

HIV Testing and Outcomes Among Hispanics/Latinos — United States, Puerto Rico, and U.S. Virgin Islands, 2014

Shubha Rao, MPH¹; Puja Seth, PhD¹; Tanja Walker, MPH¹; Guoshen Wang, MS¹; Mesfin S. Mulatu PhD¹; John Gilford, PhD¹; Emilio J. German, MSHSA²

The 2015 National HIV/AIDS Strategy provides an updated plan to address health disparities in communities at high risk for human immunodeficiency virus (HIV) infection (1,2). Hispanics/Latinos* are disproportionately affected by HIV in the United States. In 2014, 23% of HIV diagnoses were among Hispanics/Latinos, who represented 16% of the U.S. population (3). To examine HIV testing services, CDC analyzed 2014 data from the National HIV Prevention Program Monitoring and Evaluation (NHM&E) system submitted by 60 CDC-funded health departments[†] and 151 community-based organizations. Among Hispanics/Latinos tested, gay, bisexual, and other men who have sex with men (MSM) had the highest percentage of HIV diagnoses (2%). MSM accounted for 19.8% of HIV test events conducted among Hispanics/Latinos and 63.8% of Hispanics/Latinos who received an HIV diagnosis in non–health care settings.[§] Approximately 60% of Hispanics/Latinos who received an HIV diagnosis were linked to HIV medical care within 90 days; this percentage was lower in the South than in other U.S. Census regions. HIV prevention programs that are focused on expanding routine HIV screening and targeting and improving linkage to medical care and other services (e.g., partner services) for Hispanics/Latinos can help identify undiagnosed HIV cases and reduce HIV transmission.

CDC analyzed NHM&E HIV test event-level data submitted by 60 CDC-funded testing programs at health departments[‡] and 151 community-based organizations. Data were stratified by age, gender, U.S. Census region, HIV

prevalence,** and certain target populations (i.e., MSM, persons who inject drugs, heterosexual males, and heterosexual females).^{††} Data to identify target populations are required for all test events conducted in non–health care settings and are only required for HIV-positive persons from health care settings. Target population data included in the analysis were only from non–health care settings. Valid HIV test events were tests for which the results (i.e., positive or negative) were known. Analyses included persons who tested positive for HIV during the most current test event in 2014 and were not previously reported in the health department's HIV surveillance system. Clients' self-reported data regarding previous HIV status were used for grantees who were not able to verify earlier test results within the grantee's surveillance system. The outcomes among Hispanics/Latinos with HIV infection diagnosed in 2014 included linkage to HIV medical care within any timeframe (e.g., attendance at first medical care appointment); linkage to HIV medical care within 90 days; interview for partner services (i.e., soliciting information from HIV-positive persons about their sex partners and drug-injecting partners, who can then be notified of their potential exposures and offered services to protect their health) (4); and referral to HIV risk-reduction services (i.e., services aimed at reducing the risk for HIV transmission, such as behavioral interventions and risk-reduction counseling. HIV risk-reduction services exclude HIV posttest counseling, mental health services, and housing needs) (5).

During 2014, a total of 3,049,845 CDC-funded HIV test events were conducted in the United States, Puerto Rico, and the U.S. Virgin Islands. Hispanics/Latinos accounted for 22.6% (687,777) of all test events conducted, and for 25.3% and 25.8% of HIV test events among persons aged 30–39 years and 40–49 years, respectively, as well as 31.4%

* Persons who are Hispanic/Latino can be of any race.

[†] 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and eight Metropolitan Statistical Areas or specified Metropolitan Divisions: Baltimore, Chicago, Fulton County (Atlanta), Houston, Los Angeles County, New York City, Philadelphia, and San Francisco. In 2014, one health department submitted aggregate-level data, and therefore, was excluded from the analysis.

[§] Data to identify target populations are required for all test events conducted in non–health care settings and are only required for HIV-positive persons from health care settings. Therefore, data for target populations were only from tests conducted in non–health care settings (N = 879,063 for all CDC-funded test events and N = 197,802 for Hispanics/Latinos). Health care settings include inpatient facilities, outpatient facilities, and emergency departments. Non–health care settings include HIV counseling and testing sites and community settings.

