Appendix table 1. Prevalence of Demographic Characteristics, Social Determinants of Health, and Clinical Characteristics of Adults with HIV Who Had Encounters in the Past 12 Months with Infectious Disease (ID) Physicians Only, vs. Other Provider Types—United States, 2019–2021 (N = 6,323).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Total** | **ID physicians only** | **Non-ID physicians only** | **Nurse practitioners only** | **Physician assistants only** | **ID physician and either nurse practitioner or physician assistant** |  |
|  | **No.** | **Col. %****(95% CI)** | **No.** | **Col. %****(95% CI)** | **No.** | **Col. %****(95% CI)** | **P value** | **No.** | **Col. %****(95% CI)** | **P value** | **No.** | **Col. %****(95% CI)** | **P value** | **No.** | **Col. %****(95% CI)** | **P value** | **Overall P value** |
| **Time since HIV diagnosis date** |   |   |   |   |   |   | 0.271 |   |   | 0.006 |   |   | 0.104 |   |   | 0.517 | 0.0023 |
|  <2 years | 239 | 3.8 (3.2–4.4) | 110 | 3.7 (3.0–4.5) | 29 | 2.8 (1.7–3.8) |   | 33 | 3.9 (2.4–5.4) |   | 12 | 5.1 (2.4–7.8) |   | 28 | 4.7 (3.1–6.3) |   |   |
|  2-<10 years | 1754 | 28.8 (27.6–30.0) | 762 | 27.7 (25.9–29.5) | 276 | 26.7 (24.1–29.4) |   | 310 | 33.7 (30.7–36.6) |   | 72 | 32.3 (26.5–38.1) |   | 165 | 27.7 (24.3–31.2) |   |   |
|  >=10 years | 4330 | 67.4 (66.0–68.8) | 1984 | 68.6 (66.6–70.6) | 794 | 70.5 (67.6–73.4) |   | 564 | 62.5 (59.6–65.3) |   | 156 | 62.6 (56.6–68.6) |   | 414 | 67.6 (63.9–71.3) |   |   |
| **How often is ART taken** |   |   |   |   |   |   | 0.540 |   |   | 0.105 |   |   | 0.031 |   |   | 0.496 | 0.0944 |
|  Twice, three times, or less than one time ART/day | 542 | 8.5 (7.3–9.6) | 242 | 8.7 (7.2–10.3) | 119 | 9.7 (6.6–12.8) |   | 62 | 6.8 (5.2–8.5) |   | 12 | 4.8 (2.2–7.4) |   | 49 | 7.9 (5.8–9.9) |   |   |
|  Once a day | 5639 | 91.5 (90.4–92.7) | 2544 | 91.3 (89.7–92.8) | 962 | 90.3 (87.2–93.4) |   | 821 | 93.2 (91.5–94.8) |   | 222 | 95.2 (92.6–97.8) |   | 549 | 92.1 (90.1–94.2) |   |   |
| **Number of *non-ARV*** **medications during the p12m**  |   |   |   |   |   |   | 0.566 |   |   | 0.120 |   |   | 0.109 |   |   | <.0001 | <.0001 |
|  <5 | 2981 | 47.5 (45.0–50.1) | 1424 | 49.6 (46.8–52.3) | 548 | 50.0 (41.3–58.6) |   | 461 | 51.8 (48.3–55.2) |   | 131 | 57.0 (49.1–64.9) |   | 210 | 34.8 (30.8–38.8) |   |   |
|  5-9 | 2015 | 31.8 (30.2–33.4) | 877 | 30.7 (28.6–32.8) | 344 | 32.9 (27.6–38.1) |   | 285 | 31.6 (28.2–35.0) |   | 75 | 28.9 (22.0–35.7) |   | 221 | 35.5 (31.2–39.7) |   |   |
