

Factors Associated with Use of HIV Prevention and Health Care Among Transgender Women — Seven Urban Areas, 2019–2020

Kathryn Lee, MPH¹; Lindsay Trujillo, MPH²; Evelyn Olansky, MPH²; Taylor Robbins, MPH¹; Christine Agnew-Brune, PhD¹; Elana Morris, MPH¹; Teresa Finlayson, PhD¹; Dafna Kanny, PhD¹; Cyprian Wejnert, PhD¹; National HIV Behavioral Surveillance among Transgender Women Study Group

Transgender women* are disproportionately affected by HIV. Among 1,608 transgender women who participated in CDC's National HIV Behavioral Surveillance (NHBS) during 2019–2020, 42% received a positive HIV test result (1). This report provides results from seven U.S. urban areas where the 2019–2020 NHBS questionnaire was administered. Thirty-eight percent of participants reported having previously received a positive test result for HIV. Detrimental socioeconomic factors, including low income (44%), homelessness (39%), and severe food insecurity in the past 12 months (40%), were common and associated with lower receipt of HIV prevention and treatment services. Having a usual health care source or a provider with whom the participant was comfortable discussing gender-related health issues was associated with improved HIV prevention and treatment outcomes, including HIV testing, preexposure prophylaxis (PrEP) use, and viral suppression. These findings illustrate the benefit of gender-affirming approaches used by health care providers (2), and highlight the challenging socioeconomic conditions faced by many transgender women. Ensuring access to gender-affirming health care approaches and addressing the socioeconomic challenges of many transgender women could improve access to and use of HIV prevention and care in this population and will help achieve the goals of the Ending the HIV Epidemic in the United States initiative (3).

Initiated in 2003, NHBS conducts biobehavioral surveillance among persons at high risk for HIV infection. During June 2019–February 2020, NHBS surveyed 1,608 transgender women in seven U.S. urban areas using

respondent-driven sampling.[†] Eligible participants[§] completed an interviewer-administered questionnaire and were offered an HIV test. The questionnaire included measures of gender identity,[¶] income, health insurance, housing,** food

[†] Respondent-driven sampling is a methodology similar to snowball sampling and is often used when trying to sample hard-to-reach populations. The method relies on multiple waves of peer-to-peer recruitment to achieve the desired sample size. <https://www.jstor.org/stable/10.1525/sp.2002.49.1.11?seq=1>

[§] Eligible persons were those who were aged ≥18 years, had current residence in a participating urban area, had not previously participated in the current survey cycle, had ability to complete the survey in either English or Spanish, provided informed consent, and reported a gender identity of woman or transgender woman and were assigned male sex or intersex at birth.

[¶] Participants were asked to report their current gender identity from the following response options: woman, man, transgender woman, transgender man, or a gender not listed here. Participants were able to select more than one response option.

** Participants were asked if they had experienced homelessness during the past 12 months, including living on the street, in a shelter, in a single room occupancy hotel, or in a car. They were also asked to provide the number of nights during the past 12 months that they experienced homelessness.

INSIDE

680 Modifiable Risk Factors for Alzheimer Disease and Related Dementias Among Adults Aged ≥45 Years — United States, 2019

686 Rabies in a Dog Imported from Azerbaijan — Pennsylvania, 2021

690 Notes from the Field: *Escherichia coli* O157:H7 Outbreak in Children with *Clostridioides difficile* Colonization Associated with an Improperly Treated Swimming Pool — Pennsylvania, June 2021

692 QuickStats

Continuing Education examination available at https://www.cdc.gov/mmwrr/mmwrr_continuingEducation.html

*Persons who were assigned male sex at birth and who currently identify as women or transgender women.



insecurity,^{††} HIV status, viral suppression (if HIV-positive), comfort with their health care provider in discussing gender-related health issues (hereafter referred to as comfort with a provider), unmet need for health care,^{§§} and usual source of health care. Because of racial and ethnic disparities in HIV prevalence, recruitment was focused on Black or African American and Hispanic or Latina transgender women as initial sampling recruits. Incentives were provided for completion of the interview and HIV test. Adjusted prevalence ratios (aPRs) and 95% CIs for prevention and treatment outcomes, by self-reported HIV status, were estimated using log-linked Poisson regression models with generalized estimating equations clustered on recruitment chain and urban area; models were adjusted for age, race and ethnicity, and urban area. Analyses were conducted using SAS software (version 9.4; SAS Institute). This activity was reviewed by CDC and was conducted consistent with applicable federal law and CDC policy.^{¶¶}

