HHS Public Access

Author manuscript

J Interpers Violence. Author manuscript; available in PMC 2023 September 01.

Published in final edited form as:

J Interpers Violence. 2022 September ; 37(17-18): NP16327–NP16350.

doi:10.1177/08862605211021970.

Estimating the Influence of Incarceration on Subsequent Experience With Violence Among Black Men Who Have Sex With Men in the HPTN061 Study

Typhanye V. Dyer[1], **Jonathan Feelemyer**[2], **Joy D. Scheidell**[2], **Rodman E. Turpin**[1], **Russell Brewer**[3], **Medha Mazumdar**[2], **Nicole Fortune**[1], **MacRegga Severe**[2], **Charles M. Cleland**[2], **Molly Remch**[4], **Kenneth Mayer**[5], **Maria R. Khan**[2]

[1] University of Maryland School of Public Health, College Park, MD, USA

[2] New York University School of Medicine, New York, NY, USA

[3] University of Chicago, IL, USA

[4] University of North Carolina, Chapel Hill, NC, USA

[5] Harvard Medical School, Boston, MA, USA

Abstract

Black men who have sex with men (BMSM) are disproportionately incarcerated in the United States. Incarceration is a barrier to health equity and may be a risk factor for experiences of interpersonal violence. However, the effect of incarceration on experienced violence among BMSM is understudied. We examined associations between recent incarceration on subsequent experiences of race- or sexuality-based violence, intimate partner violence, or community violence. We analyzed data from the HPTN 061 study. Analysis includes data on 1,169 BMSM recruited from 6 U.S. cities who were present at baseline as well as 6- and 12-month follow-up interview. We tested if self-reported incarceration between baseline and 6 months was associated with self-reported outcomes between 6 and 12 months using logistic regression with inverse probability of treatment weighting and multiple imputation methods. Experienced outcomes included violence due to race or sexuality, intimate partner violence and aggression, and community violence (i.e., gang violence, robbery, shooting). Approximately 14% reported incarceration between baseline and 6 months and 90% reported experiencing violence between 6 and 12 months. In adjusted analyses, incarceration was associated with subsequent race- or sexuality-based violence [a*OR* (adjusted odds ratio) range: 1.25–1.41, 95% CI (confidence interval) range: 1.00–1.74], experiences of physical abuse and aggression from intimate partners (a*OR*: 2.35; 95% CI: 1.50, 3.70) and community violence (*OR* 1.82; 95% CI: 1.23, 2.72). Recent incarceration experience increased risk of exposure to future violence in this population. Mixed methods research examining mediating paths between and downstream effects of incarceration and violence on the wellbeing and health of BMSM is needed. We implore researchers to study

Corresponding Author: Typhanye V. Dyer, University of Maryland School of Public Health, College Park, MD 20742, USA. typhanye@umd.edu.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

violence and incarceration among BMSM. Practitione should implement strategies such as trauma-informed interventions, and policies strengthening the social and economic support needs of Black populations.

Keywords

community violence; domestic violence; cultural contexts; domestic; violence; GLBT; violence against; sexuality

Introduction

It is well recognized that Black men who have sex with men (BMSM) are disproportionately impacted by HIV in the United States (U.S.) (Centers for Disease Control Prevention, 2014). Growing evidence indicates that incarceration and violence are two social-structural factors associated with HIV risk and poor service utilization among BMSM and may also contribute to the high burden of HIV among this population (Duncan et al., 2019; Millett et al., 2012; Quinn et al., 2016; Williams et al., 2015) Black men are disproportionately impacted by incarceration in the U.S. (Fullilove, 2011; Glaze LE, 2010; Gramlich, 2020; Harawa & Adimora, 2008; The Pew Center on the States, 2008; William, 2011). For example, the incarceration (i.e., prison) rate among Black men in 2018 was 2,272 prisoners per 100,000 Black men, compared with 1,018 prisoners per 100,000 Hispanic men and 392 prisoners per 100,000 White men (Gramlich, 2020; The Pew Center on the States, 2008). Men who have sex with men, including BMSM also face disproportionate levels of criminal justice involvement (Lim et al., 2011). Incarceration rates among sexual minorities in 2012 were 1,882 per 100,000, more than 3 times that of the U.S. adult population (Meyer et al., 2017). A large multisite longitudinal study among BMSM showed a 35% annualized incarceration incidence and 60% lifetime history of incarceration among this population (Brewer et al., 2014a, 2014b).

The mass incarceration of Black men, including BMSM in the U.S. is a significant barrier to the achievement of health equity (Forman, 2012). Penal institutions in the U.S. perpetuate the second-class citizenship of Black Americans as a permanent racial underclass deprived of fundamental civil rights created by slavery, replacing de jure segregation as a mechanism for creating and maintaining racial hierarchy (Alexander, 2010; Carbado & Richardson, 2017). Likewise, targeted aggressive policing, increased poverty (Ceccato, 2017; Muggah, 2012), distress (e.g., depression), and substance use (Carter et al., 2020; Duke et al., 2018; Lim & Lui, 2016; White et al., 2019), contribute to involvement in social/sexual networks and exposure to settings where substance use may be high, as well as behaviors associated with violence, HIV risk, and poor or delayed engagement in services (Holliday et al., 2019; Hotton et al., 2019; Quinn et al., 2016; Stansfield & Doherty, 2019; Tracy et al., 2019). During detainment, individuals who are incarcerated face exposure to physical violence from numerous sources including correctional staff and/or others who are incarcerated. For example, a study by Boxer and colleagues showed that violent encounters during incarceration were significantly related to aggressive and antisocial behavioral tendencies as well as emotional distress and that individuals who were witnesses, as well

as victims, of violent crime showed the poorest adjustment postrelease (Boxer et al., 2009). Violence during incarceration may result in hyper-vigilance both within the prison walls and outside, impacting mental health upon release, including elevated and sustained anxiety and antisocial behavior (Boxer et al., 2009). Antisocial personality disorder and antisocial personality traits are also linked to experiencing violence (Palmstierna, 2016). Therefore, incarceration may potentially contribute not only to interpersonal violence (Waters et al., 2005) in community settings but also to violence within families (Mowen & Visher, 2016).

Specifically, incarceration disrupts community ties including relationships with families which can contribute to relationship instability, relationship infidelity, and partnership concurrency which are known HIV risk factors (Adimora & Schoenbach, 2002; Brewer et al., 2014a, 2014b; Fullilove, 2011; Khan et al., 2008, 2009). Relationship infidelity is also a strong risk factor for intimate partner violence and aggression (IPVA) (De Santis et al., 2014; Heath et al., 2020; Jansen & Agadjarian, 2016; Kubicek et al., 2015; Stephenson & Finneran, 2013; TracyStone, 2017), defined as a pattern of controlling, abusive behaviors within an intimate relationship consisting of physical, verbal, emotional, and/or sexual abuse (Basile & Saltzman, 2002). Among MSM, having social networks comprised of closeted sex partners or closeted gay friends was associated with increased reporting of IPV victimization and perpetration, which may suggest other predictors, including internalized homophobia (Stephenson et al., 2013).

