# Intimate Partner Violence Experienced by Adults With Diagnosed HIV in the U.S.

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## Abstract

**Introduction:** Intimate partner violence is associated with adverse health consequences among people with diagnosed HIV, which could have implications for disease progression and transmission. However, nationally representative estimates of intimate partner violence among people with diagnosed HIV are lacking. Investigators used nationally representative data to estimate the prevalence of physical violence by an intimate partner among adults with diagnosed HIV and examine the differences by selected characteristics.

**Methods:** This analysis included interview and medical record data from the 2015–2017 cycles of the Medical Monitoring Project, analyzed in 2019. Weighted percentages and 95% CIs were used to report the prevalence of intimate partner violence among people with diagnosed HIV (N=11,768). Bivariate and multivariate differences in intimate partner violence by sociodemographic, behavioral, and clinical characteristics were examined using Rao–Scott chi-square tests ($p<0.05$).

**Results:** Among people with diagnosed HIV, 26.3% reported having ever experienced intimate partner violence, and 4.4% reported having experienced intimate partner violence in the past 12 months. The prevalence of intimate partner violence differed by gender and gender/sexual identity. People who experienced intimate partner violence in the past 12 months were more likely to engage in behaviors associated with elevated HIV transmission risk and have unmet needs for supportive services. People who recently experienced intimate partner violence were less likely to be engaged in routine HIV care but were more likely to seek emergency care services and have poor HIV clinical outcomes.

**Conclusions:** This study's findings support the need for screening people with diagnosed HIV for intimate partner violence and offering linkage to supportive services. Screening for intimate partner violence among people with diagnosed HIV, coupled with supportive services

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and counseling, may lead to improved safety and HIV clinical outcomes and decreased need for emergency and inpatient medical services.

## INTRODUCTION

Intimate partner violence (IPV) is a serious public health problem associated with immediate and lifelong adverse health consequences, including impairment of multiple organ systems, physical injuries, permanent disabilities, and death.[1,2] Among people with diagnosed HIV (PWH), studies have hypothesized that IPV may be associated with adverse HIV clinical outcomes, although there is conflicting evidence about the association between IPV and HIV clinical outcomes such as antiretroviral treatment (ART) adherence, HIV care engagement, ART use, and viral suppression.[3–5] IPV has also been associated with mental health issues, such as depression and drug use, among PWH. Studies among women have suggested that PWH experience higher levels of lifetime violence and trauma than the general population and that victims of IPV are at increased risk of acquiring HIV.[6–9]

Currently, U.S. nationally representative estimates of IPV among the general population are available from the National Intimate Partner and Sexual Violence Survey.[10] However, nationally representative estimates of the prevalence of IPV among PWH and associations with other health outcomes are inconsistent in the literature. These data are vital for understanding the effect IPV might have on the health of PWH. With this information, healthcare providers could better address their patients' needs and provide appropriate supportive services to PWH who experience IPV and any associated adverse health outcomes. In this paper, investigators present nationally representative estimates of IPV, experienced ever and in the past 12 months, and associations with sociodemographic, behavioral, and clinical characteristics among adult PWH in the U.S.

## METHODS

### Study Sample

Investigators used data from the Medical Monitoring Project (MMP), an annual cross-sectional survey used to produce nationally representative estimates of sociodemographic, behavioral, and clinical characteristics of adult PWH in the U.S. MMP data collection is a part of routine public health surveillance and is determined by the Centers for Disease Control and Prevention (CDC) to be nonresearch.[11] Participating states or territories obtained local IRB approval to collect data when required. Informed consent was obtained from all participants.

MMP used a 2-stage sampling method. During the first stage, 23 project areas were sampled from all states, the District of Columbia, and Puerto Rico. During the second stage, simple random samples of PWH aged ≥18 years were drawn for each participating area from the National HIV Surveillance System, a census of PWH in the U.S. Data from the 2015, 2016, and 2017 cycles of MMP were included. Data collection cycles begin in June of the cycle year and run through the following May. Data were collected through matched telephone or face-to-face interviews and medical record abstractions. All sampled areas participated in MMP. Annual response rates for adults with diagnosed HIV ranged from 40% to 46%.