|  ≥10 | 1327 | 20.6 (18.9–22.4) | 555 | 19.7 (17.9–21.6) | 207 | 17.2 (12.5–21.8) |   | 161 | 16.6 (13.9–19.3) |   | 34 | 14.1 (9.7–18.5) |   | 176 | 29.7 (25.5–34.0) |   |   |
| **Use in the past 24 months of acid reducers and multivalent cations, i.e., calcium and iron supplements** |   |   |   |   |   |   | 0.022 |   |   | 0.408 |   |   | 0.162 |   |   | 0.005 | 0.0019 |
|  Yes | 1766 | 27.7 (26.2–29.2) | 779 | 27.3 (25.3–29.2) | 269 | 23.8 (20.9–26.6) |   | 234 | 25.6 (22.2–29.1) |   | 56 | 22.1 (15.9–28.2) |   | 206 | 33.5 (29.1–37.9) |   |   |
|  No | 4557 | 72.3 (70.8–73.8) | 2077 | 72.7 (70.8–74.7) | 830 | 76.2 (73.4–79.1) |   | 673 | 74.4 (70.9–77.8) |   | 184 | 77.9 (71.8–84.1) |   | 401 | 66.5 (62.1–70.9) |   |   |
| **Lowest CD4 count (cells/µL) in past 12 months** |   |   |   |   |   |   | 0.429 |   |   | 0.692 |   |   | 0.217 |   |   | 0.541 | 0.441 |
| 0-49  | 129 | 2.4 (2.0–2.8) | 55 | 2.3 (1.6–2.9) | 18 | 1.8 (1.1–2.5) |   | 18 | 2.3 (1.3–3.3) |   | 9 | 4.2 (1.4–7.0)\* |   | 16 | 3.2 (1.6–4.8) |   |   |
| 50-199 | 409 | 7.3 (6.6–8.1) | 179 | 7.2 (6.3–8.2) | 65 | 7.4 (5.5–9.3) |   | 53 | 6.5 (4.3–8.7) |   | 12 | 5.2 (2.2–8.2) |   | 50 | 8.3 (5.9–10.7) |   |   |
| 200-349 | 716 | 12.6 (11.5–13.6) | 339 | 13.3 (11.7–15.0) | 107 | 11.1 (8.8–13.5) |   | 100 | 11.9 (9.3–14.6) |   | 22 | 10.3 (5.8–14.8) |   | 85 | 14.6 (11.7–17.5) |   |   |
| 350-499 | 1013 | 18.5 (17.3–19.8) | 440 | 18.7 (16.9–20.6) | 189 | 19.0 (16.5–21.6) |   | 148 | 17.5 (14.5–20.6) |   | 37 | 16.4 (10.3–22.4) |   | 99 | 18.7 (14.8–22.5) |   |   |
| ≥500 | 3297 | 59.2 (57.8–60.6) | 1429 | 58.5 (56.2–60.7) | 594 | 60.6 (57.4–63.8) |   | 513 | 61.8 (58.8–64.8) |   | 132 | 63.9 (55.4–72.4) |   | 308 | 55.2 (50.8–59.6) |   |   |
| **Any ED visit in the past 12 months** |   |   |   |   |   |   | 0.959 |   |   | 0.877 |   |   | 0.743 |   |   | <.001 | 0.016 |
|  Yes | 2509 | 40.0 (38.4–41.6) | 1103 | 38.7 (36.5–40.9) | 421 | 38.8 (35.0–42.6) |   | 352 | 39.0 (35.6–42.4) |   | 97 | 39.9 (32.6–47.3) |   | 270 | 47.0 (43.0–50.9) |   |   |
|  No | 3772 | 60.0 (58.4–61.6) | 1731 | 61.3 (59.1–63.5) | 673 | 61.2 (57.4–65.0) |   | 548 | 61.0 (57.6–64.4) |   | 142 | 60.1 (52.7–67.4) |   | 334 | 53.0 (49.1–57.0) |   |   |
| **Any hospitalization in the past 12 months** |   |   |   |   |   |   | 0.960 |   |   | 0.088 |   |   | 0.556 |   |   | 0.268 | 0.258 |
|  Yes | 1160 | 17.7 (16.6–18.9) | 534 | 17.8 (15.9–19.7) | 192 | 17.9 (14.3–21.6) |   | 143 | 14.8 (12.2–17.3) |   | 38 | 15.8 (10.2–21.5) |   | 119 | 20.0 (16.6–23.4) |   |   |
