**Supplementary Digital Content 1.** Associations of Selected Demographic Characteristics, Social Determinants of Health, and Behavioral and Clinical Characteristics with Clinical Outcomes among Black/African American, Hispanic/Latino, and White Men Who Have Sex with Men (MSM)—MSM with Diagnosed HIV Taking Antiretroviral Therapy (ART), Medical Monitoring Project, United States, 2017-2021

|  |  |  |
| --- | --- | --- |
|  | **ART Adherence**a | **Sustained Viral Suppression**b |
|  | **Yes** | **No** |  | **Yes** | **No** |  |
| **Total (n, weighted row %c)** | 4,191 | 46.7(45.4–48.0) | 4,821 | 53.3 (52.0–54.6) | -- | 6,396 | 66.6 (64.7–68.5) | 2,651 | 33.4 (31.5–35.3) | -- |
| ***Characteristicd*** ***(n, weighted col %c)*** | n | %c (95% CI) | n | %c (95% CI) | p-valuee | n | %c (95% CI) | n | %c (95% CI) | p-valuee |
| **Age at interview** (years) |
|  18─29 | 268 | 6.7(5.5 ─ 7.8) | 625 | 13.0 (11.4 ─ 14.5) | <.0001 | 566 | 8.8 (7.8 ─ 9.8) | 332 | 12.6(10.7 ─ 14.5) | <.0001 |
|  30─39 | 656 | 16.0(14.4 ─ 17.5) | 1,099 | 24.0 (22.6 ─ 25.4) | 1,166 | 19.2 (18.0 ─ 20.4) | 595 | 22.3 (20.6 ─ 24.0) |
|  40─49 | 784 | 18.8(17.4 ─ 20.2) | 976 | 21.0 (19.6 ─ 22.3) | 1,243 | 19.9 (18.7 ─ 21.1) | 528 | 20.1 (18.2 ─ 22.0) |
|  ≥50 | 2,483 | 58.6(56.3 ─ 60.9) | 2,121 | 42.1 (40.0 ─ 44.2) | 3,421 | 52.1 (50.3 ─ 53.9) | 1,196 | 45.0 (42.4 ─ 47.7) |
| **Household income with respect to Federal poverty level**f |
| <100% | 881 | 22.3 (20.4 ─ 24.2) | 1,245 | 27.6 (26.1 ─ 29.2) | <.0001 | 1,432 | 23.7 (22.1 ─ 25.2) | 705 | 28.3 (26.0 ─ 30.6) | <.0001 |
| 100-138% | 398 | 10.0 (8.9 ─ 11.1) | 473 | 11.1 (10.1 ─ 12.2) | 611 | 10.2 (9.3 ─ 11.1) | 263 | 11.5 (9.9 ─ 13.0) |
| 139-399% | 1,581 | 39.6 (37.6 ─ 41.5) | 1,937 | 43.6 (41.7 ─ 45.4) | 2,526 | 42.8 (41.2 ─ 44.5) | 1,000 | 39.4 (36.5 ─ 42.2) |
| ≥400% | 1,094 | 28.1 (25.9 ─ 30.3) | 867 | 17.7 (16.2 ─ 19.2) | 1,468 | 23.3 (21.6 ─ 25.0) | 495 | 20.9 (18.9 ─ 22.9) |
| **Hunger/food insecurity**g | 417 | 10.0(8.8 ─ 11.2) | 946 | 20.0 (18.6 ─ 21.4) | <.0001 | 796 | 12.4(11.4 ─ 13.4) | 576 | 21.2 (19.3 ─ 23.1) | <.0001 |
| **Health insurance/coverage**  |
| Any private insurance | 2,181 | 52.2 (50.0 ─ 54.3) | 2,230 | 45.8 (44.0 ─ 47.7) | <.0001 | 3,266 | 51.1(49.4 ─ 52.8) | 1,155 | 44.0 (41.6 ─ 46.5) | <.0001 |
| Public insurance onlyh | 1,642 | 39.0 (36.4 ─ 41.5) | 2,116 | 44.2 (42.1 ─ 46.3) | 2,551 | 39.4 (37.4 ─ 41.5) | 1,228 | 46.4 (43.6 ─ 49.2) |
| Uninsured or RWHAP coverage only | 328 | 8.9 (7.2 ─ 10.5) | 435 | 10.0 (8.7 ─ 11.3) | 521 | 9.5 (8.1 ─ 10.8) | 246 | 9.5 (7.7 ─ 11.4) |
| **Gap in health coverage**i | 286 | 7.5 (6.5 ─ 8.5) | 595 | 12.8 (11.4 ─ 14.3) | <.0001 | 522 | 8.7 (7.7 ─ 9.6) | 362 | 13.6(11.9 ─ 15.3) | <.0001 |
| **≥1 ER visit** | 1,352 | 31.5(30.0 ─ 32.9) | 1,909 | 39.8 (37.8 ─ 41.8) | <.0001 | 2,159 | 33.5 (32.1 ─ 34.8) | 1,123 | 41.1 (38.7 ─ 43.5) | <.0001 |