Data were weighted on the basis of known probabilities of selection at state or territory and person levels by age, race/ethnicity, and gender. In addition, data were weighted to adjust for person nonresponse and poststratified to National HIV Surveillance System population totals.[12]

## Measures

All measures were assessed through self-report unless otherwise noted. Respondents were asked: *How many of your romantic or sexual partners have ever slapped, punched, shoved, kicked, choked or otherwise physically hurt you?* Responses could range from 0 to 999. If respondents reported 1 partners, they were then asked: *During the past 12 months, has a partner slapped, punched, shoved, kicked, choked, or otherwise physically hurt you?* Response options were *yes* or *no*. This measure was modified from the National Intimate Partner and Sexual Violence Survey, whose IPV measure includes physical, sexual, and emotional violence.[10] MMP restricts its definition of IPV to specifically focus on physical violence by an intimate partner, 1 component of IPV. Unless otherwise noted, all characteristics were measured during the 12 months before the interview.

Race/ethnicity was categorized as non-Hispanic White (referred to as White in the remaining part of this paper), non-Hispanic African American/Black (referred to as Black in the remaining part of this paper), Hispanic/Latino, and other/multiracial. Gender identity included men, women, and transgender categories. In addition, analysts created a variable that combined sexual identity with gender identity into the following categories: gay, bisexual men, heterosexual men, lesbian, bisexual women, or heterosexual women. Transgender people were not included in the combined gender/sexual identity variable owing to the small sample size. *Homelessness* was defined as living on the street, in a shelter, in a single-room-occupancy hotel, or in a car in the past 12 months.

*Binge drinking* was defined as consuming 4 (among women) or 5 (among men) alcoholic beverages in 1 sitting in the past 30 days. *Unmet need for ancillary services* was defined as needing but not receiving a particular service, such as HIV case management, mental health, or domestic violence services. *Depression* was defined as self-reported symptoms consistent with a diagnosis of major or other depression in the past 2 weeks on the basis of the Patient Health Questionnaire-8 scale.[13] Anxiety was based on the Generalized Anxiety Disorder-7 scale. On the basis of clinically meaningful cut points, scores between 0 and 9 were categorized as mild/no anxiety, and scores between 10 and 21 were categorized as severe/moderate anxiety.[14] To determine the prevalence of transactional sex, respondents were asked: *During the past 12 months, did you have sex in exchange for things like food, shelter, transportation, money, or drugs?* High-risk sex was defined as having condomless vaginal or anal sex with 1 partner whose HIV status was either negative or unknown and not reported to be taking pre-exposure prophylaxis while not having sustained viral suppression.

Adherence to ART was measured using a validated 3-item scale. The median scale score (range=0–100) indicated how well PWH adhered to their HIV medications in the past 30 days on the basis of self-report, with lower scores indicating lower adherence.[15] Viral suppression was assessed on the basis of viral load test results abstracted from medical

records. *Sustained viral suppression* was defined as having all HIV viral load tests <200 copies/mL in the past 12 months. Retention in care could be assessed through either self-report or medical record abstraction. *Retention in care* was defined as PWH who had documentation of ≥2 HIV medical care visits in the past 12 months at least 90 days apart, evidenced by any of the following: (1) a self-reported or documented HIV provider visit, (2) a documented cluster of differentiation 4/viral load test, (3) a resistance test or tropism assay, (4) ART prescription, (5) *Pneumocystis carinii* pneumonia prophylaxis, or (6) *Mycobacterium avium* complex prophylaxis. This measure is based on the Health Resources and Services Administration's annual retention in care performance measure.[16]

### Statistical Analysis

Analysts estimated the prevalence of ever experiencing IPV and experiencing IPV in the past 12 months. The prevalence of ever experiencing IPV and experiencing IPV in the past 12 months was compared by sociodemographic characteristics. Analysts then compared behavioral characteristics, clinical outcomes, and the use of emergency or inpatient medical services by IPV experienced in the past 12 months.

For all measures, weighted percentages with corresponding 95% CIs were reported. For categorical variables, Rao–Scott chi-square tests were used to statistically compare groups. For ART adherence, median scores were reported and assessed for overlapping CIs to compare across groups. Analysts used a $p<0.05$ threshold to assess statistical significance. To assess the differences in clinical outcomes between patients with HIV who experienced IPV and those who did not experience IPV in the past 12 months, analysts conducted multivariable regression models with predicted marginal means to obtain adjusted prevalence ratios (APRs) and 95% CIs. These models adjusted for confounders, age, and homelessness. All analyses accounted for complex sample design and unequal selection probabilities and were conducted in 2019 using SAS, version 9.4, and SUDAAN, version 11.0.1.