Research on the connection between recent experiences of incarceration and interpersonal violence and aggression has not been extensively examined among BMSM. There is a need to measure this relationship among racial/ethnic minority and sexual minority men and document the context of gender and sexuality in violence experience to best understand incarceration-related effects in this group. By doing so, we will be able to better tailor interventions and harm reduction programs to address and reduce these specific violent experiences post release.

This study thus addresses gaps in previously published literature by examining the association between recent incarceration and experiences of violence due to race or sexuality, IPVA, and community violence (i.e., gang violence, robbery, shooting) after release. We hypothesized that incarceration would increase exposure to violence due to race and/or sexuality, as well as violence and aggression perpetrated by an intimate partner and community violence.

Methods

Study Design and Participants

We used data from the HIV Prevention Trials Network 061 (HPTN 061) study to evaluate the longitudinal relationship between recent incarceration and postrelease changes in violence due to race or sexual orientation, IPV, or experiences of violence (including experiencing a shooting, robbery, kidnapping, or gang violence). The study's enrollment and recruitment methods have been described comprehensively elsewhere (Brewer et al., 2014a). HPTN 061 sought to test the feasibility and efficacy of interventions to prevent the acquisition and transmission of HIV among BMSM. Enrollment took place from 2009 to

2010 in six U.S. metropolitan cities: Atlanta, New York City, Washington D.C, Los Angeles, San Francisco, and Boston. Men were recruited directly from the community or as sexual network partners referred by index participants.

Individuals were eligible to participate in the study if they self-identified as Black, African American, Caribbean Black, or multiethnic Black; identified as a man or assigned male at birth; were at least 18 years old; reported ≥1 instance of unprotected anal intercourse with a man in the prior six months; resided in one of six metropolitan areas; did not plan to move away during the course of the study; and provided informed consent for the study. Individuals were ineligible if they were enrolled in any other HIV interventional research study, had been a participant in an HIV vaccine trial, or were a community-recruited participant in a category that had already reached its enrollment cap. Prescreening to determine eligibility was performed either in person or over the telephone. Institutional review boards at all participating institutions approved the study.

Study Procedures

Self-reported data was collected through audio computer-assisted self-interview (ACASI) at baseline and 6- and 12-month follow-up that assessed demographic information, HIV risk behaviors, experiences of violence (including IPVA), and internalized homophobia, and were tested for sexually transmitted infections (STIs) using blood, urine tests and rectal swabs, and for HIV using rapid HIV testing with confirmation of results via Western blot testing; HIV status was confirmed at the HPTN Laboratory Center, Baltimore, MD. During the six-month visit, participants were also asked if they had been incarcerated in the previous six months (i.e., during the time since baseline) (Figure 1).

Exposure Variable

Incarceration status.—At six-month follow-up, participants reported the number of times they spent one or more nights in a jail or prison during the previous six months. Given that nearly half of participants reported no incarceration events across all three time points (i.e., baseline, 6 months, or 12 months) and the majority of previously incarcerated participants reported only one or two periods of incarceration in the previous six months, we defined recent incarceration as no incarceration versus ≥1 period of incarceration.

Outcome variables.—All questions were asked at baseline (which reported on lifetime experiences), as well as at the 6- and 12-month follow-up visits (which asked about the period six months prior to the visit date).

Race- or sexuality-based violence.—Participants were surveyed on several race- and sexuality-based violent outcomes and violent experiences. Three questions asked participants whether they felt their experiences with violence were due to their race or sexuality (each of the questions were asked based on race and then sexuality for a total of six responses from participants) and included (1) being threatened with physical violence due to race or sexuality, (2) being punched, kicked or beaten, or having an object thrown at me due to race or sexuality, and (3) being threatened with a gun, knife, other weapon because of race or sexuality(del Pino, Under Review; Koblin et al., 2013).

For these six race-or sexuality-based outcome questions, participants responded on a six-item scale ranging from “1: Yes, but it doesn’t bother me at all, 2: Yes, but it only bothers me a little, 3: Yes, and it bothers me somewhat, 4: Yes, and it bothers me a lot, 5: Yes, and it bothers me extremely, 6: Has never happened to me.” These responses were reverse coded and dichotomized such that response 6 = 0 (no) and responses 1–5 = 1 (yes) with yes indicating having experienced the event irrespective of the degree to which it bothered the participant, and no indicating that the violent event never happened to participant.

Intimate partner violence and aggression (IPVA).—Participants were asked three questions about IPVA: (1) have you experienced physical abuse from an intimate male partner, (2) were you stalked by an intimate male partner, and (3) were you pressured, forced, or intimidated by an intimate male partner (Williams et al., 2015).

For these three IPVA outcomes, participants responded on a scale ranging from “0 = no this has never happened,1 = yes, but it rarely happened, “2 = yes, this has sometimes happened, 3 = yes this has often happened, and 4 = yes this has always happened.” and these variables were also dichotomized to “yes/no” variables, with yes indicating it had happened to the participant, and no indicating that it never happened to the participant.

Community violence.—Participants responded to four questions that assessed if they had ever experienced any type of violence that was classified into one of four categories: (1) gang violence, (2) robbery, (3) kidnapping, and (4) shooting. For each category, participants indicated a yes/no response if they had experienced that type of violence. Participants could answer yes to one, or all of the four violence outcomes. The prevalence of individual types of community violence was low (9% gang violence, 9% shooting, 10% robbery, and 1% kidnapping), so a combined community violence variable (any of the four types experienced, yes/no) was used in analysis.

Statistical Analysis

Baseline demographic information and prevalence of 12-month violence outcomes were calculated for the sample. We then examined prevalence of the violence outcomes and aggregated the number of participants who experienced any of the violence outcomes at one, two, or all three data collection time points. Finally, in order to evaluate the association between incarceration at 6-months and violence outcomes at the 12-month follow-up visit, we estimated logistic regression models controlling for baseline covariates and baseline exposure to that type of violence.

We utilized multiple imputation by chained equations for missing data (Resche-Rigon & White, 2018) in the questionnaire responses, yielding 15 imputed datasets using predictive mean matching. Out of the 1,169 with information on incarceration exposure at 6 months, 146 (12.5%) were missing information on either a baseline covariate or baseline reporting of incarceration. Quality of the imputations was assessed via visual inspection of density plots of the imputed variables. The values of the imputed variables were checked to make sure that only plausible values were imputed.

Prior to multiple imputation by chained equations, we used mean imputation of scale scores for participants with ≤20% of scale items missing at baseline and 12 months (CES-D, Internalized Homophobia, Social Support scale, AUDIT, Racism, Externalized Homophobia). When >20% of scale items were missing, the scale score was coded as missing. The initial sample consisted of 1553 participants, of which $N = 384$ were excluded due to missing information on recent incarceration resulting in a final analytic sample of $n = 1,169$. Imputed data was then used to calculate bivariate associations between 6-month incarceration and each of the 12-month violent outcome measures.