| **Educational Attainment** |
|  Less than high school | 210 | 4.9 (4.2 ─ 5.6) | 329 | 7.4 (6.5 ─ 8.3) | <.0001 | 362 | 6.0(5.3 ─ 6.7) | 182 | 6.6 (5.6 ─ 7.7) | 0.0156 |
| High school diploma or GED | 734 | 18.4 (16.8 ─ 20.1) | 1,024 | 21.4 (20.1 ─ 22.7) | 1,186 | 19.2 (18.0 ─ 20.3) | 581 | 21.8 (19.9 ─ 23.7) |
|  More than high school | 3,243 | 76.7 (74.9 ─ 78.5) | 3,465 | 71.2 (69.7 ─ 72.7) | 4,844 | 74.8 (73.5 ─ 76.1) | 1,886 | 71.6 (69.6 ─ 73.6) |
| **Health literacy**j |
|  Low confidence  | 640 | 15.2 (14.0 ─ 16.5) | 1,006 | 21.8 (20.4 ─ 23.2) | <.0001 | 1,154 | 18.6 (17.5 ─ 19.6) | 503 | 19.2(17.3 ─ 21.0) | 0.8288 |
|  High confidence | 3,548 | 84.8 (83.5 ─ 86.0) | 3,813 | 78.2 (76.8 ─ 79.6) | 5,237 | 81.4 (80.4 ─ 82.5) | 2,147 | 80.8 (79.0 ─ 82.7) |
| **Homelessness**k | 166 | 3.7 (3.1 ─ 4.3) | 436 | 9.0 (7.9 ─ 10.0) | <.0001 | 316 | 4.5 (4.0 ─ 5.0) | 295 | 10.7(9.2 ─ 12.2) | <.0001 |
| **Incarcerated >24 hours**l | 73 | 1.9 (1.3 ─ 2.4) | 159 | 3.7 (3.0 ─ 4.4) | <.0001 | 121 | 2.1 (1.6 ─ 2.5) | 116 | 4.4 (3.4 ─ 5.5) | <.0001 |
| **History of forced sex or physical violence by an intimate partner**m | 1,216 | 29.3 (27.7 ─ 30.9) | 1,867 | 39.8 (38.0 ─ 41.6) | <.0001 | 2,156 | 33.9(32.4 ─ 35.3) | 941 | 36.9 (34.6 ─ 39.3) | 0.3602 |
| **Injection or noninjection drug use**n | 1,540 | 35.7(33.6 ─ 37.9) | 2,521 | 51.7 (49.8 ─ 53.7) | <.0001 | 2,770 | 42.3 (40.6 ─ 44.1) | 1,301 | 48.0 (45.2 ─ 50.8) | <.0001 |
| **Binge drinking** (past 30 days)o | 593 | 13.3 (11.9 ─ 14.6) | 1,121 | 22.8 (21.5 ─ 24.1) | <.0001 | 1,240 | 18.8 (17.6 ─ 19.9) | 479 | 17.5 (15.8 ─ 19.2) | 0.2006 |
| **Symptoms of major or other depression** (past 2 weeks)p | 463 | 11.2 (10.0 ─ 12.4) | 900 | 18.4 (17.3 ─ 19.6) | <.0001 | 902 | 13.8 (12.8 ─ 14.9) | 474 | 17.6 (16.0 ─ 19.3) | <.0001 |
| **Symptoms of moderate or severe anxiety** (past 2 weeks)q | 452 | 11.0 (9.8 ─ 12.2) | 852 | 17.9 (16.6 ─ 19.3) | <.0001 | 863 | 13.6 (12.5 ─ 14.7) | 451 | 17.0 (15.2 ─ 18.8) | 0.0004 |
| **Time since HIV diagnosis** (years) |
|  <5 years | 603 | 14.5 (13.1 ─ 15.8) | 818 | 17.9 (16.4 ─ 19.5) | <.0001 | 956 | 15.1 (14.0 ─ 16.3) | 471 | 18.7 (16.7 ─ 20.7) | 0.0004 |
|  5-9 years | 732 | 17.6 (16.0 ─ 19.1) | 1,032 | 21.4 (20.1 ─ 22.8) | 1,233 | 19.5 (18.3 ─ 20.7) | 550 | 19.9 (18.2 ─ 21.7) |
|  ≥10 years | 2,848 | 68.0 (66.0 ─ 66.9) | 2,963 | 60.7 (58.9 ─ 62.5) | 4,203 | 65.4 (63.9 ─ 66.8) | 1,628 | 61.4(59.1 ─ 63.6) |
| **HIV care engagement**r | 3,326 | 79.5 (77.8 ─ 81.2) | 3,762 | 78.1 (76.3 ─ 79.9) | 0.0153 | 5,699 | 87.9 (86.7 ─ 89.0) | 1,413 | 56.4(53.4 ─ 59.4) | <.0001 |
| **Any unmet need for ancillary services**s | 1,356 | 32.2 (30.4 ─ 34.0) | 2,357 | 50.4 (48.6 ─ 52.2) | <.0001 | 2,485 | 39.2 (37.6 ─ 40.8) | 1,249 | 47.4 (45.1 ─ 49.6) | <.0001 |