Data from 1,608 transgender women were included in this analysis (Table 1). Thirty-eight percent reported having previously

received a positive HIV test result.^{***} Forty-four percent earned <\$10,000 annually. During the past 12 months 39% experienced homelessness, and 40% experienced severe food insecurity. Nearly one third (31%) of participants were interviewed in Los Angeles. By urban area, reports of homelessness ranged from 22% to 59%, and reports of recent severe food insecurity ranged from 28% to 47%. Comfort with a provider varied by urban area from 66% to 91%.

Socioeconomic status and health care accessibility were associated with health outcomes (Table 2). Among participants who reported a previous positive test result for HIV, self-reported viral suppression was less common among participants who reported experiencing homelessness during the past 12 months (aPR = 0.88; p = 0.003), and the likelihood of viral suppression decreased as the number of nights of homelessness increased. Severe food insecurity (aPR = 0.84; p < 0.001) and unmet need for health care (aPR = 0.89; p = 0.027) were also less common among participants who reported viral suppression. Comfort with a provider (aPR = 1.17; p = 0.007) was more common among participants who reported viral

^{††} Severe food insecurity was defined as having not eaten for a whole day because there was not enough money for food at some point during the past 12 months.

^{§§} Having an unmet need for care was defined as a “time when you needed medical care but didn’t get it because you couldn’t afford it” during the past 12 months.

^{¶¶} 45 C.F.R. part 46.102(l)(2), 21 C.F.R. part 56; 42 U.S.C. Sect. 241(d); 5 U.S.C. Sect. 552a; 44 U.S.C. Sect. 3501 et seq.

^{***} Among participants, 38% self-reported living with HIV during the interview and were asked questions related to HIV treatment. During postinterview HIV testing, an additional 4% of participants received a positive HIV test result, for a total of 42% of participants who received a positive HIV test result (<https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>). Those who did not report living with HIV during the interview were not asked about HIV treatment.

The *MMWR* series of publications is published by the Center for Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, GA 30329-4027.

Suggested citation: [Author names; first three, then et al., if more than six.] [Report title]. *MMWR Morb Mortal Wkly Rep* 2022;71:[inclusive page numbers].

Centers for Disease Control and Prevention

Rochelle P. Walensky, MD, MPH, *Director*
Debra Houry, MD, MPH, *Acting Principal Deputy Director*
Daniel B. Jernigan, MD, MPH, *Deputy Director for Public Health Science and Surveillance*
Rebecca Bunnell, PhD, MEd, *Director, Office of Science*
Jennifer Layden, MD, PhD, *Deputy Director, Office of Science*
Leslie Dauphin, PhD, *Director, Center for Surveillance, Epidemiology, and Laboratory Services*

MMWR Editorial and Production Staff (Weekly)

Charlotte K. Kent, PhD, MPH, *Editor in Chief*
Brian A. King, PhD, MPH, *Executive Editor*
Jacqueline Gindler, MD, *Editor*
Paul Z. Siegel, MD, MPH, *Associate Editor*
Mary Dott, MD, MPH, *Online Editor*
Terisa F. Rutledge, *Managing Editor*
Teresa M. Hood, MS, *Lead Technical Writer-Editor*
Glenn Damon, Soumya Dunworth, PhD,
Tiana Garrett-Cherry, PhD, MPH, Srila Sen, MA,
Stacy Simon, MA, Jesse Sokolow, Morgan Thompson,
Technical Writer-Editors

Martha F. Boyd, *Lead Visual Information Specialist*
Alexander J. Gottardy, Maureen A. Leahy,
Julia C. Martinroe, Stephen R. Spriggs, Tong Yang,
Visual Information Specialists
Quang M. Doan, MBA, Phyllis H. King,
Terraye M. Starr, Moua Yang,
Information Technology Specialists

Ian Branam, MA,
Acting Lead Health Communication Specialist
Shelton Bartley, MPH, Leslie Hamlin,
Lowery Johnson, Amanda Ray,
Health Communication Specialists
Will Yang, MA,
Visual Information Specialist

MMWR Editorial Board

Matthew L. Boulton, MD, MPH
Carolyn Brooks, ScD, MA
Jay C. Butler, MD
Virginia A. Caine, MD
Jonathan E. Fielding, MD, MPH, MBA