[‡] An HIV test event is a sequence of one or more HIV tests conducted to determine a person's HIV status. During one testing event, a person might be tested once (e.g., one rapid test or one conventional test) or multiple times (e.g., one rapid test followed by one conventional test to confirm a preliminary HIV-positive test result).

** HIV prevalence is defined based on the number of persons living with diagnosed HIV infection (PLWH) in 2013. The jurisdictions are classified based on HIV prevalence as follows: high, ≥20,000 PLWH; medium, 4,000–19,999 PLWH; medium-low, 1,000–3,999 PLWH; and low, <1,000 PLWH.

^{††} MSM include males who reported male-to-male sexual contact as well as males who reported both male-to-male sexual contact and injection drug use in the past 12 months. Persons who inject drugs include persons who reported injection drug use in the past 12 months. Heterosexual males include males who only reported heterosexual contact with a female in the past 12 months. Heterosexual females include females who only reported heterosexual contact with a male in the past 12 months.

of HIV test events among transgender persons. By census region, Hispanics/Latinos accounted for >90% of all test events conducted in the U.S. dependent areas of Puerto Rico and the U.S. Virgin Islands (98% were conducted in Puerto Rico) and 40.1% of test events in the West census region. Among all HIV test events that occurred in medium-low HIV prevalence and high HIV prevalence areas, Hispanics/Latinos accounted for 22.8% and 27.0%, respectively. Hispanic/Latino MSM accounted for 24.4% of all HIV test events conducted among MSM in non-health care settings (Table 1).

Hispanics/Latinos accounted for 23.3% (2,906) of all persons who received a diagnosis of HIV in 2014. Hispanics/Latinos accounted for 27.4% and 26.8% of diagnoses among persons aged 30–39 years and 40–49 years, respectively; 24.7% of diagnoses among males; and 23.6% of diagnoses among transgender persons. Almost all diagnoses in the U.S. dependent areas and 36.0% of diagnoses in the West were among Hispanics/Latinos. Among persons in medium-low and high prevalence areas, Hispanics/Latinos accounted for 25.7% and 24.7% of diagnoses, respectively. Hispanics/Latinos accounted for 25.3% of all

TABLE 1. Number and percentage of HIV test events and diagnoses among Hispanics/Latinos, by demographic characteristics and target populations, compared with all CDC-funded HIV test events — United States, Puerto Rico, and U.S. Virgin Islands, 2014

Characteristic	HIV test events*			HIV diagnoses†		
	All CDC-funded valid HIV test events No.	Among Hispanics/ Latinos No.	(%)	Total HIV diagnoses No.	Among Hispanics/ Latinos No.	(%)
Age group (yrs)						
13–19	237,873	49,095	(20.6)	420	86	(20.5)
20–29	1,213,767	250,200	(20.6)	5,505	1,175	(21.3)
30–39	702,686	177,843	(25.3)	2,999	821	(27.4)
40–49	420,579	108,611	(25.8)	1,917	514	(26.8)
≥50	448,512	97,065	(21.6)	1,601	309	(19.3)
Gender						
Male	1,541,082	334,932	(21.7)	10,208	2,521	(24.7)
Female	1,484,902	348,593	(23.5)	2,038	342	(16.8)
Transgender	11,469	3,601	(31.4)	174	41	(23.6)
U.S. census region						
Northeast	508,162	129,343	(25.5)	2,035	555	(27.3)
Midwest	373,576	37,292	(10.0)	1,558	139	(8.9)
South	1,654,904	290,223	(17.5)	6,893	1,303	(18.9)
West	464,481	186,147	(40.1)	1,673	602	(36.0)
U.S. dependent areas	48,722	44,772	(91.9)	313	307	(98.1)
HIV prevalence[§]						
High	1,843,344	496,795	(27.0)	8,362	2,067	(24.7)
Medium	1,108,376	170,803	(15.4)	3,792	762	(20.1)
Medium-low	79,027	18,031	(22.8)	284	73	(25.7)
Low	19,098	2,148	(11.2)	34	4	(11.8)
Target populations (non-health care settings only)^{¶, **}						
Men who have sex with men	160,499	39,122	(24.4)	3,083	780	(25.3)
Persons who inject drugs	35,453	6,021	(17.0)	126	28	(22.2)
Heterosexual males	184,915	37,112	(20.1)	557	116	(20.8)
Heterosexual females	201,786	40,077	(19.9)	483	66	(13.7)
Total	3,049,845	687,777	(22.6)	12,472	2,906	(23.3)

