

Trading Sex for Risk - Mpox Vaccination Uptake and Transactional Sex in Los Angeles: a Cross-Sectional Study

Beimnet F. Taye

btaye1@g.ucla.edu

University of California, Los Angeles

Marjan Javanbakht

University of California, Los Angeles

Megan Halbrook

University of California, Los Angeles

Anne W. Rimoin

University of California, Los Angeles

William C. Carson

Centers for Disease Control and Prevention

Michael B. Townsend

Centers for Disease Control and Prevention

Enrique Castrejon

Los Angeles LGBT Center

Sarah S. Dean

University of California, Los Angeles

Pamina Gorbach

University of California, Los Angeles

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Abstract

Background

People engaged in transactional sex may be at elevated risk for mpox due to frequent intimate contact with multiple partners. Although the two-dose JYNNEOS vaccine is an effective prevention strategy, little is known about how specific transactional sex practices and contexts relate to mpox vaccination uptake. This study examined relationships between transactional sex practices, structural vulnerability, and mpox vaccination among people reporting recent sex work.

Methods

We conducted interviews with 128 Southern California adults who reported transactional sex in the past year between October 2023 and December 2024. Interviews collected information on transactional sex practices in the prior 3 months, including place of sex (homes, motels/hotels, street/public venues, bathhouses), compensation type (monetary or trade-based), client sourcing (online, friends, or street/public venues), and type of transactional sex (full service, escort work, entertainment/live shows, or phone/internet/app-based). Participants also reported mpox vaccination status. Modified Poisson regression models examined associations between transactional sex characteristics and mpox vaccination, adjusting for age, sex, race/ethnicity, and education. Stratified analyses examined differences by housing status.

Results

Median participant age was 36 years; most participants were male (84%), 39% identified as Hispanic and 27% as Black. Nearly half (46%) reported unstable housing and 52% were living with HIV. Transactional sex commonly involved intercourse (63%) and most frequently occurred in homes (73%) or motels/hotels (55%). Clients were most often sourced online (65%), and compensation was primarily monetary (75%). Overall, 56% of participants reported mpox vaccination. In adjusted analyses, monetary compensation (aPR = 0.70; 95% CI: 0.52–0.94) and street-based transactional sex (aPR = 0.68; 95% CI: 0.47–0.97) were associated with lower vaccination prevalence. Among unstably housed participants, the negative association for street-based transactional sex was stronger (aPR = 0.45; 95% CI: 0.28–0.73).

Conclusions

Mpox vaccination uptake varied substantially across different transactional sex contexts. Individuals engaging in street-based transactional sex, particularly those experiencing housing instability, may face barriers to vaccination and represent important populations for targeted outreach efforts.

Introduction

Mpox is a zoonotic disease caused by infection with the *Monkeypox virus* (MPXV), a member of the genus *Orthopoxvirus*. Transmission occurs primarily through direct contact with infected lesions, scabs, or bodily fluids, as well as through prolonged close or intimate contact with an infected individual. Historically, MPXV circulated in localized outbreaks in West and Central Africa, typically characterized by limited human-to-human transmission of MPXV.[1]

In early summer of 2022 there was a swift and unforeseen global spread of mpox. Confirmed cases were reported in 122 countries and 32,063 cases were identified in the United States through 2022.[1, 2] By September, the initial outbreak had declined rapidly, although sporadic cases and localized resurgences continue to occur both nationally and in Los Angeles County.[3, 4] During the 2022 outbreak, 99% of cases were among men and of these, 94% reported male-to-male sexual or intimate contact immediately prior to symptom onset, highlighting the impact of sexual transmission in propagating the initial surge.[5] The early public health response focused on expanding access to the JYNNEOS vaccine, a two dose series that confers protection against both smallpox and mpox.[6] Despite increased availability, prior studies have shown mpox vaccination uptake varies among specific subgroups, specifically by race and ethnicity, number of partners, education level, and HIV pre-exposure prophylaxis (PrEP) use.[6, 7] An additional important high risk subgroup however that has received little attention during the mpox response are those who engage in transactional sex.

Mpox poses a distinct threat to those who engage in transactional sex since they often engage in close or intimate contact with multiple contacts. Engaging in transactional sex, especially among men, has been found to be associated with a much higher prevalence of new and concurrent partnerships as well as sexually transmitted infection (STI) positivity.[8] Unlike HIV and other STIs however, mpox prevention through condom use is complicated by the fact that close contact with open lesions or sores anywhere on the body can drive transmission. Thus, public health messaging regarding avoidance of sexual encounters when symptomatic has been a key prevention tool for the broader population. However, among those who engage in transactional sex extended periods of abstinence may interrupt needed revenue streams or even impact housing and food security for those who exchange sex for services. Thus, vaccination serves as an important public health tool for mpox prevention in this population. Further exacerbating this issue is the high prevalence of unstable housing experienced by many of those who engage in transactional sex.[8–10] Unstable housing itself has consistently been shown to be positively associated with both STI and HIV incidence and negatively associated with mpox vaccination.[11, 12] Furthermore, if someone engages in transactional sex and is unstably housed they may have less discretion when screening potential clients compared to those who are stably housed due to the added need for additional income.[13] As such, understanding the drivers of mpox vaccination uptake in this high-risk population is paramount.

