Employment as HIV Prevention: An Employment Support Intervention for Adolescent Men Who Have Sex With Men and Adolescent Transgender Women of Color

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Background: The purpose of this study was to adapt and pilot-test an employment support, primary HIV intervention tailored to the needs of adolescent men who have sex with men and adolescent transgender women of color.

Setting: The intervention was implemented in 2 settings: controlled environment (Phase 1) and real-world community-based (Phase 2) setting in Chicago, IL.

Methods: Eighty-seven adolescent men who have sex with men and adolescent transgender women of color ages 16–24 participated in Work2Prevent, a 4-session employment and HIV prevention intervention, designed to increase job-readiness and reduce HIV risk. Intervention sessions consisted of group activities: educational games, roleplaying/modeling behavior, and self-regulation exercises. Participants were assessed at baseline, postintervention, and 8-month follow-up (Phase 1) or 3-month follow-up (Phase 2).

Results: Participants evaluated Work2Prevent as feasible and acceptable, rating intervention quality, usefulness, and satisfaction highly. Overall, 59.6% (Phase 1) and 85.0% (Phase 2) participants attended 2 or more sessions. At 8 months, Phase 1 participants reported a mean increase of 11.4 hours worked per week. Phase 2 participants reported a mean increase of 5.2 hours worked per week and an increase in job-seeking self-efficacy. Phase 2 participants also reported a decrease in transactional sex work.

Conclusion: Work2Prevent is one of the first structural primary HIV interventions to specifically focus on adolescent employment readiness. Findings suggest Work2Prevent is feasible and acceptable, improved adolescent employment outcomes, and reduced HIV risk associated with transactional sex work. Our study underscores the need for alternative pathways, such as addressing socioeconomic determinants, to prevent adolescent HIV infection.

Key Words: adolescents, men who have sex with men, transgender women, HIV prevention, employment, economic instability

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INTRODUCTION

Adolescents and young adults of color experience dramatic disparities in HIV infection, with over half (51%) of Black/African American adolescent men who have sex with men (AMSM) and over a quarter (27%) of Latinx AMSM accounting for new HIV diagnoses in 2018.1 Between 2009 and 2014, 1 in 3 HIV diagnoses among adolescents ages 13–24 were among adolescent transgender women (ATGW), with half (50.8%) identifying as Black/African American and roughly one-third (29.3%) as Latinx.2

Such stark disparities in adolescent HIV infection cannot be attributed to individual-level behaviors alone. Rather, interrelated socioecological and structural factors predispose AMSM and ATGW of color to HIV exposure and increase infection susceptibility.3–6 In particular, co-occurring, syndemic, and interconnected disparities in educational attainment, housing stability, access to health and social services, unemployment, and poverty are also experienced by AMSM and ATGW of color.7–10 Socioeconomic factors may be especially salient, as prior research suggests sexual and gender diverse youth of color face job discrimination, hiring bias, low pay, and limited benefits or insurance coverage when navigating and securing economic independence.12,13 Collectively, these disparities contribute to a large proportion of AMSM and ATGW of color living in poverty, with many experiencing food insecurity, housing instability/homelessness, and reliance on transactional or survival sex work, to access money, food, shelter, and other resources.14

Despite the significant role socioeconomics factors play in adolescent HIV risk, few HIV programs in the United States focus on increasing adolescent job readiness and financial independence. Among the current 48 HIV programs identified by the Centers for Disease Control and Prevention (CDC) as evidence-based structural interventions, only 4 address financial and economic instability, and all 4 are specific to HIV-positive adults.15–18 None of the current evidence-based structural interventions in the CDC compendium are designated for HIV prevention or tailored to the economic needs of AMSM and ATGW of color.19 Because socioeconomic factors are likely to contribute to adolescent HIV exposure and infection, structural interventions for HIV prevention among AMSM and ATGW of color are critical to ending the adolescent HIV epidemic. The purpose of this study was to adapt and pilot-test an employment readiness primary HIV intervention tailored to the needs of AMSM and ATGW of color.