## RESULTS

Among PWH in the U.S., 26.3% had ever experienced IPV (referred to as lifetime prevalence in the remaining part of this paper) (Table 1). The lifetime prevalence of IPV differed by certain sociodemographic characteristics, such as race/ethnicity and age, and all the differences were statistically significant. IPV differed by gender identity, with 35.6% of women, 28.9% of transgender people, and 23.2% of men experiencing IPV. There were also statistically significant differences in the lifetime prevalence of IPV by gender/sexual identity (bisexual women: 51.5%, heterosexual women: 35.3%, gay: 27.9%, bisexual men: 24.8%, lesbian: 22.4%, heterosexual men: 14.4%). In addition, PWH who were homeless in the past 12 months had a higher lifetime prevalence of IPV (37.6%) than those who were not (25.2%).

Overall, 4.4% of PWH experienced IPV in the past 12 months (Table 2). Among PWH who reported ever experiencing IPV, 16.9% experienced IPV in the past 12 months (not included in the tables). Experiences with IPV during the past 12 months also differed in a statistically significant way by sociodemographic characteristics, such as age and gender/sexual identity,

but not by race/ethnicity and gender identity. IPV varied by age, with 9.4% of PWH aged 18–24 years, 10.5% of PWH aged 25–34 years, 5.4% of PWH aged 35–44 years, 3.3% of PWH aged 45–55 years, and 2.0% of PWH aged 55 years experiencing IPV in the past 12 months. IPV varied by gender/sexual identity, with 15.0% of bisexual women, 7.7% of bisexual men, 4.6% of gay, 4.1% of heterosexual women, and 2.7% of heterosexual men experiencing IPV in the past 12 months. A higher proportion of PWH who experienced homelessness in the past 12 months experienced IPV in the past 12 months (13.4%) than those who had not been homeless in the past 12 months (3.6%).

Compared with PWH who did not experience IPV in the past 12 months, those who did were more likely to engage in binge drinking in the past 30 days (27.7% vs 15.0%), use noninjection drugs in the past 12 months (54.6% vs 28.7%), and use injection drugs in the past 12 months (9.1% vs 2.3%) (Table 3). Compared with PWH who did not experience IPV in the past 12 months, those who did were more likely to report having 1 unmet need for ancillary services (77.4% vs 53.3%). Relatedly, 14.1% of PWH who experienced IPV in the past 12 months reported needing but not receiving services for domestic violence, whereas 8.8% reported receiving services for domestic violence. Compared with PWH who did not experience IPV in the past 12 months, those who did were more likely to experience major or other depression during the past 2 weeks (41.1% vs 20.6%) and moderate or severe anxiety in the past 2 weeks (37.9% vs 16.7%). PWH who experienced IPV in the past 12 months were also more likely to engage in transactional sex in the past 12 months (9.8% vs 2.8%) and engage in high-risk sex in the past 12 months (17.9% vs 5.5%). All differences in behaviors were statistically significant ($p<0.01$).

The HIV clinical factors and use of emergency and inpatient medical services also differed by experiences with IPV in the past 12 months; all differences were statistically significant. A higher proportion of those who experienced IPV in the past 12 months were not retained in HIV medical care (31.1% vs 20.1%; APR=0.92, 95% CI=0.86, 0.98), were not currently taking ART (19.8% vs 7.1%; APR=0.93, 95% CI=0.89, 0.97), and did not have sustained viral suppression (47.8% vs 35.5%; APR=0.92, 95% CI=0.86, 1.00) than those who did not experience IPV in the past 12 months (Table 4). Those who had experienced IPV in the past 12 months had a lower ART adherence than those who had not experienced IPV in the past 12 months (median score: 86.0 vs 96.7). PWH who experienced IPV in the past 12 months were more likely to miss HIV-related medical appointments in the past 12 months than those who did not (44% vs 23%; APR=1.55, 95% CI=1.32, 1.81). PWH who experienced IPV in the past 12 months were also more likely to have 1 emergency room visits (57.1% vs 36.7%; APR=1.46, 95% CI=1.33, 1.61), 1 hospital admissions (26.7% vs 16.7%; APR=1.62, 95% CI=1.35, 1.94), and an overnight hospital stay (27.1% vs 16.8%; APR=1.62, 95% CI=1.36, 1.94) than those who did not experience IPV in the past 12 months.