Few studies have examined factors associated with mpox vaccination among those who engage in transactional sex. There are even fewer studies that examine these relationships by the different

contexts in which transactional sex occurs. To our knowledge only one study has so far examined the relationships between mpox vaccination and transactional sex, examining mpox vaccination attitudes among a cross sectional sample of male sex workers in China.[14] More in depth research is needed to inform mpox vaccination policy. This study utilizes a cross-sectional sample of Southern Californian participants who engage in transactional sex to examine how distinct types and practices related to transactional sex are associated with mpox vaccination uptake. Additionally, this study examines heterogeneity across these relationships by housing status to identify those most vulnerable to being unvaccinated. We thus hypothesized that those who engage in street-based transactional sex would have a lower likelihood of mpox vaccination versus those who do not.

Methods

Study Design/Data Sources

Participants in this study were enrolled into the Community MPOX Awareness Sex Worker Survey (COMPASS), a longitudinal study combining survey and laboratory data to assess mpox risk among those who engage in transactional sex throughout Southern California. In total, 140 participants were recruited between October 2023 and December 2024. Participants were recruited from the Sexual Health Clinic at the Los Angeles LGBT Center, a community-based organization in Los Angeles providing sexual health and social services for the LGBTQ+ community. Potential participants were identified through a mix of active outreach to those who had indicated transactional sex engagement in clinic intake forms and passive outreach using in-house recruitment flyers and screen monitor ads by clinic waiting areas and elevators. Interested potential participants were screened according to the following eligibility criteria: (1) age 18 years or older and (2) reporting transactional sex within the past year. After providing informed consent, participants completed a self-administered, computer-based questionnaire detailing demographics, mpox history, sexual behaviors, and transactional sex practices. A copy of the questionnaire can be found in Additional File 1 (see Additional File 1). Blood specimen for serologic testing was also collected from each participant at baseline and follow-up. While participants returned for a subsequent follow-up visit 3 months after baseline, for this study only baseline data were used. Participants received \$50 for their participation. This study was reviewed by University of California, Los Angeles Institutional Review Board and deemed exempt for full review. This activity was additionally reviewed by CDC and was determined to be consistent with applicable federal law and CDC policy.

Serologic Testing

Serologic specimens were analyzed by the Centers for Disease Control and Prevention (CDC) for IgG anti-orthopoxvirus serologic reactivity using Enzyme-Linked Immunosorbent Assay (ELISA).[15] Testing was performed as previously described but utilized JYNNEOS vaccine as the viral antigen. A cutoff of 0.01 was used to define test positivity.[16]

Variable Definitions

The primary outcome of interest was mpox vaccination uptake at baseline as defined by self-reported receipt of at least one dose of the mpox vaccine. For those who did not know their vaccination status, vaccine status was imputed for those born after 1971 using baseline positive IgG serology in conjunction with no reported history of mpox diagnosis. Those remaining with unknown or missing vaccination status were excluded from the analytic sample. Due to the risk of vaccination misclassification attributed to previous undiagnosed mpox infection, parallel sensitivity analyses were conducted excluding these imputed participants. While 140 total baseline participants were recruited in total, 122 reported known mpox vaccination histories. Of the 18 participants that either were missing their vaccination status or indicated that they did not know their status, 13 had their vaccination status imputed using a combination of orthopoxvirus IgG serology and mpox diagnosis history. Of the resulting 135, 7 participants had missing covariate data and thus were excluded, leaving 128 participants in the final analytic sample. The study flow diagram for participants can be found in Additional File 2 (see Additional File 2). The secondary outcome of interest was vaccine dosing (1 dose vs. 2 doses), as defined by the self-reported number of doses received by vaccinated participants. The primary exposures were self-reported transactional sex practices in the past 3 months covering place, type of compensation, client sourcing, and type of transactional sex. Place was reported as home (participant's, client's, or another private home), motel/hotel, street/public locations (e.g., tents, cars, outdoor/public spaces), or bathhouses. Compensation was reported as monetary (cash/payment) or trade-based (drugs, food, or housing in exchange for sex). Client sourcing was reported as online, through friends, or street based (defined as finding clients in parks, restaurants, bars, or other public venues). Type of transactional sex was reported as entertainment/live shows, phone/internet/app, full service (including intercourse), or escort work. For each of these exposures, participants were asked to select all that applied with responses being binarily coded (Yes vs. No), thus participants could select multiple categories per exposure. Other covariates of interest measured at baseline included age, race/ethnicity, sex, education level, and unstable housing defined as reporting unsheltered, transitional, or shelter living in the past 3 months.