METHODS

Procedure

Data were collected as part of a multiphase intervention development trial, in Chicago, IL, assessing the feasibility and acceptability of the tailored Work2Prevent intervention.20–22 To test the intervention before real-world implementation, Phase 1 was conducted in a controlled research setting with data collection at baseline, immediate postintervention (approximately 2–4 weeks postenrollment), and 8-month postintervention follow-up, allowing for assessment of overall participant retention and long-term employment outcomes.21

For Phase 2, the intervention was integrated into a community-based setting with assessments at baseline, immediate postintervention, and 3-month postintervention follow-up, allowing for assessment of real-world feasibility and acceptability and short-term outcomes.22 Data were collected from March 2018 to January 2020. Enrollment criteria for both phases included: (1) being assigned male at birth, (2) report ever having sex with men, (3) identifying as Black/African American or Latinx/Hispanic, (4) ages 16–24 years, (5) English-speaking, and (6) currently unemployed but seeking employment or employed part-time or less. Participants in Phase 1 had to self-report HIV-negative or unknown status at baseline. An HIV status neutral approach was used for Phase 2 to reflect best practices for implementation in a community-based setting.23 Phase 1 participants were not eligible for Phase 2 participation.

Phase 1 participants were recruited passively and actively, including through flyers, online postings, and advertisements on public transit, social network and dating sites, and community- and venue-based recruitment postings.21 All assessments and intervention workshops in Phase 1 occurred on-campus at a university adolescent sexual and reproductive health research center. Phase 2 participants were recruited and completed assessments and intervention workshops in an off-campus community-based center that provides drop-in services, support groups, sexually transmitted infection (STI) and HIV testing and treatment, behavioral health counseling, community programming, and legal and housing assistance primarily serving sexual and gender diverse adolescents and young adults of color.22

All interested participants completed a prescreen survey to assess eligibility, with eligible participants scheduled for study visits, consented, enrolled, and assigned to receive intervention workshop sessions. Participants in both phases received $30 for each completed survey, up to $40 for biological specimen ($10 for each specimen: urine, blood droplets, oral swab, and rectal swab) if provided, and $40 for each workshop session attended. Data were collected at baseline, immediate postintervention, and at an 8-month postintervention for Phase 1 or 3-month postintervention for Phase 2. Retention strategies included reminder calls and text messages and optional transportation assistance such as bus passes and prepaid ridesharing services (eg, Lyft). All surveys were completed using an audio computer-assisted self-interview survey program on an iPad. All protocols and procedures were approved by the University of Chicago and University of North Carolina-Chapel Hill Institutional Review Boards with written participant consent and waivers of parental consent.21,22

Work2Prevent Intervention

Participants completed a 4-session group-based intervention workshop adapted from an existing evidence-based iFOUR (Increased Individual Income and Independence) program,24,25 designed for adults living with HIV, tailored to AMSM and ATGW of color.

The workshop sessions were broken into 4 modules focused on the following themes: (1) assessing readiness for
work, goal setting, and asset-based strength identification; (2) communication skills, networking, and job searching; (3) balancing work with health, wellness, and HIV/STI prevention; and (4) preparing job application materials and interview skills. Each session lasted approximately 2–3 hours depending on group size. Each module had corresponding target constructs, including: job readiness, career orientation, communication skills, self-regulation/coping skills, HIV/STI risk perceptions, pre-exposure prophylaxis knowledge, job-seeking self-efficacy, self-confidence, and career interests. In addition, each module involved interactive and game-based learning components that modeled behaviors, including: managing finances for necessities and luxuries under a bi-weekly paycheck vs immediate cash payment structure (Cash Flow); identifying STI symptoms and treatment (STI-identity card game); a paper doll activity for selecting appropriate attire for interviews and workplaces (Dress4Success); a card sort activity that allowed players to highlight their personal assets and skills and match them to potential jobs; and role-play activities that involved identifying harm reduction strategies related to sex work, substance use, and physical pain at work. Text-based learning included didactic and group exercises that focused on identifying the qualities of a job that would make it an ideal, good, or poor fit for participants; preparing a 60-second elevator pitch to effectively communicate job skills to a potential employer using a “mad libs” style worksheet; identifying and managing health risk behaviors that may affect employment; and preparing a resume and cover letter. The adaptation of the intervention curriculum was informed by interviews and focus groups with the target population and iterative feedback from the youth advisory board. In Phase 1, the sessions were delivered over 2 weeks (2 workshops per week) and over a 2-day period (2 workshops per day) in Phase 2. Details on the design of the intervention are published elsewhere.