## DISCUSSION

More than one quarter of PWH experienced IPV in their lifetime, and 4.4% of them experienced IPV in the past 12 months. Given that a significant proportion of PWH experience IPV, the need for increased screening and linkage to supportive services is

evident; however, IPV screening and interventions are often tailored toward heterosexual women. Although women overall experienced the highest prevalence of IPV, bisexual women experienced the highest proportion of lifetime and recent IPV than all gender/sexual identity groups. Comparable prevalence of physical violence by an intimate partner among bisexual women in the general population is also found in the National Intimate Partner and Sexual Violence Survey.[17] Lesbian, gay, bisexual, and transgender (LGBT) people can experience unique forms of abuse (e.g., forced outing), limited culturally competent resources, and stigma and may be hesitant to seek help. HIV providers can adapt screening and referral materials for LGBT patients. Clinicians may also increase the identification of IPV by discussing gender identity and sexual orientation in a sensitive and open manner and becoming familiar with resources for LGBT victims of IPV.[18]

This study also provides evidence that people who recently experienced IPV are more likely to report behaviors associated with elevated HIV transmission risks, such as alcohol and drug use, poor HIV clinical and other health outcomes such as depression or anxiety, and increased use of emergency and inpatient medical services. A growing body of literature exploring the substance abuse, violence, and AIDS syndemic provides evidence that these conditions are mutually reinforcing, and this study's findings seem to support these associations.[19] Poor mental health has also been linked to substance abuse, violence, and AIDS and other syndemics and has been shown to worsen health outcomes.[19–21] Studies have suggested that depression and anxiety are potential mediating factors, which may be exacerbated by IPV, and further contribute to poor ART adherence, lower levels of viral suppression, and insufficient care engagement.[7] The existence of these syndemics suggests that an integrated approach is needed to improve the health outcomes of PWH who are faced with multiple complex and inter-related challenges, such as substance use, violence, and depression.[20–24]

This study's findings also provide evidence of the need for IPV screening and linkage to services among adults with HIV to mediate the associated HIV transmission risk behaviors, poor health outcomes, and safety of PWH. Although screening for IPV during routine HIV transmission risk screening has been recommended by CDC, it is unclear whether this practice has been adopted.[25] For those found to have experienced IPV, offering supportive services and counseling may not only lead to improved safety and HIV clinical outcomes but may also lead to a decreased need for emergency and inpatient medical services.[26,27] Missing HIV care visits was also associated with IPV; missing care visits is an indicator of engagement in HIV care and predictor of mortality.[28] Therefore, screening during routine and emergency care visits for IPV could also help identify patients who are suboptimally engaged in care and at risk of poor clinical outcomes.

Although it is recognized that healthcare providers face barriers to implementing universal IPV screening, such as time constraints, discomfort discussing IPV, and lack of training, studies show that screening is acceptable and effective.[29,30] One study found a protective effect against women's vulnerability to HIV acquisition among states that integrated IPV healthcare policies into their healthcare system and further suggested that integrated healthcare protocols could improve retention in care and ART adherence.[31] A cluster RCT found that counseling from family doctors decreased symptoms of depression among

women who screened positive for IPV.[32] Evidence also suggests that when IPV screening and counseling was conducted by healthcare providers, most patients were comfortable discussing IPV.[33] Researchers have suggested that community-based responses that take into account the complexity of the lives of people experiencing IPV are needed.[34,35] Thus, the AIDS Education and Training Center Program provides IPV training resources to HIV providers, including an IPV toolkit that aims to facilitate partnerships with social service organizations to build a comprehensive and sustainable response to IPV.[36]

### Limitations

This analysis is subject to some limitations. MMP does not collect data on sexual or emotional violence perpetrated by an intimate partner. This analysis of IPV is limited to physical violence perpetrated by an intimate partner. Therefore, the IPV measure in this paper provides only a partial understanding of the overall IPV experienced by PWH. In addition, the response rates of 40%–46% were suboptimal; however, MMP's findings obtained from unbiased sampling methods still add substantial value.[37] Given the cross-sectional study design of MMP, directional or causal associations between HIV clinical outcomes and IPV cannot be assessed. Finally, IPV and all described behaviors were self-reported and subject to bias, which may result in measurement error; for example, IPV and sensitive behaviors may be subject to under-reporting.