Timothy F. Jones, MD, *Chairman*
David W. Fleming, MD
William E. Halperin, MD, DrPH, MPH
Jewel Mullen, MD, MPH, MPA
Jeff Niederdeppe, PhD
Celeste Philip, MD, MPH
Patricia Quinlisk, MD, MPH

Patrick L. Remington, MD, MPH
Carlos Roig, MS, MA
William Schaffner, MD
Morgan Bobb Swanson, BS
Abigail Tumpey, MPH

TABLE 1. Structural and health care factors among transgender women (N = 1,608)* — National HIV Behavioral Surveillance System, seven U.S. urban areas, 2019–2020

Characteristic	No. (%)							
	Transgender women	Severe food insecurity [§]	Nights homeless [†]				Has usual source of care [¶]	Comfort with a health care provider when discussing gender-related issues
			365	30–364	<30	None		
Age group, yrs								
18–29	496 (30.9)	244 (49.2)	49 (9.9)	135 (27.2)	57 (11.7)	247 (49.8)	374 (75.4)	357 (72.0)
30–39	461 (28.7)	186 (40.4)	48 (10.4)	105 (22.8)	44 (9.5)	258 (56.0)	372 (80.7)	344 (74.6)
40–49	307 (19.1)	113 (36.8)	23 (7.5)	57 (18.8)	23 (7.5)	192 (62.5)	270 (88.0)	254 (82.7)
≥50	343 (21.3)	94 (27.4)	32 (9.3)	41 (12.0)	15 (4.4)	238 (69.4)	308 (89.8)	295 (86.0)
Race and ethnicity**								
Black, non-Hispanic	569 (35.4)	221 (38.8)	63 (11.1)	124 (21.8)	51 (9.0)	321 (56.4)	469 (82.4)	452 (79.4)
Hispanic or Latina ^{††}	643 (40.0)	275 (42.8)	49 (7.6)	122 (19.0)	61 (9.5)	396 (61.6)	532 (82.7)	481 (74.8)
White, non-Hispanic	180 (11.2)	81 (45.0)	25 (13.9)	39 (21.7)	13 (7.2)	98 (54.4)	150 (83.3)	148 (82.2)
Multiple, non-Hispanic	124 (7.7)	44 (35.5)	8 (6.5)	39 (31.5)	9 (7.3)	60 (48.4)	105 (84.7)	107 (86.3)
Other, ^{§§} non-Hispanic	89 (5.5)	15 (16.9)	6 (6.7)	13 (14.6)	6 (6.7)	60 (67.4)	66 (74.2)	61 (68.5)
Gender identity^{¶¶}								
Woman	509 (31.7)	199 (39.1)	57 (11.2)	118 (23.1)	37 (7.3)	287 (56.4)	431 (84.7)	407 (80.0)
Man	6 (0.4)	— ^{***}	—	—	—	—	5 (83.3)	—
Transgender woman	1,404 (87.3)	558 (39.7)	131 (9.3)	295 (21.0)	126 (9.0)	817 (58.2)	1,144 (81.5)	1,084 (77.2)
Transgender man	11 (0.7)	—	—	—	—	7 (63.6)	9 (81.8)	6 (54.6)
A gender not listed here	94 (5.9)	40 (42.6)	12 (12.8)	24 (25.5)	7 (7.5)	46 (48.9)	74 (78.7)	64 (68.1)
Currently has health insurance								
Yes	1,337 (83.2)	512 (38.3)	120 (9.0)	281 (21.0)	104 (7.8)	794 (59.4)	1,178 (88.1)	1,127 (84.3)
No	270 (16.8)	124 (45.9)	32 (11.9)	56 (20.7)	36 (13.3)	142 (52.6)	146 (54.1)	124 (45.9)
