular disease, dementia, chronic pulmonary disease, rheumatologic disease, ulcer disease, mild liver disease, diabetes mellitus (weighted 1), hemiplegia, moderate or severe renal disease, diabetes with end organ damage, any tumor, leukemia, lymphoma (weighted 2), moderate or severe liver disease (weighted 3), metastatic solid tumor, and HIV/AIDS (weighted 6). The components of the Charlson comorbidity index were retrieved from either self-reported history (in the personal and family health history survey) or from record of these comorbidities in the EHR. Missing race, income, and education were included as a separate category within each respective variable. Those who skipped and therefore had missing data for all 12 delay of care questions were excluded (Fig. 1). Those with missing data for some specific reasons for delayed care were excluded from the respective models (range 1.0–10.4% of individuals excluded across models of specific reasons for delayed care).

Sensitivity analyses were performed (1) without covariate adjustment; (2) with race/ethnicity binned as White vs. person of color to probe for sparse data bias;¹⁸ (3) with adjustment for cardiovascular risk factors (hypertension, hypercholesterolemia, and type 2 diabetes) and clinical ASCVD in lieu of the Charlson index; (4) with adjustment for self-reported health status (excellent, very good, good, fair, or poor) in lieu of Charlson index; (5) with adjustment for depression or anxiety (per EHR or survey data); (6) restricting the cohort to individuals who enrolled and completed the healthcare access and utilization survey prior to the start of the COVID-19 pandemic (i.e., before March 1, 2020); and (7) further adjusted for insurance status. Furthermore, we conducted secondary analyses comparing TGD individuals as a group to all cisgender individuals.

Two-sided $P < 0.05$ indicated statistical significance. Analyses were performed in R 4.2.1.

RESULTS

Of 123,664 participants who completed the healthcare access and utilization survey and answered at least one delay of care question, 2076 were excluded for not answering the sex at birth or gender identity questions, and 3782 were excluded for lack of EHR or health history survey data, leaving 117,806 (95.3%) participants in the final dataset (Fig. 1). Of those included, 217 (0.2%) were TGD assigned

male at birth, 522 (0.3%) were TGD assigned female at birth, 77,024 (65.4%) were cisgender women, and 40,043 (34.0%) were cisgender men (Table 1). The average age of TGD participants was lower than cisgender individuals (40 vs. 54 years, $P < 0.001$), and 19.3% of TGD assigned female at birth individuals and 15.2% of TGD assigned male at birth had 1 or more persons under 18 in their household, compared with 18.8% of cisgender men and 26.6% of cisgender women (Table 1).

Overall, 42,754 (36.3%) reported delays in seeking care within the past 12 months, including 113/217 (52.1%) of TGD individuals assigned male at birth, 370/522 (70.9%) of TGD individuals assigned female at birth, 31,402/77,024 (40.8%) of cisgender women, and 10,869/40,043 (27.1%) of cisgender men. The most frequently cited reasons for delaying care across all groups were cost and nervousness (Table 2).

Compared with cisgender men, the unadjusted odds ratio (OR) for delaying care for any reason was 1.85 (95% CI, 1.79–1.86) for cisgender women, 2.92 (95% CI, 2.23–3.81) for TGD individuals assigned male at birth, and 6.53 (95% CI, 5.41–7.92) for TGD individuals assigned female at birth. After multivariable adjustment, the corresponding ORs were 1.48 (95% CI, 1.44–1.53) for cisgender women, 1.65 (95% CI, 1.24–2.21) for TGD individuals assigned male at birth, and 2.76 (95% CI, 2.26–3.39) for TGD individuals assigned female at birth vs. cisgender men. Increased odds of delayed care in TGD groups were consistently observed across most specific reasons cited, including cost, lack of eldercare, nervousness associated with visiting a healthcare provider, lack of transportation, and lack of time off work (Fig. 2). TGD individuals more commonly reported nervousness associated with visiting a healthcare provider (TGD assigned female at birth: OR, 3.94; 95% CI, 3.27–4.75; TGD assigned male at birth: OR, 2.71; 95% CI, 1.95–3.71). However, when adjusting for mental health diagnoses (anxiety/depression), these ORs were only modestly attenuated (TGD assigned female at birth: OR, 3.15; 95% CI, 2.60–3.81; TGD assigned male at birth: OR, 2.27; 95% CI, 1.62–3.12) (Table 3). Additionally, cisgender women had a significantly higher odds ratio of delaying care due to lack of childcare coverage (OR, 2.62; 95% CI, 2.35–2.91) relative to cisgender men. By contrast, compared with cisgender men, TGD individuals were not more likely to report childcare as a significant barrier.