Statistical Methods

Descriptive statistics outlining frequency distributions, medians, and inter-quartile ranges of demographics and transactional sex characteristics were tabulated overall and by vaccination status. To assess the associations between vaccination uptake and transactional sex characteristics modified Poisson regression analyses were conducted. Modified Poisson was used since odds ratio estimates can significantly diverge from the corresponding prevalence ratio when the outcome is common.[17] Modified Poisson regression was implemented using Generalized Estimating Equations via the Zou method.[18] Models adjusted for potential confounders were based on a priori knowledge of risk factors for both transactional sex and vaccination uptake based upon prior literature.[6, 9, 14, 19, 20] Model 1 adjusts for mean standardized age and sex. Model 2 additionally adjusts for race/ethnicity and education level. We compared the prevalence of being vaccinated between people who did versus did not report different transactional sex practices. As housing can shape where people meet clients and where sexual activity occurs, we examined client-sourcing methods and places of transactional sex by

housing status: first with stratified models, and then by adding an interaction term between these factors to test whether the stratified associations differed by housing status (a significant interaction indicated heterogeneity). Full model specifications and implementation (outcomes, exposures, confounders, and stratification/interaction) can be found in Additional File 3 (see Additional File 3). Differences in vaccine doses by place of transactional sex were described using proportions due to limited sample size. Bivariate and unstratified multivariable significance tests were assessed at the 0.05 level. Multivariable tests for heterogeneity by housing status were assessed at the 0.1 level. A complete case analysis was conducted with participants missing any of the listed covariates excluded. Statistical analyses were conducted using R Studio (R version 4.5.0).

Results

Study Population Characteristics

Overall, the median age was 36 years with the majority being male (n = 107 [84%]). 39% (n = 50) identified as being Hispanic, followed by 27% (n = 35) of participants identifying as Black (Table 1). A plurality of participants reported having at least some college education (n = 60 [47%]) followed by those reporting at least some high school education (n = 46 [36%]). A little under half (n = 58 [46%]) of participants reported being unstably housed in the past 3 months. About half (n = 66 [52%]) of the sample reported living with HIV. Among those not living with HIV, most reported not currently being on PrEP (n = 38 [63%]). In terms of overall reported transactional sex practices, most participants reported transactional sex that included intercourse (n = 81 [63%]) with encounters commonly occurring in homes (n = 93 [73%]), followed by motels/hotels (n = 70 [55%]); while 42% (n = 54) reported street-based venues (Table 2). Participants reported finding clients primarily online (n = 83 [65%]), with 42% (n = 54) reporting in-person venues (bars, clubs, restaurants, or street). Compensation was predominantly monetary (n = 96 [75%]).

Table 1
Socio-Demographic Characteristics by Mpox Vaccination Status

Characteristic	Mpox Vaccination			P Value ^a
	Overall N = 128	No n = 56	Yes n = 72	
Age (median [IQR])	36.00 [28.00, 45.00]	34.50 [28.00, 43.25]	36.50 [30.00, 45.25]	0.699
Sex (%)				0.913
Male	107 (83.6)	47 (83.9)	60 (83.3)	
Female	15 (11.7)	6 (10.7)	9 (12.5)	
Other	6 (4.7)	3 (5.4)	3 (4.2)	
Sexual Orientation (%) ^b				0.044
Straight	15 (12)	8 (14.5)	7 (10.0)	
Lesbian/Gay	59 (47.2)	18 (32.7)	41 (58.6)	
Bisexual	26 (20.8)	16 (29.1)	10 (14.3)	
Queer/pansexual	21 (16.8)	10 (18.2)	11 (15.7)	
Other	4 (3.2)	3 (5.5)	1 (1.4)	
Race/Ethnicity (%)				0.764
Hispanic	50 (39.1)	19 (33.9)	31 (43.1)	
Black	35 (27.3)	17 (30.4)	18 (25.0)	
White	22 (17.2)	10 (17.9)	12 (16.7)	
Other	21 (16.4)	10 (17.9)	11 (15.3)	
Education (%)				0.474
No High School Diploma	13 (10.2)	8 (14.3)	5 (6.9)	
High School	46 (35.9)	18 (32.1)	28 (38.9)	
College	60 (46.9)	27 (48.2)	33 (45.8)	
Graduate	9 (7.0)	3 (5.4)	6 (8.3)	
Unstably Housed (%)	58 (45.7)	25 (44.6)	33 (46.5)	0.979
Living with HIV (%)	66 (51.6)	26 (46.4)	40 (55.6)	0.397
Currently on PrEP (%) ^{bc}				0.093

Mpox Vaccination				
Characteristic	Overall N = 128	No n = 56	Yes n = 72	P Value ^a
Yes	22 (36.7)	7 (24.1)	15 (48.4)	
No	38 (63.3)	22 (75.9)	16 (51.6)	
Abbreviations: IQR: Inter-Quartile Range; PrEP: Pre-Exposure Prophylaxis;				
^a P-values correspond to bivariate comparisons comparing vaccination status by characteristics. Chi-square tests are done for categorical variables and the Kruskal-Wallis test for continuous variables.				
^b Number of missing by gender: 1, by sexual orientation: 3, by PrEP use: 2				
^c PrEP use only asked among those not living with HIV (n = 62)				