## CONCLUSIONS

One quarter of PWH experience IPV at some point in their lives. IPV disproportionately affects all women—whether heterosexual, bisexual, or lesbian—as well as LGBT populations, such as gay, bisexual men, and transgender people. PWH who have experienced IPV exhibit multiple behaviors associated with negative health outcomes, such as drug use and high-risk sex. IPV also negatively affects HIV clinical outcomes and increases the need for emergency and inpatient medical services. Screening PWH for IPV not only at their initial HIV testing but also during routine care is important because it may help address issues of missed medical visits, poor ART adherence, and difficulty attaining and maintaining viral suppression. When IPV is identified, supportive services should be offered. With these additional supportive services, the safety and health of PWH may be improved. IPV is preventable, especially when efforts begin early. Prevention programming can be tailored to marginalized groups, such as LGBT people and racial/ethnic minorities.[1] CDC has published a technical package that compiles select strategies for preventing IPV from occurring.[38]

## ACKNOWLEDGMENTS

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**Table 1.**

Lifetime IPV, Overall and by Demographic Characteristics (N=11,768)

| Demographic characteristics | Ever experienced IPV | | Never experienced IPV | | |
|---|---|---|---|---|---|
| | n | Weighted row %[a] (95% CI) | n | Weighted row %[a] (95% CI) | p-value |
| Overall | 3,139 | 26.3 (24.9, 27.6) | 8,629 | 73.8 (72.4, 75.1) | |
| Race/ethnicity[b] | | | | | <0.01 |
| White | 1,096 | 31.3 (29.2, 33.4) | 2,406 | 68.7 (66.6, 70.8) | |
| Black | 1,186 | 23.2 (21.8, 24.6) | 3,724 | 76.8 (75.4, 78.2) | |
| Hispanic/Latino | 597 | 23.7 (21.8, 25.6) | 1,966 | 76.3 (74.4, 78.2) | |
| Other/multiracial | 260 | 30.7 (26.9, 34.4) | 533 | 69.3 (65.6, 73.1) | |
| Age, years | | | | | <0.01 |
| 18–24 | 62 | 22.3 (16.8, 27.7) | 209 | 77.7 (72.3, 83.2) | |
| 25–34 | 505 | 31.4 (28.4, 34.3) | 1,084 | 68.6 (65.7, 71.6) | |
| 35–44 | 647 | 29.8 (27.4, 32.3) | 1,524 | 70.2 (67.7, 72.6) | |
| 45–55 | 1,078 | 26.9 (25.1, 28.8) | 2,785 | 73.1 (71.2, 74.9) | |
| >55 | 847 | 21.5 (19.8, 23.2) | 3,027 | 78.5 (76.8, 80.2) | |
| Gender identity[c] | | | | | <0.01 |
| Men | 2,021 | 23.2 (21.7, 24.8) | 6,571 | 76.8 (75.2, 78.3) | |
| Women | 1,060 | 35.6 (33.5, 37.8) | 1,939 | 64.4 (62.2, 66.5) | |
| Transgender | 56 | 28.9 (21.6, 36.3) | 111 | 71.1 (63.7, 78.4) | |
| Gender/sexual identity | | | | | <0.01 |
| Gay | 1,359 | 27.9 (25.9, 30.0) | 3,467 | 72.1 (70.1, 74.1) | |
| Bisexual men | 202 | 24.8 (20.9, 28.8) | 627 | 75.2 (71.2, 79.1) | |
| Heterosexual men | 391 | 14.4 (12.8, 16.0) | 2,301 | 85.6 (84.0, 87.2) | |
| Lesbian | 14 | 22.4 (10.3, 34.6) | 42 | 77.6 (65.4, 89.7) | |
| Bisexual women | 62 | 51.5 (40.6, 62.5) | 64 | 48.5 (37.5, 59.5) | |
| Heterosexual women | 976 | 35.3 (33.2, 37.5) | 1,813 | 64.7 (62.5, 66.8) | |
| Homelessness in the past 12 months[d] | | | | | <0.01 |
| Yes | 388 | 37.6 (34.0, 41.2) | 649 | 62.4 (58.8, 66.1) | |
| No | 2,751 | 25.2 (23.9, 26.5) | 7,979 | 74.8 (73.5, 76.1) | |

*Note:* Boldface indicates statistical significance (*p*<0.01). Categories for some variables may not sum to total owing to missing data.

