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Trujillo, Dillon Wesley

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Cashing in on HIV Prevention: An Exploratory Mixed Methods Study Assessing the
Preferences and Acceptability of a Pre-Exposure Prophylaxis-Based Conditional
Cash Transfer among Black and Latino Men Who Have Sex with Men in Los
Angeles County

A dissertation submitted in partial satisfaction of the
requirements for the degree of Doctor of Philosophy
in Community Health Sciences

by

Dillon Wesley Trujillo

2026

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ABSTRACT OF THE DISSERTATION

Cashing in on HIV Prevention: An Exploratory Mixed Methods Study Assessing the Preferences and Acceptability of a Pre-Exposure Prophylaxis-Based Conditional Cash Transfer among Black and Latino Men Who Have Sex with Men in Los Angeles County

by

Dillon Wesley Trujillo

Doctor of Philosophy in Community Health Sciences

University of California, Los Angeles, 2026

Professor Michael L. Prelip, Chair

Black and Latino men who have sex with men (MSM) face disproportionately high rates of HIV in the United States, yet uptake of pre-exposure prophylaxis (PrEP), a highly effective HIV prevention medication, remains critically low in these communities. Paying people money or rewards to take PrEP, is a strategy called conditional cash transfers (CCTs), and they have shown promise in HIV prevention globally, but no research has asked Black and Latino MSM what kind of CCT interventions they would actually want, or whether their sexual health history and life circumstances shape those preferences.

Data were drawn from the Incentives and Prevention Study (TIPS), a pilot study conducted in Los Angeles County with 133 Black and Latino MSM. Three interconnected studies are presented. Study One used in-depth interviews with 20 participants to explore how Black and Latino MSM felt about the idea of a PrEP-based CCT, whether it felt worth it, burdensome, or likely to work. Studies Two and Three used a discrete choice experiment (DCE), a method in which participants repeatedly chose between hypothetical CCT intervention designs to reveal which features mattered most, examining whether participant's PrEP use status and housing stability shaped those preferences.

Study One found broad support for PrEP-based CCTs and identified specific burdens to participating in a PrEP-based CCT such as stigma, access barriers, and medical mistrust that varied by race/ethnicity and PrEP experience. Study Two found that Black and Latino MSM regardless of whether they were currently using PrEP or not strongly preferred higher payment amounts, more frequent payments, and cash over gift cards, with PrEP type playing a minimal role in their choices. The one stand out difference was that current PrEP users placed a stronger preference for higher payment amounts compared to non-PrEP users, suggesting that Black and Latino MSM already engaged in HIV prevention may respond more strongly to financial incentives to further sustain their engagement with HIV prevention. Study Three found that housing stability did not change these preferences, with Black and Latino MSM in both stable and unstable housing wanting the same program design.

These findings challenge a common assumption in HIV prevention — that programs must be extensively tailored by subgroups to be effective. The data show that

when it comes to CCT intervention design for increasing PrEP use, Black and Latino MSM want the same things regardless of their PrEP history or housing situation. What requires consideration and tailoring is the implementation itself — accessible locations to participate, flexible hours, transportation support, and culturally grounded outreach. This dissertation is among the first to rigorously explore CCT intervention acceptability and examine CCT design preferences among this population, and its findings provide direct evidence how to design CCT interventions that improve PrEP use. That evidence is essential for HIV prevention organizations, programs, and local jurisdictions considering utilizing financial incentives as a strategy to improve HIV prevention outcomes. To be effective, these programs must be financially meaningful, accessible, and built with the community at the center. Limitations include a relatively small sample from Los Angeles County, which constrains the generalizability to other geographic settings and broader communities at risk for HIV. The sample size also limits the statistical power for the quantitative analyses, meaning that some real differences in CCT design preference across subgroups may exist but were too small to detect with the number of participants enrolled. Therefore, these findings should be interpreted as initial and exploratory evidence.

The dissertation of Dillon Wesley Trujillo is approved.

Philip Massey

Bo-Kyung Elizabeth Kim

Dawn M. Upchurch

Michael L. Prelip, Committee Chair

University of California, Los Angeles

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LIST OF ACRONYMS

ADAP	AIDS Drug Assistance Program
AIDS	acquired immunodeficiency syndrome
APLA	AIDS Project Los Angeles
ART	antiretroviral therapy
CCT	conditional cash transfer
CBO	community-based organization
CDC	Centers for Disease Control and Prevention
CFIR	Consolidated Framework for Implementation Research
CHIPTS	Center for HIV Identification, Prevention, and Treatment Services
CI	confidence interval
DCE	discrete choice experiment
DHSP	Division of HIV/STD Programs
EHE	Ending the HIV Epidemic
FDA	U.S. Food and Drug Administration
FQHC	federally qualified health center
HBM	Health Belief Model
HIV	human immunodeficiency virus
HOPWA	Housing Opportunities for Persons with AIDS
IIA	Independence of Irrelevant Alternatives
IQR	Interquartile range
IRB	Institutional Review Board
KFF	Kaiser Family Foundation

MSM	men who have sex with men
NASTAD	National Alliance of State and Territorial AIDS Directors
NHBS	National HIV Behavioral Surveillance
NGO	non-governmental organization
PEP	post-exposure prophylaxis
PLWH	people living with HIV
PrEP	pre-exposure prophylaxis
PWID	people who inject drugs
QALY	quality-adjusted life year
SE	standard error
STI	sexually transmitted infection
TasP	Treatment as Prevention
TFA	Theoretical Framework of Acceptability
TIPS	The Incentives & Prevention Study
U=U	Undetectable=Untransmittable
UCT	unconditional cash transfer
U.S.	United States
VCT	voluntary counseling and testing

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VITA

Dillon Trujillo

EDUCATION

- 2019 **MPH, Health & Social Behavior**
Berkeley School of Public Health, University of California, Berkeley
- 2014 **BA, Community Health**
Department of Public Health Sciences, New Mexico State University

RESEARCH EXPERIENCE

- 2022–2026 Graduate Student Researcher
Project: UCLA Public Health Scholars Training Program, Department of Community Health Sciences
Project: UCLA Initiative to Study Hate, California Civil Rights Department's Commission on the State of Hate
Project: The Incentives & Prevention Study, Center for Health Policy Research
Project: Project REFOCUS, Center for the Study of Racism, Social Justice, and Health
UCLA Fielding School of Public Health
- 2019–2021 Project Coordinator
Project: National HIV Behavioral Surveillance (NHBS) Study, Trans Woman & Men who Have Sex with Men (MSM) Study Cycles
Project: The Partners Study
Center for Public Health Research, San Francisco Department of Public Health (SFDPH)
- 2016–2019 Digital HIV Care Navigator
Project: Health eNavigation (Health eNav)
Center for Public Health Research, SFDPH
- 2014–2015 Research Associate
Project: NHBS, MSM & People Who Inject Drugs (PWID) Study Cycles
Center for Public Health Research, SFDPH
- 2013–2014 Undergraduate Research Assistant
Project: Partnership for the Advancement of Cancer Research
Department of Public Health Sciences, New Mexico State University
- 2013 Summer Undergraduate Research Program Intern
Project: Nutritional & Physical Activity Assessment Study

Public Health Sciences Division, Fred Hutchinson Cancer Research
Center, Seattle, WA

TEACHING EXPERIENCE

2024–2026 Teaching Assistant, Associate, Consultant
Graduate Courses: CHS 216: Qualitative Research Methodology; CHS 211A&B: Program Planning, Research, and Evaluation in Community Health Sciences
Undergraduate Courses: PH 50A&B: Introduction to Public Health; CHS 48: Nutrition and Food Studies: Principles and Practice
UCLA Fielding School of Public Health

SELECTED PUBLICATIONS

- Moucheraud, C., **Trujillo, D.**, Wagner, Z., Garland, W., Smith, T., Hoffman, R. M., & Landovitz, R. J. (2025). Preferences for HIV prevention conditional cash transfer programs among Black/African American and Latinx cisgender MSM in Los Angeles. *AIDS*. <https://doi.org/10.1097/QAD.0000000000004361>
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INTRODUCTION

In 2023, 39,201 people received a new human immunodeficiency virus (HIV) diagnosis in the United States and 6 territories, underscoring the persistence of the epidemic as a critical public health challenge (CDC, 2025). Men who have sex with men (MSM) accounted for 66% (25,916/39,201) of those new diagnoses, reflecting their disproportionate vulnerability to HIV acquisitions (CDC, 2025). Racial and ethnic disparities compound this burden. Black and African American people represented 38% (14,754/39,201) of new HIV diagnoses in 2023, and Hispanic and Latine people represented 34% (13,410/39,201), together accounting for approximately 72% of all new diagnoses despite comprising less than 40% of the U.S. population (CDC, 2025; Pew Research Center, 2025; U.S. Census Bureau, 2024). In Los Angeles County, these national patterns are reflected and, in some respects, exceeded. By the end of 2022, the county recorded 1,641 new HIV diagnoses, with Hispanic and Latine communities accounting for approximately 58% (960/1,641) of those cases, followed by Black communities at 19% (319/1,641) and White communities at 14% (238/1,641) (Division of HIV and STD Programs, 2023b). These figures are striking in context. Hispanic and Latine residents comprise approximately 48% of Los Angeles County's population, yet account for a disproportionate majority of new HIV diagnoses, while Black residents, who represent approximately 8% of the county's population account for nearly one in five new cases (Division of HIV and STD Programs, 2023b; U.S. Census Bureau, 2023).

Biomedical interventions such as pre-exposure prophylaxis (PrEP) represents one of the most effective biomedical tools available for HIV prevention, reducing the risk of acquisition by up to 99% when taken consistently (Division of HIV and STD

Programs, 2023b). Despite its effectiveness, PrEP use among populations at highest risk for HIV remains critically and inequitably low. Data from the Los Angeles site of the CDC-funded National HIV Behavioral Surveillance Study (NHBS) reported that 66% of White MSM used PrEP in 2023, compared to 48% of Black MSM and 45% of Latino MSM (Division of HIV and STD Programs, 2023b). These HIV disparities signal an urgent need for innovative interventions to improve HIV prevention engagement within these vulnerable communities.

Conditional cash transfer (CCT) interventions, which provide financial incentives contingent on engaging in health-promoting behaviors (Marshall & Hill, 2015), offer a promising strategy for addressing prevention gaps. CCTs have demonstrated effectiveness in global HIV contexts by improving antiretroviral therapy (ART) adherence and retention in HIV care (Krishnamoorthy et al., 2021; Packel et al., 2020). Their application to HIV prevention in the United States remains largely unexplored, and little is known about their acceptability or optimal design among Black and Latino MSM at risk for HIV.

This dissertation addresses this gap through three interconnected empirical studies examining the design preferences and acceptability of CCT interventions among Black and Latino MSM in Los Angeles County. The primary research question is: *How do individual-intrapersonal, individual-behavioral, and structural factors influence the design preferences and acceptability of a CCT intervention for PrEP use among Black and Latino MSM in Los Angeles County?*

Study One Aim: To explore how individual intrapersonal factors, including affective attitude, burden, and perceived effectiveness, shape the acceptability of a PrEP-based CCT intervention among Black and Latino MSM.

Study Two Aim. To assess how an individual behavioral characteristic, specifically PrEP uses status, shapes the design preferences for a PrEP-based CCT intervention among Black and Latino MSM.

Study Three Aim. To assess how an individual structural condition, specifically housing status, shapes the design preferences for a PrEP-based CCT intervention among Black and Latino MSM.

By integrating qualitative and quantitative approaches within a convergent parallel mixed methods design (Arigo et al., 2023; Barnett et al., 2024), this dissertation produces a comprehensive account of CCT design preferences and acceptability that spans individual experience, behavioral prevention engagement, and structural context.

I organize the dissertation as follows. In Chapter 1, I establish the public health significance of the HIV epidemic, review the current landscape of HIV prevention across primary, secondary, and tertiary levels, examine disparities in HIV testing and PrEP uptake among Black and Latino MSM, and introduce CCTs as a promising intervention strategy. In Chapter 2, I provide a comprehensive literature review covering the economic burden of HIV, inequities in prevention funding, social and structural barriers to prevention engagement, and the evidence base for CCT programs, concluding by identifying the three critical gaps this dissertation addresses. In Chapter 3, I introduce the theoretical framework guiding the dissertation, including the primary and secondary theoretical perspectives, and present the conceptual model connecting those

frameworks to the study's research questions and hypothesized relationships. In Chapter 4, I detail the methodological approach, including study design, sampling, data collection, and analytic plans across all three studies. In Chapters 5, 6, and 7, I present the results of Studies One, Two, and Three respectively, and in Chapter 8, I synthesize findings across all three studies, discuss implications for CCT intervention design and HIV prevention policy, and identify directions for future research.

CHAPTER 1: BACKGROUND & SIGNIFICANCE

1.1 Chapter Overview

This chapter establishes the public health significance of the HIV epidemic and the social and structural conditions that make novel prevention interventions necessary. I begin by examining the epidemiological trends to establish the scope and persistence of the epidemic, with particular attention to the disproportionate burden among Black and Latino men who have sex with men (MSM). I then review the current landscape of HIV prevention, organized within the public health framework of primary, secondary, and tertiary prevention, covering biomedical, behavioral, community-based, and structural strategies at each level. By tracing this landscape, I draw attention to a persistent gap in which highly effective prevention tools exist, but uptake remains suboptimal among communities affected by HIV. I then examine disparities in HIV testing and pre-exposure prophylaxis (PrEP) uptake among Black and Latino MSM, identifying the social and structural barriers that drive these gaps. I conclude by introducing conditional cash transfers (CCTs) as a promising intervention strategy with the potential to bridge the prevention gaps, and I present the three study aims that organize this dissertation's empirical work.

1.2 The Public Health Impact of the HIV Epidemic

Over the last four decades, the HIV epidemic has persisted as one of the most consequential public health challenges in the United States, disproportionately affecting vulnerable populations and imposing profound individual, social, and economic burdens. HIV spreads through contact with body fluids including blood, semen, vaginal secretions, and breast milk (HIV.gov, 2021). Once transmitted, HIV weakens the

immune system by depleting CD4+ T cells, which are essential components of the body's defense against infections. Without proper treatment, HIV progressively attacks and destroys these cells, advancing the virus to acquired immunodeficiency syndrome (AIDS), a condition characterized by a CD4+ T cell count below 200 cells per cubic millimeter. This progression increases susceptibility to opportunistic infections, severe immune suppression, and mortality (CDC, 2021a; HIV.gov, 2021).

Globally, an estimated 39.9 million people are living with HIV, with 1.2 million residing in the U.S. (CDC, 2021b; World Health Organization, 2022). In 2023, 39,201 people received an HIV diagnosis in the United States and 6 territories and freely associated states, reflecting the epidemic's continued and urgent public health burden (CDC, 2025). Since its onset, the U.S. has recorded 771,864 cumulative deaths among persons with HIV classified as stage 3 (AIDS), with 4,748 HIV-related deaths reported in 2023 alone (CDC, 2025). These figures underscore the urgency of directing prevention efforts toward the populations most vulnerable to HIV acquisition.

MSM represent the most heavily affected group, accounting for 66% (25,916) of the estimated 39,201 new HIV diagnoses recorded in 2023 (CDC, 2025). Significant racial and ethnic disparities compound this burden. In 2023, Black and African American people represented 38% (14,754/39,201) of new HIV infections, and Hispanic and Latine people represented 34% (13,410/39,201), compared to about 23% (8,914/39,201) among White people (CDC, 2025). Combined, Black and African American and Hispanic and Latine people constituted approximately 72% of all new HIV diagnoses reported in 2023, indicating that Black and Latino MSM bear disproportionate and urgent share of the epidemic's burden. Among males aged 13 to 24 years, Black

and African American males accounted for the highest percentage of diagnoses attributed to male-to-male sexual contact at 47%, while among males older than 24 years, Hispanic and Latino males accounted for the highest percentage at 40% (CDC, 2025). Mortality disparities further underscore these health inequities. Black and African American persons accounted for 43% of all HIV-related deaths in 2023 despite comprising approximately 14.4% of the U.S. population, a disparity that reflects the compounding effects of structural inequities on HIV outcomes across the HIV care continuum (CDC, 2025; Pew Research Center, 2025).

Longitudinal surveillance data reveal that this disparity is widening rather than narrowing. A CDC HIV surveillance report analyzing trends from 2010 to 2019 found that while overall HIV incidence declined from a peak of 130,400 annual infections in 1984 to 34,800 in 2019, this progress was distributed unequally across populations (CDC, 2021c). New HIV infections among White MSM dropped by 32% during this period, falling from 7,500 to 5,100 cases, while Black MSM experienced only a marginal reduction of approximately 1% from 9,000 to 8,900 cases (Bosh et al., 2021). Among Latino MSM, new infections increased by approximately 16%, rising from 6,800 to 7,900 cases during the same period (Bosh et al., 2021). By the end of 2019, Black and African American people accounted for 41% and Hispanic and Latine people accounted for 29% of all new infections (Bosh et al., 2021).

The persistence of these disparities reflects the powerful role of structural determinants of health in shaping HIV risk and prevention engagement. Socioeconomic status, education, housing stability, employment, and access to healthcare have each been shown to influence HIV prevention behaviors and population-level transmission

dynamics (CDC, 2022; Jaramillo et al., 2022; Pellowski et al., 2013). For example, MSM navigating poverty, social disadvantage, and limited access to resources face heightened vulnerability to HIV acquisition and reduced capacity to engage consistently with prevention and care services (Pellowski et al., 2013). Stigma, discrimination, and racism compound these vulnerabilities, creating cycles of inequity that concentrate HIV risk among sexual and gender minority communities of color (Lightfoot et al., 2021). These social and structural conditions drive elevated transmission rates and lower rates of viral suppression among the most affected populations (Menza et al., 2021; Thalia, 2024).

The U.S. government's Ending the HIV Epidemic (EHE) initiative aims to reduce new HIV infections by 90% by 2030 (HIV.gov, 2023). Achieving this goal requires moving beyond biomedical innovation alone and directly confronting the social and structural barriers that prevent consistent engagement with effective prevention strategies. Expanding equitable access to HIV prevention and treatment services is essential for reaching EHE targets. The following sections examine the current landscape of HIV prevention, identify critical gaps in uptake, and establish the case for novel intervention approaches capable of reaching Black and Latino MSM where existing strategies have fallen short.

1.3 The Current Landscape of HIV Prevention

HIV prevention has advanced substantially over the past two decades, producing a range of biomedical, behavioral, community-based, and structural strategies that operate across different points in the prevention continuum. I organize these strategies using the traditional public health framework of primary, secondary, and tertiary

prevention, examining each level in turn. Effective tools exist at every level, yet their reach remains uneven, and the communities bearing the greatest burden of HIV infection are often those most underserved by current implementation. By reviewing the prevention landscape in this way, I establish the foundation for understanding why novel approaches, including CCTs, are needed to bridge persistent gaps in prevention equity among Black and Latino MSM.

1.3.1 Primary HIV Prevention Strategies

Primary HIV prevention strategies focus on individuals at risk for acquiring HIV and aim to stop transmission before it occurs (Garnett et al., 2024). Condoms represent a foundational primary prevention strategy and remain one of the most widely used methods for reducing transmission risk, providing dual protection against HIV and other sexually transmitted infections (STIs) (Cabecinha & Saunders, 2022). Condoms can prevent HIV by up to 80% for vaginal sex and 70% for anal sex (Smith et al., 2015; Weller & Davis, 2002). While increasing availability of other effective interventions has contributed to declining condom use in certain populations, condoms continue to play a critical role in sexual health and HIV prevention (Calabrese et al., 2017; Shrestha et al., 2016).

Pre-exposure prophylaxis (PrEP) has transformed the primary prevention landscape since its approval by the U.S. Food and Drug Administration (FDA) in 2012. PrEP involves the use of antiretroviral medications by individuals at high risk of HIV exposure and, when taken consistently, reduces the risk of HIV transmission by up to 99%, making it one of the most effective prevention tools available (Calabrese et al., 2017; CDC, 2020; Orser & O'Byrne, 2019). Daily oral PrEP requires individuals to take a

single pill each day and represents the most commonly used regime. For individuals who find daily adherence difficult, on-demand PrEP, commonly referred to as the 2-1-1 method, provides an alternative involving 2 pills taken 2 to 24 hours before potential HIV exposure, followed by 1 pill 24 hours after the initial dose and another pill 24 hours after the second dose (Saber & Scott, 2020). The IPERGAY trial demonstrated that on-demand PrEP reduced HIV acquisition by 85% among MSM (Molina et al., 2015). Long-acting injectable PrEP, administered intramuscularly every eight weeks, offers an additional option that eliminates the needs for daily adherence entirely (Saber & Scott, 2020). The HPTN 083 trial showed that injectable PrEP was 66% more effective than daily oral PrEP in preventing HIV acquisition among cisgender MSM and transgender women (Landovitz et al., 2021). Despite the flexibility these regimens provide, PrEP uptake remains a significant challenge among racial and ethnic minority MSM, a gap that this dissertation directly addresses.

Treatment as Prevention (TasP) emphasizes the dual role of antiretroviral therapy (ART) in both improving individual health and preventing onward HIV transmission (Cabecinha & Saunders, 2022; Kalichman, 2013). When people living with HIV adhere consistently to ART, they achieve viral suppression, reducing the amount of HIV in their blood to undetectable levels and eliminating the risk of sexual transmission to partners (Calabrese et al., 2024). Viral suppression refers specifically to achieving an undetectable viral load through sustained ART adherence, a state in which individuals living with HIV are unable to transmit the virus sexually (Buchacz et al., 2018). This principle forms the basis for the global Undetectable=Untransmittable (U=U) campaign, which has been instrumental in reducing HIV-related stigma and promoting the benefits

of early and sustained treatment (Wells, 2023). From a public health perspective, TasP is a critical component to improving HIV outcomes and reducing transmission rates at the population level, and the U=U framework has been particularly effective in addressing HIV-related stigma among MSM of color (Wells, 2023). Critically, however, structural barriers including poverty, housing instability, and limited healthcare access reduce the capacity of the communities most affected by HIV to achieve and maintain viral suppression, undermining the population-level impact of TasP.

Patient navigation models represent an innovative approach to closing the gaps in the HIV care continuum, a framework that outlines the sequential stages of care from diagnosis to viral suppression. These models assist individuals in navigating complex healthcare systems, managing appointments, and adhering to treatment regimens (Bradford et al., 2007). Originally developed to reduce disparities in cancer care, patient navigation has been adapted to support people newly diagnosed with HIV or struggling to remain engaged in care (Mizuno et al., 2018). Digital adaptations using mobile phones and text messaging have demonstrated significant success in improving viral suppression rates and ensuring continuity of care, particularly for individuals facing unique barriers to consistent HIV care engagement (Arayasirikul et al., 2020; Trujillo et al., 2020).

PrEP navigation models have emerged as complementary tools for connecting at-risk individuals to low-cost or free PrEP medications and support services. These models address barriers to PrEP uptake including lack of awareness, stigma, and financial and logistical concerns by providing culturally tailored guidance through the PrEP cascade, a framework encompassing awareness, access, initiation, adherence,

and retention (Henny et al., 2020). Research shows that PrEP navigation models embedded within the HIV care delivery systems and developed in collaboration with communities are three times more effective at linking clients to PrEP than those developed without community input (Henny et al., 2020). By addressing individual and systemic barriers simultaneously, these models strengthen the broader infrastructure of HIV care delivery and set the stage of understanding where additional innovation, including financial incentive strategies, may be needed to reach those not yet served by existing approaches.

Harm reduction efforts represent another important primary prevention approach, particularly for people who inject drugs (PWID). Needle exchange programs provide sterile needles and syringes and have been shown to reduce HIV incidence by 58% among PWID, with particular relevance for MSM who inject drugs (Aspinall et al., 2013). These programs not only lower the risk of HIV transmission but also serve as entry points for other prevention tools including HIV testing, counseling, and referrals to comprehensive care services (Ball et al., 2019). Primary prevention strategies collectively form the backbone of efforts to reduce new HIV infections, yet their impact is constrained by persistent disparities in access and uptake among Black and Latino MSM, disparities that the following sections examine in greater detail.