|  No | 5116 | 82.3 (81.1–83.4) | 2303 | 82.2 (80.3–84.1) | 897 | 82.1 (78.4–85.7) |   | 757 | 85.2 (82.7–87.8) |   | 201 | 84.2 (78.5–89.8) |   | 483 | 80.0 (76.6–83.4) |   |   |
| **Sexually active and non-monogamous on the past 12 months** |   |   |   |   |   |   | 0.333 |   |   | 0.020 |   |   | 0.024 |   |   | 0.183 | 0.090 |
|  Yes | 1569 | 42.9 (40.2–45.6) | 627 | 40.2 (36.6–43.8) | 294 | 44.0 (37.2–50.7) |   | 255 | 46.5 (42.0–50.9) |   | 81 | 50.2 (41.0–59.5) |   | 158 | 44.3 (38.8–49.8) |   |   |
|  No | 2074 | 57.1 (54.4–59.8) | 930 | 59.8 (56.2–63.4) | 353 | 56.0 (49.3–62.8) |   | 301 | 53.5 (49.1–58.0) |   | 81 | 49.8 (40.5–59.0) |   | 207 | 55.7 (50.2–61.2) |   |   |
| **Non-monogamous and had condomless sex in the past 12 months** |   |   |   |   |   |   | 0.406 |   |   | 0.401 |   |   | 0.451 |   |   | 0.306 | 0.602 |
|  Yes | 1148 | 75.3 (72.3–78.3) | 447 | 73.5 (69.6–77.5) | 228 | 77.3 (68.6–86.0) |   | 191 | 76.7 (71.0–82.5) |   | 53 | 69.4 (59.1–79.7) |   | 115 | 78.3 (70.5–86.1) |   |   |
|  No | 372 | 24.7 (21.7–27.7) | 160 | 26.5 (22.5–30.4) | 61 | 22.7 (14.0–31.4) |   | 56 | 23.3 (17.5–29.0) |   | 27 | 30.6 (20.3–40.9) |   | 35 | 21.7 (13.9–29.5) |   |   |
| **Binge drinking, past 30 days** |   |   |   |   |   |   | <.001 |   |   | 0.552 |   |   | 0.587 |   |   | 0.932 | 0.0361 |
|  Yes | 966 | 15.3 (13.9–16.8) | 400 | 14.1 (12.7–15.5) | 216 | 19.5 (15.7–23.3) |   | 138 | 15.1 (12.0–18.3) |   | 40 | 15.6 (10.0–21.2) |   | 74 | 14.3 (10.6–17.9) |   |   |
|  No | 5274 | 84.7 (83.2–86.1) | 2414 | 85.9 (84.5–87.3) | 867 | 80.5 (76.7–84.3) |   | 762 | 84.9 (81.7–88.0) |   | 198 | 84.4 (78.8–90.0) |   | 525 | 85.7 (82.1–89.4) |   |   |
| **Unmet need for individual ancillary services** |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **HIV case management** |   |   |   |   |   |   | 0.329 |   |   | 0.467 |   |   | 0.615 |   |   | 0.314 | 0.784 |
|  Yes | 303 | 5.0 (4.1–5.8) | 150 | 5.5 (4.4–6.6) | 46 | 4.6 (2.4–6.7) |   | 42 | 4.7 (3.1–6.2) |   | 11 | 4.6 (1.7–7.6)\* |   | 27 | 4.4 (2.6–6.1) |   |   |
|  No | 5957 | 95.0 (94.2–95.9) | 2675 | 94.5 (93.4–95.6) | 1044 | 95.4 (93.3–97.6) |   | 857 | 95.3 (93.8–96.9) |   | 225 | 95.4 (92.4–98.3) |   | 576 | 95.6 (93.9–97.4) |   |   |
| **Patient navigation services** |   |   |   |   |   |   | 0.012 |   |   | 0.765 |   |   | 0.287 |   |   | 0.553 | 0.0744 |
|  Yes | 207 | 3.2 (2.6–3.9) | 83 | 2.8 (2.1–3.6) | 45 | 4.5 (2.9–6.1) |   | 26 | 2.7 (1.8–3.6) |   | 4 | 1.6 (0.2–3.1)\* |   | 20 | 3.4 (1.7–5.0) |   |   |