Measures

Evaluation of feasibility and acceptability. Feasibility and acceptability were measured using intervention workshop attendance and completion, defined as having attended at least 2 of the 4 workshop sessions, and an adapted version of the Information Systems Success Model (ISSM) scale assessed immediate postintervention. The ISSM is a 21-item scale measuring: intervention information quality, intervention handbook quality, perceived usefulness of the intervention, and overall satisfaction of the intervention. Response options included a 5-point Likert scale (5 = strongly agree, 1 = strongly disagree), with higher scores indicating greater perceived quality, usefulness, and satisfaction.

Employment outcomes. Employment measures included the 12-item job-seeking self-efficacy scale, a single-item measure of perceived future career prospects, and the 7-item protein career attitudes scale. Responses for job-seeking self-efficacy were measured on a 10-point scale (1 = not at all confident, 10 = very confident), with higher scores indicating higher self-efficacy. Perceived future career prospects and protein career attitudes were measured using 5-point Likert scales (1 = strongly disagree, 5 = strongly agree), with higher scores indicating better perceived career prospects and more positive protean career attitudes. Current employment status (employed/unemployed) and self-reported average number of hours worked per week were measured at baseline and 8- or 3-month follow-up.

Sexual behaviors and HIV status. Sexual behaviors (past 6 months for Phase 1; past 3 months for Phase 2) were measured at baseline and at 8- or 3-month follow-up using a 6-item inventory developed as part of the Adolescent Medicine Trials Network for HIV/AIDS Interventions harmonized measures (yes/no), including: condomless anal intercourse with a male partner of unknown HIV status, sex with a male partner with an STI, anal intercourse with condom failure, and transactional sex work. As part of standard of preventive care, participants were screened for common STIs and HIV. HIV infection was assessed at baseline and follow-up using fourth generation rapid capillary whole blood (finger stick) testing (Determine HIV-1/2 Ag/Ab Combo, Alere, Inc.) for all participants who self-reported an “unknown” HIV status.

Sociodemographic and structural variables. Participants completed sociodemographic and structural items, including age, race/ethnicity, gender identity, sexual orientation, highest education level attained, current housing stability, and food security using the Household Food Insecurity Access Scale.

Statistical Analysis

All analyses were conducted separately for Phases 1 and 2 using an intention-to-treat approach. Descriptive statistics for sociodemographic and structural variables, employment information, and sexual behaviors are presented as medians (continuous variables) and percentages (categorical variables). Wilcoxon signed-rank tests were conducted to evaluate the change between baseline and the follow-up for each of the continuous outcomes. McNemar tests were used to assess these changes for categorical outcomes. The relationships between employment, baseline sexual behaviors (sex work, any condomless intercourse, anal intercourse with condom failure), and ISSM were analyzed using multiple linear regression adjusting for age and gender identity. To analyze the relationships between employment, baseline sexual behaviors, and intervention completion (defined as attending 2 or more workshops), multiple logistic regression adjusting for age and gender identity was used. In addition to both models described above, reduced models were fit using backward stepwise selection to remove covariates (P < 0.20). To examine potential differences in employment outcomes based on gender identity, separate pre-post comparisons (Wilcoxon signed-rank and McNemar tests) were conducted including only participants who identified as transgender women or transfeminine (female, trans female, trans woman, genderqueer, or gender nonconforming). Additional negative binomial regression models were used to explore the relationship between structural variables (ie, education, housing, and food security) and self-reported hours worked for Phase 1 and 2 participants. Missing values were excluded from all statistical tests. Participants with missing values for one or
more dependent or independent variables were excluded from regression analyses. In addition to intention-to-treat analyses, on-treatment analyses were conducted using the same statistical procedures, but excluded participants who did not complete at least 2 of the intervention sessions. Because of the exploratory nature of this study, statistical tests were performed at the $P < 0.10$ significance level and 90% confidence intervals were generated. Analyses were performed using SAS 9.4 (SAS Institute Inc., Cary, NC).