*ART = antiretroviral therapy; RWHAP = Ryan White HIV/AIDS Program; ER = emergency room; GED = general education development; -- = not applicable*

aSelf-report of missing zero ART doses in the past 30 days

bAll viral load measurements in the past 12 months documented undetectable or <200 copies/mL based on medical record abstraction

cData weighted to adjust for individual nonresponse and poststratified to known population totals by age, race/ethnicity, and sex from National HIV Surveillance System

dAll variables measured over the past 12 months and self-reported during interview except where otherwise noted

eBased on Rao-Scott chi-square to assess for any differences among subpopulations

fBased on the U.S. Department of Health and Human Services poverty guidelines that corresponded to the calendar year for which income was asked

gEver being hungry because there wasn’t enough money for food

hMedicaid, Medicare, TRICARE or CHAMPUS/CHAMPVA, Veterans Administration, or other public insurance

iNot having health insurance or coverage at any timepoint

jConfidence in filling out medical forms; “high confidence” was defined as responding “extremely” or “quite a bit” and “low confidence” as “somewhat,” “a little bit,” or “not at all.”

kLiving on the street, in a shelter, in a single room occupancy hotel, or in a car

lBased on number of different times in jail, detention, or prison for longer than 24 hours

mEver experiencing forced sex (defined as being threatened with harm or physically forced to have unwanted vaginal, anal, or oral sex) or intimate partner violence (defined as ever having been slapped, punched, shoved, kicked, choked, or otherwise physically hurt by a romantic or sexual partner)

nNon-injection drug use defined as using any drugs that may have been smoked, snorted, inhaled, or ingested; injection drug use defined as any drugs that were injected for non-medical purposes. In 2021, vaping marijuana was included as an option for non-injection drug use.

oHaving ≥4 alcoholic beverages in a single sitting on at least 1 day during the 30 days before the interview

pResponses to the items on the PHQ-8 were used to define “major depression” and “other depression” according to criteria from the DSM-IV. “Major depression” was defined as having at least 5 symptoms of depression; “other depression” was defined as having 2–4 symptoms of depression. The PHQ-8 classification “other depression” comprises the DSM-IV categories of dysthymia and depressive disorder, not otherwise specified, which includes minor or subthreshold depression.

qResponses to the GAD-7 were used to define “mild anxiety,” “moderate anxiety,” and “severe anxiety,” according to criteria from the DSM-IV. “Severe anxiety” was defined as having a score of ≥15 and “moderate anxiety” was defined as having a score of 10–14.

rHaving received at least two elements of outpatient HIV care at least 90 days apart; captured from medical record abstraction

sNeeding but not receiving one or more ancillary services. Ancillary services include of HIV case management services, medicine through Ryan White/AIDS Assistance Drug Program (ADAP), antiretroviral therapy (ART) adherence support services, patient navigation services, HIV peer support, dental care, mental health services, drug or alcohol counseling or treatment, Supplemental Nutrition Assistance Program (SNAP) or Special Supplemental Nutrition Program for Woman, Infants, and Children (WIC), transportation assistance, meal or food services, shelter or housing services

**Supplementary Digital Content 2.** Prevalencea of Antiretroviral Therapy (ART) Adherenceb and Sustained Viral Suppressionc Among Black/African American, Hispanic/Latino, and White Men Who Have Sex with Men (MSM)—MSM with Diagnosed HIV Taking ART, Medical Monitoring Project, United States, 2017-2021

**A.** **B.**

aData weighted to adjust for individual nonresponse and poststratified to known population totals by age, race/ethnicity, and sex from National HIV Surveillance System

bSelf-report of missing zero ART doses in the past 30 days

cAll viral load measurements in the past 12 months documented undetectable or <200 copies/mL based on medical record abstraction