Abbreviation: HIV = human immunodeficiency virus.

* Valid HIV test events were defined as tests for which a test result (i.e., positive or negative) was known. Analyses exclude discordant and indeterminate results.

† Included are persons who tested HIV-positive and did not report a previous positive test result, calculated using HIV surveillance verification (if available) or a person's self-reported previous HIV status.

§ The jurisdictions are grouped according to HIV prevalence and based on the number of persons living with diagnosed HIV infection in 2013: high = ≥20,000; medium = 4,000–19,999; medium-low = 1,000–3,999; and low = <1,000.

¶ Data to identify target populations are required for all test events conducted in non-health care settings and only required for persons with HIV infection from health care settings. Therefore, for target populations, data are only from non-health care settings (N = 879,063 for all test events, N = 197,802 for test events among Hispanics/Latinos, and N = 1,222 for Hispanics/Latinos newly diagnosed with HIV infection). Other target populations and missing data among Hispanics/Latinos include the following: transgender = 1.1%, women who have sex with women = 0.9%, persons not reporting sex with male or female or injection drug use = 17.4%, and missing/invalid = 18.8%.

** MSM include males who reported male-to-male sexual contact as well as males who reported both male-to-male sexual contact and injection drug use in the past 12 months. Persons who inject drugs include persons who reported injection drug use in the past 12 months. Heterosexual males include males who only reported heterosexual contact with a female in the past 12 months. Heterosexual females include females who only reported heterosexual contact with a male in the past 12 months.

MSM and 22.2% of all persons who inject drugs receiving an HIV diagnosis in non–health care settings (Table 1).

Overall, 36.4% of 687,777 test events among Hispanics/Latinos were among persons aged 20–29 years; 50.7% were among females; 42.2% were among persons residing in the South census region; and 72.2% were among persons residing in high HIV prevalence areas. In non–health care settings, MSM accounted for 19.8% of all HIV test events conducted among Hispanics/Latinos (Table 2).

HIV-positivity among Hispanics/Latinos tested in 2014 was 0.4%. Among Hispanics/Latinos tested in non–health care settings, HIV-positivity was highest among MSM (2.0%), followed by persons who inject drugs (0.5%). MSM accounted for 19.8% (39,122 of 197,802) of HIV test events conducted among Hispanics/Latinos in non–health care settings, and 63.8% (780 of 1,222) of Hispanics/Latinos who received an HIV diagnosis in non–health care settings. Among Hispanics/Latinos who received a diagnosis, 71.0% were linked to HIV medical care within any timeframe; 61.1% were linked to medical care within 90 days, 60.0% were interviewed for HIV partner services, and 64.0% were referred to risk-reduction services. The percentage of Hispanics/Latinos linked to HIV medical care within 90 days or referred to partner services or risk-reduction services was lower in the South than in other census regions. More than 60.0% of Hispanic/Latino MSM tested in non–health care settings were linked to HIV medical care or referred to partner services or risk-reduction services (Table 2).

Discussion

Hispanics/Latinos in the United States are disproportionately affected by HIV. In 2014, the rate of HIV diagnosis among Hispanics/Latinos (18.4 per 100,000 population) was approximately three times that of non-Hispanic whites (6.1 per 100,000 population), but less than that of non-Hispanic blacks/African Americans (49.4 per 100,000 population) (3). The findings in this analysis indicate that Hispanics/Latinos accounted for 22.6% of all HIV test events and 23.3% of HIV diagnoses. MSM accounted for 19.8% of HIV test events conducted among Hispanics/Latinos, and MSM represented 63.8% of Hispanics/Latinos who received an HIV diagnosis in non–health care settings.