RESULTS

Sample

Figures 1 and 2 describe the recruitment, enrollment, and retention for Phase 1 and 2 of the intervention. Fifty-one participants enrolled in Phase 1, with 86.3% retention at 8-month follow-up and an intention-to-treat sample of 47 participants. For Phase 2, 41 participants were enrolled in the community-based intervention assessment, with 92.7% retention at 3-month follow-up and an intention-to-treat sample of 40 participants. Table 1 describes the sociodemographic characteristics of the samples for Phase 1 (n = 47) and 2 (n = 40). In Phase 1, 25.5% of participants and in Phase 2, 42.5% of participants identified as trans-gender women or transfeminine (female, trans female, trans woman, genderqueer, or gender non-conforming) and the remaining identified as male. Most participants were 19–24 years old (97.9% in Phase 1, and 92.5% in Phase 2) and identified as Black/African American (87.2% in Phase 1, and 95.0% in Phase 2). Most participants in both phases had a high school degree or GED or higher (some college, Associate’s/Bachelor’s degree, or higher) (70.2% in Phase 1, and 75.0% in Phase 2). A large number of participants in Phase 1 (61.7%) reported being unstably housed (ie, being homeless; currently staying on the street, in a car, or on public transit; staying in an overnight shelter; or staying with friends or family temporarily). Most participants in both phases reported experiencing no or low food insecurity (78.7% in Phase 1, and 72.5% in Phase 2). Two participants had a reactive HIV test at baseline in Phase 1. In Phase 2, 2 participants had reactive HIV tests and 11 participants self-reported being HIV-positive at baseline. The vast majority of participants (87.2% in Phase 1, and 85.0% in Phase 2) were unemployed.

Acceptability and Feasibility of the Intervention

A total of 28 participants (59.6%) completed 2 or more workshops in Phase 1, with 31.9% completing all 4 intervention workshops. In Phase 2, 34 participants (85.0%) completed 2 or more workshops, with 52.5% completing all 4
workshops. Table 2 summarizes the feasibility and acceptability outcomes of the intervention. Overall, participants highly rated the intervention on information quality, handbook quality, perceived usefulness of the intervention, and overall satisfaction (total scores >4.0 for Phases 1 and 2).

Employment and Sexual Behaviors

Table 2 summarizes the changes in employment and sexual behaviors between baseline and follow-up assessments for Phase 1 and 2. Intention-to-treat analyses demonstrate an overall increase in mean hours worked per week post-intervention in both phases. Phase 1 participants reported working a mean of 11.4 more hours per week at 8-month follow-up compared with baseline ($P < 0.001$). Phase 2 participants reported a mean of 5.24 more hours worked per week at 3-month follow-up compared with baseline ($P = 0.02$). In addition, Phase 2 participants reported significantly higher job-seeking self-efficacy upon study completion compared with baseline ($P = 0.05$), although there was no significant change for Phase 1 participants. There was a significant decrease in reported transactional sex work at 3-month follow-up in Phase 2 compared with baseline ($P = 0.07$). However, there were no pre-post differences in other sexual behaviors for Phase 2 and no observed pre-post differences among Phase 1 participants. No participants in Phase 1 or 2 had reactive HIV tests at follow-up assessments who were not already identified as living with HIV at baseline. We did not find significant associations between the self-reported hours worked at follow-up assessment and baseline structural factors (ie, education, housing, and food security) for Phase 1 and 2.

As treated, analyses revealed similar effects among those who completed 2 or more intervention workshops, with a mean increase of 14.4 more hours worked per week at 8-month follow-up ($P < 0.001$) in Phase 1 and a mean of 4.48 more hours worked per week at 3-month follow-up in Phase 2 ($P = 0.06$). In addition, Phase 2 participants reported higher job-seeking self-efficacy ($P = 0.02$), although there were no significant changes observed for Phase 1.

Analyses restricted to transgender women participants revealed a significant mean increase of 9.6 hours worked per week at 8-month follow-up ($P = 0.06$) in Phase 1 and a mean increase of 1.33 hours for Phase 2, although this was not significant ($P = 0.63$). Overall, fewer participants reported engaging in transactional sex work at 8-month (Phase 1)
**TABLE 1. Phase 1 and 2 Participant Characteristics**