1.3.2 Secondary HIV Prevention Strategies

Secondary HIV prevention strategies focus on early detection and timely intervention to reduce transmission, improve health outcomes, and prevent progression to AIDS (Cabecinha & Saunders, 2022). HIV testing is the central component of this

approach, serving as the primary gateway to treatment and broader public health resources.

HIV testing enables individuals to know their status and facilitates early diagnosis, which is critical for timely linkage to HIV care (Graham et al., 2020). Research consistently demonstrates the effectiveness of routine testing in reducing new HIV infections (Furegato et al., 2018; Reitsema et al., 2020). Modeling studies suggest that annual HIV testing among MSM and PWID could avert 215,000 new HIV infections over the next two decades (Shah et al., 2016). This finding is particularly significant given that approximately 13% of people in the U.S. remain unaware of their HIV status and responsible for an estimated 40% of ongoing transmission, particularly due to high viral loads during acute infection (Dailey et al., 2017; Kaiser Family Foundation, 2024a). Despite its demonstrated importance, disparities in testing rates persist and disproportionately affect Black and Latino MSM, who are more likely to be unaware of their status compared to White MSM (Rendina et al., 2022). These gaps are examined in greater detail in Section 1.4.

Innovations in HIV testing have expanded its reach and accessibility. Rapid voluntary counseling and testing (VCT), which combines HIV testing with pre- and post-test counseling, has proved effective in increasing testing rates and reducing undiagnosed infections (Pottie et al., 2014). Research show that VCT uptake is 3 times higher than conventional testing methods, with individuals receiving their results nearly twice as often (Pottie et al., 2014). HIV self-testing kits, which allow individuals to test privately at home, have shown promise for reaching populations that face barriers to clinic-based testing. When integrated with existing approaches, self-testing has the

potential to reduce HIV incidence among MSM in the U.S. by up to 10% over a decade (Viguerie et al., 2024). By diversifying testing modalities, these innovations address barriers such as stigma, geographic isolation, and limited healthcare access.

HIV testing also anchors public health initiatives such as the Test and Treat campaign, a global effort emphasizing immediate treatment initiation for people living with HIV (PLWH) (Granich et al., 2009). This approach prioritizes early detection to initiate ART promptly after diagnosis, reducing viral loads and preventing onward transmission. Evidence from global contexts suggests that Test and Treat models can lower HIV transmission rates by up to 30% (Hayes et al., 2019). In the U.S., this strategy aligns with national efforts to reduce new infections and improve care outcomes (Berkelman, 2012). For individuals who test HIV-negative, Test and Treat models can also serve as an entry point to PrEP, extending their prevention impact.

Post-exposure prophylaxis (PEP) provides a critical retrospective biomedical option for individuals who may have been exposed to HIV (Auerbach et al., 2024). PEP involves a 28-day course of ART medications that, when initiated within 72 hours of exposure, significantly reduces the risk of HIV acquisition (Almeda et al., 2004). PEP is particularly recommended following high-risk events such as unprotected sex, needle sharing, or occupational exposures. However, awareness and access to PEP remain limited, especially among populations at greatest risk for HIV, making education and access expansion a priority for strengthening secondary prevention (Jin et al., 2021).

1.3.3 Tertiary HIV Prevention

Tertiary prevention focuses on improving the long-term health and quality of life for people living with HIV (PLWH) by managing their condition and addressing the

broader challenges that affect their ability to engage consistently with care (Cabecinha & Saunders, 2022). Many individuals newly diagnosed with HIV confront significant psychological, economic, and social barriers that impede timely connection to care and sustained treatment engagement. Tertiary prevention strategies address these barriers directly, creating the foundational conditions under which primary and secondary prevention efforts can be effective. Although tertiary prevention is often positioned as the final stage of the public health prevention framework, it overlaps substantially with primary and secondary strategies, particularly through the mechanisms of viral suppression, TasP, U=U, and patient navigation.

Antiretroviral therapy (ART) is the most impactful tertiary prevention strategy available. Sustained adherence to ART reduces morbidity and mortality among PLWH and eliminates the risk of sexual transmission through viral suppression (Abbasi et al., 2023). As discussed in Section 1.3.1, this principle informs both TasP and U=U, which have been instrumental in promoting awareness of ART's dual health benefits for individuals and communities. Maintaining an undetectable viral load effectively eliminates the risk of onward transmission and is central to improving the health outcomes of PLWH (Eisinger et al., 2019). The U=U framework has also demonstrated particular effectiveness in addressing HIV-related stigma among MSM of color, creating conditions that support sustained treatment engagement (Wells, 2023).

Beyond ART, tertiary prevention includes integrated care models that address comorbidities such as mental health disorders and substance use. Embedding behavioral health services within HIV clinics offers a holistic approach to meeting the physical and psychological needs of PLWH, improving retention in care, ART

adherence, and overall health outcomes (Carvalho, 2015). Structural interventions are equally critical components of tertiary prevention. Programs such as the AIDS Drug Assistance Program (ADAP) and Housing Opportunities for Persons with AIDS (HOPWA) have provided essential financial and housing support for PLWH, addressing key structural barriers to care engagement (California Department of Public Health, 2023; Health Resources and Services Administration, 2022). Stable housing and reliable healthcare access have been shown to significantly improve viral suppression rates and sustained engagement in HIV prevention behaviors, underscoring the necessity of addressing systemic inequities to achieve optimal health outcomes (Aidala et al., 2016).

As of this writing, however, both programs face significant threat. The Trump administration's FY2026 budget proposal eliminated standalone HOPWA funding, proposing instead to fold housing assistance for PLWH into a general Emergency Solutions Grant program with a two-year cap on individual assistance (Dawson, 2026). At the state level, more than 23 states are implementing or considering cuts to their ADAP programs driven by stagnant federal funding, with Florida's program cutting income eligibility from 400% to 130% of the federal poverty level and removing the most commonly prescribed HIV medication from coverage, affecting an estimated 16,000 Floridians living with HIV (Dawson, 2026). These proposed and enacted cuts represent a direct threat to the structural infrastructure that makes tertiary prevention possible for the communities most affected by HIV, and they underscore the urgency of developing and implementing novel prevention strategies that can function under conditions of diminishing institutional support.

Stigma reduction efforts remain an integral component of tertiary prevention. HIV stigma intersects with racism, homophobia, and other forms of discrimination, creating compounding barriers that prevent affected individuals from accessing prevention services, initiating care, or adhering to treatment (Arscott et al., 2020; Kontomanolis et al., 2017; Paul, 2022). Community-based initiatives and education campaigns, including U=U, are essential for challenging stigma and fostering environments that support consistent engagement with HIV prevention and care (Carneiro et al., 2021). By addressing stigma at the community and institutional levels, tertiary prevention strategies reduce one of the most persistent obstacles to equitable HIV outcomes.

Across all three levels of the prevention framework, a consistent pattern emerges: effective strategies exist, yet their reach is constrained by the structural and social conditions that concentrate HIV risk among Black and Latino MSM. The following section examines disparities in HIV testing and PrEP uptake among these populations in greater detail, identifying the specific barriers that drive prevention inequity and establishing the need for novel intervention approaches.

1.4 Disparities in HIV Testing and PrEP Uptake

Despite the availability of highly effective HIV prevention strategies, Black and Latino MSM continue to bear a disproportionate burden of new HIV infections while remaining underserved by current prevention efforts (CDC, 2023). The persistence of these disparities reflects not individual failure but systematic gaps in how prevention services are designed, delivered, and accessed across communities experiencing structural inequity. This section examines disparities in HIV testing and PrEP uptake among Black and Latino MSM and identifies the social and structural barriers that drive

these gaps, establishing the need for novel intervention approaches capable of reaching populations that existing strategies have not adequately served.

Research consistently shows that Black and Latino MSM are more likely to be unaware of their HIV status than White MSM (Benbow et al., 2020; Nanin et al., 2020; Rendina et al., 2014), indicating that these groups are not testing for HIV at the rates necessary to support early diagnosis and timely treatment initiation. National HIV Behavioral Surveillance data indicate that while MSM overall test more frequently than the general population, Black and Latino MSM are significantly less likely to test annually compared to White MSM (CDC, 2019). This gap carries serious public health consequences. Individuals unaware of their HIV status are responsible for an estimated 38% of all new transmissions, primarily due to high viral loads during acute infection (Saag, 2021). Closing testing disparities is therefore not only a matter of individual health but a population-level prevention priority.

Local epidemiological data from Los Angeles County reflect these national patterns. Black and Latino MSM constitute a significant proportion of new HIV diagnoses in the county, yet testing rates remain below the levels required to meet the goals of the federal Ending the HIV Epidemic initiative (Division of HIV and STD Programs, 2022). Similar patterns have been documented in other urban centers including New York City and Atlanta, where Black and Latino MSM report persistent barriers to frequent testing despite residing in cities with robust HIV prevention infrastructure (Georgia Department of Public Health, 2019; Nanin et al., 2020). These disparities contribute to delayed diagnoses, prolonged periods of undetected infection, and elevated transmission risk. Black and Latino MSM who receive late-stage

diagnoses experience worse health outcomes, including lower CD4 counts and delayed treatment initiation, further entrenching health disparities within these communities (Chopel et al., 2014).

PrEP disparities compound the testing gap. PrEP reduces the risk of HIV acquisition by over 90% when taken consistently, yet uptake among Black and Latino MSM remains substantially lower than among White MSM (Orser & O'Byrne, 2019). Among the 78,360 PrEP users identified in a 2016 study, only 13.1% identified as Hispanic or Latino and 11.2% identified as Black or African American (Huang et al., 2018). Pharmacy records confirm similar patterns, with Black and Latino MSM accounting for disproportionately low shares of PrEP prescriptions relative to their HIV risk burden (AIDS Vu, 2022). Regional data from California reinforce these trends. An analysis of Medi-Cal enrollees found that White males had the highest PrEP uptake at 29%, compared to 23% among Black males and 16% among Hispanic males, disparities that persisted even among populations with comparable healthcare access (Harawa et al., 2022). These figures indicate that access alone does not fully explain the gap — structural, social, and cultural barriers shape PrEP engagement in ways that access-focused interventions have not adequately addressed

Among the most consistently documented barriers are stigma, medical mistrust, financial constraints, and limited culturally responsive care. Stigma associated with HIV and PrEP use operates across interpersonal and institutional levels, discouraging Black and Latino MSM from seeking testing or initiating PrEP for fear of disclosure or judgment (Arscott et al., 2020). Medical mistrust, rooted in histories of exploitation and racial bias in healthcare systems, reduces engagement with clinical services among

Black and Latino communities (Bonacci et al., 2021). Financial barriers including insurance gaps, copayment costs, and the logistical demands of quarterly clinic visits create additional friction for individuals already navigating economic precarity (Lelutiu-Weinberger & Golub, 2016). These barriers do not operate independently but compound one another, creating structural conditions in which even motivated individuals face substantial obstacles to consistent PrEP engagement.

Addressing these disparities requires interventions that do more than increase awareness or expand access in isolation. Effective strategies must reduce the economic burden of participation, build trust within communities of color, and align with the lived realities of Black and Latino MSM navigating structural vulnerability. Conditional cash transfers (CCTs) represent one such approach, offering financial incentives that directly offset participation costs while creating structured opportunities for sustained prevention engagement. The following section introduces CCTs in greater detail and examines the evidence base for their use in HIV prevention.

1.5 CCT Interventions

CCTs have emerged as a widely used social policy tool aimed at reducing poverty while promoting long-term improvements in health and human capital (Yoshino et al., 2023). Established CCT programs across Latin America and other low- and middle-income settings provide financial incentives contingent on completing specific health-promoting behaviors, such as attending preventive health visits, completing medical checkups, or adhering to prescribed treatment regimens (Glassman et al., 2013; Yokobori et al., 2023). By conditioning payments on participation in health behaviors, CCTs address the structural barriers that prevent individuals from engaging

in preventive care, including transportation costs, lost wages, and competing economic priorities. CCT programs have demonstrated effectiveness across a range of health outcomes including improved educational attainment, maternal and child health, and chronic disease management, establishing a strong evidence base for their capacity to produce sustained behavior change (Edmond et al., 2019; Lyles et al., 2021; Notley et al., 2019).

One of the most extensively documented CCT programs, Mexico's Oportunidades (formerly PROGRESA), successfully linked cash benefits to school attendance and regular clinic visits, demonstrating significant improvements in education outcomes and healthcare engagement among low-income families (Behrman et al., 2012). International HIV-focused CCT initiatives have built on this foundation, using financial incentives to promote HIV prevention behaviors including testing, condom use, and ART adherence across sub-Saharan Africa and other high-burden settings (Baird et al., 2019; Pettifor et al., 2016). These programs have produced encouraging results, particularly in increasing HIV testing rates and improving engagement in HIV medical care (Stoner et al., 2021).

CCTs are particularly well suited to address the specific barriers to HIV prevention identified among Black and Latino MSM in the United States. Financial incentives can directly offset the economic costs of participation such as transportation, time away from work, and out-of-pocket expenses that disproportionately burden low-income and structurally vulnerable populations (Kaydor, 2020). By providing tangible material support, CCTs reframe HIV prevention engagement as a financially accessible rather than financially burdensome activity. CCTs also create structured touchpoints for

ongoing engagement with prevention services, offering repeated opportunities for provider interaction, health education, and linkage to additional care resources. These features make CCTs a promising complement to existing navigation models and biomedical prevention strategies that have struggled to retain Black and Latino MSM in prevention services over time.

Despite this promise, CCTs remain an underexplored strategy for HIV prevention in the United States, and a significant gap exists in research examining how CCTs can be optimally designed to address HIV prevention disparities among communities of color. Global evidence provides useful foundational insights but cannot fully account for the distinct structural, cultural, and social conditions shaping HIV risk and prevention engagement among Black and Latino MSM in urban U.S. settings such as Los Angeles County. Critical questions remain unanswered regarding what CCT design features — including payment amount, frequency, type, and delivery format — are most acceptable and preferred by these communities, and whether individual, behavioral, and structural factors shape those preferences in meaningful ways. This dissertation directly addresses these gaps through three empirical studies, the aims of which are presented in the following section.

1.6 Study Aims

This dissertation seeks to answer the primary research question: *How do individual-intrapersonal, individual-behavioral, and structural factors influence the preferences and acceptability of CCT interventions for HIV prevention among Black and Latino MSM in Los Angeles County?* To answer this research question, this dissertation has three specific research aims:

Study One Aim: To explore how individual intrapersonal factors, including affective attitude, burden, and perceived effectiveness, shape the acceptability of a PrEP-based CCT intervention among Black and Latino MSM.

Study Two Aim. To assess how an individual behavioral characteristic, specifically PrEP use status, shapes the design preferences of a PrEP-based CCT intervention among Black and Latino MSM.

Study Three Aim. To assess an individual structural condition, specifically housing status, shapes the design preferences for a PrEP-based CCT intervention among Black and Latino MSM.

1.7 Summary

This chapter examined the HIV epidemic's public health impact, particularly among Black and Latino MSM. A comprehensive review of HIV prevention strategies was presented within the public health framework of primary, secondary, and tertiary prevention. While biomedical advancements and traditional prevention efforts have significantly improved HIV outcomes, their uptake remains suboptimal among those who are most heavily impacted by HIV. To address these disparities, CCTs were introduced as a promising intervention that incentivizes health-promoting behaviors. Global research has demonstrated their effectiveness in improving healthcare outcomes, yet their application in HIV prevention remains underexplored in the U.S., particularly among Black and Latino MSM. This chapter establishes the foundation for further analysis of CCTs, exploring their potential to improve existing HIV prevention strategies like PrEP and reduce structural barriers in HIV prevention.

CHAPTER 2: LITERATURE REVIEW

2.1 Chapter Overview

This chapter reviews the literature informing this dissertation's focus on CCT interventions for HIV prevention among Black and Latino MSM. I begin by examining the economic and social burdens of HIV, including the high costs of antiretroviral (ART) therapy, comorbidities, and healthcare utilization, establishing how these burdens compound prevention disparities and reinforce the case for cost-effective intervention strategies. I then review disparities in HIV prevention funding, providing context for why sustained investment in prevention is critical to both reducing inequities and curbing the epidemic. From there, I examine the social and structural barriers that impede HIV prevention engagement, including stigma, structural vulnerability, and structural racism, with particular attention to how these forces shape the experiences of Black and Latino MSM. I then introduce the concept of intervention acceptability and review its application to CCT design, drawing on evidence from HIV prevention and related public health contexts to establish why acceptability is a necessary condition for intervention effectiveness. I conclude by identifying three critical gaps in the existing literature and situating this dissertation's empirical contributions within the broader landscape of CCT and HIV prevention scholarship.

2.2 The Economic Burden of HIV

HIV is one of the costliest health conditions in the U.S., imposing substantial economic burdens on individuals, healthcare systems, and society. These costs encompass direct medical expenses as well as indirect costs associated with living with HIV at the individual level. Lifetime costs for people living with HIV (PLWH) have risen

significantly, with estimates ranging from \$420,286 to \$1.7 million per person depending on ART regimens, adherence, and the presence of comorbidities (Bingham et al., 2021; Ward et al., 2020). Annual medical costs average approximately \$30,000 per patient, driven primarily by prescription drugs, outpatient visits, and inpatient care (Chen et al., 2023; Kangethe et al., 2019). These financial burdens are compounded by systemic inequities including lower income, precarious employment, and limited access to employer-sponsored health insurance, which together increase out-of-pocket expenses, exacerbate financial hardship, and perpetuate disparities in HIV prevention services, care access, and treatment adherence (Buchacz et al., 2018; Maulsby et al., 2020).

Comorbidities and long-term ART use further intensify this financial strain. ART accounts for approximately 67% of lifetime HIV-related expenses, reflecting both its centrality to HIV care and its role as the primary cost driver at the individual level (Chen et al., 2023). As PLWH age and live longer due to ART's effectiveness, they face higher rates of cardiovascular disease, renal impairment, and lipid disorders, all of which require multiple medications and ongoing clinical monitoring (Dekoven et al., 2016; DerSarkissian et al., 2020). Frequent emergency department visits and hospitalizations further escalate individual costs over time, creating cycles of economic instability that compound the structural vulnerabilities many PLWH already face (Neilan et al., 2020).

At the system level, HIV care and treatment impose significant strain on federal spending. In 2022, the United States allocated an estimated \$43 billion to HIV-related efforts, including medical care, prevention, research, and support services ((Kaiser Family Foundation, 2024b). ART constitutes up to 78.8% of HIV-related healthcare costs, with regimen prices continuing to rise over time (IQVIA Institute for Human Data

Science, 2019; Krentz et al., 2020). Medicaid and Medicare Part D absorb a substantial portion of these expenses. Medicaid covered approximately 17 million ART prescriptions between 2007 and 2018 at a cost of \$25 billion (Walsh et al., 2023). Medicare Part D distributes the financial burden of HIV pharmacy costs among patients, insurance plans, manufacturers, and the federal program itself, yet its current design frequently shifts a disproportionate share of costs onto patients, creating access barriers driven by restrictive pharmaceutical pricing and insufficient regulatory intervention (Tseng et al., 2020).

The federal HIV budget reflects a striking imbalance between treatment and prevention expenditures. In 2022, only 3% of total HIV funding, approximately \$1.1 billion, was directed toward prevention efforts, compared to 67%, or \$28 billion, allocated to medical care (Kaiser Family Foundation, 2024b). This imbalance undermines long-term prevention strategies and concentrates financial pressure on the community-based infrastructure most responsible for reaching populations at greatest risk. Community-based organizations (CBOs) and federally qualified health centers (FQHCs) play a critical role in HIV prevention yet contend with inconsistent and insufficient funding streams, delayed reimbursements that jeopardize service continuity, and difficulty retaining staff and sustaining essential programs (Robillard et al., 2022). These pressures have contributed to the closure or restructuring of long-standing CBOs, weakening community-based infrastructure and limiting access to culturally grounded HIV prevention services.

Addressing the economic burden of HIV requires both a rebalancing of prevention investment and structural reforms to how costs are shared across taxpayers,

pharmaceutical companies, and healthcare delivery systems. Expanding affordable access to single-tablet regimens and generic ART formulations, combined with policies that reduce drug prices, could substantially lower individual and system-level costs while preserving treatment efficacy (Bingham et al., 2021; Kangethe et al., 2019). Without these changes, projected national expenditures could reach \$256 billion over the next two decades (Shah et al., 2016), a trajectory that falls most heavily on those who depend on government programs for prevention, treatment, and care. The current underfunding of prevention relative to treatment represents both a missed opportunity to maximize the cost-effectiveness of public health investments and a structural inequity that disproportionately burdens Black and Latino communities already navigating the highest rates of new HIV diagnoses. This context makes a compelling case for prioritizing innovative, cost-effective prevention strategies including CCT interventions and for ensuring those strategies are designed to reach the populations most affected.

2.3 Social & Structural Barriers to HIV Prevention

The disparities in HIV testing and PrEP uptake among Black and Latino MSM reflect a set of interconnected social and structural barriers that operate across individual, community, and institutional levels. Stigma, structural vulnerability, and structural racism reinforce one another and continue to shape the concentration of HIV risk among the communities most marginalized by existing social and structural hierarchies. Understanding how these barriers operate is essential for designing interventions capable of reaching those most affected.

Stigma is among the most pervasive barriers to HIV prevention engagement. It manifests through discriminatory attitudes and behaviors including social rejection,

healthcare discrimination, and economic exclusion, each of which deters individuals from seeking HIV testing or initiating biomedical prevention strategies such as PrEP (Babel et al., 2021; Kerr et al., 2022; Mayer et al., 2020). Stigma also disrupts the social support networks and coping mechanisms that are critical for sustained engagement in HIV prevention among individuals navigating questions related to sexual health, sexual identity, or HIV status (Katz et al., 2013). Among Black and Latino MSM, stigma intersects with racial and sexual minority discrimination, producing a compounded burden that fuels mistrust in healthcare systems, exacerbates psychological distress, and reinforces patterns of disengagement from care (Earnshaw et al., 2013).

Stigma also operates at the community level through the circulation of misinformation about HIV transmission and status. Garcia et al. (2016) found that Black MSM frequently avoided PrEP services because of fears that peers or family members would mistakenly associate PrEP use with an HIV-positive status, exposing them to additional social stigma and rejection. By intersecting with race, sexual identity, and perceived HIV status simultaneously, stigma reinforces cycles of mistrust and withdrawal from prevention services that are difficult to disrupt through awareness-focused interventions alone (Golub & Fikslin, 2022).

Structural vulnerability compounds these dynamics by creating material conditions that make consistent engagement with HIV prevention services difficult to sustain. Defined as the adverse health outcomes produced by socioeconomic, political, and cultural systems, structural vulnerability manifests among Black and Latino MSM in barriers such as unstable housing, precarious employment, and limited educational attainment, all of which are concentrated among those confronting poverty (Bourgeois et

al., 2017; Jain et al., 2015). Research consistently demonstrates that individuals experiencing housing instability are less likely to engage with HIV prevention measures or maintain continuity of care, as immediate material survival frequently takes precedence over preventive health behaviors (Aidala et al., 2016; Bowleg et al., 2022; Phillips et al., 2021). Structural vulnerability thus functions as a systemic condition that persistently undermines the capacity to engage with HIV prevention services.