Sensitivity analyses adjusted for cardiovascular risk factors and clinical ASCVD in lieu of the Charlson comorbidity index, those adjusted for self-reported health status, and those restricted to individuals surveyed prior to March 2020 each yielded highly consistent results vs. the primary analysis for associations of gender with delayed care (Table 3). Additionally, when adjusting for health insurance status, ORs were materially unchanged compared with the primary model.

Table 1 Participant Characteristics by Sex/Gender Category (N = 117,806)

Characteristic	Transgender and gender diverse assigned male at birth (n = 217)	Transgender and gender diverse assigned female at birth (n = 522)	Cisgender women (n = 77,024)	Cisgender men (n = 40,043)
Age (years)	46.88 (16.30)	37.66 (14.75)	52.29 (16.48)	57.76 (16.63)
Race				
Asian	<20	23 (4.4)	2434 (3.2)	1562 (3.9)
Black or African American	21 (9.7)	34 (6.5)	7600 (9.9)	2506 (6.3)
Middle Eastern or North African	<20	<20	352 (0.5)	303 (0.8)
Native Hawaiian/Pacific Islander	<20	<20	37 (0.0)	<20
White	152 (70.0)	374 (71.6)	56,920 (73.9)	31,689 (79.1)
More than one race group	<20	24 (4.6)	1569 (2.0)	662 (1.7)
Missing	28 (12.9)	66 (12.6)	8112 (10.5)	3302 (8.2)
Ethnicity				
Hispanic or Latino	28 (12.9)	73 (14.0)	8404 (10.9)	3170 (7.9)
Not Hispanic or Latino	182 (83.9)	433 (83.0)	67,159 (87.2)	36,000 (89.9)
Missing	<20	<20	1461 (1.9)	873 (2.2)
Income				
Annual income > \$100,000	48 (22.1)	92 (17.6)	23,369 (30.3)	16,059 (40.1)
Annual income \$50,000–100,000	34 (15.7)	105 (20.1)	20,572 (26.7)	10,439 (26.1)
Annual income \$25,000–50,000	46 (21.2)	107 (20.5)	13,155 (17.1)	5375 (13.4)
Annual income < \$25,000	73 (33.6)	171 (32.8)	12,002 (15.6)	4771 (11.9)
Missing	<20	47 (9.0)	7926 (10.3)	3399 (8.5)
Education (highest grade)				
Advanced degree	53 (24.4)	121 (23.2)	24,286 (31.5)	15,777 (39.4)
College graduate	59 (27.2)	166 (31.8)	23,203 (30.1)	11,781 (29.4)
High school +/- some college	89 (41.0)	212 (40.6)	26,958 (35.0)	11,462 (28.6)
Less than high school degree	<20	<20	2090 (2.7)	770 (1.9)
Missing	<20	<20	487 (0.6)	253 (0.6)
Health insurance				
Has health insurance	198 (91.2)	488 (93.5)	74,153 (96.3)	38,550 (96.3)
No health insurance	<20	25 (4.8)	2189 (2.8)	1084 (2.7)
Missing	<20	<20	654 (0.01)	402 (0.01)
Household size under 18				
More than 1	33 (15.2)	101 (19.3)	20,529 (26.6)	7526 (18.8)
No individuals under 18	115 (53.0)	318 (60.9)	41,207 (53.5)	25,581 (63.9)
Missing	69 (31.8)	103 (19.7)	15,272 (19.8)	6933 (17.3)
Charlson comorbidity index	3.33 (2.70)	2.34 (1.89)	2.68 (2.11)	3.22 (2.56)
Diabetes mellitus	28 (12.9)	45 (8.6)	9524 (12.4)	6769 (16.9)
Hypertension	71 (32.7)	130 (24.9)	26,412 (34.3)	18,829 (47.0)
Hypercholesterolemia	73 (33.6)	125 (23.9)	28,752 (37.3)	20,293 (50.7)
Atherosclerotic cardiovascular disease	38 (17.5)	31 (5.9)	9172 (11.9)	8438 (21.1)

Continuous data are represented as mean (standard deviation) and count data are represented as count (percentage) within each bin