Table 2
Transactional Sex Characteristics by Self-Reported Mpox Vaccination Status

Mpox Vaccination				
Characteristic	Overall	No	Yes	P Value ^a
	N = 128	n = 56	n = 72	
Type of Sex Work (%)				
Entertainment/Live Sex Shows	30 (23.4)	13 (23.2)	17 (23.6)	0.999
Phone, Internet, App sex	43 (33.6)	21 (37.5)	22 (30.6)	0.524
Full Service/Intercourse	81 (63.3)	38 (67.9)	43 (59.7)	0.446
Escort Work	46 (35.9)	22 (39.3)	24 (33.3)	0.610
Client Sourcing (%)				
Bars, Clubs, Restaurants, Street	54 (42.2)	23 (41.1)	31 (43.1)	0.964
Online	83 (64.8)	34 (60.7)	49 (68.1)	0.499
Through a Friend	43 (33.6)	20 (35.7)	23 (31.9)	0.795
Place of Sex Work (%)				
Home (Yours/Client's/Other's)	93 (72.7)	43 (76.8)	50 (69.4)	0.469
Bathhouse	22 (17.2)	7 (12.5)	15 (20.8)	0.316
Motel/Hotel	70 (54.7)	34 (60.7)	36 (50.0)	0.303
Street (Tents, Cars, Public Locations)	54 (42.2)	30 (53.6)	24 (33.3)	0.034
Sex Work Compensation (%)				
Money	96 (75.0)	47 (83.9)	49 (68.1)	0.064
Trade (Housing, Drugs, Food)	70 (54.7)	33 (58.9)	37 (51.4)	0.502
Number of Clients in Last 3 Months (median [IQR])	3.00 [2.00, 7.00]	3.50 [3.00, 7.75]	3.00 [2.00, 6.50]	0.245
Abbreviations: IQR: Inter-Quartile Range;				
^a P-values correspond to bivariate comparisons comparing vaccination status by characteristics. Chi-square tests are done for categorical variables and the Kruskal-Wallis test for continuous variables.				

Mpox Vaccination Prevalence

Of the 128 participants, 72 (56%) had been vaccinated against mpox (Table 1). Of these 72, 61 (85%) participants had information pertaining to vaccine dosing, with 36 (59%) reporting having received the full two dose schedule. 56% (n = 40) of those vaccinated were living with HIV compared to 46% (n = 26) among the unvaccinated. Among those living without HIV and vaccinated, 48% (n = 15) were on PrEP compared to 24% (n = 7) among the unvaccinated being on PrEP (p = 0.093). By transactional sex characteristics, there was a higher proportion of those who conducted transactional sex on the street among the unvaccinated compared to the vaccinated (54% [n = 30] vs. 33% [n = 24], p = 0.034) (Table 2). Among the vaccinated, those reporting bathhouse-based transactional sex had the highest proportion of those who completed the two dose vaccine series (69% [n = 9]) whereas those reporting street-based transactional sex had the lowest (45% [n = 10]) (Fig. 1).

Transactional Sex and Mpox Vaccination

Adjusting for sex, age, race/ethnicity, and education, street-based transactional sex was linked to a lower prevalence of mpox vaccination compared to those who did not engage in street-based transactional sex (Adjusted Prevalence Ratio (aPR) = 0.68, 95% CI 0.47–0.97) (Fig. 2a). Additionally, monetary compensation was found to be negatively associated with mpox vaccination, comparing those who received monetary compensation to those who did not (aPR = 0.7; 95% CI 0.52–0.94) (Fig. 2b). Little to no association was found between type of transactional sex or where clients are sourced with mpox vaccination (Fig. 2: **c&d**). Overall, additional adjustment by education level and race/ethnicity in model 2 did little to shift point estimate values seen in model 1.

Stratifying by housing status, among the unstably housed street-based transactional sex shifts towards an even stronger negative association with mpox vaccination (aPR = 0.45; 95% CI 0.28–0.73) (Fig. 3a). In contrast, among the stably housed, street-based transactional sex has little to no association with mpox vaccination. This interaction between street-based sex work and housing status was statistically significant for model 2 but not model 1 (model 1: p = 0.14, model 2: p = 0.095) (See Additional file 4 for table detailing tests of heterogeneity p-values). Upon stratification, among the unstably housed the prevalence of vaccination was higher for those who find clients online than those who do not (aPR = 1.99; 95% CI 1.01–3.94), though any interaction with housing status was not significant for either model (model 1: p = 0.236, model 2: p = 0.172) (Fig. 3b). Finally, street-based client sourcing's interaction with housing status was statistically significant for model 2 but not model 1 (model 1: p = 0.104, model 2: p = 0.058). Most of the above relationships hold in sensitivity analyses, where those with imputed vaccination status were excluded from the analytic sample, though the interaction between street based sex and housing status was not statistically significant for either model (model 1: p = 0.102, model 2: p = 0.121) (see Additional File 5 for parallel sensitivity analyses results).