For the adjusted analysis, we used inverse probability of treatment weighting (IPTW) (Cole & Hernán, 2008) with stabilized weights to adjust for baseline confounding. Variables used to estimate the weights were measured at baseline and included transgender identity, any STI, unstable housing, high school education (high school or less; some college or more), problematic substance use (i.e., crack, cocaine, methamphetamine, heroin, unprescribed prescription drugs, or miscellaneous illicit drugs), weekly marijuana use, lifetime incarceration history, HIV testing history, insufficient income, whether the subject also has sex with women, alcohol use disorders identification test (AUDIT) score, either buying or selling sex, multiple partnership, concurrent partnership, city, cohabitation status, health coverage, HIV status at baseline, age, center for epidemiologic studies depression scale score (CES-D) (Radloff, 1977), social support scale (Sherbourne & Stewart, 1991), perceived homophobia scale (Koblin et al., 2013), perceived racism scale (Harrell, 2000; Harrell et al., 1997), internalized homophobia scale (Herek, 1996).

Predicted probabilities, also known as propensity scores, of recent incarceration were extracted and converted into inverse probability weights, which were stabilized in regard to the probability of the observed exposure (Hernán et al., 2006). Logistic regression with the Ridge penalty was conducted for each of the 15 imputed datasets, to create 15 sets of propensity scores, which were used to create 15 sets of inverse probability weights. These weights were then used in the adjusted analysis to assess the relationship between six-month incarceration status and the different violence outcomes.

For all adjusted models, we additionally controlled for individual baseline experiences of the same type of violence (for instance, in assessing the relationship between incarceration at 6 months and experiencing community violence at 12-month follow-up, we controlled for baseline experiences of community violence in addition to variables included in the IPTW model).

In unadjusted and adjusted models, logistic regression with robust standard errors was conducted for each violence outcome in each of the 15 imputed datasets. Parameter estimates and variances were extracted from each model and were pooled to obtain odds ratios (*OR*s) and standard errors for the association between incarceration and different violence outcomes following Rubin's rules (Rubin, 2004). All statistical analyses were conducted using R Version 3.5.1 "Feather Spray" (R Core Team, 2017).

Results

Sample Characteristics

Participant demographics are described in Table 1. Approximately 60% of participants reported a lifetime history of incarceration and 14% of participants reported incarceration between the baseline and 6-month follow-up visit (not shown). The majority of participants were non-Hispanic Blacks and had limited employment; approximately 48.5% had at least a high school education, over 56.1% made less than $20,000 per year, and 9.7% reported unstable housing. The main substances used included marijuana (55.4%), problematic substance use (42%), and binge drinking (47.4%). At baseline, approximately 84.6% of participants reported lifetime exposure to experiencing any type of violence [including experiences of race- and/or sexuality-based violence, IPVA, and other violent experiences (i.e., shooting, robbery, kidnapping, or gang violence)].

The frequency of experiences with race- and sexuality-based violence, IPVA, and other community violence per visit is presented in Table 2. Race- or sexuality-based violence was reported by 82.4% of participants and nearly one third of participants reported experiencing this type of violence at one data collection time point (28.2%) or all three data collection time points (26.4%). IPVA was reported by 41.4% of the participants at any time point, with 21.6% reporting IPVA at only one data collection time point, 10.2% reporting IPV at two data collection time points, and 9.6% reporting IPVA at all three data collection time points. Close to half of all participants (47.3%) reported experiencing community violence (i.e., shooting, robbery, kidnapping, or gang violence). Approximately 15% (14.8%) reported these experiences at two data collection time points and 5.7% reported these experiences at all three data collection time points.

Table 3 presents the bivariate and weighted analysis examining incarceration and subsequent race- and sexuality-based violence, IPVA, and community violence reported at the 12-month follow-up visit. Among those who had experienced incarceration between baseline data collection and the 6-month follow-up, 33.7% reported experiencing at least one race-based physical violence threat, 25.6% reported being threatened with a weapon because of race, and 27.5% experienced actual race-based physical violence at the 12-month follow-up. Also, among those who had experienced incarceration between baseline and the 6-month follow-up, 34.9% reported experiencing at least one sexuality-based physical violence threat and 27.6% experienced actual sexuality-based physical violence at the time point immediately following incarceration. Approximately 9% of those who were recently incarcerated reported experiencing physical IPV (9.4%). Additionally, roughly 10% reported aggression (i.e., stalking) at the time point following incarceration, while 7.8% reported being pressured, forced, or intimidated by an intimate partner after incarceration. Finally, 19.4% of recently incarcerated participants reported experiencing community violence following their incarceration.

Having reported recent incarceration at 6 months was associated with all race and sexuality-based violence outcomes at the 12-month follow-up visit in unadjusted analysis (*OR* range: 1.35–1.59; 95% CI range: 1.11, 1.97), all IPVA related outcomes (*OR* range: 1.69–2.47;

95% CI range: 1.09, 3.71), and having experienced at least one of the four community violence indicators (*OR* 1.58; 95% CI: 1.17, 2.12).

In adjusted analysis, all race- and sexuality-based violence outcomes at the 12-month follow-up visit remained statistically significant (aOR range: 1.25–1.41; 95% CI range: 1.00–1.74). Additionally, we found statistically significant associations at the 12-month follow-up visit for participants reporting having experienced physical abuse from intimate partners (aOR: 2.35; 95% CI: 1.50, 3.70). Finally, we found a statistically significant association with community violence in the adjusted analysis (aOR: 1.64; 95% CI: 1.20, 2.24).

Discussion

This study sought to examine the association between recent incarceration and subsequent experiences with violence among BMSM post incarceration release. We found that recent incarceration increased risk of exposure to future violence in this population.

Criminal justice involvement is a traumatic experience that is disproportionately inflicted on Black men, including BMSM.

Confirming our hypotheses, BMSM who experienced incarceration in the past six months had increased risk compared to men who had not been recently incarcerated, of experiencing all three measured forms of race-based violence at 12-month follow-up: threat of race-based physical violence, threat of race-based weapon-based violence, and experience of race-based physical violence. The association between recent incarceration and violence remained after adjusting for a robust set of confounding factors including income and incarceration history, suggesting that recent incarceration is independently associated with postrelease violence risk and exposure, thus serving as a contributing factor.

We observed strong links between recent incarceration and race-based violence. This is not a surprising finding given the current climate in the U.S. (Black Lives Matter, 2020). A recent analysis of nearly 100 million traffic stops across the U.S. showed that Black drivers were 20% more likely to be stopped by law enforcement compared with White drivers relative to their share of the residential population (Pierson et al., 2020). Black drivers were also on average more likely to be searched by law enforcement and the bar for searching Black drivers was lower than that of White drivers (Pierson et al., 2020). Furthermore, African Americans are disproportionately affected by police violence in the U.S. with a death rate attributed to a fatal shooting by an on-duty police officer that is more than twice the rate than their white counterparts (The Washington Post, 2020).