[a]Percentages may not add to 100% owing to rounding.

[b]Hispanic/Latino might be of any race; respondents are only categorized in 1 racial/ethnic category; and multiracial/other includes American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, and respondents who selected multiple racial groups.

[c]Respondents were classified as transgender if sex at birth and gender identity were different or if the respondent identified as transgender.

[d]Living on the street, in a shelter, in a single-room-occupancy hotel, or in a car.

IPV, intimate partner violence.

IPV in the Past 12 Months, Overall and by Demographic Characteristics (N=11,768)

| Demographic characteristics | Experienced IPV in the past 12 months | | Did not experience IPV in the past 12 months | | |
|---|---|---|---|---|---|
| | n | Weighted row %[a] (95% CI) | n | Weighted row %[a] (95% CI) | p-value |
| Overall | 500 | 4.4 (4.0, 4.9) | 11,266 | 95.6 (95.1, 96.0) | |
| Race/ethnicity[b] | | | | | 0.35 |
| White | 134 | 4.0 (3.3, 4.6) | 3,367 | 96.0 (95.4, 96.7) | |
| Black | 208 | 4.4 (3.6, 5.2) | 4,701 | 95.6 (94.8, 96.4) | |
| Hispanic/Latino | 118 | 4.8 (3.8, 5.8) | 2,445 | 95.2 (94.2, 96.2) | |
| Other/multiracial | 40 | 5.5 (3.6, 7.4) | 753 | 94.5 (92.6, 96.4) | |
| Age, years | | | | | <0.01 |
| 18–24 | 26 | 9.4 (6.1, 12.7) | 245 | 90.6 (87.3, 93.9) | |
| 25–34 | 146 | 10.5 (8.6, 12.4) | 1,442 | 89.5 (87.6, 91.4) | |
| 35–44 | 124 | 5.4 (4.3, 6.4) | 2,047 | 94.6 (93.6, 95.7) | |
| 45–55 | 131 | 3.3 (2.7, 3.8) | 3,731 | 96.7 (96.2, 97.3) | |
| >55 | 73 | 2.0 (1.4, 2.6) | 3,801 | 98.0 (97.4, 98.6) | |
| Gender identity[c] | | | | | 0.17 |
| Men | 354 | 4.4 (3.9, 4.8) | 8,238 | 95.6 (95.2, 96.1) | |
| Women | 132 | 4.5 (3.6, 5.4) | 2,865 | 95.5 (94.6, 96.4) | |
| Transgender persons | 14 | 7.7 (3.5, 11.8) | 153 | 92.3 (88.2, 96.5) | |
| Gender/sexual identity | | | | | <0.01 |
| Gay | 214 | 4.6 (3.9, 5.3) | 4,612 | 95.4 (94.7, 96.1) | |
| Bisexual men | 53 | 7.7 (4.8, 10.7) | 776 | 92.3 (89.3, 95.2) | |
| Heterosexual men | 70 | 2.7 (1.9, 3.4) | 2,622 | 97.3 (96.6, 98.1) | |
| Lesbian | — | — | 55 | 96.6 (90.1, 100.0) | |
| Bisexual women | 16 | 15.0 (6.5, 23.5) | 110 | 85.0 (76.5, 93.5) | |
| Heterosexual women | 114 | 4.1 (3.2, 5.0) | 2,673 | 95.9 (95.0, 96.8) | |
| Homelessness in the past 12 months[d] | | | | | <0.01 |
| Yes | 120 | 13.4 (10.9, 15.8) | 916 | 86.6 (84.2, 89.1) | |
| No | 380 | 3.6 (3.2, 4.0) | 10,349 | 96.4 (96.0, 96.8) | |

*Note:* Boldface indicates statistical significance (*p*<0.01). Values with a coefficient of variation 0.30 were suppressed. Categories for some variables may not sum to total owing to missing data.

[a]Percentages may not add to 100% owing to rounding.

[b]Hispanic/Latino might be of any race; respondents are only categorized in 1 racial/ethnic category; and multiracial/other includes American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, and respondents who selected multiple racial groups.

[c]Respondents were classified as transgender if sex at birth and gender identity were different or if the respondent identified as transgender.