Although 61.1% of Hispanics/Latinos were linked to HIV medical care within 90 days of diagnosis, that is below the goal established by the 2010 National HIV/AIDS Strategy to link 85.0% of persons within 90 days of diagnosis (1). Compared with whites, Hispanics/Latinos are less likely to be linked to care (83.9% versus 87.1%) and achieve viral suppression (54.2% versus 62.0%) (6), which suggests that improved strategies are needed to increase linkage among Hispanics/Latinos as a critical step in achieving viral suppression. Effective public health

Summary

What is already known about this topic?

In 2014, 23% of HIV diagnoses were among Hispanics/Latinos, who made up 16% of the U.S. population. In 2014, the rate of HIV diagnoses among Hispanics/Latinos was approximately three times that for non-Hispanic whites (18.4 compared with 6.1 per 100,000 population).

What is added by this report?

The analysis showed that Hispanics/Latinos accounted for 22.6% of CDC-funded HIV testing events and 23.3% of persons with newly diagnosed HIV infection. The percentages of Hispanics/Latinos linked to HIV medical care, interviewed for partner services, and referred to prevention services were lower in the South compared with other U.S. census regions. Approximately 60% of Hispanics/Latinos were linked to medical care within 90 days of diagnosis, which is below the 85% goal of the National HIV/AIDS Strategy.

What are the implications for public health practice?

The findings emphasize the need for culturally and linguistically sensitive prevention strategies to promote diagnosis of HIV infection and linkage to medical care among Hispanics/Latinos to improve health outcomes. Stakeholders and partners should focus on prevention and care strategies for Hispanic/Latino subpopulations (e.g., men who have sex with men and persons who inject drugs) to reduce HIV-related disparities.

strategies also are needed to strengthen partner services and increase referrals for risk-reduction services among Hispanics/Latinos, especially among Hispanics/Latinos in the South. Given these data, prevention efforts that include targeted specific geographic regions might increase early diagnosis and improve HIV-related health outcomes among Hispanics/Latinos (7).

The findings in this report are subject to at least three limitations. First, the findings describe HIV tests conducted at CDC-funded health departments and community-based organizations only and are not representative of all HIV testing in the United States. Second, data on referral and linkage to HIV medical care, partner services, and risk-reduction services represent the minimum percentage (i.e., include records without valid data on the outcome in the denominator) achieved and likely underestimate the percentage referred and linked. Finally, collection of data on target populations is required in all non–health care settings but only for HIV-positive test events in all health care settings; therefore, underreporting the number of test events conducted among target populations.

Broader implementation of routine HIV screening and targeting testing among Hispanics/Latinos, most notably MSM and transgender persons, as recommended by CDC guidelines (8) and the U.S. Preventive Services Task Force (9) is critical to identify persons who are unaware of their HIV status. Programmatic strategies (e.g., HIV preexposure prophylaxis)

TABLE 2. Linkage to HIV medical care, referral and interview for HIV partner services, and referral to HIV risk-reduction services among Hispanics/Latinos, by demographic characteristics and target populations — United States, Puerto Rico, and U.S. Virgin Islands, 2014