We also observed an increased risk for sexuality-based violence for men who had been recently incarcerated compared to those who had not. This is well aligned with previous intersectionality research showing that BMSM experience increased vulnerability due to race and sexuality (Adimora & Schoenbach, 2002; Brewer et al., 2014a, 2014b; Callander et al., 2019; Fullilove, 2011; Khan et al., 2008, 2009; Quinn, 2019; Turpin et al., 2019). BMSM who have been incarcerated may struggle to deal with life stressors, postrelease that may place them at increased risk for engaging in high risk sexual behaviors, including

exchange sex, thereby also increasing risk for exposure to sexuality-based violence and aggression. Additionally, incarceration may increase risk for sexuality-based violence because individuals who do not fit the heteronormative mode are more likely to experience humiliation and abuse within correctional settings (Maschi et al., 2016; National Center for Transgender Equality, 2018).

Incarceration as a precursor to experiences of IPVA aligns also with extant literature highlighting that IPV is associated with increased odds of having been incarcerated (Erickson et al., 2020; Hotton et al., 2019). Incarceration may contribute to reduced support and serves as a stressor/barrier to the achievement of basic human needs (e.g., employment, housing, etc.), which may cause a strain in relationships leading to increased instances of violence (Travis et al., 2014; Wakefield & Uggen, 2010; Western, 2019).

Furthermore, our findings underscore the importance of addressing structural race-based and sexuality-based violence, as well as IPVA as exposure to these types of violence has been highlighted in the literature to contribute to disproportionately higher levels of HIV and STI (Quinn et al., 2020).

A strength of the study includes the temporal sequence with a causal framework analytic strategy using IPTW. Controlling for baseline exposure to violence and over 25 other important baseline covariates, while examining the longitudinal association between incarceration at 6-month follow-up and 12-month experience with violence provides evidence to suggest the experience of incarceration and release contributes to postrelease violence risk in this group. Our findings highlight the need for mixed methods research to examine mediating paths and downstream effects on wellbeing and health of BMSM. While the temporal sequence of events is strengthened by the longitudinal study design it is likely that experience with incarceration is correlated with experiences of violence and not causal, per se. That said, our study does support a strong inference of causality if all confounding has been addressed. The number of incarcerations (or a recent incarceration) might be both a consequence and an effect of a higher propensity to be both a victim and perpetrator of violence, that may result from other unmeasured factors (e.g., antisocial).

Although this analysis contributes to our understanding of the influence of recent incarceration and subsequent experience with violence, there are several study limitations to consider. The study, reliant on a historical context at baseline and 6- and 12-month follow-up, is subject to recall bias. The observed study findings cannot be generalized to BMSM as a whole since participants were recruited from a community sample of BMSM in six U.S. cities. Participants represent a high HIV risk population given the eligible criteria utilized for the parent HPTN 061 study. Self-reported incarceration during study follow-up as well as information on risky behaviors such as substance use, may have been underestimated as a result of social desirability bias given the stigma and discrimination associated with these behaviors and experiences. The perpetrator of violence is unknown and cannot be attributed to specific groups, nor can it be assumed that a participant would report that their experiences with violence were due to race, simply because the perpetrator was not of the same racial/ethnic group. The same can be said regarding violence due to sexual orientation. Just because someone is of the same racial/ethnic group does not necessarily mean that any

violence experienced must be due to something *other* than race/ethnicity, and in this case, sexual orientation. There were a small number of incarceration-related questions resulting in a limited analysis about the circumstances surrounding incarceration during study follow-up. Specifically, we did not assess incarcerations for new crimes versus parole violations, which may have a different impact on exposure to violence. We specified multiple plausible confounders, including prior incarceration. There is always some possibility of unmeasured confounding. Finally, it must be noted that the HPTN061 study was conducted between 2009 and 2011 which was 10 years ago, however it should be noted that incarceration and experienced violence have not substantially improved for BMSM since this period. Additionally, there is no evidence to suggest the relationship between these two factors would be remarkably different now compared to the period of data collection. Based on this, we do not suspect this limitation substantially alters our findings or the interpretation of them.

Despite these limitations, this analysis is the first to our knowledge to longitudinally describe the relationship between recent incarceration and subsequent experiences with violence among BMSM. We employed rigorous methods and observed strong, consistent associations between incarceration and postrelease interpersonal factors including risk of experiencing both race-related violence and IPV. Future causal-inference research into mechanisms of associations between incarceration and experienced violence is necessary for further understanding this association. The impact of violence, particularly racist and homophobic violence, towards recently incarcerated BMSM on their health and well-being cannot be understated; for this reason, social justice efforts focused on this population are absolutely critical to health equity overall.

The level of violence, particularly racist and homophobic violence, experienced by recently incarcerated BMSM is detrimental to their health and well-being. We provide the following recommendations for researchers and practitioners as it relates to incarceration and violence among their population: (1) these experiences should be systematically assessed among BMSM; (2) trauma-informed interventions should be implemented/integrated to respond to high levels of violence; (3) social and economic support systems should be ramped up to meet the multiple needs of BMSM to reduce their vulnerability to incarceration and violence; and (4) social justice efforts and intentional changes in policy focused on the needs of Black people are absolutely critical to health equity, overall.

Acknowledgments

The authors would like to thank the HPTN 061 Study Participants; HPTN 061 Protocol Co-Chairs: Beryl Koblin, PhD, Kenneth Mayer, MD, and Darrell Wheeler, PhD, MPH; HPTN 061 Protocol Team Members; HPTN Black Caucus; HPTN Network Laboratory, Johns Hopkins University School of Medicine; Vaccine and Infectious Disease Division, Fred Hutchinson Cancer Research Center; HPTN CORE Operating Center; FHI360; Black Gay Research Group; Clinical Research Sites, Staff, and CABs at Emory University, Fenway Institute, GWU School of Public Health and Health Services, Harlem Prevention Center, New York Blood Center, San Francisco Department of Public Health; UCLA and The Agents of Change (AOC) Writing Group at the University of Maryland, School of Public Health, Center for Health Equity for their continued support and the Agents of Change Writing Group (UMD).

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported by the National Institute on Drug Abuse grant “Stop-and-Frisk, Arrest, and Incarceration and STI/HIV Risk in Minority MSM” (Principal Investigator: MRK; R01DA044037). HPTN 061 grant support was provided by the National Institute of Allergy and Infectious Disease (NIAID), National Institute on Drug Abuse (NIDA), and National Institute of Mental Health (NIMH): Cooperative Agreements UM1 AI068619, UM1 AI068617, and UM1 AI068613. Additional site funding—Fenway Institute Clinical Research Site (CRS): Harvard University CFAR (P30 AI060354) and CTU for HIV Prevention and Microbicide Research (UM1 AI069480); George Washington University CRS: District of Columbia Developmental CFAR (P30 AI087714); Harlem Prevention Center CRS and NY Blood Center/Union Square CRS: Columbia University CTU (5U01 AI069466) and ARRA funding (3U01 AI069466–03S1); Hope Clinic of the Emory Vaccine Center CRS and The Ponce de Leon Center CRS: Emory University HIV/AIDS CTU (5U01 AI069418), CFAR (P30 AI050409), and CTSA (UL1 RR025008); San Francisco Vaccine and Prevention CRS: ARRA funding (3U01 AI069496–03S1, 3U01 AI069496–03S2); UCLA Vine Street CRS: UCLA Department of Medicine, Division of Infectious Diseases CTU (U01 AI069424). The funder had a role in the design of the study by providing input into the design. The funding agencies had no role in designing the research, data analyses, and preparation of the report.