Table 2 Frequency of Reported Delays in Seeking Care by Gender

Reasons for delayed care	Transgender and gender diverse assigned male at birth (n = 217) n (%)	Transgender and gender diverse assigned female at birth (n = 522) n (%)	Cisgender women (n = 77,024) n (%)	Cisgender men (n = 40,043) n (%)
Any reason	113 (52.1%)	370 (70.9%)	31,402 (40.8%)	10,869 (27.1%)
Childcare	<20	<20	2662 (3.5%)	412 (1.0%)
Cost	60 (27.6%)	198 (37.9%)	17,180 (22.3%)	5948 (14.8%)
Eldercare	<20	<20	1555 (2.0%)	396 (1.0%)
Nervous	57 (26.3%)	219 (41.9%)	11,151 (14.5%)	3298 (8.2%)
Rural	<20	48 (9.2%)	2433 (3.2%)	833 (2.1%)
Transportation	32 (14.7%)	105 (20.1%)	5640 (7.3%)	2072 (5.2%)
Work	33 (15.2%)	123 (23.6%)	9661 (12.5%)	2846 (7.1%)

Counts and percentage for delays in accessing care during the previous 12 months due to any reason, cost-related (out-of-pocket costs, co-payment costs, high deductible) lack of childcare coverage, lack of eldercare coverage, nervousness associated with visiting the healthcare provider, living in a rural area, inability to take time off work, and inability to obtain transportation

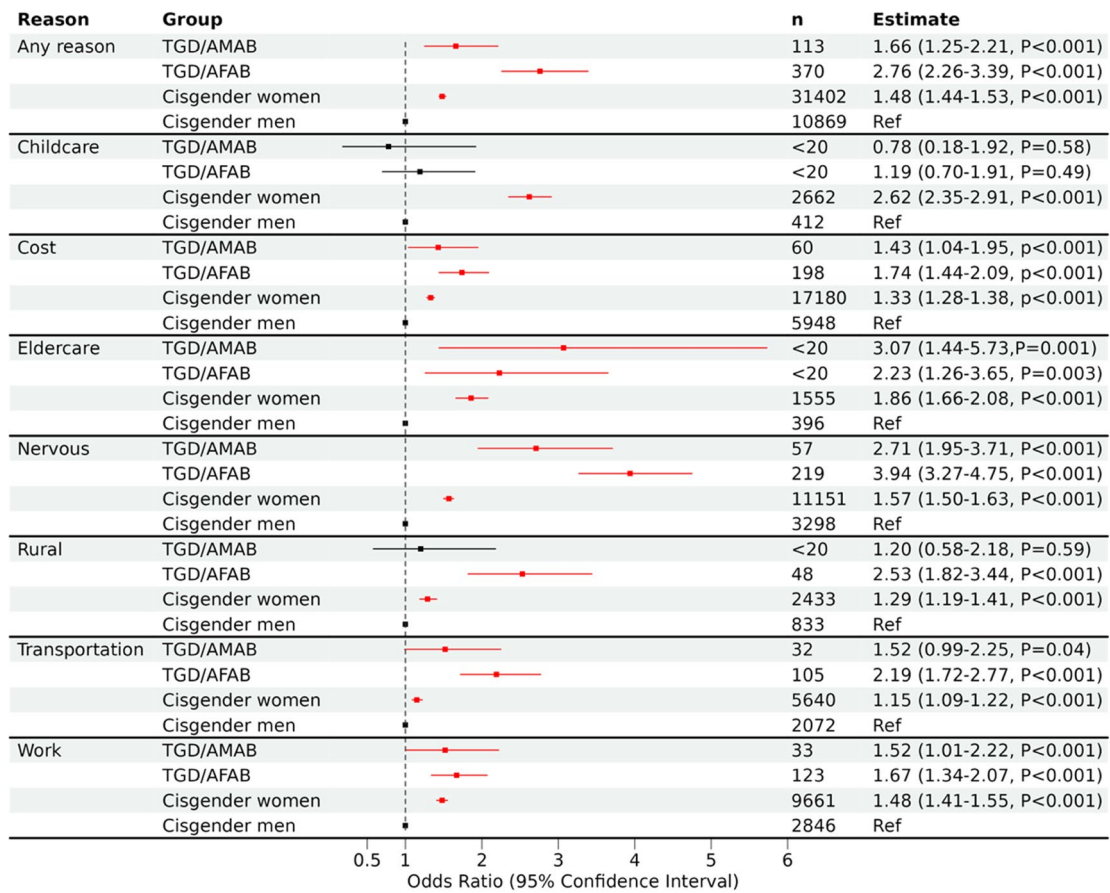


Figure 2 Odds of delayed healthcare by sex/gender category in the All of Us Research Program. Odds ratios are displayed for delays in accessing care during the previous 12 months due to any reason, cost-related (out-of-pocket costs, co-payment costs, high deductible), lack of childcare coverage, lack of eldercare coverage, nervousness associated with visiting the healthcare provider, living in a rural area, inability to take time off work, and inability to obtain transportation. Covariates included age, race, income, educational attainment, and a modified Charlson comorbidity index. Estimates with P < 0.05 are displayed in red. TGD, transgender and gender diverse; AMAB, assigned male at birth; AFAB, assigned female at birth.