Unmet need for health care during the past 12 months								
Yes	323 (20.1)	186 (57.6)	37 (11.5)	97 (30.0)	36 (11.2)	147 (45.5)	238 (73.7)	224 (69.4)
No	1,285 (79.9)	451 (35.1)	115 (9.0)	241 (18.8)	104 (8.1)	789 (61.4)	1,087 (84.6)	1,027 (79.9)
Self-reported HIV status^{†††}								
HIV-positive	615 (38.3)	229 (37.2)	60 (9.8)	139 (22.6)	50 (8.1)	350 (56.9)	546 (88.8)	537 (87.3)
HIV-negative or unknown	991 (61.6)	407 (41.1)	92 (9.3)	199 (20.1)	89 (9.0)	585 (59.0)	778 (78.5)	714 (72.1)
Education								
Less than high school	347 (21.6)	168 (48.4)	35 (10.1)	75 (21.6)	33 (9.5)	192 (55.3)	283 (81.6)	268 (77.2)
High school diploma or equivalent	596 (37.1)	247 (41.4)	64 (10.7)	136 (22.8)	61 (10.2)	326 (54.7)	480 (80.5)	447 (75.0)
Some college or technical degree	486 (30.2)	181 (37.2)	40 (8.2)	105 (21.6)	33 (6.8)	290 (59.7)	416 (85.6)	395 (81.3)
College degree or more	177 (11.0)	39 (22.0)	13 (7.3)	21 (11.9)	12 (6.8)	128 (72.3)	144 (81.4)	140 (79.1)
Annual household income, USD								
40,000–74,999	173 (10.8)	25 (14.5)	—	9 (5.2)	13 (7.5)	145 (83.8)	145 (81.8)	140 (80.9)
20,000–39,999	274 (17.0)	78 (28.5)	22 (8.0)	42 (15.3)	20 (7.3)	186 (67.9)	228 (83.2)	218 (79.6)
10,000–19,999	435 (27.1)	155 (35.6)	29 (6.7)	83 (19.1)	30 (6.9)	274 (63.0)	372 (85.5)	358 (82.3)
≤9,999	711 (44.2)	373 (52.5)	94 (13.2)	201 (28.3)	76 (10.7)	324 (45.6)	571 (80.3)	523 (73.6)
Urban area								
Atlanta, Georgia	132 (8.2)	55 (41.7)	12 (9.1)	37 (28.0)	18 (13.6)	62 (47.0)	88 (66.7)	87 (65.9)
Los Angeles, California	504 (31.3)	224 (44.4)	50 (9.9)	136 (27.0)	43 (8.5)	270 (53.6)	420 (83.3)	374 (74.2)
New Orleans, Louisiana	165 (10.3)	77 (46.7)	12 (7.0)	35 (21.2)	11 (6.7)	106 (64.2)	143 (86.7)	136 (82.4)
New York, New York	279 (17.4)	114 (40.9)	21 (7.5)	46 (16.5)	27 (9.7)	181 (64.9)	245 (87.8)	222 (79.6)
Philadelphia, Pennsylvania	220 (13.7)	61 (27.7)	13 (5.9)	35 (15.9)	19 (8.6)	151 (68.6)	174 (79.1)	200 (90.9)
San Francisco, California	198 (12.3)	77 (38.9)	39 (19.7)	37 (18.7)	15 (7.6)	80 (40.4)	179 (90.4)	160 (80.8)
Seattle, Washington	110 (6.8)	29 (26.4)	5 (4.6)	12 (10.9)	7 (6.4)	86 (78.2)	76 (69.1)	72 (65.5)
Total	1,608 (100)	637 (39.6)	152 (9.5)	338 (21.0)	140 (8.7)	936 (58.2)	1,325 (82.4)	1,251 (77.8)