Structural racism deepens these barriers by embedding racial inequity into the policies and institutional practices that govern access to health-promoting resources. Structural racism refers to the systemic inequities within social, economic, and political institutions that perpetuate racial disparities in health outcomes (Ford & Airhihenbuwa, 2010). Bowleg et al. (2022) demonstrate that structural racism shapes the social determinants of health, influencing access to economic stability, housing, healthcare, and education in ways that disproportionately constrain racialized communities. These dynamics are reflected in PrEP access data showing that White MSM use PrEP at substantially higher rates than Black or Latino MSM, disparities that reflect systemic failures in resource distribution rather than differences in individual motivation (Bowleg et al., 2022). Black and Latino individuals additionally face implicit provider biases, discriminatory institutional practices, and exclusionary policies that further restrict access to HIV prevention and treatment services (Burton et al., 2023; Doshi et al., 2020; Paul, 2022).

National initiatives such as the Ending the HIV Epidemic initiative have made meaningful investments in HIV prevention infrastructure, yet their emphasis on biomedical uptake without addressing the structural conditions that limit access and

adherence leaves critical gaps unaddressed. A meaningful commitment to reducing HIV disparities requires integrating structural racism into public health frameworks and centering community-based engagement in intervention design and delivery ((Bowleg et al., 2022). Stigma, structural vulnerability, and structural racism are the primary mechanisms through which HIV prevention gaps are produced and sustained. Any intervention strategy that fails to account for these forces will encounter the same barriers that have limited the reach of existing approaches. This reality makes a compelling case for prevention strategies that are designed with structural and health equity as a central principle, and that provide material support capable of reducing the economic and logistical burden of prevention engagement among Black and Latino MSM.

2.4 Cash Transfers as a Tool in Public Health

Social protection programs are measures designed to reduce vulnerability, manage risk, and address poverty by providing individuals and households with access to resources that support their basic needs (Burchi et al., 2022). Cash transfer programs are a specific form of social protection that involves direct and regular payments to eligible recipients, offering financial support aimed at improving economic stability, mitigating poverty, and improving specific health outcomes (Fotta & Schmidt, 2022). To contextualize these programs, it is useful to first establish a working definition of poverty. Poverty is a complex condition rooted in the unequal distribution of critical resources necessary for survival and well-being, including economic and social capital, housing, healthcare, employment, and other structural factors that shape people's capacity to thrive (Vu, 2010). Intergenerational poverty refers to the persistent

transmission of poverty across generations through structural barriers that limit access to quality education, healthcare, and economic opportunity, reinforcing cycles of deprivation over time (Bird, 2007). Cash transfer programs target both forms of poverty by providing tailored economic support and encouraging health-promoting behaviors among vulnerable populations.

Unconditional cash transfers (UCTs) provide financial support to participants without prerequisites or behavioral requirements (Bouchelle et al., 2024). The U.S. government's response to the COVID-19 pandemic in 2020, which issued unconditional payments of \$1,200 to eligible individuals and households, is a widely recognized example (Kaydor, 2020). Los Angeles County's Breathe Program, a guaranteed income pilot initiative providing 1,000 participants with \$1,000 per month for three years without conditions, represents a more recent domestic example (Los Angeles County Poverty Alleviation Initiative, 2024). CCTs, by contrast, provide regular performance-based payments to individuals or households contingent on meeting specific behavioral requirements, such as attending routine health check-ups, maintaining children's school attendance, or consuming nutritious foods (Baird et al., 2019; Bradley & Neumark, 2017; Cruz et al., 2017; Patel-Campillo & García, 2022; Ranganathan & Lagarde, 2012).

The global rise of poverty has prompted governments to pursue innovative approaches to poverty alleviation, with CCTs emerging as a foundational strategy over the past three decades, particularly between 1997 and 2008 (Araújo, 2021; Kaydor, 2020). Rooted in behavioral economics, CCTs integrate insights from economics and psychology to address the biases and heuristics that shape health-related decision-

making (Paladhi et al., 2022). These programs operate on the premise that providing conditional financial incentives to low-income individuals and families can foster long-term socioeconomic improvement by encouraging behaviors that support human capital development, including educational attainment and health engagement.

One of the earliest and most influential CCT programs was Mexico's Oportunidades Program, originally known as Progresa, introduced in the 1990s as a social protection strategy to combat poverty (Azevedo & Robles, 2013; Patel-Campillo & García, 2022). Oportunidades provided financial assistance to low-income households contingent on meeting health and educational requirements, including routine health check-ups and school attendance for children (Azevedo & Robles, 2013; Ranganathan & Lagarde, 2012). By linking payments to specific behaviors, the program aimed to address immediate financial need while promoting longer-term investment in human capital through enhanced skills, health, and educational outcomes (Azevedo & Robles, 2013; Fiszbein et al., 2009; Kisiwa et al., 2023; Mazzeo Rinaldi & Leone, 2023; Savioli, 2022).

Building on Oportunidades' demonstrated success in improving public health utilization and increasing school enrollment among low-income households, researchers adapted the CCT model to achieve a range of health outcomes across Latin America, Africa, and Asia (Araújo, 2021; Azevedo & Robles, 2013; Kaydor, 2020). Brazil's Bolsa Família program provided financial support to families under conditions like those in Mexico and demonstrated effectiveness in reducing poverty, improving health outcomes, and increasing educational attainment (Owusu-Addo & Cross, 2014). Research in rural Kenya found that CCTs were associated with improved access to

prenatal care and reduced infant mortality rates (Ochieng et al., 2019). A CCT program in Indonesia focused on incentivizing early childhood health behaviors produced a significant reduction in stunting, illustrating how targeted behavioral and financial interventions can produce cumulative benefits for child development (Cahyadi et al., 2018). With over 60 CCT programs implemented globally, their widespread adoption reflects a growing body of evidence supporting their effectiveness as tools for poverty reduction and simultaneous health improvement (Araújo, 2021; Azevedo & Robles, 2013; Owusu-Addo & Cross, 2014; Ranganathan & Lagarde, 2012).

An important consideration while evaluating CCTs is their cost-effectiveness, particularly the long-term social and economic benefits they generate relative to upfront costs. Research indicates that the benefits of CCT investment frequently outweigh initial expenses by reducing future reliance on social and health services (Azevedo & Robles, 2013; Kaydor, 2020). Evidence from Mexico's Oportunidades program shows that upfront investments translated into higher school attendance and completion rates, enabling recipients to attain better-paying employment and reduce dependence on government assistance over time (Azevedo & Robles, 2013). The program's preventive healthcare conditions, including routine check-ups for children and women, were linked to lower rates of malnutrition, anemia, and chronic illness, reducing the long-term burden on public health systems (Azevedo & Robles, 2013). Estimates from Latin American CCT programs suggest that every dollar invested generates long-term returns that substantially exceed initial costs through enhanced economic participation and reduced intergenerational poverty (Azevedo & Robles, 2013). Direct cash transfers are also frequently regarded as more empowering than traditional forms of development

aid, as they place resources directly into recipients' hands and allow them to address their own priorities rather than relying on programs that prescribe specific uses of funds (Heise et al., 2013). CCTs have additionally been associated with increased life expectancy and reduced rates of chronic illness, contributing to lower healthcare utilization costs over time (Owusu-Addo & Cross, 2014).

As CCT programs have expanded, their implementation has generated important discussions about sustainability and effectiveness across diverse socioeconomic contexts. While Oportunidades demonstrated strong results in Latin America, other regions have faced challenges in replicating these outcomes due to differences in infrastructure and governance capacity (Saad-Filho, 2016). In sub-Saharan Africa, weak public services in health and education have made it difficult for recipients to meet program conditionalities, exposing gaps in the supply-side infrastructure needed for CCTs to function effectively (Saad-Filho, 2016). In parts of the Middle East, political instability has disrupted program consistency and delivery (Saad-Filho, 2016).

Critical perspectives on CCTs have also emerged from the scholarly literature. Saad-Filho (2016) argues that CCTs tend to manage poverty rather than address its structural causes, emphasizing short-term behavioral compliance over transformative systemic change. Patel-Campillo and García (2022) highlight that conditionalities disproportionately burden women, who frequently bear responsibility for fulfilling program requirements without the underlying inequities being addressed. Some scholars have also raised concerns about the paternalistic dimensions of CCTs, arguing that conditionalities impose behavioral norms that presume the state is better positioned

than individuals to determine how socioeconomic barriers should be addressed (Fiszbein et al., 2009; Ladhani & Sitter, 2020).

These critiques, however, frequently emerge from theoretical frameworks or provider perspectives rather than from the accounts of recipients themselves. Evidence from recipients reflects largely positive perceptions of financial incentive programs, with participants reporting that cash transfers help meet immediate needs, support a sense of autonomy, and improve social relationships within households and communities (Bardou et al., 2023; Yoshino et al., 2023). While some recipients face challenges related to payment access or insufficient transfer amounts, the weight of evidence suggests that CCTs are broadly valued rather than experienced as paternalistic or coercive. This tension between theoretical critique and lived experience underscores the importance of evaluating CCT acceptability directly among the communities these programs aim to serve, rather than relying solely on external assessments of their design.

Despite ongoing debates about design and implementation, CCTs remain effective tools for improving health and social outcomes in public health and social welfare contexts. Studies show that CCTs have increased utilization of health services, including antenatal care and routine health visits, by as much as 19% in some programs (Lagarde et al., 2009; Maluccio et al., 2005). Mexico's Oportunidades program was associated with a 22% reduction in illness among children under three years old (Gertler, 2004). Recipients consistently report the value of financial incentives in meeting immediate needs, fostering empowerment, and sustaining health and education behaviors over time (Lagarde et al., 2009). Ensuring the continued success of

CCTs requires adapting program designs to align with local contexts, investing in the supply and quality of essential services, and conducting rigorous ongoing evaluation. While CCTs have primarily been recognized as poverty reduction tools, their capacity to incentivize health-promoting behaviors positions them as a promising strategy for addressing HIV prevention disparities in the United States, a research gap this dissertation directly investigates.

2.5 CCT Interventions as a Tool in HIV Prevention

CCTs have emerged as a promising strategy for improving outcomes across the HIV care continuum. In the HIV prevention context, CCTs address the practical barriers that prevent consistent engagement with prevention and care services, including transportation costs and time away from work, by providing financial support that offsets these burdens (Kohler & Thornton, 2012). By tying payments to behaviors such as attending HIV testing, initiating antiretroviral therapy (ART), or adhering to PrEP regimens, CCTs simultaneously address immediate financial need and support sustained engagement in health-promoting prevention behaviors (Guimarães et al., 2023; Krishnamoorthy et al., 2021).

The existing literature demonstrates the effectiveness of financial incentives in improving HIV testing uptake across a range of populations and settings. A meta-analysis of 22 studies involving over 38,000 participants found significant improvements in HIV testing rates and ART adherence attributable to financial incentives (Krishnamoorthy et al., 2021). These findings are supported by studies examining the cost-effectiveness of incentivizing HIV testing in emergency department settings, where financial rewards facilitated new HIV diagnoses and reduced onward transmission

(Wagner et al., 2020). CCTs have also shown success in reducing risky sexual behaviors among adolescents and women, with incentivized programs associated with delayed sexual debut and reduced sexually transmitted infection (STI) prevalence when payments were tied to specific health outcomes (de Walque et al., 2012; Pettifor et al., 2012). Evidence additionally suggests that CCTs are effective in reducing perinatal HIV transmission and may reduce HIV incidence among vulnerable populations (de Sampaio Morais et al., 2022).

The effectiveness of CCTs, however, is subject to important limitations. Heterogeneity across studies constrains the generalizability of findings, particularly when comparing high-income country contexts with low- and middle-income settings where healthcare infrastructure and societal norms differ substantially (Krishnamoorthy et al., 2021; Wagner et al., 2020). A central unresolved question concerns long-term sustainability; specifically, whether health behaviors incentivized through financial payments persist after the incentive is withdrawn. The literature presents varied perspectives on this question and has not produced a definitive answer, underscoring the need for research that examines both the design and durability of CCT effects across diverse socioeconomic and cultural contexts (de Walque et al., 2012; Pettifor et al., 2016).

Research examining CCTs as a strategy for improving PrEP uptake and adherence specifically remains limited but shows early promise. Paladhi et al. (2022) found that male sex workers in Mexico preferred fixed monetary incentives over lottery-based payment structures, pointing to the importance of payment design in determining acceptability. In a randomized controlled trial conducted in South Africa, adolescent girls

and young women receiving non-monetary incentives at 3 timepoints over 12 months demonstrated better PrEP adherence at the 3-month mark compared to unincentivized participants, though this difference was not statistically significant (Celum et al., 2020). By month 6, adherence in the incentive group had dropped to 14% compared to 8% in the control group, and by month 12, adherence levels were similar across both groups. These findings suggest that while incentives can drive initial engagement with PrEP, sustaining adherence over time likely requires a combination of appropriately calibrated financial and non-financial strategies, including higher payment amounts or more frequent disbursement schedules.

CCTs have been applied at multiple stages of the HIV care continuum with mixed results. Cash incentives have demonstrated success in improving ART adherence and retention in care across a range of settings, while their effects on ART initiation and viral suppression have been less consistent. Maughan-Brown et al. (2018) found that financial incentives had no significant impact on ART initiation among people living with HIV in South Africa, where persistent structural barriers to care access limited program reach. In other settings, including Tanzania and the Democratic Republic of Congo, CCTs demonstrated success in increasing ART initiation rates, particularly among key populations (Packel et al., 2020; Yotebieng et al., 2016). These differences reflect the degree to which CCT effectiveness is shaped by program design and contextual conditions, reinforcing that CCTs are not a uniform intervention but require careful adaptation to the populations and settings they target.

Variability is particularly evident in viral suppression outcomes. Chrestman et al. (2022) found no significant impact of financial incentives on viral suppression among

PLWH in Louisiana, even though engagement and retention in care improved. By contrast, a meta-analysis by Krishnamoorthy et al. (2021) reported significant improvements in ART adherence and continuity of care across both high-, middle-, and low-income country settings, suggesting that CCTs may be more effective for engagement-focused outcomes than for downstream biomarker endpoints. These findings collectively emphasize the importance of designing CCTs that are tailored to the specific behaviors, populations, and structural conditions they aim to address rather than applying uniform models across contexts.

Despite this growing evidence base, critical gaps remain. Most CCT research in HIV prevention has been conducted in low- and middle-income countries, with limited attention to the distinct structural, cultural, and social conditions shaping HIV risk and prevention engagement in the United States. Research examining CCTs among Black and Latino MSM in the U.S. context is particularly sparse, leaving unanswered questions about what CCT designs are most acceptable and preferred by these communities, whether individual-behavioral and structural factors shape those preferences, and what design features are most likely to drive sustained engagement with PrEP-based prevention strategies. These three gaps represent the primary research contributions of this dissertation and motivate the empirical studies presented in the chapters that follow.

2.6 Acceptability of CCT Interventions

Acceptability is defined as the extent to which interventions are perceived as appropriate by both those delivering and those receiving them, and it is a critical determinant of public health intervention success, particularly in diverse community

settings (Sekhon et al., 2017). Public health interventions are often complex and delivered across multiple levels of the healthcare system, requiring careful attention to individual and population-level needs. Assessing acceptability is essential because it reveals which intervention characteristics will determine whether an intervention is perceived as desirable, feasible, and appropriate by the people it is designed to serve. When interventions lack acceptability, they risk poor delivery or uptake, directly undermining their effectiveness regardless of their theoretical or clinical promise (Sekhon et al., 2017). The Theoretical Framework of Acceptability (TFA), which I discuss in detail in Chapter 3, provides a structured approach to measuring acceptability through seven key constructs: affective attitude, burden, ethicality, intervention coherence, opportunity costs, perceived effectiveness, and self-efficacy. Altogether, they capture how individuals experience and evaluate a given intervention.

CCTs have gained traction in public health for their capacity to incentivize health-promoting behaviors, and formative research consistently indicates that acceptability is higher when communities are engaged in program design and implementation. Skovdal et al. (2014) found that involving communities in setting conditions for CCTs in the Global South fostered trust and ensured that program requirements were perceived as relevant and beneficial by recipients. A study on maternal health care similarly found that tailoring CCT delivery methods, including mobile cash transfer options, to participant preferences increased engagement and overall acceptability among both recipients and healthcare staff (Dickin et al., 2022). These findings establish a foundational principle for CCT design, and that is community engagement and

contextual alignment are structural determinants of whether a program achieves the acceptability necessary for effectiveness.

Research on the acceptability of CCTs in HIV prevention contexts reveals a complex interplay of motivational, contextual, and structural factors. In Cape Town, cash incentives effectively addressed immediate barriers such as transportation costs but also elicited concerns about undermining intrinsic motivation for health behaviors (Swartz et al., 2022). Participants and providers alike characterized incentives as both practical enablers and potential coercive mechanisms, pointing to the need to frame monetary incentives as supportive tools rather than transactional conditions. In Cambodia, acceptability depended heavily on whether logistical barriers were adequately addressed, including the sufficiency of financial incentives and the availability of transportation assistance, underscoring the importance of aligning program design with participants lived realities (Crewe Dixon et al., 2016). Across both settings, cultural and contextual adaptation emerged as a necessary condition for CCT success rather than an optional refinement.

Significant gaps remain in the acceptability literature, particularly in the U.S. context. The majority of CCT interventions have been developed, implemented, and evaluated in low- and middle-income countries, with a predominant focus on treatment adherence outcomes such as ART retention rather than on prevention behaviors such as PrEP initiation and adherence (Swartz et al., 2022). Research examining the acceptability of CCTs designed to promote HIV prevention behaviors among MSM in the United States is essentially absent from the literature, and no studies to date have examined CCT acceptability specifically among Black and Latino MSM. This gap is

consequential. Without evidence on how this population perceives, evaluates, and responds to CCT intervention designs, programs risk being built on assumptions derived from populations, settings, and prevention contexts that do not reflect the structural conditions, cultural frameworks, or lived experiences of Black and Latino MSM in the United States.

This dissertation directly addresses this gap by examining the acceptability and design preferences of a PrEP-based CCT intervention among Black and Latino MSM in Los Angeles County. By drawing on the TFA to operationalize acceptability in Study One and on discrete choice experiment methods to quantify design preferences in Studies Two and Three, this dissertation generates evidence that is grounded in community experience, theoretically structured, and directly actionable for CCT intervention development. The findings contribute to the broader literature by identifying how individual-intrapersonal, individual-behavioral, and structural factors shape CCT acceptability among a population bearing a disproportionate burden of HIV in the United States, advancing both the science of CCT design and the equity imperative that motivates this research.

2.7 Summary and Situating the Proposed Research

The burden of HIV is multifaceted, underscoring its complexity and the challenges inherent in effectively managing it. Financial strain emerges as a key driver of this burden, influencing both individual-level behaviors such as nonadherence to ART and broader systemic issues including escalating healthcare costs. High ART prices contribute significantly to this burden, affecting the financial stability of individuals and straining the healthcare. Structural barriers including housing instability, limited

healthcare access, and systemic inequities compound these challenges, disproportionately affecting Black and Latino MSM. These barriers hinder access to HIV prevention services such as PrEP and HIV testing and perpetuate persistent disparities in health outcomes. CCT interventions represent a promising strategy for addressing both the financial and behavioral factors that shape HIV prevention engagement. Their application within HIV prevention, however, remains underexplored, particularly among Black and Latino MSM in the United States.

This review identifies three major gaps in the literature that, if addressed, could provide critical insights into how financial interventions like CCTs can be optimized for improving HIV prevention.

Gap 1: The current literature does not fully assess CCTs for improving HIV prevention efforts in high-income settings like the United States. While CCTs have demonstrated effectiveness in increasing HIV treatment adherence outcomes among key populations in low- and middle-income countries, evidence of their impact on HIV prevention behaviors among populations at risk for HIV in the United States remains scarce and inconclusive. This dissertation addresses this gap by exploring the potential of CCTs to improve PrEP uptake among Black and Latino MSM at highest risk for HIV in Los Angeles County, uncovering their preferences for CCT designs and informing the development of future CCT interventions.

Gap 2: A limited body of research examines the design preferences of CCT interventions for HIV prevention among MSM of color in the United States. Existing research on CCTs has predominantly focused on low- and middle-income countries, neglecting the specific social, structural, and cultural contexts of MSM of color in the

United States. Despite the disproportionate burden of HIV among Black and Latino MSM, no CCT interventions currently exist in the context of HIV prevention for this population. This gap is critical given the intersecting barriers these groups face, including stigma, healthcare inequities, and systemic discrimination, all of which shape their engagement with prevention services. This dissertation addresses this gap directly by identifying and examining preferences for CCT attributes among Black and Latino MSM in Los Angeles County, generating actionable insights for developing culturally relevant and context-specific CCT strategies for this underserved population.

Gap 3: There is a dearth of research on the acceptability of CCTs for HIV prevention among key populations at risk, specifically MSM of color in the United States. While the literature acknowledges the critical importance of acceptability in designing effective interventions, few studies evaluate the acceptability of CCTs for HIV prevention, leaving significant gaps in understanding how individual-intrapersonal, individual-behavioral, and structural factors shape participant preferences and acceptability. This limitation is particularly consequential for Black and Latino MSM. This dissertation addresses this gap by assessing the acceptability of CCTs for HIV prevention among Black and Latino MSM in Los Angeles County, providing evidence on how these interventions can be designed to reflect the preferences, needs, and lived realities of this population.

CHAPTER 3: THEORY

3.1 Chapter Overview

This chapter presents the theoretical foundation for this dissertation, integrating four frameworks to build a multilevel account of CCT design preferences and acceptability among Black and Latino MSM in Los Angeles County. I begin with the Social Ecological Model, which serves as a guiding framework that establishes HIV prevention as a multilevel problem and justifies exploring CCT acceptability across various individual-level dimensions. I then introduce the three primary theoretical frameworks that guide each of the three studies. The Theoretical Framework of Acceptability (TFA) guides Study One, providing the constructs of affective attitude, burden, and perceived effectiveness, through which individual intrapersonal responses to CCTs are explored qualitatively. The Health Belief Model (HBM) guides Study Two, applying constructs of perceived benefits and perceived barriers to interpret how PrEP use status as an individual behavioral characteristic moderates preferences for specific CCT design attributes. The Consolidated Framework for Implementation Research (CFIR) guides Study Three, applying the Outer Setting construct to examine how housing status as an individual structural condition moderates those same preferences. I then present the conceptual model, illustrating the relationships between CCT attributes, individual-level moderators, CCT design preferences, and CCT acceptability. I conclude with the study aims, research questions, and hypotheses, that organize the dissertation's empirical work, followed by a summary of the chapter.

3.2 Social Ecological Model

HIV prevention is not a problem that operates at a single level of influence. A person's decision to take PrEP, get tested, or engage with prevention services is shaped simultaneously by individual-level factors, including personal attitudes, sexual behaviors, and by the structural conditions that either support or constrain their ability to engage with HIV prevention. The Social Ecological Model provides a conceptual framework for recognizing this multilevel reality, organizing the influences on health behavior across five interconnected levels — individual, interpersonal, community, organizational, and policy — and establishing that no single level alone can fully explain why HIV transmission and preventions disparities persist (McLeroy et al., 1988). Addressing those disparities requires multilevel interventions, and CCTs have the potential to serve this function, but only if their design is informed by the attitudes, behaviors, and structural circumstances of the communities they aim to reach. This dissertation uses the Social Ecological Model as a guiding framework to justify exploring CCT acceptability at three analytically distinct but interrelated dimensions of individual experience. All three studies collect and analyze data at the individual level, consistent with the dissertation's primary objective of understanding what Black and Latino MSM want from a CCT intervention and what makes the intervention acceptable to them.

3.3 Theoretical Framework of Acceptability (Study One)

The concept of acceptability encompasses both individual and collective dimensions, often described through terms such as “treatment acceptability” and “social acceptability”, reflecting personal judgements alongside broader societal evaluations of an intervention's appropriateness, suitability, and effectiveness (Sekhon et al., 2017).

Early frameworks offered partial accounts of this construct. Sidani et al. (2009) proposed that treatment acceptability centers on patients' pre-intervention attitudes toward appropriateness, convenience, and effectiveness, though this definition was later critiqued for failing to account for lived experiences. Staniszevska et al. (2010) defined social acceptability as patients' evaluations of the adequacy and suitability of care, a formulation critiqued for its circular reasoning and limited measurement guidance. Emerging perspectives address this limitation by positioning acceptability as dynamic and shaped by an individual's ongoing engagement with an intervention, including its content, the process of participation, and perceived or actual outcomes.