[d]Living on the street, in a shelter, in a single-room-occupancy hotel, or in a car.

IPV, intimate partner violence.

**Table 3.**

Behaviors of Adults With Diagnosed HIV by Experiences With IPV in the Past 12 Months (N=11,768)

| Behaviors | Experienced IPV in the past 12 months | | Did not experience IPV in the past 12 months | | p-value[b] |
|---|---|---|---|---|---|
| | n | Weighted column %[a] (95% CI) | n | Weighted column %[a] (95% CI) | |
| Binge drinking in the past 30 days | | | | | <0.01 |
| Yes | 132 | 27.7 (22.5, 32.9) | 1,695 | 15.0 (14.0, 16.1) | |
| No | 364 | 72.3 (67.1, 77.5) | 9,509 | 85.0 (83.9, 86.0) | |
| Noninjection drug use in the past 12 months | | | | | <0.01 |
| Yes | 235 | 54.6 (49.9, 59.3) | 3,285 | 28.7 (27.2, 30.1) | |
| No | 263 | 45.4 (40.7, 50.1) | 7,952 | 71.3 (69.9, 72.8) | |
| Injection drug use in the past 12 months | | | | | <0.01 |
| Yes | 51 | 9.1 (6.2, 11.9) | 287 | 2.3 (1.8, 2.8) | |
| No | 449 | 90.9 (88.1, 93.8) | 10,963 | 97.7 (97.2, 98.2) | |
| Any unmet needs in the past 12 months | | | | | <0.01 |
| Yes, ≥1 unmet need | 374 | 77.4 (73.0, 81.8) | 5,888 | 53.3 (52.0, 54.5) | |
| No, received all needed services | 125 | 22.4 (18.1, 26.8) | 5,175 | 44.6 (43.4, 45.8) | |
| Unmet need for domestic violence services in the past 12 months | | | | | <0.01 |
| Yes | 63 | 14.1 (10.1, 18.2) | 40 | 0.3 (0.2, 0.5) | |
| No | 437 | 85.9 (81.8, 89.9) | 11,211 | 99.7 (99.5, 99.8) | |
| Received domestic violence services in the past 12 months | | | | | <0.01 |
| Yes | 45 | 8.8 (6.2, 11.3) | 87 | 0.7 (0.6, 0.9) | |
| No | 454 | 91.2 (88.7, 93.8) | 11,167 | 99.3 (99.1, 99.4) | |
| Other or major depression in the past 2 weeks | | | | | <0.01 |
| Yes | 198 | 41.1 (35.8, 46.4) | 2,232 | 20.6 (19.3, 21.9) | |
| No | 296 | 58.9 (53.6, 64.2) | 8,957 | 79.4 (78.1, 80.7) | |
| Anxiety in the past 2 weeks | | | | | <0.01 |
| Severe/moderate anxiety | 184 | 37.9 (32.3, 43.6) | 1,813 | 16.7 (15.7, 17.7) | |
| Mild/no anxiety | 314 | 62.1 (56.4, 67.7) | 9,404 | 83.3 (82.3, 84.3) | |
| Transactional sex in the past 12 months[c] | | | | | <0.01 |
| Yes | 42 | 9.8 (6.2, 13.4) | 183 | 2.8 (2.3, 3.3) | |

| Behaviors | Experienced IPV in the past 12 months | | Did not experience IPV in the past 12 months | | |
| --- | --- | --- | --- | --- | --- |
| | n | Weighted column %[a] (95% CI) | n | Weighted column %[a] (95% CI) | p-value[b] |
| No | 374 | 90.2 (86.6, 93.8) | 6,291 | 97.2 (96.7, 97.7) | **<0.01** |
| High-risk sex in the past 12 months[d] | | | | | |
| Yes | 75 | 17.9 (13.4, 22.4) | 545 | 5.5 (4.8, 6.2) | |
| No | 419 | 82.1 (77.6, 86.6) | 10,613 | 94.5 (93.8, 95.2) | |

*Note:* Boldface indicates statistical significance (*p*<0.01). Categories for some variables may not sum to total owing to missing data.

[a]Percentages may not add to 100% owing to rounding.

[b]The *p*-value compares people with HIV who experienced IPV in the past 12 months with people who did not experience IPV in the past 12 months.