Abbreviation: USD = U.S. dollars.

* Numbers might not sum to totals because of missing data.

† Homelessness was defined as having lived on the street, in a shelter, in a single room occupancy hotel, or in a car during the past 12 months.

§ Severe food insecurity was defined as not eating for a whole day because there wasn't enough money for food at some point during the past 12 months.

¶ Usual source of care was defined as having a place to go when sick or in need of health advice other than a hospital emergency department.

** Because of racial and ethnic disparities in HIV prevalence, recruitment was focused on Black or African American and Hispanic or Latina transgender women.

†† Hispanic or Latina transgender women might be of any race.

§§ Includes persons who indicated Asian, American Indian or Alaska Native, or Native Hawaiian or other Pacific Islander race.

¶¶ Participants were asked to report their current gender identities from the following response options: woman, man, transgender woman, transgender man, or a gender not listed here. All eligible participants reported a gender identity of "woman" or "transgender woman;" however, participants were able to select more than one response option. Gender identities are not mutually exclusive.

*** Dashes indicate suppression because of small cell size (<5).

††† Participants who reported having a previous positive HIV test result were defined as self-reported HIV-positive.

TABLE 2. HIV treatment among transgender women living with a positive HIV test result — National HIV Behavioral Surveillance System, seven U.S. urban areas,* 2019–2020

Characteristic	No. of transgender women	Viral suppression			Current antiretroviral use		
		No. (%)	aPR [†] (95% CI)	p-value	No. (%)	aPR [†] (95% CI)	p-value
Annual household income, USD							
40,000–74,999	51	45 (88.2)	1.12 (1.00–1.25)	0.043	48 (94.1)	1.06 (0.99–1.15)	0.107
20,000–39,999	94	83 (88.3)	1.18 (1.09–1.27)	<0.001	88 (93.6)	1.07 (1.01–1.14)	0.023
10,000–19,999	177	129 (72.9)	0.96 (0.87–1.05)	0.365	165 (93.2)	1.08 (1.02–1.14)	0.012
≤9,999	290	209 (72.1)	Ref	—	249 (85.9)	Ref	—
Education							
Less than high school	144	108 (75.0)	Ref	—	130 (90.3)	Ref	—
High school diploma or equivalent	236	171 (72.5)	1.02 (0.92–1.12)	0.735	210 (89.0)	1.00 (0.95–1.05)	0.967
Some college or technical degree	196	155 (79.1)	1.08 (0.98–1.19)	0.127	177 (90.3)	1.02 (0.95–1.08)	0.606
College degree or more	39	33 (84.6)	1.18 (1.03–1.34)	0.013	34 (87.2)	0.98 (0.88–1.08)	0.661
Experienced homelessness[§]							
Yes	265	179 (67.6)	0.88 (0.81–0.96)	0.003	226 (85.3)	0.91 (0.88–0.96)	<0.001
No	350	288 (82.3)	Ref	—	325 (92.9)	Ref	—
No. of nights homeless[§]							
365	60	33 (55.0)	0.75 (0.58–0.96)	0.025	47 (78.3)	0.84 (0.76–0.93)	0.001
30–364	139	97 (69.8)	0.91 (0.83–1.00)	0.048	119 (85.6)	0.92 (0.87–0.98)	0.011
<30	50	39 (78.0)	1.02 (0.88–1.18)	0.804	47 (94.0)	0.99 (0.91–1.08)	0.799
None	350	288 (82.3)	Ref	—	325 (92.9)	Ref	—
Severe food insecurity[¶]							
Yes	229	150 (65.5)	0.84 (0.76–0.92)	<0.001	193 (84.3)	0.92 (0.87–0.96)	0.001
No	386	317 (82.1)	Ref	—	328 (92.7)	Ref	—
Currently has health insurance							
Yes	560	435 (77.7)	1.14 (0.96–1.35)	0.133	507 (90.5)	1.16 (1.03–1.30)	0.016
No	54	32 (59.3)	Ref	—	43 (79.6)	Ref	—
Unmet need for health care during the past 12 months							
Yes	90	58 (64.4)	0.89 (0.81–0.99)	0.027	74 (82.2)	0.90 (0.84–0.97)	0.008
No	525	409 (77.9)	Ref	—	477 (90.9)	Ref	—
Has usual source of care^{**}							
Yes	546	420 (76.9)	1.07 (0.94–1.22)	0.323	496 (90.8)	1.16 (1.03–1.32)	0.015
No	69	47 (68.1)	Ref	—	55 (79.7)	Ref	—
Comfort with a health care provider^{††}							
Yes	537	423 (78.8)	1.17 (1.04–1.32)	0.007	490 (91.2)	1.16 (1.05–1.29)	0.004
No	78	44 (56.4)	Ref	—	61 (78.2)	Ref	—
Total	615	467 (75.9)	—	—	551 (89.6)	—	—

Abbreviations: aPR = adjusted prevalence ratio; Ref = referent group; USD = U.S. dollars.

* The seven urban areas include Atlanta, Georgia; Los Angeles, California; New Orleans, Louisiana; New York, New York; Philadelphia, Pennsylvania; San Francisco, California; and Seattle, Washington.

[†] Adjusted for age, race and ethnicity, city, and network size and clustered on urban areas and recruitment chains.

[§] Homelessness was defined as having lived on the street, in a shelter, in a single room occupancy hotel, or in a car during the past 12 months.

[¶] Severe food insecurity was defined as not eating for a whole day because there was not enough money for food at some point during the past 12 months.