Building on this body of work, Sekhon et al. (2017) conducted a systematic review to synthesize how acceptability has been defined, operationalized, and theorized across the healthcare literature, resulting in the Theoretical Framework for Acceptability (TFA). The TFA defines acceptability as a multifaceted construct reflecting the extent to which people delivering or receiving a healthcare intervention consider it appropriate, based on anticipated or experiential cognitive and emotional responses (Sekhon et al., 2017). A key feature of the TFA is its applicability across implementation stages, acceptability can be assessed prospectively, prior to the intervention; concurrently, during the intervention; or retrospectively, following participation in the intervention.

The TFA serves as the primary theoretical lens for Study One, guiding qualitative inquiry into how individual-level intrapersonal factors shape CCT acceptability among Black and Latino MSM. The TFA operationalizes acceptability through seven constructs: affective attitude, burden, ethicality, intervention coherence, opportunity cost, perceived effectiveness, and self-efficacy (Sekhon et al., 2017). Three constructs — affective

attitude, burden, and perceived effectiveness — were selected for their direct relevance to participants’ anticipated responses to a financial incentive intervention for PrEP use.

Table 3.1 defines all seven construct and identifies the three applied in Study One.

Table 3.1. The Theoretical Framework of Acceptability (TFA) Constructs & Application to Study One		
Key Constructs	Description	Application to Study One
Affective Attitude	How an individual feels about the intervention.	Assesses emotional responses toward CCTs and how these responses influence willingness to participate.
Burden	The perceived amount of effort that is required to participate in the intervention.	Evaluates perceived burdens associated with CCT participation and their effect on acceptability
Ethicality	The extent to which the intervention has good fit with an individual’s value system.	
Intervention Coherence	The extent to which the participant understands the intervention and how it works.	
Opportunity Costs	The extent to which benefits, profits or values must be given up to engage in the intervention.	
Perceived Effectiveness	The extent to which the intervention is perceived as likely to achieve its purpose.	Examines whether participants believe CCTs can support HIV prevention behaviors such PrEP uptake or adherence.
Self-efficacy	The participant’s confidence that they can perform the behavior(s) required to participate in the intervention.	
Notes: Table Adapted Sekhon et al. (2017, p.8). Constructs without a Study One application were not selected as primary foci for this study’s research questions.		

Affective attitude captures how participants' emotional responses to CCTs — whether experienced as motivating, demeaning, or coercive — shape their openness to participation. Within the CCT context, where financial incentives for health behavior

carry social meaning and may intersect with participants' identities and prior experiences with healthcare systems, emotional valence is likely to be a primary driver of initial acceptability judgments.

Burden addresses the perceived effort and logistical demands of participating in a CCT program, including requirements tied to PrEP use documentation, payment redemption, or clinic attendance. Perceived burden is particularly salient for populations facing structural constraints such as time, transportation, and healthcare access, making it a critical dimension for understanding where CCT designs may create friction rather than support.

Perceived effectiveness examines whether participants believe a CCT intervention can meaningfully support HIV prevention behaviors. Participants' assessments of an intervention's likely impact on PrEP uptake or adherence reflect both their understanding of how CCTs function and their broader beliefs about the relationship between financial incentives and behavior change — beliefs that vary across individuals and communities.

3.4 Health Belief Model (Study Two)

The Health Belief Model (HBM) is among the most widely applied theoretical frameworks in health behavior research, providing a foundation for understanding how individual beliefs about health threats and available actions influence decision-making and engagement with health interventions (Glanz & Bishop, 2010). Originally, developed in the 1950s to explain why individuals fail to engage in preventive health measures, the HBM posits that health-related behaviors are driven by a combination of perceived threat, beliefs about the consequences of action and motivating cues to

action (Edberg, 2010). Its constructs — perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy — collectively explain how individuals weigh the costs and benefits of a given health behavior before deciding whether to act.

The HBM serves as the primary theoretical lens for Study Two, providing an interpretive framework for understanding how CCT attribute preferences map onto perceived benefits and perceived barriers. These constructs are used to interpret how specific CCT design features like payment amount, payment frequency, payment type, and PrEP type function as either incentives or challenges that shape participants' willingness to engage with a PrEP-based CCT. Table 3.2 defines all HBM constructs and identifies the two applied in Study Two.

Table 3.2. The Health Belief Model (HBM) Constructs & Application to Study Two		
Key Constructs	Description	Application to Study Two
Perceived Susceptibility	The degree to which a person feels at risk for a health problem.	
Perceived Severity	The degree to which a person believes the consequences of the health problem will be severe.	
Perceived Benefits	The positive outcomes a person believes will result from the action.	Interprets how CCT attributes function as tangible benefits that increase the perceived value of sustained PrEP engagement.
Perceived Barriers	The negative outcomes a person believes will result from the action.	Interprets how CCT attributes may create friction or inconvenience that reduces engagement.
Cues to Action	An external event that motivates a person to act.	
Self-efficacy	A person's belief in their ability to take action.	
Note. Table Adapted from Edberg (2010, p.37).		

By examining whether PrEP use status, a behavioral characteristic reflecting current or prior engagement with HIV prevention, moderates these benefit and barrier assessments. Study Two generates empirically grounded evidence on how individual-level behavioral positioning within the HIV prevention continuum shapes preferences for specific CCT designs. This application of the HBM moves beyond its traditional use as a framework for predicting individual health behavior and applies it as an interpretive lens for understanding how intervention design features are evaluated differently depending on participants' prior prevention experience.

3.5 Consolidated Framework for Implementation Research (Study Three)

The Consolidated Framework for Implementation Research (CFIR) is an implementation science framework designed to identify and organize the multilevel factors that influence the adoption, implementation, and sustainability of evidence-based interventions (Damschroder et al., 2009). Synthesizing constructs from organizational behavior, quality improvement, and public health, including Roger's Diffusion of Innovations and Proctor's Implementation Outcomes Framework, the CFIR consolidates previously disparate conceptual approaches into a structured tool for examining why interventions succeed or fail in specific contexts (Proctor et al., 2011; Rogers, 2003). Its five domains — intervention characteristics, outer setting, inner setting, characteristics of individuals, and implementation process — collectively account for the range of factors that shape implementation outcomes across diverse settings and populations.

The CFIR serves as the primary theoretical lens for Study Three, with the Outer Setting domain selected as the main construct. The Outer Setting construct

encompasses the external conditions that influence how an intervention is received and engaged with, including patient needs and resources, funding streams, community partnerships, and broader socio-political climates (Damschroder et al., 2009). This domain was selected because it directly captures the structural conditions that shape participants’ lives outside the walls of clinical or public health setting, conditions that are likely to influence which CCT design features feel most accessible, relevant, and worthwhile. Table 3.3 defines all five CFIR domains and identifies the Outer Setting as the primary domain applied in Study Three.

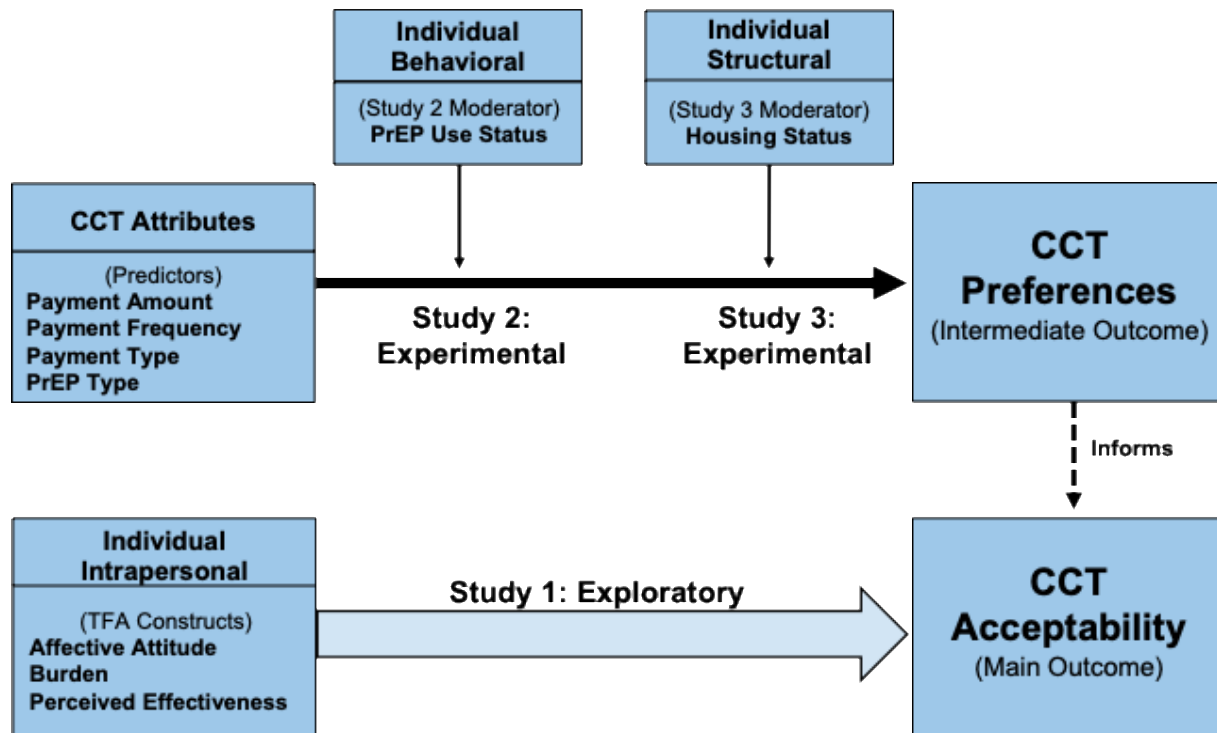
Table 3.3. The Consolidated Framework for Implementation Research (CFIR) Constructs & Application to Study Three		
Key Constructs	Description	Application to Study Three
Intervention Characteristics	This domain emphasizes aspects of an intervention that may impact implementation success, including its complexity, adaptability, and relative advantage.	
Outer Setting	This domain highlights external influences on intervention implementation including patient needs and resources, funding streams, community partnerships, and socio-political climates.	Examines how external factors, such as structural vulnerability, shape preferences for CCT attributes.
Inner Setting	Characteristics of the implementing organization such as team culture, leadership engagement, and resource availability that interact to either foster or hinder the process of institutionalizing new practices.	
Characteristics of Individuals	Individual’s beliefs, knowledge, self-efficacy, and personal attributes that may impact implementation.	
Implementation Process	Stages of implementation such as planning, engaging appropriate stakeholders, and continuous reflection and evaluation to refine and sustain the intervention over time.	
Note. Table Adapted from Safaeinili et al. (2020).		

Housing status serves as the primary indicator of outer setting conditions in this study, operationalizing structural vulnerability as a contextual moderator of CCT attribute preferences. From a CFIR perspective, participants experiencing housing instability occupy an outer setting defined by material scarcity and constrained access to stable healthcare engagement, conditions that reflect the intersecting socioeconomic, political, and cultural forces that produce structural vulnerability (Bourgois et al., 2017). Black and Latino MSM who are unstably housed may prioritize CCT attributes that deliver immediate, flexible financial value, reflecting the competing demands of their outer setting context. By applying the Outer Setting construct, Study Three situates CCT design preferences within the structural realities of participants' lives and generates evidence on how implementation features must be responsive to the external conditions that define engagement for the most structurally vulnerable members of affected communities.

3.6 Conceptual Model

Figure 3.1 presents the multilevel conceptual model I developed to examine and explore the preferences and acceptability of CCT interventions for improving PrEP use among Black and Latino MSM in Los Angeles County. The model is organized across three dimensions of individual experience — individual intrapersonal, individual behavioral, and individual structural — with each dimension corresponding to one of the three dissertation studies. My overarching goal is to understand how factors operating at these different individual dimensions shape preferences for specific CCT design attributes and, through those preferences, determine what makes a CCT intervention acceptable to communities disproportionately affected by HIV.

Figure 3.1. A Multilevel Conceptual Model of CCT Intervention Preferences & Acceptability



Study One is the foundation of the model and establishes the acceptability that Studies Two and Three build upon. Using qualitative methods guided by the TFA, Study One explores how individual intrapersonal factors — affective attitude, burden, and perceived effectiveness — shape participants’ overall sense of whether a PrEP-based CCT intervention is acceptable. Rather than testing directional hypotheses, this exploratory qualitative study explores the range of attitudes, concerns, and beliefs that Black and Latino MSM bring to the idea of CCT participation prior to any program existing. CCT acceptability is the main outcome of the dissertation and is explored directly through Study One. The findings from Study One establish a foundational understanding of how Black and Latino MSM emotionally and cognitively respond to the idea of being paid to take PrEP, what concerns they anticipate, and whether they

believe such program would work — an understanding that provides the interpretive context for the preference analyses that follow in Studies Two and Three.

Study Two and Three are analytically more similar to one another and together they occupy the upper pathway of the model. Both studies use a discrete choice experiment (DCE) to quantify how specific individual-level characteristics moderate preferences for the same set of CCT attributes — payment amount, payment frequency, payment type, and PrEP type. These attributes appear on the left side of the model as the primary predictors across both studies. I conceptualize them as the features of an intervention that participants evaluate and respond to based on their individual characteristics and circumstances, and understanding which attributes are most preferred, and whether those preferences vary by behavioral or structural conditions, is essential for designing a CCT that is both acceptable and effective.

Study Two, guided by the HBM, examines how an individual behavioral characteristic — PrEP use status — moderates the relationship between CCT attributes and design preferences. Drawing on the HBM constructs of perceived benefits and perceived barriers, I hypothesize that current PrEP users and non-PrEP users will weigh CCT attributes differently, reflecting differences in how they assess the value and cost of sustained engagement in HIV prevention. Study Three, guided by the CFIR Outer Setting construct, examines how an individual structural condition like housing status moderates that same attribute-preference relationship. I hypothesize that participants experiencing housing instability occupy a structural context defined by competing needs and constrained resources, conditions likely to shift preferences toward CCT features that deliver immediate and flexible financial value.

CCT Preferences, represented as the intermediate outcome on the right side of the model, captures the design features participants favor under varying behavioral and structural conditions. The dashed “Informs” arrow connecting CCT Preferences to CCT Acceptability reflects a theoretical relationship between these two outcomes. By identifying which intervention features participants prefer across individual experience, Studies Two and Three reveal the design preferences most likely to produce broad intervention acceptability. By moving across the individual intrapersonal, individual behavioral, and individual structural dimensions of experience, the three studies collectively build a framework of CCT acceptability that generates evidence for interventions that are both effective and responsive to the communities they aim to serve.

3.7 Study Aims, Research Questions, and Hypotheses

Study One Aim: To explore how individual intrapersonal factors, including affective attitude, burden, and perceived effectiveness, shape the acceptability of a PrEP-based CCT intervention among Black and Latino MSM.

- RQ1.1. How do participants describe their emotional and personal reactions to the idea of receiving financial incentives for PrEP use (Affective Attitude)?
- RQ1.2. What concerns or hesitations do participants express about participating in CCTs (Burden)?
- RQ1.3. How do participants perceive the potential effectiveness of CCT for improving PrEP use (Perceived Effectiveness)?

Study Two Aim. To assess how an individual behavioral characteristic, specifically PrEP use status, shapes the design preferences for a PrEP-based CCT intervention among Black and Latino MSM.

RQ2.1. How do preferences for CCT attributes differ by PrEP use status (PrEP user vs. non-PrEP user)?

- H2.1. Non-PrEP users will show a stronger preference for higher payment amounts compared to PrEP users.
- H2.2. Non-PrEP users will show a stronger preference for more frequent payments compared to PrEP users.
- H2.3. Non-PrEP users will show a stronger preference for cash compared to PrEP users.
- H2.4. Non-PrEP users will show a stronger preference for injectable PrEP compared to PrEP users.

Study Three Aim. To assess how an individual structural condition, specifically housing status, shapes design preferences for a PrEP-based CCT intervention among Black and Latino MSM.

- RQ3.1. How do preferences for CCT attributes differ by housing status (stable vs. unstable)?
 - H3.1. Unstably housed participants will show a stronger preference for higher payment amounts compared to stably housed participants.
 - H3.2. Unstably housed participants will show a stronger preference for more frequent payments compared to stably housed participants.
 - H3.3. Unstably housed participants will show a stronger preference for gift cards compared to stably housed participants.
 - H3.4. Unstably housed participants will show a stronger preference for injectable PrEP compared stably housed participants.

3.8 Summary

This chapter establishes the theoretical foundation for the dissertation by positioning the Social Ecological Model as a guiding framework and the TFA, the HBM, and the CFIR as the primary theoretical lenses for Studies One, Two, and Three respectively. The Social Ecological Model provides the contextual rationale for exploring

CCT acceptability across the individual intrapersonal, behavioral, and structural dimensions of experience, establishing that HIV prevention disparities are produced by multilevel factors and that addressing them requires interventions informed by the full range of factors shaping individual engagement with HIV prevention services.

The TFA serves as the primary theoretical lens for Study One, operationalizing acceptability at the individual intrapersonal level through three constructs — affective attitude, burden, and perceived effectiveness — that capture the emotional, logistical, and efficacy-related responses Black and Latino MSM bring to the idea of a PrEP-based CCT. Study One is the foundation of the dissertation’s empirical work, directly exploring CCT acceptability as the main outcome and establishing the attitudes and perceptions within which the preference findings of Studies Two and Three become interpretable.

The HBM provides serves as the primary theoretical lens for Study Two, applying the constructs of perceived benefits and perceived barriers to interpret how an individual behavioral characteristic such as PrEP use status moderates preferences for specific CCT design attributes. The CFIR serves as the primary theoretical lens for Study Three, applying the Outer Setting construct to examine how and individual structural condition such as housing status moderates those same preferences. Studies Two and Three are analytically similar, each using a DCE to quantify how individual-level characteristics shape CCT design preferences. Their findings constitute the intermediate outcome of this dissertation — CCT Preferences — which informs the acceptability outcome explored in Study One.

What distinguishes this theoretical integration is its simultaneous attention to how CCT interventions are perceived emotionally and cognitively, how individual behavioral

positioning shape what participants want from them, and how structural conditions constrain what is accessible or worthwhile. No prior study of CCT acceptability among Black and Latino MSM has applied this combination of frameworks across a three-study mixed-methods design. By doing so, this dissertation moves beyond single-level accounts of intervention acceptability and toward a framework capable of generating design-relevant evidence for communities facing the greatest HIV-related disparities in the United States.

CHAPTER 4: METHODS

4.1 Chapter Overview

This chapter outlines the methodological approach and analytic plan used to assess the preferences and acceptability of a PrEP-based conditional cash transfer (CCT) intervention among Black and Latino MSM in Los Angeles County. I begin with a description of the ethics approval for the parent study, The Incentives & Prevention Study (TIPS), followed by an overview of the TIPS study design and how this dissertation is situated within it. I then describe the study population, research setting, and inclusion criteria, which apply across the parent study and all three dissertation studies. I also discuss the recruitment and sampling strategies used to collect the data and a summary of the analytic sample. The chapter then details the methodological approach for each of the three studies, specifying their aims, research questions, hypotheses, and analytic plans. Study One explores CCT acceptability using semi-structured qualitative interviews analyzed through practical thematic analysis. Studies Two and Three examine preferences for CCT design attributes using cross-sectional quantitative survey data, including discrete choice experiments, analyzed with descriptive statistics, bivariate analyses, and conditional logistic regression models, with PrEP use status and housing status serving as moderating variables in Studies Two and Three respectively. I conclude with a discussion of study strengths and limitations.

4.2 Ethics Approval

This dissertation research is part of a larger study called The Incentives & Prevention Study (TIPS), which was designed to assess the feasibility of conditional cash transfer (CCT) interventions for HIV prevention among Black and Latino MSM in

Los Angeles County. All study procedures performed in TIPS involving human participants were conducted in accordance with the ethical guidelines of the institutional and national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. TIPS received approval from the Institutional Review Board (IRB) at the University of California, Los Angeles (IRB #22-000822).

The IRB-approved aims for TIPS focus on (1) identifying the characteristics of cash transfers for “staying HIV negative” that are important for Black and Latino MSM in Los Angeles County and (2) identifying the preferred design of a CCT intervention for “staying HIV negative” among Black and Latino MSM in Los Angeles County. The three studies in this dissertation utilize existing data from TIPS, remain within the scope of the IRB-approved aims, and do not require additional IRB review. Any modifications to study procedures, recruitment, or data collection outside the scope of the approved protocol would be submitted as an amendment to the IRB for review as necessary.

4.3 Study Design

The Incentives & Prevention Study (TIPS) employed a convergent parallel mixed methods study design, simultaneously collecting both qualitative data through semi-structured interviews and quantitative through cross sectional surveys and discrete choice experiments (DCEs) data to assess preferences for CCT designs. This dissertation uses the same convergent parallel design, in which both data types were collected concurrently through TIPS and are integrated at the interpretation stage. The convergent design places equal priority on both methods, collecting parallel qualitative and quantitative data simultaneously and combining them during analysis and

interpretation (Houghton & Paniagua-Avila, 2023). Mixed methods are especially effective in pre-implementation and formative research, where understanding feasibility and acceptability is critical for tailoring interventions (Cole et al., 2023).

This dissertation builds on TIPS, a community-engaged pilot project that systematically identifies preferences for CCT-based HIV prevention strategies among Black and Latino MSM in Los Angeles County. As the sole graduate student researcher, I was responsible for protocol development, recruitment, and data collection, which provided direct contextual insight into the dataset, participant narratives, and study findings. Using existing data from the parent study, this dissertation employs a theory-driven mixed methods approach to examine how individual, behavioral, and structural factors influence CCT preferences and acceptability.

It is important to note that I proposed this study as an exploratory sequential mixed methods design during the proposal process; however, after receiving committee feedback, I updated the study design to a convergent parallel mixed methods design to more accurately reflect how the data were collected and analyzed. While both data types were collected concurrently, I analyzed the qualitative data first before moving to the quantitative analyses. This analytic sequencing was a deliberate methodological choice, consistent with the convergent design, which collects both data types simultaneously and integrates them during interpretation rather than using one method to inform the design of the other (Houghton & Paniagua-Avila, 2023). The qualitative findings did not shape the quantitative data collection instruments, as those were established through the TIPS protocol prior to this dissertation. Rather, by beginning with the qualitative analysis, I was able to develop a deeper understanding of how

participants think about CCTs, critical context that informs the interpretation of the quantitative findings even though it did not alter the analyses themselves. Both qualitative and quantitative components asked participants about their preferences for CCT designs, and the qualitative data surfaces the meanings, motivations, and lived experiences that underlie the patterns observed in the quantitative data. In this way, the qualitative findings do not drive the quantitative analyses but enrich their interpretation, and the two components are integrated at the interpretation stage to produce a more complete and contextually grounded account of CCT acceptability among Black and Latino MSM.

The research is structured around three interrelated studies:

- **Study One:** I utilized semi-structured qualitative interviews to explore how individual intrapersonal factors, including affective attitude, burden, and perceived effectiveness, shape the acceptability of a PrEP-based CCT intervention among Black and Latino MSM.
- **Study Two:** I utilized quantitative cross-sectional survey and DCE data to assess how an individual behavioral characteristic, specifically PrEP use status moderates preferences for CCT design attributes among Black and Latino MSM.
- **Study Three:** I utilized the same quantitative data to assess how an individual structural condition, specifically housing status, moderates preferences for the same CCT design attributes among Black and Latino MSM.

The convergent parallel design provides a comprehensive assessment of CCT preference and acceptability. The qualitative component captures participants' lived experiences, uncovering attitudes, emotional responses, and barriers and facilitators to

intervention engagement. The quantitative component provides structured evidence on subgroup preferences for CCT attributes, including payment amount, payment frequency, payment type, and PrEP type. By integrating both components at the interpretation stage, the dissertation grounds its findings in participants experience and empirical data, generating multilevel evidence for the design of acceptable CCT interventions for HIV prevention. I outline the methodological details for each study in the sections that follow.