|  No | 6052 | 96.8 (96.1–97.4) | 2741 | 97.2 (96.4–97.9) | 1042 | 95.5 (93.9–97.1) |   | 875 | 97.3 (96.4–98.2) |   | 235 | 98.4 (96.9–99.8) |   | 581 | 96.6 (95.0–98.3) |   |   |
| **Adherence support services** |   |   |   |   |   |   | 0.685 |   |   | 0.262 |   |   |   |   |   |   |   |
|  Yes | 34 | 0.5 (0.3–0.8) | 18 | 0.6 (0.3–1.0) | 9 | 0.8 (0.1–1.4)\* |   | 3 | 0.3 (0.0–0.7)\* |   | 0 |   |   | 0 |   |   |   |
|  No | 6229 | 99.5 (99.2–99.7) | 2809 | 99.4 (99.0–99.7) | 1081 | 99.2 (98.6–99.9) |   | 895 | 99.7 (99.3–100.0) |   | 239 |   |   | 601 |   |   |   |
| **Transportation services** |   |   |   |   |   |   | 0.748 |   |   | 0.662 |   |   | 0.509 |   |   | 0.322 | 0.7659 |
|  Yes | 379 | 6.1 (5.4–6.8) | 159 | 5.8 (4.9–6.8) | 68 | 6.1 (4.7–7.5) |   | 57 | 6.2 (4.8–7.6) |   | 11 | 4.8 (2.1–7.5) |   | 45 | 7.0 (4.6–9.4) |   |   |
|  No | 5894 | 93.9 (93.2–94.6) | 2674 | 94.2 (93.2–95.1) | 1021 | 93.9 (92.5–95.3) |   | 844 | 93.8 (92.4–95.2) |   | 228 | 95.2 (92.5–97.9) |   | 558 | 93.0 (90.6–95.4) |   |   |
| **Urbanicity of county of residence** |   |   |   |   |   |   | <.001 |   |   | 0.070 |   |   | 0.133 |   |   | 0.001 | <.0001 |
|  Large central metropolitan | 3327 | 54.0 (48.9–59.0) | 1442 | 50.4 (46.3–54.5) | 593 | 67.7 (62.8–72.7) |   | 427 | 46.8 (32.7–60.9) |   | 144 | 59.6 (50.5–68.8) |   | 325 | 54.4 (47.7–61.2) |   |   |
|  Large fringe metropolitan | 1134 | 18.7 (15.3–22.1) | 651 | 21.7 (16.9–26.5) | 87 | 13.5 (10.4–16.6) |   | 156 | 16.2 (12.8–19.5) |   | 47 | 19.8 (13.2–26.3) |   | 94 | 14.2 (10.9–17.6) |   |   |
|  Medium metropolitan | 776 | 15.4 (10.7–20.2) | 376 | 15.6 (10.9–20.2) | 66 | 11.2 (6.8–15.5) |   | 156 | 19.4 (9.9–28.9) |   | 20 | 8.7 (3.9–13.5) |   | 116 | 21.4 (13.8–28.9) |   |   |
|  Small metropolitan | 308 | 5.2 (4.4–6.1) | 171 | 6.1 (4.9–7.4) | 23 | 3.1 (0.7–5.6)\* |   | 59 | 6.3 (4.0–8.5) |   | 7 | 4.1 (0.0–8.9)\* |   | 31 | 4.3 (1.9–6.7) |   |   |
|  Micropolitan/noncore | 322 | 6.7 (4.3–9.0) | 146 | 6.2 (4.0–8.5) | 26 | 4.5 (2.2–6.7) |   | 93 | 11.4 (4.4–18.3)\* |   | 16 | 7.8 (2.8–12.9)\* |   | 27 | 5.7 (3.3–8.1) |   |   |
| **Region of current residence**  |   |   |   |   |   |   | . |   |   |   |   |   |   |   |   |   |   |
|  West | 1486 | 22.7 (13.0–32.4) | 630 | 22.9 (12.5–33.3) | 423 | 36.1 (18.6–53.5)\* |   | 102 | 10.5 (5.0–16.0) |   | 63 | 24.5 (12.8–36.3) |   | 95 | 16.0 (10.2–21.7) |   |   |
|  Midwest | 880 | 13.9 (3.4–24.3)\* | 481 | 15.8 (4.1–27.5)\* | 42 | 2.7 (1.3–4.1) |   | 212 | 24.3 (2.5–46.0)\* |   | 26 | 9.2 (1.2–17.1)\* |   | 68 | 10.8 (0.5–21.2)\* |   |   |