R. Brewer’s time was also supported by a grant from NIDA P30DA027828–08S1.T. Dyer’s time was also supported by University of Maryland Prevention Research Center cooperative agreement #U48 DP006382 from the Centers for Disease Control and Prevention (CDC), Stop-and-Frisk, Arrest, and Incarceration and STI/HIV Risk in Minority MSM (R01 DA- 044037) and Project DISRUPT (R01 DA-028766). M. Khan, C. Cleland, and J. Scheidell received support from the New York University Center for Drug Use and HIV Research (P30 DA011041). M. Khan additionally was supported by the New York University-City University of New York (NYU-CUNY) Prevention Research Center (U48 DP005008).

Biographies

Typhanye V. Dyer PhD is an epidemiologist whose research examines the influence of social, psychological, and behavioral factors on STI/HIV disparities in Black populations. Her work involves examining syndemics among sexual minority Black men, including the impact of trauma, poor mental health, criminal justice involvement and STI/HIV.

Jonathan Feelemyer MS is a project director at the NYU School of Global Public Health and a doctoral student at NYU Grossman School of Medicine. His research interests include HIV, hepatitis C, sexually transmitted diseases, injection drug use, and harm reduction for at risk populations. His research is focused on international settings specifically in Southeast Asia and Eastern Europe.

Joy D. Scheidell PhD is an epidemiologist in the Department of Population Health at NYU Grossman School of Medicine. Her research examines intersections of mental health, substance use, and sexual and reproductive health, with a focus on vulnerable and marginalized populations.

Rodman E. Turpin PhD is an epidemiologist and biostatistician focused on HIV prevention among Black sexual minority men (BSMM). He is especially interested in how substance use, trauma, depression, racism, and homophobia are associated with HIV and STI prevention among Black sexual minority men. His methodological interests include latent class, profile, and transition analysis, structural equation modeling, and novel approaches to moderated mediation analysis.

Russell Brewer DrPH is an applied public health researcher and implementation scientist with a background in health disparities research. His research and intervention efforts are focused on understanding and eliminating the socio-structural barriers to HIV services

among persons living with HIV (PLWH), young Black men who have sex with men (YBMSM), and criminal justice-involved (CJI) populations in the United States.

Medha Mazumdar MS is a biostatistician with expertise in longitudinal data analysis, mediation analysis, missing data, and multilevel modeling.

Nicole Fortune BS is an undergraduate student in the University of Maryland School of Public Health. Her career interests include health policy reform focused on health disparities and minority groups in low socioeconomic areas. In the future she plans to pursue a career in medicine while conducting research focused on public health efforts.

MacRegga Severe BS is a public health researcher. His training is in biotechnology and HIV drug development. His interest is in HIV prevention, especially in disenfranchised populations. He plans to pursue a career in medicine with a direct focus in primary care and HIV and STD prevention.

Charles M. Cleland PhD is a quantitative psychologist and biostatistician with more than 20 years of experience in the field of public health research. His methodological interests include longitudinal data analysis, meta-analysis, respondent-driven sampling, and multilevel modeling. His substantive research interests include health disparities, particularly in the areas of substance use and infectious disease.

Molly Remch MS is an epidemiology PhD student at the University of North Carolina Gillings School of Global Public Health. Her research interests include the health effects of incarceration and health disparities in infectious disease, substance use, and violence.

Kenneth Mayer MD is trained in internal medicine at Beth Israel Hospital and in infectious diseases and molecular epidemiology at Brigham and Women's Hospital. As the founding medical research director of Fenway Health, he created a community health research program that has developed an international reputation for its capability to conduct community-based research. He is currently a professor of medicine at Harvard Medical School, a professor in global health and population at the Harvard TC Chan School of Public Health, and attending physician and director of HIV Prevention Research at Beth Israel Deaconess Hospital. Starting in 1994, he has been a site principal investigator of NIH-funded HTVN, HPTN, MTN, and ATN clinical trials units, focusing on biobehavioral HIV prevention research, and a member of the scientific leadership of HPTN and HVTN. He has coauthored more than 1,000 peer-reviewed publications, coauthored the first text on AIDS for the general public, and has coedited 5 academic texts. He has served on the national boards of amfAR, HIVMA, and GLMA, was a member of the CDC/HRSA HIV/AIDS Advisory Committee, and was a member of the Governing Council of the International AIDS Society. He is an editor-in-chief of the *Journal of the International AIDS Society*, and serves on the PEPFAR Scientific Advisory Board.

Maria R. Khan PhD is an epidemiologist who researches the nexus of policing and incarceration with infectious disease risk. Her NIH-funded studies have focused on the development and testing of a novel conceptual framework that hypothesizes how criminal

justice involvement influences distress and violence, addictions, and STI/HIV risk. She also evaluates the efficacy of programs that aim to mitigate infectious disease risk among populations recently released from incarceration.

References

Adimora AA, & Schoenbach VJ (2002). Contextual factors and the Black-White disparity in heterosexual HIV transmission. Epidemiology, 13(6), 707–712. [PubMed: 12410013]

Alexander M (2010). The war on drugs and the New Jim Crow. Race, Poverty & the Environment, 17(1), 75–77.

Basile KC, & Saltzman LE (2002). Sexual violence surveillance: Uniform definitions and recommended data elements. Centers for Disease Control and Prevention.

Black Lives Matter. (2020). Black lives matter. Retrieved June 11, 2020, from https://blacklivesmatter.com/

Boxer P, Middlemass K, & Delorenzo T (2009). Exposure to violent crime during incarceration: Effects on psychological adjustment following release. Criminal Justice and Behavior, 36(8), 793–807.

Brewer RA, Magnus M, Kuo I, Wang L, Liu TY, & Mayer KH (2014a). Exploring the relationship between incarceration and HIV among Black men who have sex with men in the United States. Journal of Acquired Immune Deficiency Syndromes, 65(2), 218–225. 10.1097/01.qai.0000434953.65620.3d [PubMed: 24091691]

Brewer RA, Magnus M, Kuo I, Wang L, Liu TY, & Mayer KH (2014b). The high prevalence of incarceration history among Black men who have sex with men in the United States: Associations and implications. American Journal of Public Health, 104(3), 448–454. 10.2105/ajph.2013.301786 [PubMed: 24432948]

Callander D, Duncan D, Park SH, Bowleg L, Brinkley-Rubinstein L, Theall K, & Hickson D (2019). P559 Incarceration, stress and sexual risk-taking: An intersectional analysis of Black men who have sex with men in the deep south. BMJ Publishing Group Ltd.