| Characteristics                  | Phase 1 Participants (n = 47), % (n) | Phase 2 Participants (n = 40), % (n) |
|----------------------------------|------------------------------------|------------------------------------|
| Age 16–18 yrs                    | 2.1 (1)                            | 7.5 (3)                            |
| 19–21 yrs                       | 42.6 (20)                          | 32.5 (13)                          |
| 22–24 yrs                       | 55.3 (26)                          | 60.0 (24)                          |
| Race                             |                                    |                                    |
| Black/African American           | 87.2 (41)                          | 95.0 (38)                          |
| Pacific Islander                 | 2.1 (1)                            | 0                                  |
| Other                            | 10.6 (5)                           | 2.5 (1)                            |
| Ethnicity                        |                                    |                                    |
| Latinx or Hispanic               | 23.4 (11)                          | 10.0 (4)                           |
| Gender identity                  |                                    |                                    |
| Female                           | 6.4 (3)                            | 5.0 (2)                            |
| Male                             | 74.5 (35)                          | 57.5 (23)                          |
| Trans female or transwoman       | 12.8 (6)                           | 27.5 (11)                          |
| Genderqueer or gender nonconforming | 6.4 (3)                            | 10.0 (4)                           |
| Sexual orientation               |                                    |                                    |
| Bisexual                         | 40.4 (19)                          | 30.0 (12)                          |
| Gay                              | 40.4 (19)                          | 45.0 (18)                          |
| Homosexual                       | 0                                 | 2.5 (1)                            |
| Other                            | 0                                 | 5.0 (2)                            |
| Queer                            | 10.6 (5)                           | 0                                  |
| Same gender loving               | 0                                 | 5.0 (2)                            |
| Straight or heterosexual         | 8.5 (4)                            | 12.5 (5)                           |
| Education-level (highest attained)|                                    |                                    |
| Some high school                 | 25.5 (12)                          | 25.0 (10)                          |
| High school degree or GED        | 38.3 (18)                          | 50.0 (20)                          |
| Some college, Associate’s/Bachelor’s degree, or higher | 31.9 (15) | 25.0 (10) |
| Employment status                |                                    |                                    |
| Part-time                        | 12.8 (6)                           | 15.0 (6)                           |
| Unemployed                       | 87.2 (41)                          | 85.0 (34)                          |
| Housing                          |                                    |                                    |
| Stably housed                    | 38.3 (18)                          | 55.0 (22)                          |
| Unstably housed                  | 61.7 (29)                          | 45.0 (18)                          |
| Food insecurity                  |                                    |                                    |
| No or low food insecurity        | 78.7 (37)                          | 72.5 (29)                          |
| High food insecurity             | 21.3 (10)                          | 27.5 (11)                          |
| HIV status                       |                                    |                                    |
| Reactive test or reported HIV-positive status at baseline | 95.7 (45) | 67.5 (27) |
| Reactive test or reported HIV-positive status at baseline | 4.3 (2) | 10.0 (4) |

(40.0% vs 50.0%) and 3-month (Phase 2) (56.3% vs 75.0%) follow-up compared with baseline. However, these differences did not meet statistical significance. Because of the small size of the transgender subsample, results should be interpreted with caution.

**DISCUSSION**

Our findings suggest that AMSM and ATGW of color found the Work2Prevent intervention to be feasible and acceptable, with high ratings for intervention information, handbook quality, and perceived usefulness of the intervention workshops for Phase 1 and 2 participants. Youth who received the intervention in a community-based setting offering wraparound services for sexual and gender minority youth had high rates of intervention completion (85%) and reported higher rates of job-seeking self-efficacy and hours worked per week at 3-month follow-up after the intervention. Furthermore, these youth also reported a significant decrease in transactional sex work, a known indicator for HIV exposure and infection, particularly for ATGW.

To our knowledge, this study is one of the first to target employment readiness and economic independence as a primary HIV intervention for adolescents. As one of the first studies in this area, the findings demonstrate promise for employment readiness as a strategy for improving social determinants of health related to HIV. Supporting economic stability (eg, increasing hours worked) has the potential to reduce proximity to conditions such as poverty, homelessness, or food insecurity, which place sexual and gender minority adolescents of color at elevated risk for HIV exposure and infection. Such socioeconomic disadvantage may contribute to power differentials in sexual relationships, which limit agency around safer sex and increase reliance on transactional sex work. Interventions such as Work2Prevent may prove a useful tool for expanding economic options for young people beyond sex work and increasing agency in sexual negotiation.

Although the intervention was adapted and pilot tested in a controlled study environment (university setting) and real-world settings, the pilot assessment is limited in that it lacked a control group. A subsequent, adequately powered hybrid-style implementation trial with wait-list control with longitudinal follow-up (≥1 year) is needed to further assess the long-term effectiveness of the Work2Prevent intervention. In addition, most participants were comprised of older adolescents (≥20 years old). Thus, the intervention may be most relevant to adolescents of working age, and findings may not be generalizable to younger AMSM and ATGW of color. Furthermore, although positive changes in employment outcomes were observed and a reduction in reliance on transactional sex work at follow-up, there were no differences for other behavioral HIV transmission factors, including condomless anal intercourse and sex with a male partner with an STI. However, it is also notable that we did not detect any new HIV infections at follow-up assessments. Nevertheless, refinements to the health care and wellness module may be necessary to underscore the efficacious value of HIV prevention strategies, such as viral suppression and pre-exposure prophylaxis for HIV prevention.