|  Northeast | 1276 | 17.7 (16.2–19.1) | 674 | 20.3 (17.3–23.2) | 123 | 9.7 (5.8–13.6) |   | 162 | 14.6 (11.5–17.7) |   | 34 | 10.5 (6.4–14.6) |   | 159 | 23.9 (19.2–28.7) |   |   |
|  South | 2338 | 41.7 (30.2–53.2) | 1057 | 40.7 (30.2–51.1) | 223 | 27.9 (13.9–41.9) |   | 431 | 50.7 (30.6–70.7) |   | 117 | 55.8 (44.1–67.5) |   | 285 | 49.3 (40.1–58.5) |   |   |
|  US Territory | 343 | 4.1 (0.0–9.9)\* | 14 | 0.4 (0.0–1.0)\* | 288 | 23.6 (0.0–49.9)\* |   | 0 |   |   | 0 |   |   | 0 |   |   |   |

Abbreviations: ID, infectious disease; No, number; Col %, weighted column percentage; PD, prevalence difference

\* Coefficient of variation is ≥0.3, absolute confidence (CI) width is ≥0.30, or absolute CI width is between 0.05 and 0.30 and relative CI width is >130%. Estimate and associated statistical test should be interpreted with caution.

Appendix Table 2. Differences in the Prevalence of HIV Care Outcomes Among Adults with HIV Who Had Encounters in the Past 12 Months with Infectious Disease (ID) Physicians Only, vs. Other Provider Types—United States, 2019–2021 (N = 6,323).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Total** | **ID physician only** | **Non-ID physician only** | **Nurse Practitioner only** | **Physician Assistant only** | **ID physician and either nurse practitioner or physician assistant** |
| **No.** | **Col. %****(95% CI)** | **No.** | **Col. % (95% CI)** | **No.** | **Col. % (95% CI)** | **PD****(vs. ID) (95% CI)** | **P value** | **No.** | **Col. % (95% CI)** | **PD****(vs. ID) (95% CI)** | **P value** | **No.** | **Col. % (95% CI)** | **PD****(vs. ID) (95% CI)** | **P value** | **No.** | **Col. % (95% CI)** | **PD** **(vs. ID) (95% CI)** | **P value** |
| **Number of encounters with an HIV care provider (mean)** |
| 6323 | 3.4(3.2–3.6) | 2856 | 2.7(2.6–2.9) | 1099 | 3.8(3.5–4.1) | 1.1(0.8–1.4) | <0.001 | 907 | 2.9(2.8–3.1) | 0.2(0.1–0.3) | 0.008 | 240 | 3.1(2.8–3.5) | 0.4(0.1–0.7) | 0.017 | 607 | 5.2(4.9–5.5) | 2.5(2.2–2.8) | <0.001 |
| **No missed appointments for HIV care, past 12 months** |
| 4885 | 77.9(76.7–79.2) | 2273 | 80.6(78.8–82.3) | 841 | 75.4(72.7–78.1) | -5.2(-8.0–-2.4) | <0.001 | 674 | 75.6(72.7–78.6) | -4.9(-8.6–-1.3) | 0.008 | 188 | 77.5(71.6–83.5) | -3.0(-9.3–3.3) | 0.348 | 455 | 74.5(70.3–78.6) | -6.1(-10.8–-1.4) | 0.011 |
| **Prescribed nucleoside reverse transcriptase inhibitor, past 12 months** |