Carbado DW, & Richardson LS (2017). The Black Police: Policing our own. HeinOnline.

Carter PM, Cranford JA, Buu A, Walton MA, Zimmerman MA, Goldstick J, Ngo Q, & Cunningham RM (2020). Daily patterns of substance use and violence among a high-risk urban emerging adult sample: Results from the Flint Youth Injury Study. Addictive Behaviors, 101, 106127. [PubMed: 31645000]

Ceccato V (2017). Does poverty cause violence? In The Wiley handbook of violence and aggression (pp. 1–13). Wiley-Blackwell.

Centers for Disease Control Prevention. (2014). HIV among African American gay and bisexual men. Retrieved June 10, 2020, from https://www.cdc.gov/hiv/pdf/group/msm/cdc-hiv-bmsm.pdf

Cole SR, & Hernán MA (2008). Constructing inverse probability weights for marginal structural models. American Journal of Epidemiology, 168(6), 656–664. [PubMed: 18682488]

De Santis JP, Gonzalez-Guarda R, Provencio-Vasquez E, & Deleon DA (2014). The tangled branches (Las Ramas Enredadas) sexual risk, substance abuse, and intimate partner violence among hispanic men who have sex with men. Journal of Transcultural Nursing, 25(1), 23–32. [PubMed: 24084703]

del Pino HE, Steers WN, Lee M, McCuller WJ, Hays RD, & Harawa NT (under review). Measuring gender role conflict, internalized stigma, and racial and sexual identity in behaviorally bisexual Black men. Archives of Sexual Behavior.

Duke AA, Smith KM, Oberleitner L, Westphal A, & McKee SA (2018). Alcohol, drugs, and violence: A meta-meta-analysis. Psychology of Violence, 8(2), 238.

Duncan DT, Hickson DA, Goedel WC, Callander D, Brooks B, Chen Y-T, Hanson H, Eavou R, Khanna AS, Chaix B, Regan SD, Wheeler DP, Mayer KH, Safren SA, Carr Melvin S, Draper C, Magee-Jackson V, Brewer R, Schneider JA, & Chaix B (2019). The social context of HIV prevention and care among Black men who have sex with men in three US cities: The

neighborhoods and networks (N2) cohort study. International Journal of Environmental Research and Public Health, 16(11), 1922. [PubMed: 31151275]

Erickson M, Pick N, Ranville F, Martin RE, Braschel M, Kestler M, Krüsi A, Shannon K, & Project S (2020). Violence and other social structural factors linked to incarceration for women living with HIV in Metro Vancouver: Need for trauma-informed HIV care in prisons and post-release. AIDS Care, 32(9), 1141–1149. [PubMed: 31992054]

Forman J (2012). Racial critiques of mass incarceration: Beyond the new Jim Crow. NYUL Review, 87, 101–146.

Fullilove RE (2011). Mass incarceration in the United States and HIV/AIDS: Cause and effect. Ohio State Journal of Criminal Law, 9(1), 353.

Glaze LE (2010). Correctional populations in the United States, 2009. Bureau of Justice Statistics. http://bjs.ojp.usdoj.gov/content/pub/pdf/cpus09.pdf

Gramlich J (2020). Black imprisonment rate in the US has fallen by a third since 2006. Pew Research Center.

Harawa N, & Adimora A (2008). Incarceration, African Americans and HIV: Advancing a research agenda. Journal of the National Medical Association, 100(1), 57–62. [PubMed: 18277809]

Harrell SP (2000). A multidimensional conceptualization of racism-related stress: Implications for the well-being of people of color. American Journal of Orthopsychiatry, 70(1), 42–57. [PubMed: 10702849]

Harrell SP, Merchant M, & Young S (1997). Psychometric properties of the racism and life experiences scales (RaLES). Unpublished manuscript.

Heath R, Hidrobo M, & Roy S (2020). Cash transfers, polygamy, and intimate partner violence: Experimental evidence from Mali. Journal of Development Economics, 143, 102410. 10.1016/j.jdeveco.2019.102410

Herek GM (1996). Heterosexism and homophobia. In Cabaj RP & Stein TS (Eds.), Textbook of homosexuality and mental health (pp. 101–113). American Psychiatric Association.

Hernán MA, Lanoy E, Costagliola D, & Robins JM (2006). Comparison of dynamic treatment regimes via inverse probability weighting. Basic & Clinical Pharmacology & Toxicology, 98(3), 237–242. [PubMed: 16611197]

Holliday CN, Morse SM, Irvin NA, Green-Manning A, Nitsch LM, Burke JG, Campbell JC, & Decker MR (2019). Concept mapping: Engaging urban men to understand community influences on partner violence perpetration. Journal of Urban Health, 96(1), 97–111. [PubMed: 30051239]

Hotton A, Quinn K, Schneider J, & Voisin D (2019). Exposure to community violence and substance use among Black men who have sex with men: Examining the role of psychological distress and criminal justice involvement. AIDS Care, 31(3), 370–378. [PubMed: 30280579]

Jansen NA, & Agadjarian V (2016). Polygyny and intimate partner violence in a rural sub-Saharan setting. Population Association of America.

Khan MR, Doherty IA, Schoenbach VJ, Taylor EM, Epperson MW, & Adimora AA (2009). Incarceration and high-risk sex partnerships among men in the United States. Journal of Urban Health, 86(4), 584–601. [PubMed: 19459050]

Khan MR, Miller WC, Schoenbach VJ, Weir SS, Kaufman JS, Wohl DA, & Adimora AA (2008). Timing and duration of incarceration and high-risk sexual partnerships among African Americans in North Carolina. Annals of Epidemiology, 18(5), 403–410. [PubMed: 18395464]

Koblin BA, Mayer KH, Eshleman SH, Wang L, & Mannheimer S, del Rio C, Shoptaw S, Magnus M, Buchbinder S, Wilton L, Liu TY, Cummings V, Piwowar-Manning E, Fields SD, Griffith S, Elharrar V, Wheeler D, & HPTN 061 Protocol Team. (2013). Correlates of HIV acquisition in a cohort of Black men who have sex with men in the United States: HIV prevention trials network (HPTN) 061. PloS One, 8(7), e70413. [PubMed: 23922989]

Kubicek K, McNeeley M, & Collins S (2015). "Same-sex relationship in a straight world" individual and societal influences on power and control in young men's relationships. Journal of Interpersonal Violence, 30(1), 83–109. [PubMed: 24811283]

Lim JR, Sullivan PS, Salazar L, Spaulding AC, & Dinenno EA (2011). History of arrest and associated factors among men who have sex with men. Journal of Urban Health, 88(4), 677–689. 10.1007/s11524-011-9566-5 [PubMed: 21448578]

Lim JY, & Lui CK (2016). Longitudinal associations between substance use and violence in adolescence through adulthood. Journal of Social Work Practice in the Addictions, 16(1–2), 72–92. [PubMed: 27366116]

Maschi T, Rees J, & Klein E (2016). "Coming out" of prison: An exploratory study of LGBT elders in the criminal justice system. Journal of Homosexuality, 63(9), 1277–1295. [PubMed: 27232373]

Meyer IH, Flores AR, Stemple L, Romero AP, Wilson BD, & Herman JL (2017). Incarceration rates and traits of sexual minorities in the United States: National Inmate Survey, 2011–2012. American Journal of Public Health, 107(2), 267–273. 10.2105/ajph.2016.303576 [PubMed: 27997242]

Millett GA, Peterson JL, Flores SA, Hart TA, Jeffries WL 4th, Wilson PA, Rourke SB, Heilig CM, Elford J, Fenton KA, & Remis RS (2012). Comparisons of disparities and risks of HIV infection in black and other men who have sex with men in Canada, UK, and USA: A meta-analysis. The Lancet, 380(9839), 341–348.