4.4 Study Population, Research Setting, and Inclusion Criteria

The Incentives & Prevention Study (TIPS) specifically targeted Black and Latino MSM in Los Angeles County, California, a region with a with a notable Black and Latino MSM population. While exact racial and ethnic breakdowns of MSM in the county are unavailable, estimates suggest that approximately 251,500 MSM reside in the region (Grey et al., 2016). Given that nearly half (49.1%) of Los Angeles County's population is Hispanic Latine and 8.1% is Black and African American (U.S. Census Bureau, 2022), it is reasonable to infer that Latino MSM likely make up the largest subgroup, with a substantial Black MSM population as well. These demographic patterns align with broader research highlighting the disproportionate impact of HIV among Black and Latino MSM in Los Angeles, where these communities face significantly lower rates of PrEP use and HIV testing compared to other MSM populations (Division of HIV and STD Programs, 2023a; Jamison et al., 2024).

TIPS was designed as a formative research study aimed at collecting pre-implementation data to generate insights about the preferred designs and feasibility of CCT interventions for HIV prevention among Black and Latino MSM. The study was

developed through a partnership between investigators and stakeholders from UCLA's Center for HIV Identification, Prevention, and Treatment Services (CHIPTS), Los Angeles County Department of Public Health's Division of HIV/STD Programs (DHSP), and the AIDS Project Los Angeles (APLA) Health. The research setting was initially planned to operate primarily at APLA Health's Out Here Sexual Health Clinic in Baldwin Hills, a community-based organization selected for its ongoing partnership with UCLA and its long-standing history of providing LGBTQ+ affirming healthcare, HIV specialty care, and support services to underserved communities.

Initially, participants were eligible to participate in the study if they met the following criteria (please see Appendix A):

- (1) 18-34 years old;
- (2) self-identified as Black or Latino;
- (3) self-identified as a cisgender MSM;
- (4) self-reported as HIV-negative;
- (5) not currently using PrEP; and
- (6) residing in SPA 6 (South Los Angeles)

These criteria were initially designed to target young Black and Latino MSM in South Los Angeles, a population disproportionately impacted by HIV (Division of HIV and STD Programs, 2023b). During the early phases of recruitment, however, the original inclusion criteria proved too restrictive, resulting in low enrollment rates, which I discuss further below. Many individuals engaging with APLA Health's Out Here Sexual Health Clinic were already using PrEP, making them ineligible, while limiting recruitment to SPA 6 reduced additional outreach opportunities.

To address these challenges, the research team submitted an IRB amendment to revise the inclusion criteria to expand the eligible study population and utilize online recruitment methods. After obtaining approval, recruitment continued at APLA Health's Out Here Sexual Health Clinic in Baldwin Hills and expanded to social media platforms (i.e., Facebook, Instagram) and MSM-focused dating applications/sites (i.e., Growlr, Grindr, Sniffies, and Adam4Adam). The revised criteria were adjusted to: (1) remove the age restriction (allowing MSM over the age of 34 to participate); (2) remove the PrEP use restriction (enabling enrollment of individuals regardless of their PrEP status); and (3) expand geographic eligibility to all of Los Angeles County. These modifications significantly broadened the recruitment pool and increased the study's ability to capture a more diverse and representative sample. Therefore, participants were eligible to participate in the study if they met the following criteria:

- (1) 18 years or older;
- (2) self-identified as Black or Latino;
- (3) self-identified as a cisgender MSM; and
- (4) resided in Los Angeles County based on self-reported ZIP code

4.5 Recruitment, Sampling, and Analytic Sample

The Incentives & Prevention Study (TIPS) used a multi-pronged, nonprobability sampling strategy to recruit Black and Latino MSM in Los Angeles County. Recruitment was conducted from February 2023 to January 2024, using convenience sampling, purposive sampling, time-location sampling (TLS), and online sampling to engage a diverse cohort of participants. These methods have been widely used in HIV prevention and surveillance research to reach populations at increased risk for HIV acquisition

(Raymond et al., 2016; Valerio et al., 2016). Table 4.1 summarizes the recruitment methods used in TIPS.

Recruitment materials such as flyers, recruitment cards (please see Appendix B), presentations to local HIV service providers, attendance at LGBTQ+ community events, and HIV-related email listservs were used to advertise the study. HIV service providers and other community-based organizations referred potential participants through phone and email communication. I met with clinic staff at APLA Health's Out Here Sexual Health Clinic to introduce the study and set up a referral system for eligible individuals in their caseload. While this generated an initial influx of interest, most individuals who expressed interest were either living with HIV or actively using PrEP, making them ineligible under the original inclusion criteria.

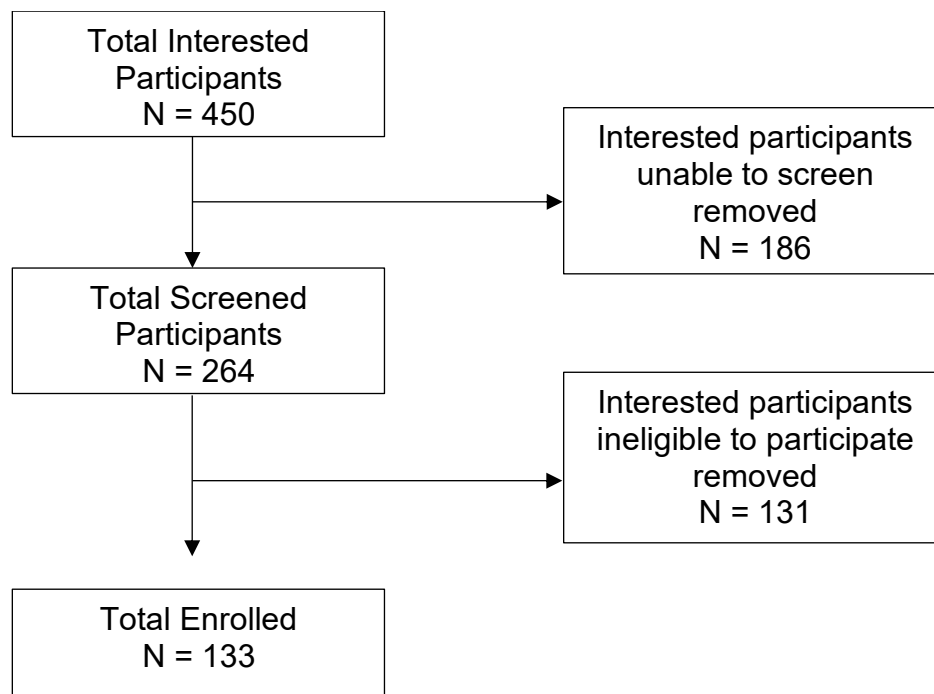
Recognizing this challenge, the study team coordinated with the clinic director to identify alternative outreach opportunities, including weekly health groups tailored to Black and Latino men's health and community events sponsored by APLA Health. I attended approximately 8 group meetings (4 focused on Black men's health and 4 Latino men's health) and 4 APLA-sponsored community events over two months. Given the small size of the weekly group meetings, saturation was reached quickly and engagement with new potential participants was limited.

Table 4.1. Recruitment Methods used in The Incentives & Prevention Study		
Method	Definition	Description
Convenience Sampling	A nonprobability sampling method where samples are drawn from a population that is conveniently accessible to the researcher (Stratton, 2021).	Participants were recruited from APLA Health's Out Here Sexual Health Clinic using direct referrals from HIV service providers, distribution of flyers, and in-person engagement to participate in the qualitative interview and the cross-sectional quantitative survey.
Purposive Sampling	Purposive sampling is a non-probabilistic sampling technique commonly used in qualitative research, where the researcher selects participants based on specific characteristics or qualities that align with the study's objectives (Bell et al., 2022).	The study team recruited a diverse cohort of individuals based on race/ethnicity and PrEP use status in order to achieve a diverse cohort of participants.
Time-Location Sampling (TLS)	A systematic method that selects participants at specific locations and times where the target population congregates, often used for hard-to-reach populations (Barros & Martins, 2021).	The study team identified specific health events related to MSM health and corresponding times at APLA Health's Out Here Sexual Clinic. We intercepted, screened, scheduled, and enrolled potential participants at these events.
Online Sampling	A recruitment method that leverages digital platforms, including social media and dating sites, allowing participants to self-select into the study (Waldron et al., 2020).	The study team hired a third-party digital advertising company (Commando, LLC) to develop and conduct targeted digital outreach campaigns via social media (Facebook, Instagram) and MSM-specific dating platforms (Growlr, Grindr, Sniffies, Adam4Adam) to recruit potential participants.

This initial recruitment strategy, which relied primarily on time-location sampling (TLS) at APLA Health's Out Here Sexual Health Clinic, did not yield the expected recruitment outcomes. The study team therefore sought IRB approval to expand the inclusion criteria and add online recruitment methods. The study hired Commando, LLC,

a third-party digital advertising company specializing in LGBTQ+ media and audiences. The online sample was recruited between April and December 2023 through paid, targeted advertising (please see Appendix C) on social media platforms such as Facebook and Instagram and MSM-specific dating sites and applications such as Growlr, Grindr, Sniffies, and Adam4Adam.

Figure 4.1. The Incentives & Prevention Recruitment Flow Chart



Potential participant recruited in-person or online were directed to complete an online interest form (please see Appendix D). Figure 4.1 provides a recruitment flowchart summarizing the number of participants reach at each stage of recruitment. The study received 450 interest forms through in-person and online recruitment. I conducted up to six follow-up contact attempts over three months to assess eligibility. I successfully contacted and screened 264 total participants; 186 individuals could not be reached and were removed from the total sample. Of the 264 screened participants,

131 were ineligible based to participate based on the inclusion criteria. I successfully enrolled 133 total participants into TIPS.

The final analytic sample for TIPS includes a total of 133 participants (n=133). Out of these, we invited 20 participants (n=20) to complete a semi-structured qualitative interview. As briefly mentioned above, participants were selected for the qualitative interviews using a purposive sampling approach, a non-probability sampling technique where we selected participants based on race/ethnicity and PrEP status, to ensure a diverse representation across racial and ethnic identities and HIV prevention behaviors. This approach allows for a rich, exploratory analysis of CCT acceptability within the Black and Latino MSM who are at risk for HIV.

Table 4.2 highlights the recruitment sources for the 133 enrolled participants, illustrating the recruitment challenges we encountered with venue-bases TLS methods at APLA Health's Out Here Sexual Health Clinic, where in-person enrollment accounted for only 15 of the 133 participants. The analytic sample for this dissertation consists of the Black and Latino MSM in Los Angeles County drawn from those who participated in the qualitative and quantitative components of TIPS.

Table 4.2. Recruitment Source for The Incentives & Prevention Study	
Recruitment Source (Enrolled Participants)	# of Participants
Online Recruitment	113
In Person Recruitment - APLA	12
Flyer	5
Referral	3
Total	133

4.6 Data Collection

Study appointments followed a standardized process, including eligibility screening, informed consent, and data collection for both the qualitative and quantitative components of TIPS. Eligible participants received a detailed study information and consent sheet (please see Appendix E & F) before scheduling an appointment at their convenience. All participants provided informed consent before participation, and no participants refused to take part in the study.

For the qualitative interviews, participants scheduled an online interview conducted via Zoom. Before beginning, verbal consent was obtained and participants granted permission for digital recording. Qualitative interviews lasted approximately 30–45 minutes and were transcribed verbatim by a secure third-party transcription service, Kristin Muller Transcription Services, LLC. For the quantitative study, participants completed an interviewer-administered cross-sectional survey, conducted either remotely via Zoom or in-person at APLA Health's Out Here Sexual Health Clinic in Baldwin Hills, Los Angeles. Surveys were administered using Qualtrics (2020), accessed through a secure web-based browser requiring an authorized account login. At the start of each session, I reviewed the consent form, explained study components, and provided participants with a research information sheet. Survey administration lasted approximately 30 minutes. All data collection methods and procedures were consistent both components and aligned with the parent study's protocols.

4.7 Qualitative Interview Guide Development

The qualitative interview guide (please see Appendix G) was initially developed by the principal investigators of The Incentives and Prevention Study (TIPS) before I

joined the research team. I played a role in refining the instrument to enhance its clarity and ensure it captured key themes relevant to the study's objectives. The primary aim of the qualitative component of the parent study was to identify which characteristics of conditional cash transfers (CCTs) for “staying HIV negative” are important for Black and Latino MSM in Los Angeles County.

The interview guide was designed to align with the Theoretical Framework of Acceptability (TFA). While the questions were not adapted from existing validated measures, they were developed through extensive discussions among the study team. The instrument was structured around four key research domains: (1) perceived knowledge of PrEP services and behaviors, (2) perceived feelings about CCTs and PrEP use, (3) perceived feelings about CCTs and HIV prevention, and (4) feasibility and acceptability of individual and group-based CCT interventions. Each interview began with a structured demographic section to collect contextual variables such as race and ethnicity, education level, employment status, and housing status, which were used to describe the sample and interpret participant responses.

To ensure the instrument effectively captured participant perspectives, the first two to three interviews served as a pilot phase, during which I reviewed the flow, clarity, and relevance of the questions. Based on these initial interviews, I refined the guide in response to emerging themes and interviewer observations. Participants often focused more on PrEP-related concerns rather than the CCT intervention itself, which led me to adjust probes to more explicitly explore perceptions of financial incentives. Questions on group-based CCTs were found to be time-consuming and abstract for participants, prompting discussions about streamlining those sections in subsequent interviews. I

also identified areas where questions could be adjusted for efficiency and participant engagement, as signs of respondent fatigue were observed toward the end of interviews lasting approximately 45 minutes. Based on feedback from early interviews, I revised prompts to explicitly ask whether CCTs could address specific barriers to PrEP use, such as concerns about medication toxicity or lack of safety data.

During the guide's development, ethical and conceptual concerns were raised regarding coercion and potential stigmatization associated with paying individuals to "stay HIV negative." Early discussions within the study team and external advisors highlighted the risk that CCTs could be perceived as coercive, particularly for individuals with personal reservations about PrEP. The framing of the intervention as rewarding HIV-negative status rather than promoting HIV prevention behaviors (e.g., PrEP adherence) raised additional concerns about reinforcing HIV-related stigma. To address these concerns, I worked with the team to integrate open-ended questions that allowed participants to reflect on potential ethical dilemmas, such as:

- "Do you see any issues or concerns with offering financial incentives for staying HIV negative?"
- "Do you think CCTs for HIV prevention could unintentionally stigmatize people living with HIV?"

I also revised the guide to include questions on linkage to care for individuals who test positive, ensuring that discussions about CCTs remained inclusive and did not alienate participants who might seroconvert during the study period.

Through iterative refinement, the final interview guide addressed four main areas of adjustment:

- Reordering questions to introduce the concept of CCTs earlier in the discussion, rather than leading with general PrEP-related inquiries.
- Adding targeted prompts to explore whether CCTs address barriers to PrEP uptake, based on participant concerns.
- Reducing emphasis on group-based interventions, as they were found to be less relevant or difficult for participants to conceptualize.
- Adjusting for interview length, allowing flexibility in omitting redundant or low-yield questions to reduce participant fatigue.

These refinements ensured that the interview guide effectively captured the acceptability and feasibility of CCTs for HIV prevention while maintaining methodological rigor and participant engagement.

4.8 Discrete Choice Experiment Instrument Development

The study instrument (please see Appendix H) was designed to assess preferences for conditional cash transfer (CCT) interventions for HIV prevention, with a specific focus on PrEP use and HIV testing. This dissertation only uses data from the PrEP-based CCT component. I supported the development of a structured survey that included a discrete choice experiment (DCE) to evaluate trade-offs participants were willing to make across different CCT attributes, along with demographic and behavioral measures to contextualize participant responses. While the initial survey framework was developed by the study investigators, I was responsible for implementing refinements based on study team discussions.

A DCE approach was selected because it allows researchers to quantify preferences for different intervention attributes by presenting participants with

hypothetical scenarios requiring trade-offs between competing options (Clark et al., 2014). This approach is particularly useful for informing intervention design, as it enables the estimation of willingness to accept specific program features based on participant choices (Szinay et al., 2021).

To define the attributes and levels for the DCE, the study team engaged in an iterative process involving consultations with experts in health economics, public health, and HIV prevention. The initial selection of attributes was guided by existing research on financial incentives for health behaviors and practical considerations for implementation. After several iterations, the study team identified the following for key attributes for the PrEP-related DCE:

1. Payment amount: \$300, \$600, or \$1200 each year taking PrEP consistently
2. Payment frequency: monthly, every 3 months, or annually
3. Payment type: cash or gift card
4. PrEP modality: daily oral PrEP or injectable PrEP (once every eight weeks)

Figure 4.2. Design of the Discrete Choice Experiments, Example Questions (Choice-Sets)

Example PrEP DCE choice-set				
		<i>Intervention A</i>	<i>Intervention B</i>	
		\$1200 each year that you've taken <u>PrEP</u> consistently	\$300 each year that you've taken <u>PrEP</u> consistently	
		The total amount of money is paid every 3 months	The total amount of money is paid every 12 months	
		Cash payment	Gift card payment	
		You take oral <u>PrEP</u> daily	You receive injectable <u>PrEP</u> every two months	

I used a DCE field guide developed by Ryan et al. (2012) as a methodological reference to ensure best practices in structuring the discrete choice experiments, including defining attribute levels, constructing choice sets, and optimizing task design to reduce cognitive burden. I also ensured that DCE scenarios were realistic and policy-relevant by incorporating feedback from study partners and stakeholders, including discussions about feasibility constraints such as potential tax implications of incentive payments exceeding \$600 per year and logistical challenges related to timely incentive distribution. These considerations led to refinements in the payment structure, ensuring that the intervention models presented in the DCE were both empirically grounded and administratively feasible.

Beyond the DCE, the data collected captured demographic, behavioral and attitudinal measures to contextualize participant responses. Standard demographic questions (e.g., race/ethnicity, age, education, employment, and housing status) were included to describe the study sample. For behavioral measures, I incorporated validated items from the National HIV Behavioral Surveillance (NHBS) study assessing PrEP use and sexual behaviors (McFarland et al., 2020), ensuring comparability with existing epidemiological research and strengthened the reliability of the data.

Once the survey was developed, I pilot tested it with clinic staff from APLA Health's Out Here Sexual Health Clinic. Based on pilot feedback and study team discussion, three areas of refinement were implemented:

1. Simplifying DCE instructions: the initial DCE instructions were revised to reduce cognitive burden, ensuring that participants clearly understood how to evaluate the trade-offs between attributes.

2. Reordering survey sections – the flow of the survey was adjusted to account for general questions on PrEP and HIV prevention attitudes before the DCE, allowing participants to engage with the scenario with sufficient contextual knowledge.
3. Refining response formats: I ensured that response options for demographic and behavioral items were consistent with existing survey instruments.

I programmed the survey in Qualtrics (2020), using a secure, web-based interface requiring authenticated access, following methodological recommendations for programming DCEs from published literature (Weber, 2021). I worked closely with the study team to confirm that each participant was assigned a randomized block of DCE choice sets (please see Figure 4.2 below), maximizing statistical efficiency while reducing participant fatigue. Each participant completed eight choice tasks for the PrEP-based DCE, with each task presenting two intervention options defined by the four CCT attributes described above.

4.9 Study One: Qualitative Analysis

Study One utilizes semi-structured qualitative interviews to explore how individual intrapersonal factors, including affective attitude, burden, and perceived effectiveness, shape the acceptability of a PrEP-based CCT intervention among Black and Latino MSM. Acceptability, as introduced in Chapter 3, is a multifaceted construct reflecting the extent to which individuals perceive an intervention as appropriate based on cognitive and emotional responses (Sekhon et al., 2017). Given the subjective nature of acceptability, semi-structured interviews enable a flexible, participant-driven approach,

allowing participants to share their experiences in their own words while providing opportunities to probe emerging themes in greater depth (Kallio et al., 2019). Qualitative research methods are particularly valuable for exploring the complexities of intervention acceptability and for identifying unanticipated barriers and facilitators to CCT engagement that may not surface through structured survey methodologies (Sekhon et al., 2017).

The aim of this study is to explore the individual intrapersonal factors influencing the acceptability of a CCT intervention for PrEP use among Black and Latino MSM in Los Angeles County. Grounded in the Social Ecological Model (McLeroy et al., 1988), this study focuses on the individual-intrapersonal level of influence. The analysis was guided by the Theoretical Framework of Acceptability (TFA) (Sekhon et al., 2017), which provided a structured lens for exploring three key constructs: affective attitude, burden, and perceived effectiveness. These frameworks informed the following research questions:

- RQ1.1. How do participants describe their emotional and personal reactions to the idea of receiving financial incentives for PrEP use?
- RQ1.2. What concerns or hesitations do participants express about participating in CCTs?
- RQ1.3. How do participants perceive the potential effectiveness of CCTs for improving PrEP use?

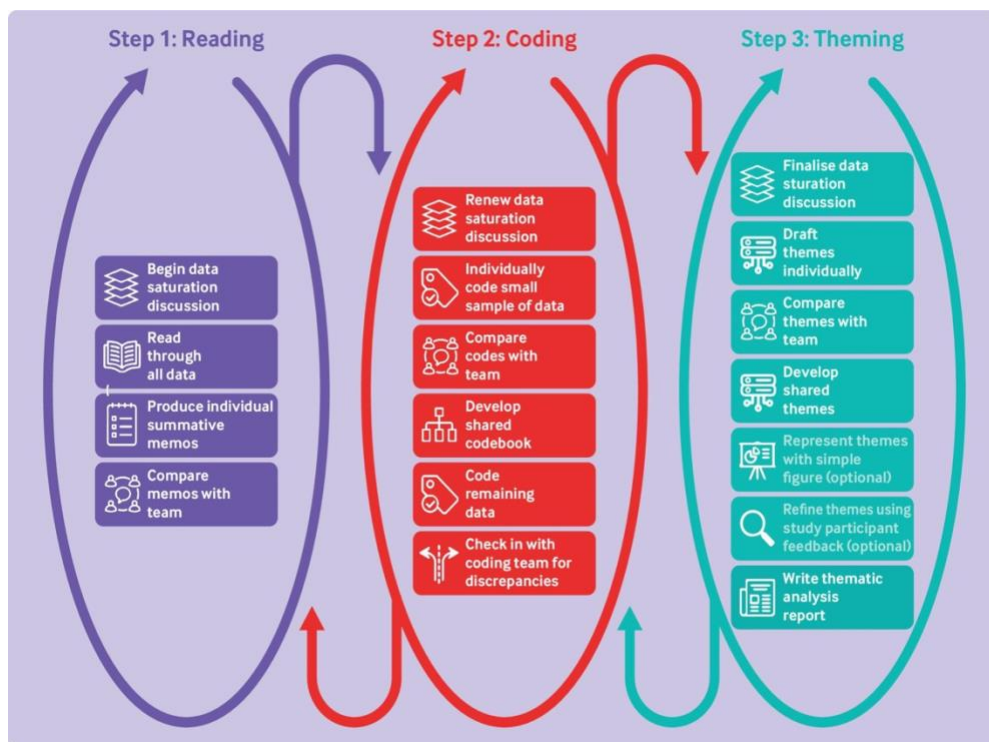
4.9.1 Analysis Plan

To achieve this first aim, I utilized practical thematic analysis, a condensed adaptation of Braun and Clarke (2006), six-phase reflexive thematic analysis design to make the methodology more accessible while retaining its substantive rigor (Saunders et al., 2023). Practical thematic analysis organizes the analytic process into three core

phases – reading, coding, and theming – providing a structured yet flexible framework for identifying meaningful patterns in qualitative data. Figure 4.3 illustrates the steps of practical thematic analysis as applied in this dissertation.