| 5804 | 91.9(90.9–92.9) | 2613 | 91.4(90.1–92.7) | 1004 | 90.7(88.2–93.2) | -0.7(-3.2–1.9) | 0.617 | 836 | 92.6(90.9–94.3) | 1.2(-0.8–3.2) | 0.243 | 224 | 94.2(91.5–96.9) | 2.8(-0.0–5.6) | 0.052 | 563 | 93.5(91.4–95.5) | 2.1(-0.3–4.4) | 0.091 |
| **Prescribed nonnucleoside reverse transcriptase inhibitor, past 12 months** |
| 1304 | 20.6(19.3–22.0) | 592 | 21.4(19.5–23.2) | 273 | 25.1(22.2–27.9) | 3.7(0.1–7.3) | 0.041 | 159 | 17.1(14.8–19.4) | -4.2(-7.2–-1.3) | 0.005 | 53 | 18.8(13.3–24.4) | -2.5(-7.8–2.7) | 0.348 | 102 | 17.4(13.5–21.3) | -4.0(-7.9–-0.1) | 0.047 |
| **Prescribed protease inhibitor, past 12 months** |
| 1808 | 28.7(27.4–30.0) | 836 | 29.0(27.2–30.9) | 299 | 27.2(23.4–31.1) | -1.8(-6.0–2.5) | 0.416 | 239 | 27.0(24.0–30.0) | -2.0(-5.4–1.5) | 0.259 | 66 | 26.8(20.0–33.5) | -2.3(-9.4–4.9) | 0.537 | 180 | 29.2(25.0–33.5) | 0.2(-4.6–5.0) | 0.929 |
| **Prescribed integrase strand transfer inhibitor, past 12 months** |
| 4873 | 76.9(75.3–78.5) | 2207 | 77.0(74.8–79.1) | 784 | 70.6(66.7–74.5) | -6.4(-11.0–-1.7) | 0.007 | 723 | 79.2(76.0–82.3) | 2.2(-1.8–6.2) | 0.275 | 178 | 75.9(69.0–82.8) | -1.1(-7.9–5.7) | 0.757 | 500 | 82.4(79.1–85.7) | 5.5(1.5–9.5) | 0.007 |
| **First visit with an HIV care provider was ≤6 months before the interview date, among those who did not receive HIV care at >1 facility** |
| 189 | 3.9(3.2–4.6) | 97 | 4.5(3.6–5.4) | 37 | 5.0(2.9–7.2) | 0.5(-1.7–2.8) | 0.652 | 30 | 3.5(2.0–4.9) | -1.0(-2.7–0.6) | 0.223 | 8 | 3.9\*(1.0–6.9) | -0.6(-3.6–2.4) | 0.704 | 7 | 1.2\*(0.2–2.1) | -3.3(-4.7–-2.0) | <0.001 |
| **Genotype with resistance mutations, past 24 months** |
| 321 | 5.2(4.5–5.9) | 139 | 5.1(4.3–5.8) | 35 | 3.5(1.9–5.2) | -1.5(-3.3–0.2) | 0.086 | 57 | 5.7(4.0–7.4) | 0.6(-1.3–2.5) | 0.549 | 14 | 6.0\*(2.4–9.6) | 0.9(-2.9–4.7) | 0.631 | 36 | 6.2(3.8–8.6) | 1.1(-1.5–3.7) | 0.396 |
| **Viral suppression**† **based on most recent viral load, past 12 months** |
| 5173 | 79.5(75.1–83.9) | 2349 | 80.3(75.8–84.8) | 928 | 82.4(78.9–85.9) | 2.1(-3.5–7.6) | 0.460 | 682 | 72.5(60.7–84.3) | -7.8(-16.4–0.7) | 0.071 | 192 | 78.7(72.4–84.9) | -1.7(-9.1–5.8) | 0.661 | 510 | 82.2(78.2–86.3) | 1.9(-3.4–7.3) | 0.478 |

Abbreviations: ID, infectious disease; No, number; Col %, weighted column percentage; PD, prevalence difference

\* Coefficient of variation is ≥0.3, absolute confidence (CI) width is ≥0.30, or absolute CI width is between 0.05 and 0.30 and relative CI width is >130%. Estimate and associated statistical test should be interpreted with caution

† HIV RNA test results undetectable or <200 copies/mL