^{**} Usual source of care was defined as having a place to go when sick or in need of health advice other than a hospital emergency department.

^{††} Comfort with a health care provider was defined as having a health care provider with whom the participant is comfortable discussing gender-related health issues.

suppression. Similar associations were found for current use of antiretroviral medication. Having a usual source of health care was also associated with current use of antiretroviral medication (aPR = 1.16; p = 0.015).

Among participants who did not report a previous positive test result for HIV, testing for HIV during the past 12 months was more likely among those who reported having a usual source of health care (aPR = 1.16; p < 0.001) and comfort with a provider (aPR = 1.12; p = 0.004) (Table 3). PrEP use was more common among participants who reported having health insurance (aPR = 1.54; p < 0.001), a usual source of health care (aPR = 2.54; p < 0.001), and comfort with a provider

(aPR = 1.79; p < 0.001), and less likely among participants who reported an unmet need for health care (aPR = 0.82; p = 0.050). PrEP use was also more common among participants who had experienced severe food insecurity than those who had not (aPR = 1.23; p = 0.024).

Discussion

Experiencing homelessness, poverty, and food insecurity was common among transgender women and might result from the pervasive experience of stigma and discrimination, which reduce access to education, employment, and health care (4). These structural factors are associated with lower likelihood

TABLE 3. HIV prevention services among transgender women without known HIV infection — National HIV Behavioral Surveillance System, seven U.S. urban areas,* 2019–2020

Characteristic	No. of transgender women	HIV test in the past 12 months			PrEP use in the past 12 months		
		No. (%)	aPR [†] (95% CI)	p-value	No. (%)	aPR [†] (95% CI)	p-value
Annual household income, USD							
40,000–74,999	122	93 (76.2)	0.93 (0.85–1.01)	0.099	23 (18.8)	0.73 (0.53–0.99)	0.043
20,000–39,999	180	136 (75.6)	0.90 (0.82–0.98)	0.022	55 (30.6)	1.09 (0.90–1.32)	0.377
10,000–19,999	258	214 (82.9)	0.99 (0.94–1.04)	0.640	96 (37.2)	1.45 (1.22–1.74)	<0.001
≤9,999	421	358 (85.0)	Ref	—	113 (26.8)	Ref	—
Education							
Less than high school	203	173 (85.2)	Ref	—	51 (25.1)	Ref	—
High school diploma or equivalent	360	283 (78.6)	0.93 (0.86–1.01)	0.067	110 (30.6)	1.26 (1.02–1.56)	0.033
Some college or technical degree	290	244 (84.1)	1.00 (0.94–1.07)	0.944	91 (31.4)	1.27 (0.97–1.66)	0.087
College degree or more	138	106 (76.8)	0.95 (0.85–1.06)	0.379	36 (26.1)	1.06 (0.81–1.40)	0.662
Experienced homelessness[§]							
Yes	406	349 (86.0)	1.10 (0.99–1.21)	0.076	126 (31.0)	1.08 (0.93–1.25)	0.332
No	586	458 (78.2)	Ref	—	162 (27.6)	Ref	—
No. of nights homeless[§]							
365	92	73 (79.3)	1.03 (0.90–1.17)	0.663	24 (26.1)	0.98 (0.70–1.38)	0.899
30–364	199	176 (88.4)	1.12 (1.00–1.25)	0.059	62 (31.2)	1.05 (0.84–1.32)	0.654
<30	90	78 (86.7)	1.10 (0.99–1.21)	0.073	29 (32.2)	1.09 (0.83–1.43)	0.525
None	586	458 (78.2)	Ref	—	162 (27.6)	Ref	—
Severe food insecurity[¶]							
Yes	408	342 (83.8)	1.02 (0.96–1.10)	0.495	137 (33.6)	1.23 (1.03–1.47)	0.024
No	582	463 (79.5)	Ref	—	149 (25.6)	Ref	—
Currently has health insurance							
Yes	777	638 (82.1)	1.06 (0.98–1.16)	0.155	240 (30.9)	1.54 (1.26–1.88)	<0.001
No	216	170 (78.7)	Ref	—	48 (22.2)	Ref	—
Unmet need for health care during the past 12 months							
Yes	233	190 (81.6)	0.99 (0.93–1.05)	0.792	60 (25.7)	0.82 (0.68–1.00)	0.050
No	760	618 (81.3)	Ref	—	228 (30.0)	Ref	—
Has usual source of care^{**}							
Yes	779	650 (83.4)	1.16 (1.08–1.23)	<0.001	261 (33.5)	2.54 (1.86–3.45)	<0.001
No	210	154 (73.3)	Ref	—	26 (12.4)	Ref	—
Comfort with a health care provider^{††}							
Yes	714	601 (84.2)	1.12 (1.04–1.21)	0.004	240 (33.6)	1.79 (1.43–2.24)	<0.001
No	274	206 (75.2)	Ref	—	48 (17.5)	Ref	—
Total	991	786 (82.3)	—	—	288 (29.0)	—	—