All transcripts were uploaded into Dedoose (2021), a qualitative data analysis software that facilitates systematic coding, organization, and memoing. I read each transcript at least twice to develop a thorough understanding of participant narratives, with particular attention to recurring language and emerging concepts. Throughout the coding process, I engaged in reflexive journaling to capture initial impressions, document analytic decisions, and monitor potential biases arising from my positionality. Reflexive journaling is a critical tool for enhancing the credibility and transparency of qualitative research (Banerjee & Dasgupta, 2024; Meyer & Willis, 2019). A full discussion of research positionality is provided in Chapter 5.

Figure 4.3. Steps in Practical Thematic Analysis



Saunders et al. (2023)

I applied a two-stage mixed coding approach combining deductive and inductive methods. First, I used descriptive coding, assigning codes based on the three TFA constructs, affective attitude, burden, and perceived effectiveness, to provide structure and facilitate identification of predetermined themes (Berthet et al., 2023). I then applied open coding to allow additional themes and patterns to emerge inductively from the data, ensuring authenticity and depth (Chen et al., 2024). This iterative process required multiple rounds of coding to refine categories as new insights developed (Brailas et al., 2023).

To enhance analytic rigor and reduce individual bias, a second coder was trained in qualitative research methods, the codebook, and the use of Dedoose. I conducted intercoder reliability (ICR) testing across the three TFA constructs using Cohen's Kappa, yielding a pooled Kappa of 0.53, indicating moderate overall agreement, with substantial agreement for burden ($\kappa=0.61$) and perceived effectiveness ($\kappa=0.65$) and fair agreement for affective attitude ($\kappa=0.35$) (O'Connor and Joffe, 2020). These results guided further codebook refinement, and both coders met weekly for six weeks to review discrepancies, clarify code definitions, and reach consensus on challenging excerpts.

An initial codebook was developed after coding the first five transcripts and was iteratively refined as coding progressed. Following coding, initial themes were drafted by grouping related codes and identifying overarching patterns, which were then reviewed and refined in relation to the study aim. Periodic discussions with the dissertation committee and TIPS principal investigators on data saturation and coding alignment further strengthen the validity of the analysis. Table 4.3 maps the interview questions

included in the guide directly to the three TFA constructs examined in this dissertation and provides rationale for their inclusion (see Appendix G for the full interview guide).

Table 4.3. Interview Questions Mapped to Constructs		
Study Construct	Interview Questions	Rationale
Affective Attitude	6. If a conditional cash transfer intervention for PrEP use was introduced in your social network of friends and community, would you be interested in participating?	Assesses initial emotional response and openness to participation.
	Probe to 6. What about your friends or people in your community—especially other gay or bisexual Black and Latino MSM—who don't use PrEP?	Examines perceived social acceptability within the community.
	10. Do you think paying someone to remain HIV-negative on their own basis would work?	Evaluates how participants emotionally perceive CCTs focused on HIV prevention rather than PrEP use.
	Probe to 10. Do you think it would work better or worse than paying people to use PrEP?	Compares attitudes toward different incentive structures.
	Probe to 10. What do you think works well with this approach? What doesn't work well?	Identifies perceived strengths and weaknesses of this intervention model.
	11. Do you think incentivizing people for receiving negative HIV test results or remaining HIV negative is stigmatizing in any way?	Assesses concerns about stigma associated with the intervention.
Burden	7. If you were to participate in a conditional cash transfer intervention for taking PrEP, can you think of any barriers or limitations to participating?	Identifies logistical, financial, and social obstacles to participation.
	Probe to 7. Are there things that you think would cause you to lose interest or drop out of this conditional cash transfer intervention?	Evaluates factors that may reduce long-term engagement.
	9. Is there anyone you think a conditional cash transfer wouldn't work well for?	Identifies potential disparities or population subgroups for whom the intervention may be ineffective.
	12. Do you think there should also be a program that continues to	Explores perceived fairness and ethical concerns surrounding

	incentivize people even if they test positive?	discontinuation of incentives after seroconversion.
Perceived Effectiveness	5. Have you heard of any activities or programs to incentivize HIV prevention?	Assesses pre-existing awareness and beliefs about the effectiveness of incentive-based interventions.
	Probe to 5. Based on what you've heard, do you think these interventions work?	Captures perceptions of effectiveness regarding similar programs.
	8. How could this type of intervention [CCT] be made more attractive to you?	Identifies modifiable factors that may enhance effectiveness.
	Probe to 8. What about: (i) amount of money, (ii) timing of payments, (iii) pills vs. injectable PrEP, (iv) gift card vs. cash, (v) lottery vs. guaranteed payment?	Assesses how specific incentive attributes may impact engagement and perceived effectiveness.
	10. Do you think paying someone to remain HIV-negative on their own basis would work?	Directly measures the perceived effectiveness of CCTs for HIV prevention.
	Probe to 10. Do you think it would work better or worse than paying people to use PrEP?	Compares perceived effectiveness of different intervention models.

4.10 Study Two: Quantitative Analysis

Study Two employed a quantitative experimental study design utilizing discrete choice experiences (DCEs), a stated preference method that presents participants with hypothetical scenarios how an individual behavioral characteristic, specifically PrEP use status, shapes the design preferences for a PrEP-based CCT intervention among Black and Latino MSM. DCEs are widely used in health services research to elicit participant preferences by simulating real-world decision-making scenarios (Clark et al., 2014; Szinay et al., 2021). They operate under the assumption that individuals make trade-offs when selecting between intervention options, allowing researchers to quantify the relative importance of different intervention attributes (Lambooij et al., 2015). In the

context of HIV prevention, understanding these trade-offs is critical for designing CCT interventions that are acceptable and effective for the communities they intend to serve (Sekhon et al., 2017).

The aim of this study is to assess how an individual behavioral characteristic, specifically PrEP use status, shapes the design preferences for a PrEP-based CCT intervention among Black and Latino MSM. Situated at the individual-behavioral level of the Social Ecological Model and guided by the HBM constructs of perceived benefits and perceived barriers, this study examined whether preferences for CCT design attributes varied by PrEP use status. The study addressing the following research question and hypotheses:

- RQ2.1. How do preferences for CCT attributes differ by PrEP use status (current PrEP user vs. non-PrEP user)?
 - H2.1. Non-PrEP users will show a stronger preference for higher payment amounts compared to PrEP users.
 - H2.2. Non-PrEP users will show a stronger preference for more frequent payments compared to PrEP users
 - H2.3 Non-PrEP users will show a stronger preference for cash compared to PrEP users
 - H2.4. Non-PrEP users will show a stronger preference for injectable PrEP compared to PrEP users.

4.10.1 Analytic Sample

The analytic sample for Study Two consisted of all 133 participants who completed the DCE as part of the TIPS quantitative study instrument. Each participant completed 8 choice tasks, with each task presenting 2 intervention options defined by varying levels of the 4 CCT attributes. This generated 2,128 option-level observations (133 participants x 8 tasks x 2 options) for conditional logistic regression modeling.

4.10.2 Measures

Outcome Variable. The dependent variable was an option-level binary indicator of selection, coded 1 for the intervention option selected with a given choice task and 0 for the non-selected option. This specification aligns with standard DCE practice, in which the observed outcome is the participant's choice between two intervention options within each respondent-task choice set (Hauber et al., 2016; Lancsar et al., 2017).

Predictor Variables - CCT attributes. The predictor variables were the CCT design attributes that varied across the two intervention options within each choice task. In each task, participants were shown two hypothetical CCT interventions that differed on one or more design features and were asked to select the one they would prefer to join. Four attributes were included:

- *Payment amount.* Payment amount was measured by asking participants if they preferred \$300, \$600, or \$1200 each year of participation.
- *Payment frequency.* Payment frequency was measured by asking participants if they preferred payments monthly, every 3 months, or annually each year of participation.
- *Payment type.* Payment type was measured by asking participants if they preferred cash or gift card payments for each payment part of the CCT.
- *PrEP type.* PrEP type was measured by asking participants if they preferred daily oral PrEP or injectable PrEP every two months as part of the CCT.

These attributes served as predictors because they varied across options within each choice task and were hypothesized to influence the probability that a given option was selected.

Table 4.4. Variable Categorization, Study Two (N= 133)				
Name	Description	Type	Level	Data Source(s)
<i>Outcome variable</i>				
Choice	Binary indicator of option selection within each choice task (1=selected, 0=not selected)	Binary	2	DCE Survey
<i>Predictor variables (CCT Attributes)</i>				
Payment Amount	Preferred annual payment amount for CCT participation 1 = \$300 2 = \$600 3 = \$1200	Categorical	3	DCE Survey
Payment Frequency	Preferred frequency of receiving CCT payments 1 = Monthly 2 = Every 3 months 3 = Annually	Categorical	3	DCE Survey
Payment Type	Preferred method of payment 1 = Cash 2 = Gift Card	Categorical	2	DCE Survey
PrEP Modality	Preferred PrEP regimen 1 = Daily Oral PrEP 2 = Injectable PrEP every two months	Categorical	2	DCE Survey
<i>Moderator variable</i>				
PrEP use Status	Current PrEP use in the past 12 months 0 = Non-PrEP user 1 = Current PrEP user	Binary	2	Survey

Moderator Variable — PrEP Use Status. PrEP use status was measured using a self-report item assessing current PrEP use in the past 12 months (yes/no) and coded

as a binary indicator (1=current PrEP use, 0=not currently using PrEP). Because PrEP use status is a respondent-level characteristic that does not vary across the two options within a choice task, it cannot be estimated as a standalone main effect in conditional logistic regression (Lancsar et al., 2017). Preference heterogeneity by PrEP use status was therefore evaluated using PrEP-by-attribute interaction terms, which test whether attribute preference weights differ between current PrEP users and non-PrEP users.

4.10.3 Covariates and Adjustment Strategy

Traditional sociodemographic covariates were not included as control variables in the primary models. Because the DCE was designed so that CCT attributes varied across the 2 options within each choice task, the estimated attribute effects derive from within-task comparisons, reducing concern that respondent characteristics confound the attribute-choice association (Lancsar et al., 2017; Lancsar & Louviere, 2008).

Respondent characteristics such as age, race and ethnicity, and education do not vary within a respondent-task choice set and therefore cannot be estimated as main effects in conditional logistic regression. Where relevant, preference heterogeneity by respondent characteristics was assessed through attribute-level interaction terms.

4.10.4 Analysis Plan

Descriptive analyses summarized the sociodemographic characteristics of the full sample (N=133), as presented in Chapter 6. PrEP-related indicators and sexual health behaviors were also described to contextual what current PrEP use and non-use represented in this sample. To provide an initial description of CCT preference, I examined descriptive choice shares, defined as the proportion of times an attribute level was selected when shown in a choice task, for the full sample and separately by PrEP

use status again. These summaries provided descriptive context prior to formal moderation testing.

To estimate attribute-level preferences while accounting for repeated choices within respondents, I fit conditional logistic regression models to the DCE data (Hauber et al., 2016; Lancsar et al., 2017). This model is the standard approach for DCE data grounded in random utility theory, where the probability of selecting an option depends on its attribute levels relative to the alternative presented in the same choice task (Hall et al., 2004; McFadden, 1974). Robust standard errors were clustered at the respondent-level to account for within-respondent correlation across repeated choice tasks.

I estimated two models. First, a full-sample base model was estimated to identify overall preferences across all participants, using \$300 (payment amount), monthly (payment frequency), cash (payment type), and oral PrEP (PrEP type) as reference categories. Second, a moderation model was estimated that included interaction terms between PrEP use status and each attribute level to test whether preference weights differed between current PrEP users and non-PrEP users. An omnibus joint Wald test assessed whether the full set of PrEP-by-attribute interaction terms was jointly different from zero (StataCorp, 2025).

It is important to note that this analytic framework approach represents a revision from the original proposal, where I planned to use multinomial logistic regression with CCT attributes treated as outcome variables and composite HIV risk index as the primary indicator. As analysis progressed, I revised the approach to align with standard DCE methodology, which treats the respondent's binary selection within each choice

task as the outcome and the CCT attributes as predictors. This revision was informed by iterative review of the DCE methods literature and consultations with UCLA's Office of Advanced Research Computing and the UCLA Department of Statistics Statistical Consulting Center. Data will be managed and analyzed using Stata 18 (StataCorp, 2023). Data were stored in an encrypted web-based storage application provided by UCLA.

4.11 Study Three: Quantitative Analysis

Study Three used the same quantitative DCE methodology as Study Two, examining whether structural level factors, specifically housing status, moderate preferences for CCT design attributes among Black and Latino MSM in Los Angeles County. Guided by the Social Ecological Model's structural level and the CFIR's outer setting construct, this study assessed whether housing instability shifts the preference weights estimated through conditional logistic regression, with the goal of determining whether CCT interventions require structural tailoring to serve stably and unstably housed participants differently.

The aims of this study was to assess how an individual structural condition, specifically housing status, shapes the design preferences for a PrEP-based CCT intervention among Black and Latino MSM. The study addressed the following research question and hypotheses:

- RQ3.1.How do preferences for CCT attributes differ by housing status (stable vs. unstable)?
 - H3.1. Unstably housed participants will show a stronger preference for higher payment amounts compared to stably housed participants.

- H3.2. Unstably housed participants will show a stronger preference for more frequent payments compared to stably housed participants.
- H3.3. Unstably housed participants will show a stronger preference for gift cards compared to stably housed participants.
- H3.4. Unstably housed participants will show a stronger preference for injectable PrEP compared to stably housed participants.

4.11.1 Analytic Sample

Study Three used the same analytic sample and DCE dataset described in Section 4.10 (N=133). Each participant completed 8 choice tasks, generating 2,128 option-level observations across 1,064 respondent-level choice sets. Detailed information on DCE development, choice task design and attribute construction is in Section 4.8 and Chapter 6.

4.11.2 Measures

Outcome Variable. The dependent variable was identical to Study Two, an option-level binary indicator of selection, coded 1 for the intervention selected within a given choice task and 0 for the non-selected option.

Predictor Variables — CCT Attributes. The four CCT attributes serving as the independent variables were identical to those in Study Two: payment amount (\$300, \$600, \$1,200), payment frequency (monthly, every 3 months, or annually), payment type (cash or gift card), and PrEP type (oral daily PrEP or injectable PrEP every two months). Reference categories were \$300 for payment amount, monthly for payment frequency, cash for payment type, and oral PrEP for PrEP type.

Table 4.5. Variable Categorization, Study Three (N=133)				
Name	Description	Type	Level	Data Source(s)
<i>Outcome variable</i>				
Choice	Binary indicator of option selection within each task 1 = Selected 0 = Not selected	Binary	2	DCE Survey
<i>Predictor variables (CCT Attributes)</i>				
Payment Amount	Preferred annual payment amount for CCT participation 1 = \$300 2 = \$600 3 = \$1200	Categorical	3	DCE Survey
Payment Frequency	Preferred frequency of receiving CCT payments 1 = Monthly 2 = Every 3 months 3 = Annually	Categorical	3	DCE Survey
Payment Type	Preferred method of payment 1 = Cash 2 = Gift Card	Categorical	2	DCE Survey
PrEP Modality	Preferred PrEP regimen 1 = Daily Oral PrEP 2 = Injectable PrEP every two months	Categorical	2	DCE Survey
<i>Moderator variable</i>				
Housing	Housing situation in prior three months 1 = Stable housing - own or rent 2 = Unstable housing - unpaid housing arrangements	Binary	2	Survey

Moderator Variable — Housing Status. Housing status was the primary moderator for Study Three. The original item asked participants to report their housing situation during the prior three months, with response options including housing you own, housing you rent, sharing with friends or family without paying rent, shelter or transitional housing, unsheltered, other, and prefer not to answer. Responses were recoded into a binary indicator distinguishing stable housing (own or rent; n=109, 81.95%) from unstable housing (unpaid arrangements; n=24, 18.05%). The unstable category combined participants who lived with friends, family, or acquaintances without paying rent (n=22) and those residing in a shelter, safe haven, or transitional housing setting (n=2). One participant who reported “other housing” was reclassified as stable based on the nature of their arrangement.

4.11.3 Analysis Plan

Descriptive analyses summarized the sociodemographic characteristics of the full sample (N=133) as presented in Section 4.5, with additional sociodemographic indicators stratified by housing status to contextualize structural vulnerability in the sample. To provide an initial description of CCT preferences, I examined descriptive choice shares for the full sample and separated by housing status prior to formal moderation testing.

Study Three used the same conditional logistic regression approach described in Section 4.9.4.2. I estimated two models: a full-sample base model to establish the overall preference hierarchy across all participants, and a moderation model to test whether housing status modified attribute-level preferences. Due to convergence difficulties encountered when entering all four-interaction block simultaneously, a

sequential interaction strategy was used, adding one housing-by-attribute interaction block at a time to the base model and evaluating each block with a joint Wald test. Each sequential model retained the full set of main effects and added a single interaction block, with robust standard errors clustered at the respondent level.

To aid interpretation of modeled preferences, I generated predicted probabilities for each CCT attribute level stratified by housing status. Predicted probabilities express model results on a scale from 0 to 1, representing the estimated likelihood that a participant would choose a given intervention option (Hanmer & Ozan Kalkan, 2013; Hauber et al., 2016). This format is more directly interpretable than log-odds coefficients, the raw output of the conditional logistic regression, which require mathematical transformation before they can be understood in practical terms (Hauber et al., 2016; Lancsar et al., 2017). Specifically, I compared the probability of selecting a focal intervention profile, one that varied on a single attribute at a time, against a fixed reference profile held constant at the lowest level of all attributes (\$300 payment amount, monthly payments, cash incentive, and oral PrEP). This approach isolates the contribution of each attribute level to the overall likelihood of selection and allows direct comparison of those probabilities across housing groups. Presenting results in this format addresses a practical implementation question central to this dissertation: whether the magnitude of any housing-group preference differences is large enough to warrant designing structurally tailored CCT interventions, or whether a single intervention design can serve both stably and unstably participants (Zhang et al., 2025).

It is important to note that this analytic approach represents a revision from the original proposal, which planned to use a composite structural vulnerability measure

incorporating housing status, employment status, and educational attainment as the primary moderator. As analysis progressed, housing status was retained as the sole moderator given its conceptual centrality to structural vulnerability in this population and the constraints of the analytic sample size. Data were managed and analyzed using Stata 18 (StataCorp, 2023). Data were stored in an encrypted web-based storage application provided by UCLA.

CHAPTER 5: STUDY ONE - RESULTS & DISCUSSION

5.1 Chapter Overview

This chapter presents the qualitative findings from Study One, which explores how the individual-intrapersonal factors including affective attitude, burden, and perceived effectiveness shape the acceptability of a PrEP-based CCT intervention among Black and Latino men who have sex with men (MSM) in Los Angeles County. I organized the findings according to three constructs from the Theoretical Framework of Acceptability (TFA), and I derived themes using practical thematic analysis, a condensed and accessible adaption of Braun and Clarke (2006) approach that organizes analysis into three core phases: reading, coding, and theming (Saunders et al., 2023; Sekhon et al., 2017). I begin by describing the analytic sample in Section 5.2. In Section 5.3, I address intercoder reliability, coder characteristics, and research positionality, which are central to the credibility and transparency of the analysis. Section 5.4 presents the thematic findings organized by TFA constructs, with attention to patterns across participant subgroups defined by prep use stats. In Section 5.5., I discuss the findings in relation to the existing literature, address study strengths and limitations, and identify directions for future research, including the hypotheses that Study One findings suggest for subsequent quantitative investigation. I conclude the chapter with a brief summary in Section 5.6. The subsequent sections address the following study aim and research questions:

Study One Aim: To explore how individual intrapersonal factors, including affective attitude, burden, and perceived effectiveness, shape the acceptability of a PrEP-based CCT intervention among Black and Latino MSM.

- RQ1.1. How do participants describe their emotional and personal reactions to the idea of receiving financial incentives for PrEP use (Affective Attitude)?
- RQ1.2. What concerns or hesitations do participants express about participating in CCTs (Burden)?
- RQ1.3. How do participants perceive the potential effectiveness of CCT for improving PrEP use (Perceived Effectiveness)?

5.2 Participant Characteristics

The analytic sample for Study One included 20 Black and Latino MSM who completed semi-structured qualitative interviews as part of The Incentives & Prevention Study (TIPS). Participants were selected using purposive sampling to ensure diversity across race and ethnicity and PrEP use status, providing a range of perspectives on CCT acceptability among individuals with varying levels of HIV prevention engagement. The sample reflected diversity in age, race and ethnicity, and PrEP experience. Most participants were between the ages of 20 and 29 (n=14, 70%), with the remaining participants aged 30 and older. More than half identified as Latino (n=11, 55%), about a quarter identified as Black (n=5, 25%), and the remaining participants identified as mixed race (n=4, 20%). PrEP use status varied across the sample, consistent with the purposive sampling strategy. At the time of the interview, less than half of participants were current PrEP users, approximately one-fifth had previously used PrEP (n=4, 20%), and just over a third had never used PrEP (n=7, 35%). This diversity in PrEP experiences is analytically relevant, as it allows for exploration of whether affective attitudes, perceived burdens, and perceptions of effectiveness differed across individuals at different stages of HIV prevention engagement, a dimension that I address in the findings section that follow.

Table 5.1. Demographic Characteristics among Qualitative Sample (N=20)			
Demographics		Overall	
Age		n	%
	20-29	14	70.0
	20	2	
	21	1	
	22	2	
	23	1	
	24	1	
	26	2	
	27	3	
	28	2	
	30-39	5	25.0
	33	2	
	34	1	
	36	1	
	38	1	
	40+	1	5.0
	40	1	
Race/Ethnicity	Black	5	25.0
	Latino	11	55.0
	Mixed Race	4	20.0
	Latino/Asian	1	
	Latino/Native American	2	
	Latino/White	1	
PrEP Use	Current User	9	45.0
	Previous User	4	20.0
	Never User	7	35.0

5.3 Intercoder Reliability, Coder Characteristics, & Positionality

To enhance rigor and reduce individual bias, two coders independently analyzed all 20 qualitative transcripts for this study. I served as the primary coder. I am a doctoral candidate in the Department of Community Health Sciences at UCLA's Fielding School of Public Health and identify as a cisgender, Latino, gay man with more than 10 years of experience conducting qualitative interviews and coding health-related research. I

trained a second coder (NK), a cisgender, Armenian, straight man and undergraduate student at UCLA, in qualitative research methods, the codebook, and the use of Dedoose (2021), the qualitative analysis software used in this study. Both coders independently coded all 20 transcripts in full rather than dividing them up between them, ensuring that each coder's perspective was applied across the complete dataset. This approach supported more robust intercoder reliability testing and reduced the risk that thematic patterns in any portion of the data would reflect only one coder's interpretation.

Intercoder reliability (ICR) is a numeral measure of the agreement between different coders regarding how the same data should be coded (O'Connor & Joffe, 2020). I conducted an ICR test in Dedoose across the three TFA constructs. The analysis yielded a pooled Cohen's Kappa of 0.53, indicating moderate agreement overall, with substantial agreement for burden ($\kappa=0.61$) and perceived effectiveness ($\kappa=0.65$) and fair agreement for affective attitude ($\kappa=0.35$). A Kappa of 0.53 falls within the range that qualitative health researchers have considered acceptable for thematic analysis, particularly in studies where constructs carry inherent conceptual ambiguity and interpretation is expected to vary between coders with different positionality (Burla et al., 2008; O'Connor & Joffe, 2020). The lower agreement for affective attitude is consistent with the subjective and emotionally complex nature of that construct, which encompasses a wide range of feelings that coders may interpret differently depending on their own social positioning and familiarity with the population. Based on these findings, both coders met weekly for 6 weeks to review discrepancies, clarify code definitions, and reach consensus on the challenging excerpts. Neither I nor any

members of the research team had pre-existing relationships with study participants, which reduced the risk of bias from prior interactions.