Discussion

This study demonstrates that certain contexts of transactional sex are associated with mpox vaccination uptake and that these relationships vary by housing status. To our knowledge, few studies

have examined how distinct forms of transactional sex relate to mpox associated outcomes. By differentiating between modalities such as street-based, bathhouse-based, and online client sourcing, these findings offer novel insight into the varying behavioral and structural factors influencing vaccination uptake among people who engage in transactional sex. These patterns point to a clear gradient of vulnerability among people who trade sex through which potential targeted interventions can be tailored.

Specifically, while not statistically significant in this study, the positive association between bathhouse attendance and mpox vaccination has been observed among men who have sex with men (MSM) in another study.[21] The small analytic sample of this study limited statistical power, making it difficult to detect modest associations and yielding wide confidence intervals for some estimates, including the association between bathhouse based sex and vaccination. However, the dichotomy in vaccination status and dosing completion between street-based and bathhouse-based transactional sex could be the result of several factors. First, there may be socio-economic differences between sub-populations of those who engage in transactional sex who are street versus bathhouse based. This underlying difference could be driving the resulting contrast in vaccination outcomes due to differential rates of access and engagement with preventative healthcare services. Many bathhouses require payment of a fee for entry, making it difficult for participants with fewer resources to gain entry. Although unmeasured in this study, the addition of other measures of socio-economic status such as income level and employment in a future study could better define the potential confounding bias that could be driving the differential associations between street and bathhouse-based transactional sex and vaccination. Another possible explanation pertains to onsite vaccination drives that were specifically held at bathhouses in Los Angeles County during the outbreak.[22] Thus, the positive association and the higher proportion of those that completed the series could be a result of those drives. Furthermore, distribution of other public health tools, such as HIV testing, at bathhouses have been shown to be effective at reaching those at risk.[23] Bathhouses and other commercial sex venues provide localized venues for which public health agencies can effectively distribute interventions[24, 25] whereas the more dispersed nature of street-based transactional sex makes it more difficult to effectively reach those at risk.

To that end, the negative association between street-based transactional sex and mpox vaccination was exacerbated upon stratification by housing status, with street-based participants who reported being unstably housed having an even lower likelihood of vaccination. This finding is in line with low mpox vaccine coverage observed in a survey of people experiencing homelessness in San Francisco.[12] This statistical heterogeneity and the resulting difference in stratified estimates for street-based transactional sex and street-based client sourcing between the stably and unstably housed could possibly point towards there being underlying socio-economic differences, as delineated by housing status, that are driving the negative associations with vaccination. This heterogeneity likely reflects differences in access, with those engaging in street-based work and who are unstably housed often having irregular schedules, competing survival needs, and greater exposure to policing and stigma, all of which make clinic-based care harder to regularly engage with.[10, 13]

The observed differences in vaccination outcomes by housing status and both street-based sex and client sourcing thus underscore the necessity for better methods to reach and vaccinate those who are unstably housed and engage in street-based transactional sex. In this study, there was a positive association between finding clients online on dating apps or websites and mpox vaccination among the unstably housed. This possibly could be a result of the various partnerships between public health agencies and popular dating websites and apps such as Jack'D and Grindr popular with MSM to spread awareness and advocate for mpox vaccination.[24, 26] In fact, other studies have found positive associations between dating app usage and STI care engagement, ranging from mpox vaccination[27] and PrEP[28] acceptability to promoting HIV testing.[29] Thus the positive association between online client sourcing and mpox vaccination among the unstably housed found in this study provides a possible avenue for effectively reaching this high risk population for vaccination that warrants further investigation. Building on this, low-barrier, mobile, and street-medicine models, especially those staffed by peers are well suited to deliver on-the-spot mpox vaccination and have been qualitatively shown to be a preferred method of PrEP delivery compared to traditional clinics and healthcare facilities.[30, 31]

Interpretation of these results should take into account the reliance on self-reported data for stigmatized behaviors such as transactional sex, which may introduce potential misclassification bias as participants may underreport certain illegal and/or stigmatized activities.[32] However, it is unlikely that this misclassification is systematically differential by vaccination status or vaccine dosing, thus most likely biasing this study's results towards the null. Additionally, recruited participants had already been willing to disclose general transactional sex engagement when completing the Los Angeles LGBT Center's intake form. Finally, as participants were recruited from a sexual health clinic in Los Angeles that serves the LGBT community, generalizability to other geographic or demographic contexts may be limited.

Conclusions

Despite the limitations, this study provides important insight into how mpox vaccination uptake varies across distinct forms and contexts of transactional sex. Fewer individuals who engage in street-based transactional sex were vaccinated and completed the full vaccine series, particularly among those experiencing housing instability. Conversely, online client sourcing was associated with higher vaccination uptake among the unstably housed, suggesting an actionable opportunity for outreach through digital platforms. Thus, this study importantly highlights the heterogeneity among those who engage in transactional sex, underscoring the importance of tailoring mpox vaccination strategies to the diverse contexts in which transactional sex occurs. Furthermore, this study supports the development of integrated, equity focused interventions to increase vaccine access among the most vulnerable populations and provides a basis from which future interventions in this population can be informed.