Characteristic	Valid HIV test events among Hispanics/Latinos*	Diagnoses among Hispanics/Latinos†	Linked to HIV medical care within any timeframe	Linked to HIV medical care within 90 days of diagnosis	Referred to HIV partner services	Interviewed for HIV partner services	Referred to HIV risk-reduction services
	No.	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Age group (yrs)							
13–19	49,095	86 (0.2)	61 (70.9)	49 (57.0)	61 (70.9)	46 (53.5)	54 (62.8)
20–29	250,200	1,175 (0.5)	852 (72.5)	736 (62.6)	916 (78.0)	719 (61.2)	776 (66.0)
30–39	177,843	821 (0.5)	573 (69.8)	494 (60.2)	624 (76.0)	486 (59.2)	518 (63.1)
40–49	108,611	514 (0.5)	366 (71.2)	310 (60.3)	390 (75.9)	309 (60.1)	329 (64.0)
≥50	97,065	309 (0.3)	210 (68.0)	187 (60.5)	234 (75.7)	183 (59.2)	183 (59.2)
Gender							
Male	334,932	2,521 (0.8)	1,813 (71.9)	1,552 (61.6)	1,948 (77.3)	1,524 (60.5)	1,625 (64.5)
Female	348,593	342 (0.1)	216 (63.2)	193 (56.4)	241 (70.5)	196 (57.3)	205 (59.9)
Transgender	3,601	41 (1.1)	32 (78.0)	29 (70.7)	34 (82.9)	21 (51.2)	28 (68.3)
U.S. census region							
Northeast	129,343	555 (0.4)	453 (81.6)	433 (78.0)	486 (87.6)	371 (66.8)	489 (88.1)
Midwest	37,292	139 (0.4)	85 (61.2)	78 (56.1)	112 (80.6)	85 (61.2)	102 (73.4)
South	290,223	1,303 (0.4)	900 (69.1)	683 (52.4)	849 (65.2)	725 (55.6)	569 (43.7)
West	186,147	602 (0.3)	377 (62.6)	335 (55.6)	498 (82.7)	339 (56.3)	432 (71.8)
U.S. dependent areas	44,772	307 (0.7)	248 (80.8)	247 (80.5)	280 (91.2)	223 (72.6)	268 (87.3)
HIV prevalence[§]							
High	496,795	2,067 (0.4)	1,438 (69.6)	1,186 (57.4)	1,492 (72.2)	1,145 (55.4)	1,189 (57.5)
Medium	170,803	762 (0.4)	555 (72.8)	523 (68.6)	662 (86.9)	529 (69.4)	605 (79.4)
Medium-low	18,031	73 (0.4)	68 (93.2)	65 (89.0)	69 (94.5)	67 (91.8)	64 (87.7)
Low	2,148	4 (0.2)	2 (50.0)	2 (50.0)	2 (50.0)	2 (50.0)	2 (50.0)
Target populations (non–health care settings only)^{¶,***}							
MSM	39,122	780 (2.0)	545 (69.9)	519 (66.5)	675 (86.5)	512 (65.6)	520 (66.7)
Persons who inject drugs	6,021	28 (0.5)	15 (53.6)	11 (39.3)	22 (78.6)	12 (42.9)	21 (75.0)
Heterosexual males	37,112	116 (0.3)	75 (64.7)	72 (62.1)	91 (78.4)	70 (60.3)	70 (60.3)
Heterosexual females	40,077	66 (0.2)	44 (66.7)	44 (66.7)	58 (87.9)	47 (71.2)	39 (59.1)
Total	687,777	2,906 (0.4)	2,063 (71.0)	1,776 (61.1)	2,225 (76.6)	1,743 (60.0)	1,860 (64.0)

Abbreviations: HIV = human immunodeficiency virus, MSM = men who have sex with men.

* Valid HIV test events were defined as tests for which a test result (i.e., positive or negative) was known. Analyses exclude discordant and indeterminate results.

† Included are persons who tested HIV-positive and did not report a previous positive test result, calculated using HIV surveillance verification (if available) or a person's self-reported previous HIV status. The denominator for diagnosed persons is the number of HIV test events. The denominator for linkage, HIV partner services, and HIV risk reduction services is the number of diagnosed persons.

§ The jurisdictions are grouped according to HIV prevalence and based on the number of persons living with diagnosed HIV infection in 2013: high = ≥20,000; medium = 4,000–19,999; medium-low = 1,000–3,999; and low = <1,000.

¶ Data to identify target populations are required for all test events conducted in non–health care settings and only required for persons with HIV infection from health care settings. Therefore, for target populations, data are only from non–health care settings (N = 879,063 for all test events, N = 197,802 for test events among Hispanics/Latinos, and N = 1,222 for Hispanics/Latinos newly diagnosed with HIV infection). Other target populations and missing data among Hispanics/Latinos include the following: transgender = 1.1%, women who have sex with women = 0.9%, persons not reporting sex with male or female or injection drug use = 17.4%, and missing/invalid = 18.8%.