Abbreviations: aPR = adjusted prevalence ratio; Ref = referent group; USD = U.S. dollars.

* The seven urban areas include Atlanta, Georgia; Los Angeles, California; New Orleans, Louisiana; New York, New York; Philadelphia, Pennsylvania; San Francisco, California; and Seattle, Washington.

[†] Adjusted for age, race and ethnicity, city, and network size and clustered on urban areas and recruitment chains.

[§] Homelessness was defined as having lived on the street, in a shelter, in a single room occupancy hotel, or in a car during the past 12 months.

[¶] Severe food insecurity was defined as not eating for a whole day because there was not enough money for food at some point during the past 12 months.

^{**} Usual source of care was defined as having a place to go when sick or in need of health advice other than a hospital emergency department.

^{††} Comfort with a health care provider was defined as having a health care provider with whom the participant is comfortable discussing gender-related health issues.

of viral suppression among transgender women with HIV infection. When a person experiences challenges securing food or housing, prioritization of HIV treatment might be interrupted (5). Facilitating transgender women's access to interventions that address socioeconomic conditions, such as the U.S. Department of Housing and Urban Development's Housing Opportunities for Persons with AIDS (HOPWA) program,^{†††} could help ensure that basic needs are met and improve the health of persons with HIV in this population.

^{†††} <https://www.hud.gov/hudprograms/hopwa>

Despite existence of need-based programs like the Ryan White HIV/AIDS Program^{§§§} and Ready, Set, PrEP,^{¶¶¶} results indicate that participants without health insurance or with an unmet need for health care were less likely to achieve viral suppression or report PrEP use. Evaluation of these and similar programs might help identify barriers to participation that need to be addressed to ensure that persons in need are aware of and accessing these programs.

^{§§§} <https://ryanwhite.hrsa.gov/>

^{¶¶¶} <https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/prep-program>

Summary**What is already known about this topic?**

Transgender women are disproportionately affected by HIV.

What is added by this report?

During 2019–2020, 38% of transgender women surveyed in seven major U.S. cities reported receiving a previous positive HIV test result. Low income (44%), experiencing homelessness (39%), and severe food insecurity (40%) were common and associated with lower likelihood of receipt of HIV prevention and health care; having a health care provider with whom the participant is comfortable was positively associated with receiving those services.

What are the implications for public health practice?

Ensuring access to basic needs, such as housing, food, and income, and providing gender-affirming health care could improve access to and use of HIV prevention and treatment services by transgender women.

Having a usual source of health care and comfort with a provider were associated with a higher likelihood of viral suppression, HIV testing, and PrEP use, all of which play key roles in HIV prevention. Comfort with a provider can help alleviate the stigma and discrimination that often deter transgender persons from seeking care (6). Perceived interactions with hormones, concerns about side effects, medical mistrust, competing priorities, and the belief that PrEP is specifically for gay men are all documented barriers to PrEP use among transgender persons (7). A gender-affirming provider can help transgender women overcome barriers to PrEP use.

The findings in this report are subject to at least four limitations. First, the results are not representative of all transgender women residing outside the seven urban areas. Second, the data are self-reported and are subject to recall and social desirability biases. Third, the findings reported here are associations, and causality cannot be inferred. Finally, gender-affirming health care is a complex, multifaceted construct (8), and is not fully described by the measure of comfort with a provider when discussing gender-related health issues that was used in this analysis.

Early detection of HIV, appropriate treatment, and proven prevention interventions are effective tools in the fight against HIV and are key strategies for ending the HIV epidemic (3). The findings in this report highlight an additional need for health care providers and other public health officials to ensure appropriate levels of cultural competency when providing services for transgender persons. Providers can use CDC's Patient-Centered Care for Transgender People: Recommended Practices for Health Care Settings**** as a starting point for understanding how to provide affirming services. Although access to health insurance

and gender-affirming health care is critical to connecting transgender women to HIV prevention and care services; access to food, housing, and income are also essential.