Abbreviations

1. *MPXV*

Monkeypox Virus

2. *PrEP*

Pre-Exposure Prophylaxis

3. *STI*

Sexually Transmitted Infection

4. *COMPASS*

Community MPOX Awareness Sex Worker Survey

5. *CDC*

Centers for Disease Control and Prevention

6. *ELISA*

Enzyme-Linked Immunosorbent Assay

7. *aPR*

Adjusted Prevalence Ratio

8. *MSM*

Men who have Sex with Men

Declarations

Ethics Approval and Consent to Participate:

This study was performed in accordance with the ethical standards of the Declaration of Helsinki. This study was reviewed and approved by University of California, Los Angeles Institutional Review Board in accordance with the ethical standards set by The Belmont Report which determined the study qualified for exempt status. This activity was additionally reviewed by CDC and was determined to be consistent with applicable federal United States law and CDC policy.[§] Informed consent to participate in the study was obtained from all participants in accordance with the standards set by The Belmont Report.

Consent for Publication:

Not applicable

Availability for Data Materials

The datasets generated and/or analyzed during the current study are not publicly available due to the sensitivity inherent to individual-level sex work data collected in the United States but are available from the corresponding author on reasonable request.

Disclaimer

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Competing Interests:

The authors declare no additional competing interests.

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Author Contribution

BT formulated this study, conducted the analyses, and led the writing of the manuscript. MJ and PG provided critical subject matter and analytical feedback and support for this study. MH, AR, MT, and WC provided needed domain expertise and feedback in the analytical and writing aspects of the manuscript. Additionally, PM, MJ, AR, and MT all designed the larger COMPASS study. EC and SD were instrumental in recruiting for and implementing the study and provided needed feedback during the writing process. All authors read and approved the final manuscript.