*** MSM include males who reported male-to-male sexual contact as well as males who reported both male-to-male sexual contact and injection drug use in the past 12 months. Persons who inject drugs include persons who reported injection drug use in the past 12 months. Heterosexual males include males who only reported heterosexual contact with a female in the past 12 months. Heterosexual females include females who only reported heterosexual contact with a male in the past 12 months.

for HIV-negative persons at high risk (especially racial/ethnic minorities and MSM) that complement existing prevention efforts are important to reduce the risk for HIV infection (10). CDC offers bilingual resources to raise awareness about HIV and testing among Hispanics/Latinos, including its newest campaign, Doing It, which is intended to motivate adults to

get tested.^{§§} Barriers to accessing and receiving HIV testing among Hispanics/Latinos include lack of health insurance, lower educational status, stigma or fear of discrimination, and fear of disclosing immigration status.^{¶¶} HIV prevention

^{§§} <http://www.cdc.gov/actagainstaids/campaigns/doingit/>.

^{¶¶} <http://www.cdc.gov/hiv/group/racialethnic/hispaniclatinos/index.html>.

programs that focus on culturally and linguistically sensitive prevention strategies to increase testing, enhance linkage to HIV care and partner services, and promote community-level risk-reduction services for Hispanics/Latinos might reduce health disparities and HIV transmission.

Acknowledgments

Sam Dooley, MD, Janet Heitgerd, PhD, Program Evaluation Branch, Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, CDC; Prevention Program Branch, Quantitative Sciences and Data Management Branch, Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, CDC.

¹Program Evaluation Branch, Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention; ²Office of Health Equity, Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention.

Corresponding author: Shubha Rao, srao1@cdc.gov, 404-639-8521.

References

- Office of National AIDS Policy. National HIV/AIDS strategy for the United States. Washington, DC: White House, Office of National AIDS Policy; 2010. <https://www.whitehouse.gov/administration/eop/onap/nhas>
- Office of National AIDS Policy. National HIV/AIDS strategy for the United States: updated to 2020. Washington, DC: White House, Office of National AIDS Policy; 2015. <https://www.aids.gov/federal-resources/national-hiv-aids-strategy/nhas-update.pdf>
- CDC. Diagnoses of HIV infection in the United States and dependent areas, 2014. HIV surveillance report. Atlanta, GA: US Department of Health and Human Services, CDC; 2015. <http://www.cdc.gov/hiv/library/reports/surveillance>
- CDC. The recommendations for partner services programs for HIV infection, syphilis, gonorrhea, and chlamydial infection. MMWR Recomm Rep 2008 (No. RR-9).
- CDC, Health Resources and Services Administration, National Institutes of Health, et al. Recommendations for HIV prevention with adults and adolescents with HIV in the United States, 2014. Atlanta, GA: US Department of Health and Human Services, CDC; 2014. <https://stacks.cdc.gov/view/cdc/26062>
- CDC. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2014. HIV surveillance supplemental report 2016;21(4). Atlanta, GA: US Department of Health and Human Services, CDC; 2016. <http://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-21-4.pdf>
- CDC. Geographic differences in HIV infection among Hispanics or Latinos—46 states and Puerto Rico, 2010. MMWR Morb Mortal Wkly Rep 2012;61:805–10.
- Branson BM, Handsfield HH, Lampe MA, et al. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. MMWR Recomm Rep 2006;55(No. RR-14).
- U.S. Preventive Services Task Force. Human immunodeficiency virus (HIV) infection: screening. Recommendation summary. September 2014. <https://www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/human-immunodeficiency-virus-hiv-infection-screening>
- Smith DK, Van Handel M, Wolitski RJ, et al. Vital signs: estimated percentages and numbers of adults with indications for preexposure prophylaxis to prevent HIV acquisition—United States, 2015. MMWR Morb Mortal Wkly Rep 2015;64:1291–5. <http://dx.doi.org/10.15585/mmwr.mm6446a4>