[c]*Transactional sex* was defined as having sex in exchange for food, shelter, transportation, money, or drugs.

[d]Condomless vaginal/anal sex with ≥1 partner with negative/unknown HIV status, partner not reported to be on PrEP, and respondent did not have sustained viral suppression.

IPV, intimate partner violence; PrEP, pre-exposure prophylaxis.

**Table 4.**

HIV Clinical Factors by Experiences With IPV in the Past 12 Months (N=11,768)

| Clinical factors | Experienced IPV in the past 12 months | | Did not experience IPV in the past 12 months | | APR [b] | 95% CIs | p-value [c] |
|---|---|---|---|---|---|---|---|
| | n | Weighted column % [a] (95% CI) | n | Weighted column % [a] (95% CI) | | | |
| Retained in care in the past 12 months [d] | | | | | | | **0.01** ** |
| Yes | 384 | 68.9 (63.2, 74.5) | 9,423 | 79.9 (78.4, 81.3) | 0.92 | 0.86, 0.98 | |
| No | 105 | 31.1 (25.5, 36.8) | 1,563 | 20.1 (18.7, 21.6) | — | — | |
| Currently on ART | | | | | | | **<0.001** *** |
| Yes | 441 | 80.2 (75.2, 85.2) | 10,685 | 92.9 (92.1, 93.6) | 0.93 | 0.89, 0.97 | |
| No | 57 | 19.8 (14.8, 24.8) | 540 | 7.1 (6.4, 7.9) | — | — | |
| ART adherence (median) | | 86.0 (83.8, 88.2) | | 96.7 (94.4, 99.0) | | | |
| Sustained viral suppression | | | | | | | **0.04** * |
| Yes | 288 | 52.2 (47.4, 57.1) | 7,726 | 64.5 (62.8, 66.2) | 0.92 | 0.86, 1.00 | |
| No | 212 | 47.8 (42.9, 52.6) | 3,540 | 35.5 (33.8, 37.2) | — | — | |
| Missed HIV medical appointments in the past 12 months (no-shows) | | | | | | | **<0.001** *** |
| Yes | 221 | 44.0 (38.2, 49.8) | 2,563 | 23.0 (21.8, 24.1) | 1.55 | 1.32, 1.81 | |
| No | 275 | 56.0 (50.2, 61.8) | 8,638 | 77.0 (75.9, 78.2) | — | — | |
| Emergency room visits in the past 12 months | | | | | | | **<0.001** *** |
| 0 | 226 | 42.9 (38.0, 47.8) | 7,079 | 63.3 (61.7, 64.9) | — | — | |
| 1 | 272 | 57.1 (52.2, 62.0) | 4,159 | 36.7 (35.1, 38.3) | 1.46 | 1.33, 1.61 | |
| Hospital admissions in the past 12 months | | | | | | | **<0.001** *** |
| 0 | 365 | 73.3 (69.0, 77.6) | 9,294 | 83.3 (82.3, 84.3) | — | — | |
| 1 | 133 | 26.7 (22.4, 31.0) | 1,951 | 16.7 (15.7, 17.7) | 1.62 | 1.35, 1.94 | |
| Overnight hospital stay in the past 12 months | | | | | | | **<0.001** *** |
| Yes | 134 | 27.1 (22.7, 31.4) | 1,964 | 16.8 (15.8, 17.8) | 1.62 | 1.36, 1.94 | |
| No | 365 | 72.9 (68.6, 77.3) | 9,294 | 83.2 (82.2, 84.2) | — | — | |

*Note:* Boldface indicates statistical significance (*$p<0.05$, **$p<0.01$, ***$p<0.001$). Categories for some variables may not sum to total owing to missing data.

[a] Percentages may not add to 100% owing to rounding.

[b] Models adjusted for age and homelessness.

[c] The *p*-value compares people with HIV who experienced IPV in the past 12 months with people who did not experience IPV in the past 12 months.

[d] *Retained in HIV care* was defined as at least 2 of these elements: an encounter with an HIV care provider, viral load test result, CD4 test result, HIV resistance test or tropism assay, ART prescription PCP prophylaxis, or MAC prophylaxis.

APR, adjusted prevalence ratio; ART, antiretroviral treatment; CD4, cluster of differentiation 4; IPV, intimate partner violence; MAC, *Mycobacterium avium* complex; PCP, *Pneumocystis carinii* pneumonia.