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Figures

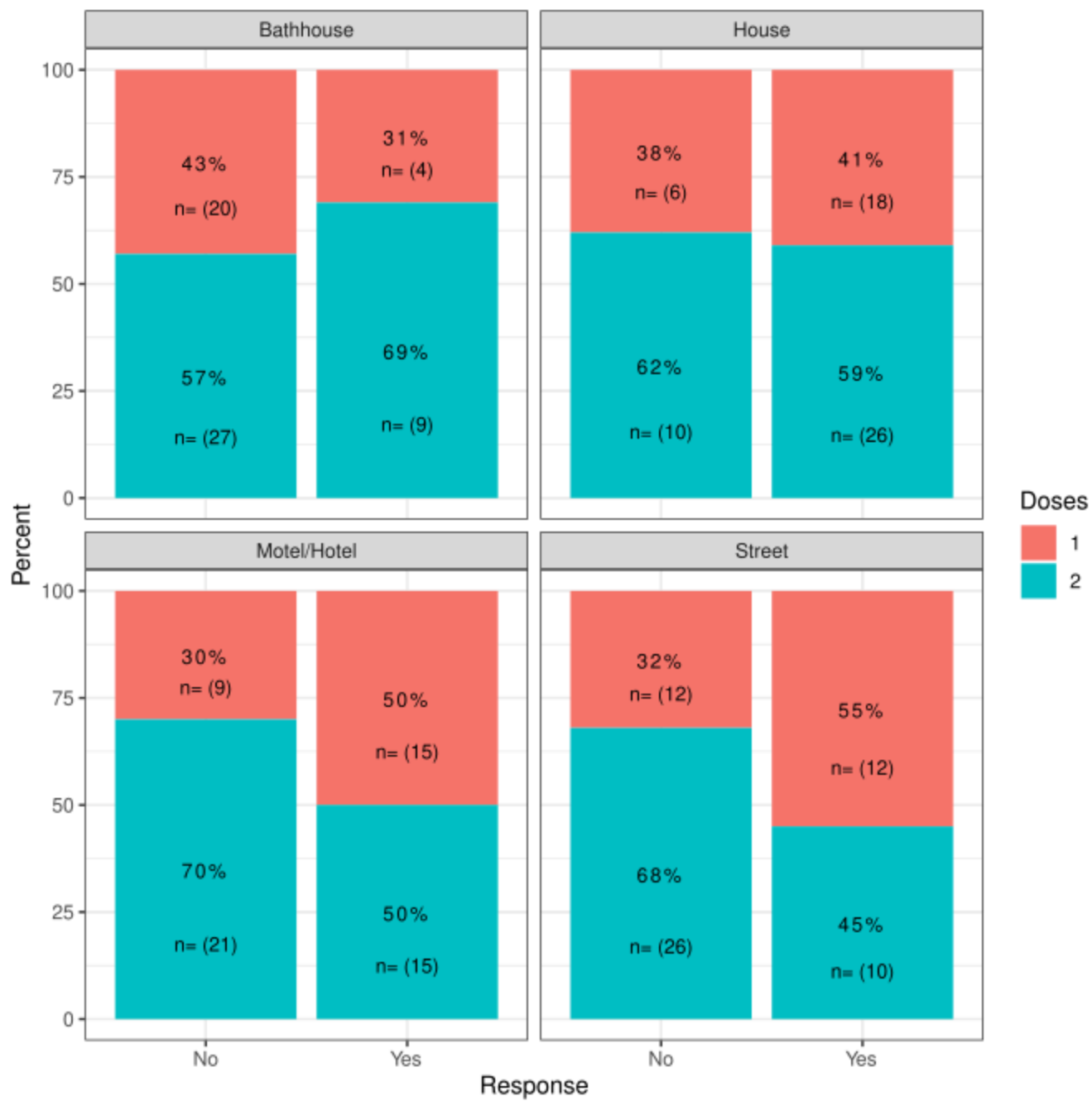


Figure 1

Mpox Vaccine Dosing by Place of Transactional Sex in Past 3 Months

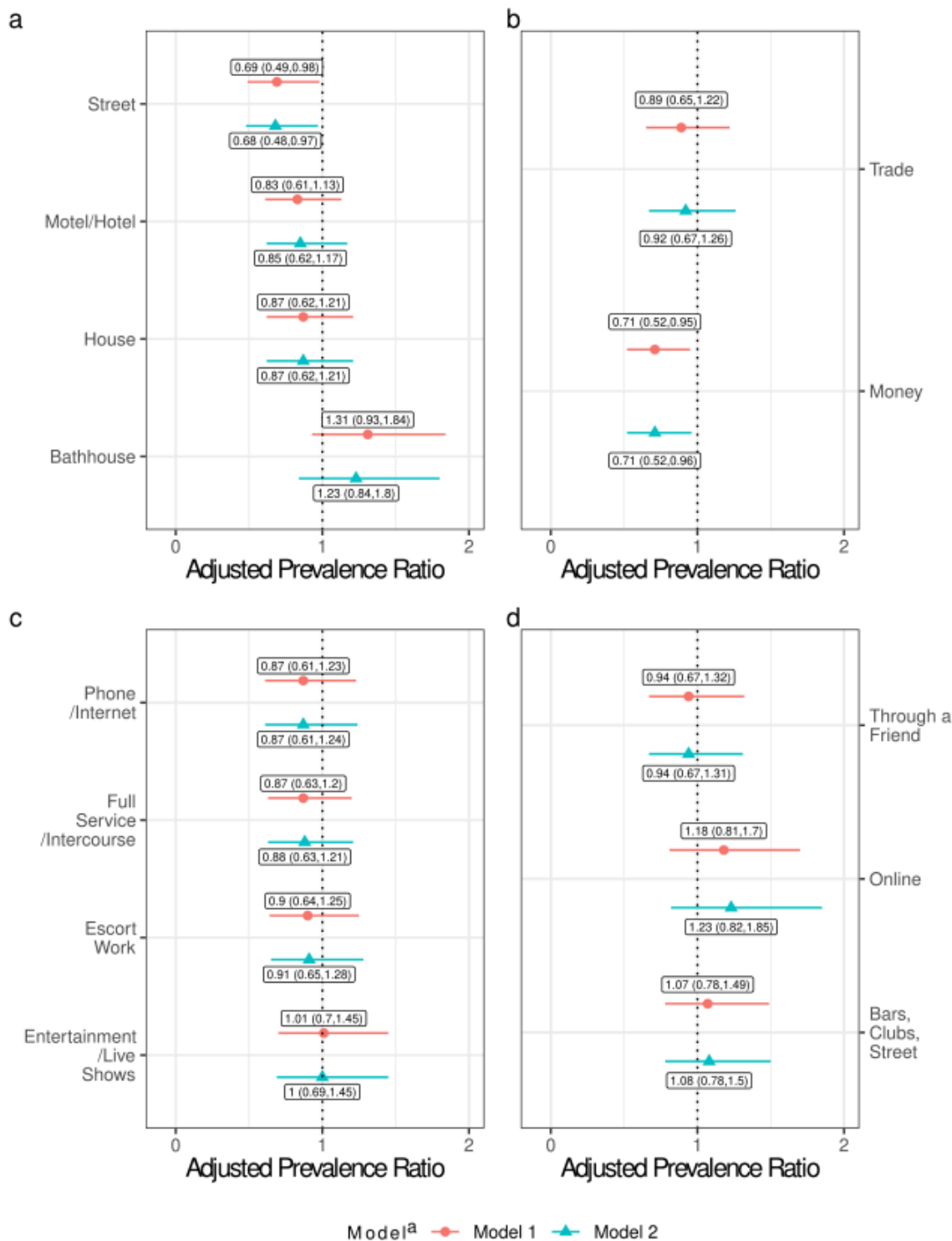


Figure 2

Associations between Mpxv Vaccination Uptake and Transactional Sex Characteristics

Legend: “Multivariable Modified Poisson Regression Examining Associations between Mpxv Vaccination Uptake and Transactional Sex Characteristics in Past 3 Months; Panel a: Place of Sex Work, Panel b: Compensation Received for Sex Work, Panel c: Type of Sex Work, Panel d: Where Clients are Sourced.

a. Based on multivariable modified Poisson regression model with model 1 adjusting for mean standardized age and sex and model 2 additionally adjusting for race/ethnicity and being a high school graduate. Both models specify mpox vaccination as the outcome. Model specification can be found in supplemental document 2.”