It is also critical to acknowledge my positionality in relation to this research. As a gay, Latino, cisgender man, I occupy an insider position in several respects to the study population. These shared experiences likely facilitated rapport, cultural sensitivity, and attunement to the structural and interpersonal stigma related to HIV and PrEP that participants described. At the same time, my position as a doctoral candidate at a major research university, with years of academic training in public health methods, introduces meaningful outsider dimension that require acknowledgment. My educational attainment, institution affiliation, and immersion in academic frameworks, including the TFA I used to organize this analysis, create social and epistemic distance from participants that shared ethnic and sexual identities alone do not close. Participants in this study were recruited from a community-based setting and online platforms, and many faced economic precarity, housing instability, and barriers to healthcare access that differ substantially from own circumstances. These structural differences in social position may have shaped how I interpreted participant narratives, particularly those describing financial motivations for CCT participation or skepticism toward health institutions. Maxwell et al. (2009) identify researcher bias and reactivity as central validity concerns in qualitative research. In response, I engaged in reflexive journaling throughout the coding process to document my assumptions, emotional responses, and interpretive decisions, and I drew on NK's outsider perspective, both in terms of sexual orientation and racial and ethnic background, as an additional safeguard. The deliberate pairing of these positionalities, supported by ongoing dialogue and consensus meetings,

strengthened the interpretative validity of the study's conclusions (Banerjee & Dasgupta, 2024; Meyer & Willis, 2019).

5.4 Results

The findings presented in this section are organized according to the three TFA constructs that guided Study One: affective attitude, burden, and perceived effectiveness. Within each construct, I identified themes inductively and deductively using the mixed coding approach described in Chapter 4, beginning with descriptive coding anchored to the TFA constructs and moving to open coding to allow additional patterns to emerge from the data. Representative quotes were selected to illustrate each theme based on the three criteria: clarity of expression, typicality of the perspective across the sample, and the degree to which the quote captured the theme's core meaning rather than a peripheral detail. Where multiple participants expressed similar perspectives, I selected quotes that most directly conveyed the shared experiences while preserving the participant's own language. Throughout this section, I note the frequency with which themes emerged and, where patterns differed.

5.4.1 Affective Attitude

In the Theoretical Framework of Acceptability (TFA), affective attitude is defined as the feelings an individual has regarding participation in an intervention, whether those feelings are positive or negative and how they shape willingness to engage (Sekhon et al., 2017). Because this study assessed the acceptability of a hypothetical CCT intervention, all responses were prospective in nature, meaning participants were describing how they imagined they would feel rather than reporting on direct experience. While this limits direct inference about real-world behavior, it provides

important insights into the emotional conditions under which a PrEP-based CCT might be perceived as acceptable and the mechanisms that would shape initial engagement.

Across participants, the most common emotional responses to the idea of a PrEP-based CCT were feelings of relief and motivation. Participants described how receiving financial incentives for a health behavior like taking PrEP felt meaningful not simply because of the money itself but because the money addressed real pressures in their daily lives, including groceries, transportation, bills, and the general cost of living in Los Angeles County.

Participants also expressed that a CCT program would appeal to others in their broader social networks, extending positive feelings about the intervention beyond their own participation. At the same time, several participants described how stigma associated with HIV and PrEP introduced hesitation and discomfort that tempered otherwise positive responses meaning that even when people felt good about the idea of a CCT, awareness of how PrEP is perceived by others could complicate their enthusiasm. These emotional responses were shaped by individual motivations, financial circumstances, and the sociocultural contexts participants navigated.

Positive affective attitudes appeared across all three PrEP use subgroups (Current PrEP Users, Previous PrEP users, Non-PrEP users), though the specific emotional drivers differed by prevention history. Current PrEP users more often described incentives as rewarding a behavior they already valued and maintained, while never users and previous users more frequently described incentives as the external push they needed to initiate or return to PrEP. Table 5.1 presents the 4 Affective

Attitude themes that emerged from the data alongside illustrative quotes that complement the narrative discussion in the sections below.

Table 5.2. Affective Attitudes Towards a CCT Intervention for PrEP Use: Themes & Quotes	
Main Themes	Sample Verbatim Quotes
Participants feel financially supported by CCTs relieving financial stress	"...paying for groceries, paying bills or just even having pocket money or spending money, it was really convenient, and back in high school, for me, it acted as an allowance [past experience with CCTs]." (20, Mixed Race, Previous PrEP User) "Just because of how expensive life is getting right now, I wouldn't mind getting paid for not only like to stay protected against HIV and be on top of my sexual health, but also that benefit could just really help out with just some expensive costs that are coming with just inflation." (27, Latino, Current PrEP User)
Participants feel motivated by CCTs to initiate or continue PrEP	"Well, the incentive part would support me in taking PrEP, I think it would drive me more to take it." (23, Latino, Non-PrEP User) "I do need to get on PrEP, and I've been procrastinating, so it'll be a huge like motivating factor." (32, Black, Non-PrEP User)
Participants feel that CCTs would be accepted by their communities	"Anytime I see opportunities like that [CCTs] come out, I try to advertise it to as many friends as I can." (20, Mixed Race, Previous PrEP User) "They would be most interested in the incentive part because they're being incentivized for taking PrEP on a daily basis. So, they would, knowing how they feel, there would be more having more initiative." (27, Mixed Race, Previous PrEP User)
Stigma associated with HIV & PrEP generates negative feelings towards CCT participation	"I feel like we're probably just conditioned to be more heteronormative. And when it comes to talking about taking PrEP and being incentivized for taking PrEP, being part of a program or just being involved in sexual health, I feel like that probably scares them subconsciously, like they don't really want to be as open as they would be." (28, Latino, Current PrEP User) "...I guess there's also like a stigma behind taking PrEP. So some people don't really want to, don't want others to know that they're on PrEP. So just maintaining that, like, I guess confidentiality, like making sure people know that their information or like that they take PrEP is not like publicly available to other people." (21, Latino, Current PrEP User)

Theme 1 - Participants feel financially supported by CCTs relieving financial stress

This theme emerged across many participants and was the most consistently documented affective attitude response in the dataset. Participants described incentives as directly addressing the financial demands of daily life in Los Angeles County, framing the money as a practical resource for meeting immediate needs like food, transportation, and everyday expenses rather than as an abstract reward for a health behavior. This theme was expressed consistently across all three PrEP subgroups. The functional meaning of financial relief differed, however, among current PrEP users more often describing incentives as supplementary support for a behavior they already maintained, while previous and never users more frequently framed financial relief as a precondition for initiating or returning to PrEP.

*"... the incentive is just an added bonus and it'll keep me, it's almost like a reminder like a fun reminder to add this to the many, many things that I do daily."
(36, Black, Current PrEP User)*

"I do need to get on PrEP, and I've been procrastinating, so it'll be a huge like motivating factor." (32, Black, Never PrEP User)

Although positive views were more common, participants also identified potential trade-offs. A key concern, raised by several participants receiving Supplemental Security Income (SSI), was that incentive payments could be counted as income and jeopardize existing public benefits. This concern was specific to one Black participant navigating disability income and economic precarity, and it underscores how the

financial relief that CCTs offer may simultaneously introduce new risks for participants whose economic stability depends on maintaining benefits eligibility.

“I’m not working right now and I’m on SSI. And sometimes you can’t know when you’re involved in like certain income stuff, you can’t have it all, otherwise it’ll be taken away” (33, Black, Previous PrEP User).

This perspective underscores the need to consider how incentive payments may interact with public benefit programs, and how such concerns influence participation among economically vulnerable individuals.

Across interviews, participants consistently linked receiving financial incentives with feelings of relief and described the money itself as the most powerful driver of participation. These narratives suggest that incentives foster positive affective attitudes by simultaneously reducing financial stress and strengthening participants’ sense of commitment to their health.

Theme 2 - Participants feel motivated by CCTs to initiate or continue PrEP

Many participants described incentives as sources of motivation for initiating or maintaining PrEP use. This theme was particularly prominent among non-users and previous users, who described the financial incentive as the external structure they needed to move from intention to action. Current PrEP users also shared this thinking but framed the incentive as reinforcing a behavior they already valued rather than initiating a new one. Payments were described as external reinforcement that could help address adherence challenges, prevent forgetfulness, and strengthen self-motivation.

“The money... would help keep me on track. I know if that incentive wasn’t there... I know myself... and I feel like I would forget... or I would just be like, well,

there's no one watching or keeping tabs on me, so I'm more likely to be lax and not stick to my [PrEP] regimen." (27, Mixed Race, Non-PrEP User).

"Financial incentives will motivate me and give me more willpower to go ahead and not be lazy, and take PrEP and make sure to be on top of the ball with PrEP because sometimes I do forget, so I just stick on the 2-1-1 method. But if there's like an incentive program and there's some sort of structure, then it will give me more willpower to take it on a daily basis" (27, Mixed Race, Previous PrEP User).

"Currently, I am intrinsically motivated to take my PrEP on a daily basis and not miss a dose due to, you know, for my sexual health reasons. If it were to be incentivized as it relates to me taking PrEP every day... whether or not I'm being incentivized, I'm going to take my PrEP anyway." (40, Black, Current PrEP User)

Participants also framed incentives as a form of recognition and reward for their commitment to HIV prevention. Several current PrEP users described getting paid for something they already did as validating rather than coercive, which is notable given the ethical debates in the CCT literature around financial inducement.

"I'm a full-time student, but even if I wasn't, getting paid for something that I already do would definitely keep motivated to keep doing it because I'd be getting rewarded for my personal health" (28, Latino, Current PrEP User).

"I feel like a reason why it's motivating...I'm always on top of like my sexual health...why not get paid for it? ... So I feel like the money is a good motivation

because sometimes those 20 bucks could be used like to buy some groceries or lunch or something like that. So that's very motivating. (27, Latino, Current PrEP User)

These perspectives illustrate that CCTs generate positive affective responses not only by reducing financial pressures but by creating a sense of motivation, urgency, and accountability that reinforces adherence, and that the mechanism through which incentives motivate differs meaningfully by PrEP use status or those who are high engagers vs. low engagers in overall HIV prevention.

Theme 3 - Participants feel that CCTs would be accepted by their communities

Several participants reflected on how their peers and broader social networks might respond if a PrEP-based CCT was introduced in their communities. Participants generally expressed that their community would be interested. The rationale for community-level acceptance reflected distinct racial and ethnic contexts. One Latino participant framed community engagement in terms of economic need and education access, emphasizing that CCTs would reach community members who lacked basic PrEP knowledge rather than only those already engaged in HIV services.

"Honestly, I think if it were to target communities like myself, because my community, a majority of the people are low income. So seeing people within the program like actually going out and reaching out to people, I think that would be like a major reason that I would want to participate. Not only because I would be getting educated, but because a lot of the people in my community would also be getting educated and they would just de-stigmatize conception that a lot of

people have about like gay men and you know, PrEP." (22, Latino, Non-PrEP User).

Another Black participant grounded his expectation of community acceptance in the collective historical experience of the HIV epidemic, framing participation as a form of communal self-protection.

"... I think it's [CCTs for HIV prevention] already a good thing. Like it's already something that people should be doing and they know that...like everyone loves money and everybody needs money... the fact that it's going to keep them and everyone they're with safe. And like we are going to combat something that killed a lot of our people in like the eighties and nineties. So I think there are so many reasons to do it." (34, Black, Current PrEP User).

This pattern was consistent across PrEP use subgroups, suggesting that community-level acceptability was perceived as broad regardless of individual prevention status. I operationalized these responses as community affective attitudes, participants' prospective assessments of how CCTs would be received within their social networks, to distinguish them from personal affective responses captures in Themes 1 and 2.

"...I imagine this would create a lot of conversations. Like something as simple as like, hey, I got tested for HIV, I got paid 50 bucks, you should go do this too, it's free money." (20, Mixed Race, Previous PrEP User)

"I would want more people to do this. I'm really hoping that we as a society get a handle on the HIV/AIDS epidemic... I feel like anything that can happen to

making strides into really getting rid of it would be awesome. And I think stuff like this is on that track and I would love to be a part of that." (34, Black, Non-PrEP User)

"I think they would definitely be interested in something like that because ...how expensive everything is, they're feeling the impact. So being able to get paid to stay HIV negative will probably motivate them just to get that extra benefit cost... So I just feel like today's climate is kind of really affecting people right now." (27, Latino, Current PrEP User).

Participants also emphasized that incentives could broaden HIV prevention efforts beyond communities already engaged with HIV services, and several described CCTs as having a unifying element across groups that might not otherwise share prevention conversation at risk for HIV.

"I mean, HIV prevention has always been a conversation, but I feel like people that are not in the LGBTQ+ community will feel more inclined to learn more about prevention because of the incentivized notion behind it... We want this to kind of prevention to be a universal thing. So the unifying factor in my opinion, is the incentives." (36, Black, Current PrEP User).

Participants also acknowledged limitations. Several participants, particularly those who and experienced negative healthcare encounters or reported lower institutional trust, anticipated that skepticism toward medicine or discomfort discussing PrEP might reduce community-level interest among certain subgroups. These concerns were not limited to any single PrEP use category.

“Some would [join] for the financial reasons and I know some wouldn't for I guess their own personal reasons. They don't really trust like modern medicine, even to the point where money isn't a factor.” (32, Black, Non-PrEP User).

These responses illustrate that participants broadly expected high community-level interest in CCTs while anticipating a range of individual responses shaped by stigma and medical mistrust, themes explored further in the Burden construct below.

Theme 4 - Stigma associated with HIV & PrEP generates negative feelings towards CCT participation

Majority of participants expressed stigma as a factor that could complicate or undermine positive affective attitudes toward CCT participation. This theme was the most uniformly endorsed across PrEP use subgroups, though its specific expression differed. Never users and previous users more frequently described stigma as a barrier to PrEP initiation that CCTs alone might not overcome, while current PrEP users more often described stigma as an ongoing burden they navigated despite already being on PrEP. Participants described stigma operating interpersonal and institutional levels.

At the interpersonal level, PrEP-related stigma surfaced within peer and family networks, where PrEP use was sometimes associated with promiscuity or HIV-positive status.

“I know some of the people in my social circle, but the whole origins of PrEP and for many of them, it's kind of a touchy subject in the sense that some of them believe that it promotes people to just be promiscuous and have multiple sex partners and be careless about their sexual health.” (40, Black, Current PrEP User).

“If the relatives who I live with know that I’m on PrEP would probably create some issues there...they would probably have some sort of stigma or maybe view that me taking PrEP would, reveal that I am someone who’s being constantly at risk for the virus.” (23, Latino, Non-PrEP User)

At the institutional level, healthcare settings were described as unwelcoming or stigmatizing, particularly for participants who had experienced dismissive or judgmental provider interactions.

“And I think part of that comes from like it is [PrEP] stigmatized, it is like taboo... when I talk to other queer friends about healthcare, unless it’s like a queer doctor or somebody who’s like this [LGBTQ Health] is my specialty... It really sucks going to other healthcare providers to figure this stuff out... I’ve had a lot of experiences related to taking PrEP in my own healthcare where the doctor didn’t know or they were straight or they just like weren’t aware of [LGBTQ] health... It’s a very demoralizing experience.” (33, Latino, Current PrEP User).

These experiences highlight how stigma operates across multiple levels, social, familial, and institutional, making it a persistent challenge for CCT acceptability even when financial incentives generate initial interest. The presence of stigma here demonstrates a core tension in affective attitude: incentives were not rejected outright, but HIV and PrEP-related stigma dampened enthusiasm and introduced hesitation, suggesting that CCT interventions must be designed with confidentiality protections and stigma-reduction strategies as structural components rather than optional add-ons.

5.4.2 Burden

According to the TFA, burden refers to the perceived amount of effort that is required to participate in the intervention (Sekhon et al., 2017). Across all 20 interviews, participants anticipated that a PrEP-based CCT would require time, energy, and navigation of health systems. What stands out analytically is that most participants, regardless of PrEP use status, did not describe these burdens as insurmountable. Participants consistently paired descriptions of effort with practical ways a CCT program might reduce or offset those burdens, suggesting program design can directly address. Patterns by PrEP use status were most pronounced for PrEP-related burdens. Specifically, never users and previous users more frequently described uncertainty about side effects and daily adherence demands as sources of anticipated burden, while current PrEP users were more likely to describe burden in terms of navigating healthcare systems and maintaining ongoing clinic engagement. Table 5.2 summarizes the 6 themes that characterize burden of CCT participation.

Table 5.3. Burdens Towards a CCT Intervention for PrEP Use: Themes & Quotes	
Main Themes	Sample Verbatim Quotes
Structural barriers exacerbate the effort required to engage with CCTs	"The only barrier I would see is where this clinic is located and like the hours of operation since I do work full time. So it's just like having access to those appointments outside of like typical work hours, which are like Monday to Friday, eight to five." (27, Latino, Current PrEP User) "...If somebody didn't have access to transportation to get their prescription. I guess that would be a burden." (26, Black, Previous PrEP User).
PrEP-related challenges increase perceived burden within CCT interventions	"...it's just like going through a process of trying to find a reliable vendor and also finding out what their stipulations are and how to get over those roadblocks. So I finally find out how to get it and so I just haven't really picked it up. I haven't sent it to a pharmacy. So it was just the process of it all." (38, Black, Non-PrEP User) "...getting to taking PrEP, initially a concern of mine was my organs, just like the effect it would have on other organs and the long-term effects it would have." (28, Latino, Current PrEP User)
Competing personal & economic situations limits participation in CCTs	"...Maybe if I move out of state for something, if the program isn't offered outside of where I'm moving because I know they do it by counties sometimes, so some counties aren't aligned. But I think that's the only thing I can think of that would prevent me from not joining this program." (26, Latino, Current PrEP User). "I guess if I find myself in a situation where I am in a monogamous relationship where I am not at all at risk for anything, I think then I would not really have a purpose for it." (23, Latino, Non-PrEP User)
Stigma associated with HIV & PrEP imposes burdens on CCT engagement	"...I don't know if it's stigma, but like, I'm thinking of the people who are in committed and monogamous relationships, even though I would still argue that like they would still benefit from PrEP, there's still a lot of stigma. I've heard it from my own doctor himself of like, oh yeah, once you're in like a committed monogamous relationship, then you don't need PrEP anymore." (33, Latino, Current PrEP User) "There's still a very weird stigma about HIV especially among Black and Latino gay men socially. So I feel like for that to come out in any sort of way in a health or medical field would feel even more ostracizing than it already is." (26, Black, Previous PrEP User)
Mistrust of health systems increases burdens of CCT participation	"...some would for the financial reasons and I know some wouldn't for their own personal reasons. They don't really trust modern medicine, even to the point where money isn't a factor." (32, Black, Non-PrEP User) "...maybe if the research assistants or whoever's in charge is rude to me, let's say I didn't take PrEP for a week and they judged me for that. I think that would probably be like a major reason of why I would stop continuing the program." (22, Latino, Non-PrEP User)
Complex and unclear CCT designs created anticipated burdens and discouraged participation	"...I feel like at the end, it'll just be depending on how they're asking to prove those things. Like if you're taking PrEP, is it like taking like a blood test or taking an HIV test or, I feel like it just varies on like what type of requirements they're asking for to be able to get the incentive is what would make it less interesting." (27, Latino, Current PrEP User) "I mean like life happens, so if the person is not consistent with PrEP, and if something happens they should be allowed to rejoin. There should be some exceptions made if something happens and the person needs to stop for a while, but then they should be able to rejoin." (27, Mixed Race, Non-PrEP User)

Theme 1 - Structural barriers exacerbate the effort required to engage with CCTs

This theme was documented by many participants and was the most frequently cited source of burden across all PrEP use subgroups. Participants described clinic distance, transportation difficulties, transit time, limited clinic hours, and schedule conflicts with work as barriers that would make consistent participation difficult over time. These concerns were most acute among participants reporting lower incomes, reliance on public transit, and full-time employment with restrictive schedules, and were raised by participants across all three PrEP use categories. Participants who lacked a car were also more likely to face geographic constraints, and participants who worked full-time faced challenges when clinics operated only during standard business hours.

One Latino previous PrEP user named the racial geography of public transit explicitly, describing how bus and rail routes to HIV clinics made access more difficult for communities of color in Los Angeles County, framing transportation infrastructure itself as a racially unequal structural barrier.

“... had it not been for certain transportation in some of these places, it'd be a fucking bitch getting out there. Mind you, the public transit can be a little racist because going to certain areas, POC [people of color] areas, it's a bitch going out there, so definitely transportation is a barrier...having to go out of my area is too much sometimes.” (28, Latino, Previous PrEP User)

A current Black PrEP user described how restrictive clinic scheduling would function as a deal-breaker regardless of motivation, capturing how structural constraints can override individual willingness to participate.

"If someone said, you can only come in Mondays from five to eight at this location, at this time, if I can't get there at that time and it doesn't ruin my life, I'm so sorry I can't participate." (36, Black, Current PrEP User)

Similarly for full-time workers, the conflict between clinic hours and employment schedules was a consistently cited barrier. One Latino current PrEP user described clinic location and hours as the primary obstacle to participation, noting that access to appointments outside of standard work hours would be essential.

"The only barrier I would see is where this clinic is located and like the hours of operation since I do work full time. So it's just like having access to those appointments outside of typical work hours, which are like Monday to Friday, eight to five." (27, Latino, Current PrEP User)

One mixed-race current PrEP user offered first-hand context for how these barriers had operated in their own history with PrEP, describing how having a car, flexible work, and money for medications had been prerequisites for getting on PrEP at all and acknowledging that a financial incentive would have meaningfully changed that approach for others.

"...I had the time with my job, I could take time off from work to go do that. My specific provider is not in the city, so I had to go outside of the city and I had a car, and then the money to be able to pay for the medications every three months. So that was a challenge. But if you're getting some kind of incentive or stipend, like that helps out a lot." (33, Mixed Race, Current PrEP User)

Participants across subgroups suggested practical solutions. Several recommended that programs cover travel expenses or provide rideshare credits, and many described

the financial incentive itself as a way to offset the added cost of transportation and time away from work.

“ Sometimes if the clinic can be a bit more towards downtown, transportation could be an issue. I know some programs offer like metro passes, Metro Day passes to help out. Or some of them give out Uber or Lyft ride share codes. So if you go just specifically to their location, it would be automatically reimbursed. But other than that, I think just transportation is mainly the biggest one.”(20, Mixed Race, Previous PrEP User).

These narratives suggest that the incentive can function simultaneously as a motivator and a compensator for the logistical burdens of clinic-based participation. This is a design implication that is particularly relevant for populations facing structural constraints on mobility and time, and it reinforces the importance of payment amount and program flexibility as core design features rather than optional enhancements.

Theme 2 - PrEP-related challenges increase perceived burden within CCT interventions

Participants also described burdens that arose directly from PrEP itself. This theme showed the clearest differentiation by PrEP use status. Never users and previous users more frequently described uncertainty about side effects and the daily consistency required for oral PrEP as sources of anticipated burden, while current PrEP users who raised this theme tended to focus on the ongoing management demands of maintaining clinic visits and prescription refills. Participants described daily oral PrEP as requiring consistency and attention that competed with busy schedules, while injectable PrEP was seen as reducing the daily burden of adherence but introducing its own set of challenges through more frequent clinic visits and the discomfort of injections.

“Injectable PrEP and daily pills...not everyone has time if they’re working...and is the clinic open during their hours?” (21, Latino, Current PrEP User).

“...Minor inconvenience as well is sometimes it could just be annoying keeping up with the daily routine of taking it. I just may forget one day because of life things, running late for work, can't grab my pills.” (20, Mixed Race, Previous PrEP User)

Side effects were particularly salient source of anticipated burden among previous and never users, several of whom cited concerns about kidney and liver health as reasons for hesitation. This pattern appeared across racial subgroups but carried different meanings. Among one Black previous user, organ health concerns reflected both personal health experience and broader community-level narratives about medical risk. While a Mixed-Race user, expressed similar concerns. One Latino never user, expressed that education about side effects shapes their hesitation.