Table 3 Sensitivity Analyses for the Association of Gender with Delayed Care for Any Reason

Transgender and gender diverse assigned male at birth (n = 217)		Transgender and gender diverse assigned female at birth (n = 522)		Cisgender women (n = 77,024)		Cisgender men (n = 40,043)	
OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value
Primary analysis, fully adjusted*							
1.65 (1.24–2.21)	<0.001	2.76 (2.26–3.39)	<0.001	1.48 (1.44–1.53)	<0.001	Ref	–
Adjusted for cardiovascular risk factors and ASCVD in lieu of the Charlson comorbidity index							
1.68 (1.26–2.25)	<0.001	2.79 (2.28–3.42)	<0.001	1.51 (1.46–1.55)	<0.001	Ref	–
Adjusted for self-reported health status in lieu of the Charlson comorbidity index							
1.57 (1.17–2.10)	0.002	2.55 (2.08–3.13)	<0.001	1.47 (1.42–1.51)	<0.001	Ref	–
Restricted to individuals enrolling before March 1, 2020 (N=63,319)							
1.76 (1.16–2.68)	0.008	2.59 (1.97–3.44)	<0.001	1.51 (1.45–1.57)	<0.001	Ref	–
(n = 107) (n = 273) (n = 41,709)							
Nervousness component adjusted for anxiety/depression							
2.27 (1.62–3.12)	<0.001	3.15 (2.60–3.81)	<0.001	1.43 (1.37–1.49)	<0.001	Ref	–
Primary analysis with race dichotomized as White vs. non-White							
1.64 (1.10–2.44)	0.02	2.38 (1.78–3.21)	<0.001	1.41 (1.36–1.46)	<0.001	Ref	–
Primary analysis adjusted for health insurance status							
1.67 (1.25–2.22)	<0.001	2.79 (2.29–3.43)	<0.001	1.50 (1.46–1.54)	<0.001	Ref	–

*Model adjusted for age, race, income, educational attainment, and a modified Charlson comorbidity index

In models comparing delayed care between all TGD and cisgender individuals, the OR for delaying care for any reason for TGD individuals compared with cisgender individuals was 1.77 (95% CI, 1.50–2.08). TGD individuals consistently had significantly higher odds of delaying care for all specific reasons except for delay due to lack of childcare or eldercare (Table 4).

DISCUSSION

Among approximately 118,000 US adults, we found that cisgender women and TGD individuals were significantly more likely to delay seeking care compared with cisgender men. Our analyses align with prior studies which report that TGD individuals experience greater delays in seeking healthcare than cisgender individuals.⁶ We found that cisgender women were more likely to delay care than cisgender men, which is consistent with 2016–2019 BRFSS data⁵ and stands in contrast with the 2014–2015 BRFSS data which showed cisgender men were more likely to delay care.⁶ The authors of this analysis posit that masculine beliefs may influence unwillingness to receive healthcare,⁶ and these attitudes may have changed since 2015. Nervousness and cost-related barriers were the most commonly cited reasons for delay across gender groups. Notably, we found that TGD individuals were more likely than cisgender men to cite nervousness associated with visiting a healthcare provider, lack of transportation, time off work, and lack of dependent care as factors underlying delays in care.

Our analysis aligns with and extends prior research regarding delays in care stemming from cost, insurance status, and lack of a regular provider,^{5, 6, 10} and suggests additional socioeconomic and social factors that may