In addition, the study was tailored to AMSM and ATGW; there were differences in gender composition between Phase 1 and 2, with the community-based phase yielding a larger sample of ATGW of color. Our 2 study
TABLE 2. Intervention Feasibility, Acceptability, and Changes in Employment and Sexual Behavior Outcomes

| Outcome | Phase 1 Participants (n = 47) | Phase 2 Participants (n = 40) |
|---------|-----------------------------|-----------------------------|
| Feasibility | % Workshop completion* (n) | 59.6 (28) | 85.0 (34) |
| Acceptability | M (SD) | M (SD) |
| Information System Success Model Score | 4.3 (0.59) | 4.1 (0.77) |
| Subscale 1: Information quality | 4.4 (0.66) | 4.2 (0.89) |
| Subscale 2: Handbook quality | 4.4 (0.61) | 4.1 (0.87) |
| Subscale 3: Perceived usefulness | 4.4 (0.67) | 4.2 (0.83) |
| Subscale 4: Overall satisfaction | 4.1 (0.75) | 3.8 (0.74) |
| Employment outcomes | Mean difference 90% CI P | Mean difference 90% CI P |
| Job-seeking self-efficacy score | −0.08 (−0.41, 0.26) 0.98 0.62 | (0.24, 1.11) 0.05 |
| Future career prospects score | −0.07 (−0.30, 0.16) 0.73 0.05 | (−0.22, 0.32) 0.72 |
| Protean career attitude score | −0.09 (−0.25, 0.06) 0.39 −0.03 | (−0.27, 0.21) 0.76 |
| Self-reported hours worked per week | 11.40 (7.14, 15.65) <0.001 5.24 | (1.54, 8.94) 0.02 |
| Sexual behaviors | Baseline, % (n) Follow-up (8 months), % (n) P | Baseline, % (n) Follow-up (3 months), % (n) P |
| Condomless anal intercourse | 30.8 (8) 23.1 (6) 0.73 34.2 (13) | 31.6 (12) 1.0 |
| Sex with male partner with STI | 15.4 (4) 15.4 (4) 1.0 29.7 (11) | 24.3 (9) 0.75 |
| Anal intercourse with condom failure | 19.2 (5) 26.9 (7) 0.73 36.8 (14) | 39.5 (15) 1.0 |
| Transactional sex work | 30.8 (8) 19.2 (5) 0.45 55.3 (21) | 39.5 (15) 0.07 |

Response options included 1 = strongly disagree, 5 = strongly agree.
*Intervention completion is defined as 2 of more (>50%) workshop sessions attended.
CI, confidence interval; M, mean.

phases also had different follow-up assessment periods, limiting the assessment of long-term employment outcomes among Phase 2 participants. Although this creates challenges in directly comparing outcomes between phases, this approach provides insights on recruitment and retention of participants in different settings (controlled and real-world) and variability in short- and long-term employment outcomes. Because it is likely that the Work2Prevent intervention will be implemented in community-based settings, our goal was to assess short-term outcomes in this setting. Subsequent assessments with long-term follow-up are needed to fully assess the efficacy of Work2Prevent in real-world settings.

Another limitation may be overall intervention completeness because only one-third of Phase 1 and just over half of Phase 2 participants completed all 4 sessions. Observed improvements in employment and HIV risk reduction may be dependent on receiving all sessions. Subsequent iterations of Work2Prevent may require “make-up” sessions, boosters, and/or reordering content to maintain participant interest throughout the program and ultimately increase attendance and exposure to the intervention. Despite these limitations, this study is among the first to adapt and pilot-test an employment-based primary HIV intervention to the needs of AMSM and ATGW of color. Overall, findings underscore the importance of addressing structural factors, such as employment and socioeconomics, in the fight to end the adolescent HIV epidemic.