National HIV Behavioral Surveillance among Transgender Women Study Group

Narquis Barak, CrescentCare; Kathleen A. Brady, Philadelphia Department of Public Health; Sarah Braunstein, New York City Department of Health and Mental Hygiene; Jasmine Davis, CrescentCare; Sara Glick, University of Washington, School of Medicine, Division of Allergy and Infectious Diseases, Public Health - Seattle & King County, HIV/STD Program; Andrea Harrington, Philadelphia Department of Public Health; Jasmine Lopez, New York City Department of Health and Mental Hygiene; Yingbo Ma, Los Angeles County Department of Public Health; Aleks Martin, Public Health - Seattle & King County, HIV/STD Program; Genetha Mustaafaa, Georgia Department of Public Health; Tanner Nassau, Philadelphia Department of Public Health; Gia Olaes, Los Angeles County Department of Public Health; Jennifer Reuer, Washington State Department of Health; Alexis Rivera, New York City Department of Health and Mental Hygiene; William T. Robinson, Louisiana State University Health Science Center in New Orleans – School of Public Health, Louisiana Office of Public Health STD/HIV/Hepatitis Program; Ekow Kwa Sey, Los Angeles County Department of Public Health; Sofia Sicro, San Francisco Department of Public Health; Brittany Taylor, Georgia Department of Public Health; Dillon Trujillo, San Francisco Department of Public Health; Erin Wilson, San Francisco Department of Public Health; Pascale Wortley, Georgia Department of Public Health.

Corresponding author: Kathryn Lee, Klee3@cdc.gov, 404-639-6110.

¹Division of HIV Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention, CDC; ²Social & Scientific Systems, Inc., Atlanta, Georgia.

All authors have completed and submitted the International Committee of Medical Journal Editors form for disclosure of potential conflicts of interest. Evelyn Olansky reports support from ICF for attending meetings or travel. No other potential conflicts of interest were disclosed.

References

1. CDC. HIV infection, risk, prevention, and testing behaviors among transgender women—National HIV Behavioral Surveillance, 7 U.S. cities, 2019–2020. HIV surveillance special report no. 27. Atlanta, GA: US Department of Health and Human Services, CDC; 2021. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>
2. Carter JW Jr, Salabarría-Peña Y, Fields EL, Robinson WT. Evaluating for health equity among a cluster of health departments implementing PrEP services. *Eval Program Plann* 2021;101981. PMID:34392968 <https://doi.org/10.1016/j.evalprogplan.2021.101981>
3. Fauci AS, Redfield RR, Sigounas G, Weahkee MD, Giroir BP. End the HIV epidemic: a plan for the United States. *JAMA* 2019;321:844–5. PMID:30730529 <https://doi.org/10.1001/jama.2019.1343>

**** <https://www.cdc.gov/hiv/clinicians/transforming-health/health-care-providers/affirmative-care.html>

4. Grant JM, Mottet 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://transequality.org/sites/default/files/docs/resources/NTDS_Report.pdf
5. Hotton AL, Perloff J, Paul J, et al. Patterns of exposure to socio-structural stressors and HIV care engagement among transgender women of color. *AIDS Behav* 2020;24:3155–63. PMID:32335760 <https://doi.org/10.1007/s10461-020-02874-6>
6. Lacombe-Duncan A, Kia H, Logie CH, et al. A qualitative exploration of barriers to HIV prevention, treatment and support: perspectives of transgender women and service providers. *Health Soc Care Community* 2021;29:e33–46. PMID:33237600 <https://doi.org/10.1111/hsc.13234>
7. Cahill SR, Keatley J, Wade Taylor S, et al. “Some of us, we don’t know where we’re going to be tomorrow.” Contextual factors affecting PrEP use and adherence among a diverse sample of transgender women in San Francisco. *AIDS Care* 2020;32:585–93. PMID:31482726 <https://doi.org/10.1080/09540121.2019.1659912>
8. CDC. Patient-centered care for transgender people: recommended practices for health care settings. Atlanta, GA: US Department of Health and Human Services, CDC; 2022. Accessed January 21, 2022. <https://www.cdc.gov/hiv/clinicians/transforming-health/health-care-providers/affirmative-care.html>