differentially impact care delay among cisgender women and TGD individuals. We found nervousness associated with visiting medical providers to be a significant determinant in delaying care for TGD individuals. Prior work suggests this may be related to discrimination faced in healthcare settings.^{19, 20} For example, a survey-based study of US adults found 22% of TGD adults avoided healthcare due to fear of discrimination.⁹ TGD individuals also have higher rates of depression and anxiety,²¹ which appeared to explain only a modest portion of the reported nervousness with seeking care among TGD individuals when we included mental health diagnoses in our modeling. Approaches to mitigating this disparity should focus on both increased access to mental health services and strategies to reduce discrimination of TGD individuals in healthcare settings. Of note, cost-related barriers and nervousness were top reasons for delaying care across all genders, so addressing these barriers is likely to improve care access for many adults. Lack of transportation and time off work were also significant factors for TGD individuals. Others have shown that those without paid medical leave are more likely to forego specific preventive care services.²² Stronger medical leave policies in the USA, which are not currently mandated, and while important for all US adults, may particularly impact TGD individuals, who were more likely than cisgender individuals to report lack of time off work as a barrier to healthcare.²³ Additionally, increasing access to telehealth may address concerns of lack of transportation or distance to a healthcare provider for rural individuals.

The USA ranks low in childcare and early childhood education investment,²⁴ and in a Kaiser survey conducted in 2017, 14% of women cited lack of childcare as a reason for

Table 4 Association of Transgender and Gender Diverse vs. Cisgender Status with Delays in Seeking Healthcare

	Transgender and gender diverse individuals vs. cisgender individuals (ref.)	
	OR (95% CI)	P-value
Primary analysis (delayed care for any reason)	1.77 (1.50–2.08)	<0.001
Specific reasons for delayed care		
Childcare	0.46 (0.22–0.85)	0.02
Cost	1.33 (1.13–1.56)	<0.001
Eldercare	1.52 (0.98–2.25)	0.051
Nervous	2.55 (2.17–2.99)	<0.001
Rural	1.74 (1.31–2.29)	<0.001
Transportation	1.78 (1.45–2.18)	<0.001
Work	1.21 (1.00–1.46)	<0.001
Sensitivity analyses		
Adjusted for cardiovascular risk factors and ASCVD in lieu of the Charlson comorbidity index	1.77 (1.50–2.09)	<0.001
Adjusted for self-reported health status in lieu of the Charlson comorbidity index	1.63 (1.29–2.07)	<0.001
Restricted to individuals enrolling before March 1, 2020 (<i>n</i> = 63,319)	1.72 (1.37–2.17)	<0.001
Primary analysis with race as a binary (white vs. non-white)	1.77 (1.50–2.08)	<0.001
Primary analysis adjusted for health insurance status	1.77 (1.50–2.09)	<0.001

Specific reasons for delays in accessing care during the previous 12 months included any reason, cost-related (out-of-pocket costs, co-payment costs, high deductible), lack of childcare coverage, lack of eldercare coverage, nervousness associated with visiting the healthcare provider, living in a rural area, inability to take time off work, or inability to obtain transportation

delaying medical care.²⁵ A study of low-income families in California found lack of childcare was a significant reason for parental delays in seeking care.²⁶ We also found that, compared with cisgender men, lack of childcare was a more commonly cited reason for delaying care among cisgender women in our study. Furthermore, in our analysis, both cisgender women and TGD individuals were significantly more likely than cisgender men to cite needing to care for a dependent adult as a reason for delaying their own medical care, although the absolute number of TGD individuals citing this reason was small (< 20 in each TGD group).²⁷

Strengths of our study include ascertainment of gender identity using a validated two-step method and examination of wider array of reasons for delaying care beyond what is available in the BRFSS. Our findings should also be interpreted in the context of limitations. We relied on self-reported delayed care. Most All of Us participants were recruited from health centers, and insurance rates were high across all groups, both potentially reflecting greater access compared with the general population. Finally, not every participant in All of Us completed the healthcare access and utilization survey, yielding potential for response bias.

In summary, our findings suggest that lowering out-of-pocket costs, addressing constraints like dependent care, improving patient comfort, and addressing discrimination in healthcare settings may mitigate gender disparities in access to care. These findings highlight the need to address common and distinct barriers to care access among marginalized groups.

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Data Availability Researchers may request data access at <https://www.researchallofus.org/>.

Declarations:

Conflict of Interest: Dr. Natarajan reports grant support from Amgen, Apple, AstraZeneca, Boston Scientific, and Novartis, spousal employment and equity at Vertex, consulting income from Apple, AstraZeneca, Novartis, Genentech / Roche, Blackstone Life Sciences, Foresite Labs, and TenSixteen Bio, and is a scientific advisor board member and shareholder of TenSixteen Bio and geneXwell, all unrelated to this work. Dr. Honigberg reports consulting fees from CRISPR Therapeutics, advisory board service for Miga Health, and grant support from Genentech, all unrelated to this work.

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