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REFERENCES
1. Center for Disease Control and Prevention (CDC). HIV Surveillance Report, 2018 (Updated); vol. 31. Available at: http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html. Accessed December 1, 2021.
2. Clark H, Babu AS, Wiewel EW, et al. Diagnosed HIV infection in transgender adults and adolescents: results from the National HIV Surveillance System, 2009-2014. AIDS Behav. 2017;21:2774–2783.
3. Baral SD, Poteat T, Strömdahl S, et al. Worldwide burden of HIV in transgender women: a systematic review and meta-analysis. Lancet Infect Dis. 2013;13:214–222.
4. Brennan J, Kuhns LM, Johnson AK, et al. Syndemic theory and HIV-related risk among young transgender women: the role of multiple, co-occurring health problems and social marginalization. Am J Public Health. 2012;102:1751–1757.
5. Garofalo R, Osner E, Sullivan C, et al. Environmental, psychosocial, and individual correlates of HIV risk in ethnic minority male-to-female transgender youth. J HIV AIDS Prev Child Youth. 2007;7:89–104.
6. Millett GA, Flores SA, Peterson JL, et al. Explaining disparities in HIV infection among black and white men who have sex with men: a meta-analysis of HIV risk behaviors. AIDS. 2007;21:2083–2091.
7. da Silva DT, Bouris A, Vossin D, et al. Social networks moderate the syndemic effect of psychosocial and structural factors on HIV risk among young Black transgender women and men who have sex with men. AIDS Behav. 2020;24:192–205.
8. Dyer TV, Turpin RE, Stall R, et al. Latent profile analysis of a syndemic of vulnerability factors on incident sexually transmitted infection in a cohort of Black men who have sex with men only and Black men who...
have sex with men and women in the HIV Prevention Trials Network 061 Study. Sex Transm Dis. 2020;47:571–579.

9. Hill BJ, Rosentel K, Bak T, et al. Exploring individual and structural factors associated with employment among young transgender women of color using a no-cost transgender legal resource center. Transgend Health. 2017;2:29–34.

10. Operario D, Nemoto T. HIV in transgender communities: syndemic dynamics and a need for multicomponent interventions. J Acquir Immune Defic Syndr. 2010;55(suppl 2):S91–S93.

11. Rosentel K, VandeVusse A, Hill BJ. Racial and socioeconomic inequity in the spatial distribution of LGBTQ human services: an exploratory analysis of LGBTQ services in Chicago. Sex Res Soc Policy. 2020;17:87–103.

12. Mayer KH, Wang L, Koblin B, et al. Concomitant socioeconomic, behavioral, and biological factors associated with the disproportionate HIV infection burden among Black men who have sex with men in 6 U.S. cities. PLoS One. 2014;9:e87298.

13. Russell JS, Hickson DA, Timmins L, et al. Higher rates of low socioeconomic status, marginalization, and stress in Black transgender women compared to Black cisgender MSM in the MARI study. Int J Environ Res Public Health. 2021;18:2183.

14. Arrington-Sanders R, Alvarenga A, Galai N, et al. Social determinants of transactional sex in a sample of young Black and Latinx minority cisgender men and transgender women. J Adol Health. 2022;70(2):275–281.

15. Brantley AD, Burgess S, Bickham J, et al. Using financial incentives to improve rates of viral suppression and engagement in care of patients receiving HIV care at 3 health clinics in Louisiana: the Health Models Program, 2013-2016. Public Health Rep. 2018;133:75s–86s.

16. El-Sadr WM, Donnell D, Beauchamp G, et al. Financial incentives for linkage to care and viral suppression among HIV-positive patients: a randomized clinical trial (HPTN 065). JAMA Intern Med. 2017;177:1083–1092.

17. McCoy SI, Njau PF, Fahey C, et al. Cash vs. food assistance to improve rates of viral suppression and engagement in care of patients receiving HIV care at 3 health clinics in Tanzania. AIDS. 2017;31:815–825.

18. Silverman K, Holtyn AF, Rodewald AM, et al. Incentives for viral suppression in people living with HIV: a randomized clinical trial. AIDS Behav. 2019;23:2337–2346.

19. HIV Prevention Research Synthesis Project. Compendium of Evidence-Based Interventions and Best Practices for HIV Prevention. Centers for Disease Control and Prevention, 2019. Available at: https://www.cdc.gov/hiv/research/interventionresearch/compendium/index.html. Accessed December 1, 2021.

20. Hill BJ, Motley DN, Rosentel K, et al. An employment intervention program (Work2Prevent) for young men who have sex with men and transgender youth of color (Phase 1): protocol for determining essential concepts for understanding HIV vulnerability among Black men who have sex with men in New York City. Cult Health Sex. 2017;19:323–337.