Mowen TJ, & Visher CA (2016). Changing the ties that bind: How incarceration impacts family relationships. Criminology & Public Policy, 15(2), 503–528.

Muggah R (2012). Researching the urban dilemma: Urbanization, poverty and violence. IDRC, CRDI.

National Center for Transgender Equality. (2018). LGBTQ people behind bars: A guide to understanding the issues facing transgender prisoners and their legal rights. https://transequality.org/sites/default/files/docs/resources/TransgenderPeopleBehindBars.pdf

Palmstierna T (2016). Personality disorders, violence and criminal behaviour. Lakartidningen, 113, DY6R.

Pierson E, Simoiu C, Overgoor J, Corbett-Davies S, Jenson D, Shoemaker A, Ramachandran V, Barghouty P, Phillips C, Shroff R, & Goel S (2020). A large-scale analysis of racial disparities in police stops across the United States. Nature Human Behaviour, 4(7), 736–745.

Quinn K, Voisin DR, Bouris A, & Schneider J (2016). Psychological distress, drug use, sexual risks and medication adherence among young HIV-positive Black men who have sex with men: Exposure to community violence matters. AIDS Care, 28(7), 866–872. [PubMed: 26917328]

Quinn KG (2019). Applying an intersectional framework to understand syndemic conditions among young Black gay, bisexual, and other men who have sex with men. Social Science & Medicine, 112779. [PubMed: 31898991]

Quinn KG, Spector A, Takahashi L, & Voisin DR (2020). Conceptualizing the effects of continuous traumatic violence on HIV continuum of care outcomes for young Black men who have sex with men in the United States. AIDS and Behavior, 25(3), 758–772. [PubMed: 32944841]

R Core Team. (2017). A language and environment for statistical computing. https://www.R-project.org/

Radloff LS (1977). The CES-D scale: A self-report depression scale for research in the general population. Applied Psychological Measurement, 1(3), 385–401.

Resche-Rigon M, & White IR (2018). Multiple imputation by chained equations for systematically and sporadically missing multilevel data. Statistical Methods in Medical Research, 27(6), 1634–1649. [PubMed: 27647809]

Rubin DB (2004). Multiple imputation for nonresponse in surveys. Wiley.

Sherbourne CD, & Stewart AL (1991). The MOS social support survey. Social Science & Medicine, 32(6), 705–714. [PubMed: 2035047]

Stansfield R, & Doherty E (2019). Neighborhood health, social structure and family violence. Social Science Research, 81, 12–22. [PubMed: 31130191]

Stephenson R, & Finneran C (2013). The IPV-GBM scale: A new scale to measure intimate partner violence among gay and bisexual men. PloS One, 8(6), e62592. [PubMed: 23755098]

Stephenson R, Sato KN, & Finneran C (2013). Dyadic, partner, and social network influences on intimate partner violence among male-male couples. Western Journal of Emergency Medicine, 14(4), 316. [PubMed: 23930144]

The Pew Center on the States. (2008). One in 100: Behind bars in America 2008. http://www.pewcenteronthestates.org/uploadedFiles/8015PCTS_Prison08_FINAL_2-1-1_FORWEB.pdf

The Washington Post. (2020). Fatal force. Retrieved June 11, 2020, from https://www.washingtonpost.com/graphics/investigations/police-shootings-database/.

Tracy BM, Smith RN, Miller K, Clayton E, Bailey K, Gerrin C, Eversley-Kelso T, Carney D, & MacNew H (2019). Community distress predicts youth gun violence. Journal of Pediatric Surgery, 54(11), 2375–2381. [PubMed: 31072680]

TracyStone C (2017). When lovers are fighters: Polyamory and intimmate partner violence.

Travis J, Western B, & Redburn FS (2014). The growth of incarceration in the United States: Exploring causes and consequences. National Research Council.

Turpin RE, Slopen N, Chen S, Boekeloo B, Dallal C, & Dyer T (2019). Latent class analysis of a syndemic of risk factors on HIV testing among black men. AIDS Care, 31(2), 216–223. [PubMed: 30235943]

Wakefield S, & Uggen C (2010). Incarceration and stratification. Annual Review of Sociology, 36, 387–406.

Waters HR, Hyder AA, Rajkotia Y, Basu S, & Butchart A (2005). The costs of interpersonal violence—An international review. Health Policy, 73(3), 303–315. [PubMed: 16039349]

Western B (2019). Poverty, criminal justice, and social justice. IRP Focus, 35, 3–13.

White HR, Conway FN, & Ward JH (2019). Comorbidity of substance use and violence. In Handbook on crime and deviance (pp. 513–532). Springer.

William NH (2011). Where are the men? The impact of incarceration and reentry on African American men and their children and families. http://www.communityvoices.org/Libraries/Community_Voices_Documents/resourceLibrary_prison-Health_whereAreTheMen.sflb.ashx

Williams JK, Wilton L, Magnus M, Wang L, Wang J, Dyer TP, Koblin BA, Hucks-Ortiz C, Fields SD, Shoptaw S, Stephenson R, O'Cleirigh C, Cummings V, & Prevention Trials Network 061 Study Team., HIV (2015). Relation of childhood sexual abuse, intimate partner violence, and depression to risk factors for HIV among Black men who have sex with men in 6 US cities. American Journal of Public Health, 105(12), 2473–2481. [PubMed: 26469666]