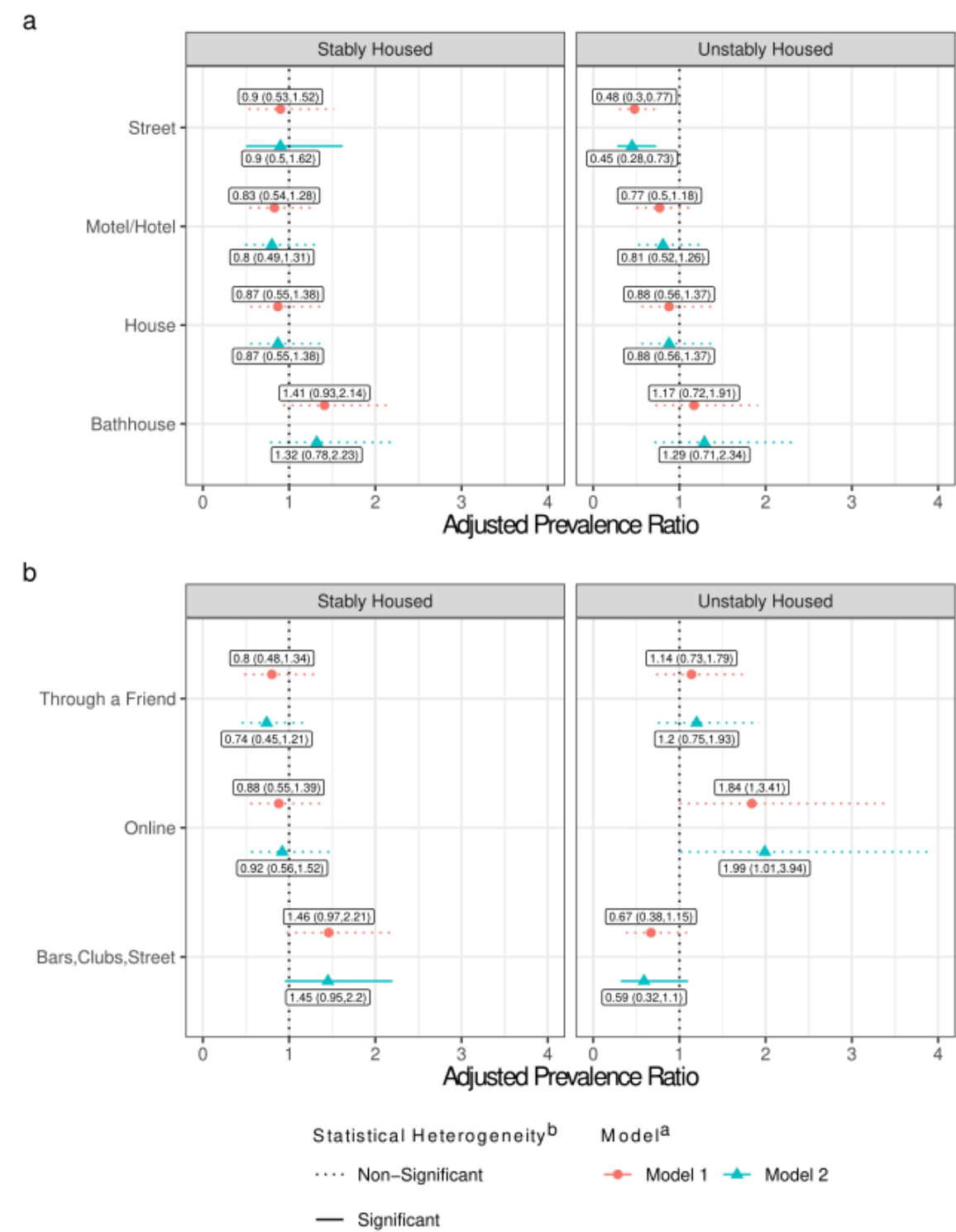


Figure 3

Associations between Mpox Vaccination Uptake and Transactional Sex Characteristics Stratified by Housing Status

Legend: “Stratified Multivariable Modified Poisson Regression Assessing Heterogeneity by Housing Status between Mpox Vaccination Uptake and Transactional Sex Characteristics in Past 3 Months Panel a: Place of Sex Work Stratified by Housing Status, Panel b: Where Clients are Sourced Stratified by Housing Status.

- a. Based on multivariable modified Poisson regression model with model 1 adjusting for mean standardized age and sex and model 2 additionally adjusting for race/ethnicity and education level. Both models specify mpox vaccination as the outcome.
- b. Heterogeneity by housing status was tested in both models by including interaction terms between transactional sex characteristics and housing status and assessing significance of the interaction coefficient at the 0.1 level. Models where heterogeneity by housing status is non-significant have dashed lines. Model specification can be found in supplemental document 2.”

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