MEASURE	VARIABLE	TIME POINT ASSESSED	REFERENCE PERIOD
RECENT INCARCERATION	Spent ≥1 nights in jail/prison	6-month follow-up	Past 6 months
RACE- OR SEXUALITY-BASED VIOLENCE	Being threatened with physical violence due to race or sexuality	Baseline	Lifetime
		6-month follow-up	Past 6 months
		12-month follow-up	Past 6 months
	Being punched, kicked, or beaten, or having an object thrown at me due to race or sexuality	Baseline	Lifetime
		6-month follow-up	Past 6 months
		12-month follow-up	Past 6 months
	Being threatened with a gun, knife, other weapon because of race or sexuality	Baseline	Lifetime
		6-month follow-up	Past 6 months
		12-month follow-up	Past 6 months
INTIMATE PARTNER VIOLENCE AND AGGRESSION (IPVA)	Experienced physical abuse from an intimate male partner	Baseline	Lifetime
		6-month follow-up	Past 6 months
		12-month follow-up	Past 6 months
	Stalked by an intimate male partner	Baseline	Lifetime
		6-month follow-up	Past 6 months
		12-month follow-up	Past 6 months
	Pressured, forced, or intimidated by an intimate male partner	Baseline	Lifetime
		6-month follow-up	Past 6 months
		12-month follow-up	Past 6 months
COMMUNITY VIOLENCE	Gang violence	Baseline	Lifetime
		6-month follow-up	Past 6 months
		12-month follow-up	Past 6 months
	Robbery	Baseline	Lifetime
		6-month follow-up	Past 6 months
		12-month follow-up	Past 6 months
	Kidnapping	Baseline	Lifetime
		6-month follow-up	Past 6 months
		12-month follow-up	Past 6 months
	Shooting	Baseline	Lifetime
		6-month follow-up	Past 6 months
		12-month follow-up	Past 6 months

Figure 1.

Exposure and Outcome Measures, Definitions, Time-Point Assessed, and Time-Period Referenced.

Table 1.

Select Baseline Demographics and 12-Month Violence Outcomes Among BMSM in the HPTN 061 Cohort (*N* = 1,169).

	Total Sample		Sex/Race Violence		IPV		Experiences*	
	N	%	*N*	%	*N*	%	*N*	%
Age								
18–30	396	34.4	137	30.1	59	38.8	50	25.5
31–50	611	53.1	261	57.4	78	51.3	129	65.8
50 and over	143	12.4	57	12.5	15	9.9	17	8.7
Ethnicity								
Non-Hispanic	1079	92.4	421	91.9	135	87.1	186	91.2
Hispanic	89	7.6	37	8.1	20	12.9	18	8.8
Education								
Greater than high school	601	51.5	273	59.7	95	61.7	104	51.2
High school	566	48.5	184	40.3	59	38.3	99	48.8
Insufficient income								
No	513	43.9	172	37.6	67	43.2	79	38.7
Yes	655	56.1	286	62.5	88	56.8	125	61.3
Unstable housing								
No	1055	90.3	408	89.1	137	88.4	184	90.2
Yes	113	9.7	50	10.9	18	11.6	20	9.8
City of residence								
Washington DC	177	15.1	57	12.4	14	9	21	10.3
Atlanta	207	17.8	71	15.5	21	13.6	26	12.8
Boston	256	21.9	109	23.8	32	20.7	58	28.4
Los Angeles	173	14.8	71	15.5	31	20	33	16.2
New York City	207	17.7	80	17.4	32	20.7	38	18.6
San Francisco	149	12.8	71	15.5	25	16.1	28	13.7
Health coverage								
No	456	9	164	35.8	52	33.5	58	28.4
Yes	712	61	294	64.2	103	66.5	146	71.6
Marijuana use								
No	510	44.6	178	40.1	52	34.4	83	41.5
Yes	633	55.4	266	59.9	99	65.6	117	58.5
Problematic substance use								
No	651	58	219	51.1	74	50.3	109	55.1
Yes	471	42	210	48.9	73	49.7	89	44.9

	Total Sample		Sex/Race Violence		IPV		Experiences*	
	N	%	*N*	%	*N*	%	*N*	%
Binge drinking								
No	602	52.6	218	48.9	71	47	108	54.3
Yes	544	47.4	228	51.1	80	53	91	47.2

Note.

*Includes gang violence, robbery, kidnapping, and/or shooting.

Table 2.

Race/Sex Violence, IPVA, and Community Violence by Number of Visits Among BMSM in the HPTN 061 Cohort (*N* = 1,169).

Number of Visits at Which Violence Was Reported	Violence Due to Race or Sexuality		Intimate Partner Violence and Aggression		Community Violence	
	N	%	*N*	%	*N*	%
0 (never)	206	17.6	685	58.6	615	52.6
One visit	330	28.2	253	21.6	314	26.9
Two visits	324	27.7	119	10.2	173	14.8
Three visits	309	26.4	112	9.6	67	5.7

Table 3.

Associations Between Incarceration at 6-Month Follow-up and Violent Experiences at 12-Month Follow-up Among BMSM in the HPTN 061 Cohort (*N* = 1,169).

Outcome Variable	Total Sample[+]	Incarcerated Status (Incarcerated/Not Incarcerated)[+]	Unadjusted[*]	Adjusted With IPTW[**]
	N (%)	*N* (%)	*OR* (95% CI)	*OR* (95% CI)
Violence due to race or sexuality				
Being threatened with physical violence because of race	394 (33.7)	78 (47.3) 316 (31.5)	1.50 (1.25, 1.81)	1.41 (1.15, 1.72)
Being threatened with physical violence because of sexuality	408 (34.9)	74 (44.9) 334 (33.3)	1.35 (l.ll, 1.63)	1.25 (1.01, 1.55)
Being punched, kicked, or beaten, or having an object thrown at me because of race	322 (27.5)	63 (38.2) 259 (25.8)	1.48 (1.19, 1.85)	1.33 (1.04, 1.69)
Being punched, kicked, or beaten, or having an object thrown at me because of sex	323 (27.6)	67 (40.6) 256 (25.5)	1.59 (1.29, 1.97)	1.37 (1.07, 1.74)
Being threatened with a gun, knife, other weapon because of race	300 (25.6)	61 (36.9) 239 (23.8)	1.55 (1.24, 1,95)	1.34 (1.05, 1.71)
Being threatened with a gun, knife, other weapon because of sexuality	300 (25.6)	60 (36.4) 240 (23.9)	1.52 (1.21, 1.91)	1.28 (1.00, 1.66)
Intimate partner violence and aggression				
Have you ever experienced physical abuse from an intímate male partner	97 (9.4)	28 (19.2) 69 (7.8)	2.47 (1.64, 3.71)	2.35 (1.50, 3.70)
Were you ever stalked by an intimate male partner	101 (9.8)	22 (15.1) 79 (8.9)	1.69 (1.09, 2.64)	1.29 (0.78, 2.12)
Were you ever pressured, forced, or intimidated by an intímate male partner	80 (7.8)	20 (13.7) 60 (6.8)	2.03 (1.26, 3.27)	1.44 (0.84, 2.47)
Community violence				
Four main experiences that are combined (gang violence, robbery, kidnapping, shooting)	204 (19.4)	42 (28.6) 162 (17.9)	1.58 (1.17, 2.12)	1.64 (1.20, 2.24)

Note.

[+] Totals in *N*(%) columns based on raw (nonimputed) data.

[*] Bivaríate analysis is based on imputed data (see methods for full details on imputation methods).

[**] lncludes imputation, IPTW, and controlling for baseline measure of each violence outcome (see methods for full details on these methods).