“I think it's because of my weight issues or they talked about my enlarged liver or something like that. So I thought I would stop taking it because it would affect those places. For me at the time that's what I thought.” (33, Black, Previous PrEP User).

“If the PrEP...is killing my kidneys and liver...then I would not want to take it anymore.” (27, Mixed Race, Previous PrEP User)

“I have heard... nausea...that might... contribute to why I’m a little hesitant.” (23, Latino, Non-PrEP User)

Despite these concerns, participants also identified mitigation strategies. Several described how reminders, provider counseling about side effects, and flexibility in choosing between PrEP regimes would make participation in CCTs more manageable. Some current PrEP users described quarterly clinic check-ins as a benefit rather than a burden, since they combined PrEP adherence with STI testing and created a structure of accountability.

“...I think people would still need and honestly, as annoying as they may be, the three month check-ins... like they are actually helpful. So at least for me personally when I do them, I do all the different STI testing too, so that's obviously really helpful for me because then I'm like, cool. I'm getting it all done out of the way and not having to worry about like any other like anal and oral testing.” (33, Latino, Current PrEP User)

These narratives illustrate that PrEP-related burdens varied considerably depending on PrEP type, side effect concerns, and the level of program support available, and that same requirement could be experienced as either an obstacle or a supportive routine depending on a participant's prior experience with PrEP.

Theme 3 - Competing personal & economic situations limits participation in CCTs

Several participants described individual life circumstances as shaping perceived burden, including geographic relocation, relationship status changes, work and school demands, and competing financial priorities. This theme appeared across all PrEP use subgroups with similar frequency, though the specific circumstances cited differed. Current PrEP users more often described logistical challenges such as clinic hours and travel distance as the primary competing demands, while non-users and previous users

more frequently cited relationship status, specifically being in or moving toward a monogamous relationship as reducing the perceived relevance of participating in a PrEP-based CCT. What unified accounts across subgroups was the sense that burden is contingent on life circumstances that shift over time, and that program flexibility would determine whether participants remained engaged when those circumstances changed.

For non-users and some previous users, the prospect of entering a monogamous relationship was the most commonly named reason for potentially leaving a PrEP-based CCT. These participants did not frame this as disengagement from HIV prevention broadly but as a reassessment of personal risk that would reduce the perceived fit of the specific intervention.

"...I guess if I find myself in a situation where I am in a monogamous relationship where I am not like at all at risk for anything, I think then I would not really have a purpose for it." (23, Latino, Non-PrEP User)

"Maybe get into a committed relationship." (38, Black, Non-PrEP User)

Notably, at least one current PrEP user explicitly resisted this logic, describing monogamy as an insufficient reason to discontinue PrEP use and framing continued participation as a form of self-protection against unforeseen circumstances rather than a reflection of current risk level.

"If I were in a monogamous relationship that was completely monogamous, sexually closed, trustworthy... even if that were the case, I think I still would be taking PrEP just because I don't want to get blindsided." (28, Latino, Current PrEP User)

This distinction between participants who would exit a CCT upon entering a relationship and those who would not, points to differences in risk perception and self-protective motivation that may be relevant to program retention design.

Geographic relocation was another commonly cited competing circumstance, particularly among current users who described county-based program structures as a structural limitation on continuity of participation.

"Maybe if I move out of state for something, if the program isn't offered outside of where I'm moving, because I know they do it by counties sometimes and some counties aren't aligned." (27, Latino, Current PrEP User)

Work demands and scheduling conflicts surfaced consistently as a parallel set of competing demands. Participants described being busy as the most common threat to sustained participation, but several were quick to identify the financial incentive as the counterweight that would tip the balance back toward engagement even when schedules were demanding.

"I think people get busy and that's the only thing that I can see preventing me. But I think the money is going to be very helpful to help incentivize. So when I think of me and the people in my network I think the money would be very helpful, I hope anyone who's like, I'm too busy for this, would get over it with the money that's being incentivized." (34, Latino, Non-PrEP User)

"Maybe if time became an issue and if I had to travel really far for follow up appointments, those would probably be two deal breakers for me." (40, Black, Current PrEP User)

These responses show that burden is situational and responsive to life context, and that financial incentives are perceived as capable of offsetting competing demands when payment amounts are sufficient and program requirements are flexible. This is a finding that reinforces the importance of payment amount, payment frequency, and program portability as central design features for CCTs. This also suggests retention may depend as much on how programs respond to life disruptions as on how they are structured at enrollment.

Theme 4 - Stigma associated with HIV & PrEP imposes burdens on CCT engagement

Majority of participants identified stigma as a psychosocial burden layered onto the logistical work of participating in a PrEP-based CCT. This theme was the most consistently reflected across all PrEP use subgroups. Participants anticipated that being seen on PrEP or enrolled in a CCT program could lead to negative judgements from family members, peers, or healthcare providers. True burden of stigma manifested differently by PrEP use status. Never users and previous users more often described stigma as a barrier to initial engagement, while current PrEP users described it as an ongoing navigational burden they had already learned to manage but that CCT participation could amplify by increasing the visibility of their PrEP use.

At the cultural level, one Latino current PrEP user framed the stigma burden not as individual reluctance but as a shared, community-produced pattern of silence across both Black and Latino communities, locating its source in heteronormative conditioning rather than personal discomfort.

"I think it's just pride. I feel like at least from my experience with the Latino community and Black and Latino men, I feel like we're probably just conditioned

to be more, I guess heteronormative. And when it comes to like talking about taking PrEP and being incentivized for taking PrEP, being part of a program or just being involved in sexual health I feel like that probably scares them in a fact that or just like subconsciously where it's like they don't really want to be as open and as positive as they would be if they were being asked if they're on PrEP."
(28, Latino, Current PrEP User).

This framing situates stigma as a structural feature of community norms rather than a problem individual participants can resolve on their own, with direct implications for how CCT programs communicate about PrEP to prospective participants.

At the interpersonal level, stigma manifested differently across racial and ethnic lines. Among Latino participants, family-based stigma was the most consistently named mechanism. Never users in particular described concern that family members discovering their PrEP use would draw unwanted conclusions about their sexual behavior and risk profile.

"...if the relatives who I live with know that I'm on PrEP would probably create some issues. I guess if they knew what PrEP was and they would probably have some sort of stigma or maybe view that me taking PrEP would, I guess, reveal that I am someone who's being constantly at risk for the virus." (23, Latino, Non-PrEP User)

Among Black participants, stigma operated more prominently within peer and social networks. One Black current PrEP user described how PrEP use remained a touchy subject within his social circle, associated with promiscuity regardless of whether a financial incentive was involved.

“...for some of the people in my social circle, there's, a stigma associated with using PrEP, whether or not it's incentivized... the whole origins of PrEP for many of them, is a touchy subject in the sense that some of them believe that it promotes people to just be promiscuous and have multiple sex partners and be careless about their sexual health.” (40, Black, Current PrEP User).

These interpersonal accounts illustrate that stigma is not uniform across communities but takes distinct forms depending on the racial and ethnic contexts in which it operates, with family networks functioning as a primary stigma site for Latino participants and peer networks serving that role among Black participants.

“...but I know I've had friends who have told me like they're not comfortable talking to a doctor about their sexual activities because of the stigma...this might be another factor why some of them don't even engage in PrEP... some friends have told me that they've had nurses, like, give them a look like, oh, you slut,” (28, Latino, Previous PrEP User).

The racial and ethnic specificity of stigma pathways across this theme — family and religious networks among Latino participants, peer social norms among Black participants, and provider-level demoralization concentrated among Latino and mixed-race participants — suggests that stigma-reduction strategies embedded in CCT design should be community-specific. Confidentiality protections alone will not be sufficient for participants navigating stigma that operates primarily within their own households and social networks. Program designers should attend to the distinct entry points through which stigma reaches different communities and build mitigation strategies accordingly.

Theme 5 - Mistrust of health systems increases burdens of CCT participation

Several participants described mistrust of healthcare institutions as a burden that would weigh on CCT participation. This theme appeared across all three PrEP use subgroups and was among the most racially and ethnically specific in the dataset. Participants named distinct community-level sources of mistrust that mapped onto their racial and ethnic identities. A Latino current PrEP user named the absence of Black and Latino providers as a structural trust barrier, noting that linguistic exclusion — specifically the absence of Spanish-speaking staff — compounded the difficulty for monolingual Latino community members. A Native American and Latino previous PrEP user described hesitation toward medical advancement as a community-specific pattern within Indigenous communities, framing medical mistrust as a historically grounded rather than individually idiosyncratic response. Among Latino never users, medical mistrust was expressed through family and religious frameworks, with one participant describing family members who believed doctors intended harm and who cited religious prohibitions on medication use. Across these accounts, mistrust was not a generalized skepticism but a differentiated set of community-specific concerns with distinct historical and cultural roots.

"First of all, there's not a lot of Black or Latino like healthcare providers and if people aren't seeing themselves with, or not like relating to their providers, then it's kind of hard to trust people. I feel like this is a big thing for Hispanic communities — not being able to speak in Spanish for people who can't speak English that well." (21, Latino, Current PrEP User).

"As you imagined, there's some hesitation with medical advancements within my community. So just trying to break the stigma and assuring that the receivers are of services know it's a safe procedure." (20, Mixed Race (Native American/Latino), Previous PrEP User).

"Most of my family members are Christians and Catholic and they have this idea of being homophobic, racist... sometimes they don't want to go to doctors. They said, the doctors want to kill them, because they say God does not want anyone to use any medications." (20, Latino, Non-PrEP User).

Participants were clear that culturally concordant staff, Spanish language access, transparency about data use, and respectful treatment could reduce these barriers. Latino participants emphasized linguistic access and provider representation as well as how data is used. These accounts have direct implications for how CCT programs are staffed, translated, and introduced to different racial and ethnic communities.

"...the whole medical field has problems with that. I mean first of all, there's not a lot of Black or Latino like healthcare providers and if people aren't seeing themselves with, or not like relating to their providers, then it's kind of hard to trust people... that's a big thing for Hispanic communities... being able to speak in Spanish for people who can't speak English that well. And just, you know, being able to really provide them certain information to make them like aware of all the risks and benefits or whatever so that they're able to understand it so that, you know, like just making the information digestible for everyone, whatever that may be for different groups of people." (21, Latino, Current PrEP User)

“...maybe like the thing I mentioned previously about like people's information being available, like the whole confidentiality thing, just like a trust. If this trust is lost then probably people might not want to continue doing it.” (21, Latino, Current PrEP User).

These accounts collectively illustrate that medical mistrust is a set of community-specific responses shaped by structural exclusion, historical harm, and cultural frameworks that long predate any individual's encounter with a CCT program. These findings suggest that CCT programs cannot treat mistrust as a fixed characteristic of participants to be overcome but must instead recognize it as a rational response to structural and historical conditions that programs have a responsibility to address. Staffing decisions, language access, data transparency protocols, and community outreach strategies all represent concrete design features through which CCT programs can begin to rebuild the institutional trust that these communities have had legitimate reasons to withhold.

Theme 6 - Complex design and unclear expectations within CCT interventions elevates burden

Many participants reflected on how the design of a CCT itself could make participation feel more burdensome. Strict requirements, daily check-ins, rigid penalties for non-adherence, and unclear program rules were described as discouraging.

“...A concrete example would be like, I will give you a \$10 gift card for each month that you take PrEP every day, then I'd have to consider like what additional requirements is the program asking? Do I have to log into an app and

like complete multiple questions every day and it's like a short response and then I have to think long and harder be like, okay, is this really worth my time?" (40, Black, Current PrEP User)

"... I mean like life happens, so if the person is not consistent [with PrEP], and if something happens they should be allowed to either rejoin. I've never taken PrEP, so I don't think you're allowed to miss, but it should be structured in that way...there should be some exceptions made if something happens and the person needs to stop for a while, but then they should be able to rejoin. (27, Mixed Race, Non-PrEP User)

Participants responded positively when programs were described as transparent and flexible, valuing anonymity, clear rules, and the ability to re-engage if life circumstances interrupted adherence.

"...Anonymity, but of course with one like this, y'all are being very transparent about the anonymity taking place and what information it is used and isn't. So I think that's really great. So anonymity, transparency, accessibility. Y'all have been very flexible with scheduling as well, so I think that's a great plus." (20, Mixed Race, Previous PrEP User)

This theme shows how program design can either amplify or reduce burden. Every added requirement increased the perceived effort of participation, while transparency, flexibility, and human-centered program elements make participation feel worthwhile. These are such findings that translate directly into CCT design recommendations for the populations centered at this research.

5.4.3 Perceived Effectiveness

The TFA defines perceived effectiveness as the extent to which an intervention is perceived as likely to achieve its purpose (Sekhon et al., 2017). In this study, participants reflected on whether CCTs could achieve the goal of improving HIV prevention behaviors such as taking PrEP or getting tested for HIV. Most participants believed that incentives were effective motivators, however the nature and conditions of that effectiveness were understood in nuanced and context-dependent ways. Three themes emerged that capture participants' perspectives on perceived effectiveness, as shown in Table 5.3. Patterns by PrEP use status were most evident in Themes 2 and 3. Current PrEP users tended to assess effectiveness through the lens of sustaining behaviors they already practiced, while never users and previous users more often evaluated effectiveness in terms of whether CCT could overcome barriers to initiation or re-engagement.

Table 5.4. Perceived Effectiveness of a CCT Intervention for PrEP Use: Themes & Quotes	
Main Themes	Sample Verbatim Quotes
Participants Believe CCTs Effectively Motivate PrEP Use & HIV Prevention	“...because I feel like they'll be able to be on top of the ball with their health by being tested and making sure that they're HIV negative. And then also they'll receive an incentive by taking the initiative to get tested and finding what their status is.” (27, Mixed Race, Previous PrEP User) “...I think they do work because it encourages people to get tested more often than they would without it. So, I do think it does have its benefit.” (23, Latino, Non-PrEP User)
Perceived Effectiveness Depends on Context	“...I would say [CCTs wouldn't work well for] the homeless. I mean basically they don't have anywhere to go plus they wouldn't be consistent with it because maybe they don't have the resource to get in touch with other ones. I think that's the only one that I have.” (33, Black, Previous PrEP User) "I don't think it might sway them. It depends how educated they are about the medication. Because I mean, I met people, I met gay people and they're not necessarily like very active, so maybe that's why they probably think that they don't need it — but hey, if you're getting compensated for it, then you might change their mind." (26, Latino, Current PrEP User)
CCT Design and Delivery Shapes Perceived Effectiveness	"It's too risky to have it be incentivized by a group unless you can choose the people that are going to participate with you. But if it's a random four people that you are strangers with, I don't know these people, I don't trust them." (36, Black, Current PrEP User) "I think it works worse because if somebody were to become HIV positive within this thing that you're doing and then you're like, oh, you can't receive money anymore, it kind of feels like a slap in the face. It reinforces the idea of negative being clean." (26, Black, Previous PrEP User)

Theme 1 - Participants believe CCTs effectively motivate PrEP use and HIV prevention

Most participants described incentives as strong motivators for HIV prevention, particularly for PrEP use and HIV testing. This theme was consistently seen across all PrEP use subgroups, though with different emphases. Current PrEP users frequently described incentives as reinforcing existing habits and creating accountability, while never users and previous users more often framed CCTs as the external push that could help them move from intention into action.

Several participants pointed to real-world experience with CCT-adjacent program, particularly gift card incentives for HIV testing at community events in Los Angeles County, as evidence that incentives produce behavioral change in practice. One Latino previous PrEP user described how repeated incentivized testing had shifted his behavior from never testing to testing every three months, illustrating how positive reinforcement can build prevention routines over time.

“...the more you encourage people with positive reinforcement, the more you're gonna have them, start doing it, whether it's subconsciously or consciously that they just start doing it as a habit... sometimes I just get tested and I don't even remember about the incentives until like, later on... and that's what I'm saying like, you know, when I first started off, I wouldn't get tested like at all...nowadays, I get tested every three months.” (28, Latino, Previous PrEP User)

This account is notable because it traces a trajectory from non-engagement to routine and participants in all three subgroups described as a plausible outcome of CCT participation. A Latino current PrEP user offered a similarly grounded rationale, framing CCT participation as straightforward.

“...I mean, people like money and stay healthy, why not get paid for it? So it's like a no-brainer really. It's not really too complicated, it's just you get to stay healthy and get paid for it. I mean, like it's just a win-win.” (33, Latino, Current PrEP User)

Participants also described incentives as tools to reduce forgetfulness, procrastination, and what several called “laziness” - a framing that appeared most frequently among never users who described motivation as the primary barrier to PrEP initiation. One Latino never user articulated this directly, connecting the financial

incentive to both personal health rationale and a broader sense of communal responsibility.

“...Yes, I think the money is going to definitely help. I think everyone understands that it's important to be on it. And some people just get lazy, but I think once you introduce the money or an incentive, like the laziness kind of goes away because now you have like the health aspect and like this is what's best for my body and this is what's best for like other people too. But now I'm going to be incentivized with money. Like that's just going to take away the laziness that maybe other people have.” (34, Latino, Non-PrEP User)

At the same time, participants acknowledged the limitations of specifically incentivizing PrEP use. Side effects, insurance gaps, and daily pill demands led several previous and never user participants to suggest that incentivizing HIV testing or HIV-negative status more broadly might be more immediately accessible for people who cannot or will not take daily oral PrEP. One Mixed Race previous PrEP user described this alternative as reducing structural friction while maintaining the core prevention goal.

“...if their insurance doesn't cover a lot of it or all of it and they have to pay out of pocket for like copays and things like that, that could be hard for them to take PrEP on a daily basis. And at least with being incentivized for staying HIV negative, they can always check their status and find out that if they're negative or positive and then be incentivized for that so that that would be easy for them to do.” (27, Mixed Race, Previous PrEP User)

Across these responses, CCTs were not viewed as coercive - a major critique in the literature - but seen more as a practical strategy that supports people to engage in HIV prevention in ways that fit their own lives and motivations.

Theme 2 - Perceived effectiveness depends on context

Many participants did not view CCTs as universally effective. Instead, they emphasized that incentives would work differently depending on individual circumstances, relationship status, financial strain, and personal attitudes toward HIV prevention. This theme showed the clearest differentiation by PrEP use status. Never users and previous users more frequently described effectiveness as contingent on factors that had previously prevented them from initiating or maintaining PrEP such as side effect concerns, insurance gaps, and relationship context. Current PrEP users were more likely to assess effectiveness in terms of whether incentives were sufficiently motivating to sustain long-term adherence rather than prompt initial uptake.

Relationship status was one of the most commonly cited contextual factors shaping perceived relevance. Participants across PrEP subgroups noted that individuals in monogamous relationships were unlikely to see a PrEP-based CCT as personally relevant, regardless of the incentive amount. A Latino never user framed this plainly.

“...Well, if they were in a committed relationship, I don't think they would have interest to start the program. So I don't think, yeah, I guess for those people they wouldn't, well, I would think they wouldn't have an interest in this program.” (23, Latino, Non-PrEP User)

A Latino current PrEP user added that education level and familiarity with PrEP were equally important contextual variables, noting that financial incentives might change

minds among people with lower HIV risk awareness but would have less impact on those who had already decided PrEP was not relevant to their lives.

“...I mean, I don't think it might, may not sway them. It depends how educated they are, I guess about the medication. Because I mean, I met people, I met gay people and they're not like necessarily like very active, so maybe that's why they probably think that they don't need it or, but hey, I mean, if you're getting compensated for it, then you might change their mind.” (26, Latino, Current PrEP User)

Financial context was another recurring theme through which participants evaluated effectiveness. Incentives were described as most meaningful and effective for individuals experiencing economic precarity, and this perspective carried a race-specific dimension in the data. Black participants across PrEP use subgroups were most likely to frame financial effectiveness in structural terms connecting CCT relevance to income level and material need. One Black current PrEP user articulated this explicitly, locating the intervention's greatest potential impact among those experiencing ongoing financial difficulty.

“...Maybe individuals who are, not like the amount would be life changing, but maybe individuals who are maybe struggling financially and a cash transfer or something of fifty to a hundred dollars per month could help them out tremendously. I could see like, you know, because somebody, I don't know if that answers your question. Maybe for somebody who's maybe struggling or having some financial, if they're having like ongoing financial difficulties.” (40, Black, Current PrEP User)

A Black never user extended this further, suggesting that financial stability would render CCTs largely irrelevant, and that effectiveness was therefore most plausible when programs targeted economically vulnerable populations.

"...there are some people who are financially well off where financial incentives won't be an issue versus like people who are really somewhat struggling." (32, Black, Non-PrEP User)

Finally, participants noted that program messaging itself could determine effectiveness. One Black current PrEP user framed this in explicitly collective terms, suggesting that emphasizing the greater good would expand the program's reach across communities that might otherwise find PrEP irrelevant to their personal circumstances.

"...No, I think it would, it depends how the information is delivered and it really depends on the person. If someone can feel that they are doing something for the greater good because of the science and because of the study, then I think it will work for everybody no matter who they are, if you believe in science and if you believe in the greater good and them working together is going to help someone, although it may not relate to you. But if you're a non-believer, then it won't work. So I guess everybody's different." (36, Black, Current PrEP User)

These accounts suggest that effectiveness was understood as situational and contingent on how incentives interact with their financial context, health literacy, relationship context, and delivery strategies.

Theme 3 - CCT design and delivery shapes perceived effectiveness

Many participants stressed that the specific design and delivery features of a CCT would directly determine its effectiveness. Program features including (1) whether

incentives were offered individually or collectively; (2) whether they were tied to PrEP use or HIV-negative status more broadly; and (3) the degree of flexibility and autonomy built into the program. These all were seen as critical determinants of whether CCTs would achieve their intended purpose. This theme was expressed across all PrEP use subgroups, though current PrEP users more often spoke from a position of familiarity with existing program structures, while non-users were more likely to describe design features in terms of what would need to be true for them to consider participating.

Across both groups, a consistent pattern emerged: the more a program allowed participants to engage on their own terms, the more effective it was perceived to be. The question of individual versus group-based incentive structures generated the most varied responses in the dataset. Some participants described the potential accountability benefits of group-based designs, noting that shared participation could help sustain engagement and create a sense of community around PrEP use. A Latino current PrEP user described this dynamic as socially generative, framing the group format as building community connections that would not otherwise exist.

"They would be able to message each other and be like, hey, did you take your PrEP? In a sense like a support group. Like you're creating a community." (26, Latino, Current PrEP User)

Others raised concerns that group formats introduced unfair dependencies that would discourage participation. A current Black PrEP user rejected group designs specifically because they linked individual reward to the behavior of strangers, framing the resulting dependency as incompatible with the trust required for health-related decision making.

"It's too risky to have it be incentivized by a group unless you can choose the people that are going to participate with you. But if it's a random four people that are strangers that you are not going to see — I don't know these people, I don't trust them." (36, Black, Current PrEP User)

A Latino current PrEP user extended this concern, arguing that making reward contingent on others' adherence would turn participants away from the program entirely.

"I think it would be counterintuitive, a little bit less participated in when it comes to being dependent on whether you get anything out of the study, whether you yourself did what you needed to do, but others didn't. I think that'll probably turn people off from participating." (28, Latino, Current PrEP User)

Autonomy and flexibility in how participants could earn incentives emerged as the most consistently valued design feature across the sample. Participants broadly expressed that allowing individuals to engage in the prevention behavior that best fit their own circumstances would expand the program's reach, reduce the coercive quality that several associated with PrEP-only designs, and increase the likelihood of sustained engagement. A mixed-race never user articulated this in direct terms, noting that freedom itself was the mechanism through which a flexible design would work.

"You give them freedom. Even if you do pay somebody to take PrEP, there's no guarantee that they're going to take it every day, they might be in it for the money. But they could still remain negative." (32, Black, Never PrEP User)

A non-user made the same argument from a behavioral angle, describing how giving participants freedom to choose their prevention strategy would prompt people who

would not otherwise engage with HIV testing or PrEP to begin doing so simply because any path to staying negative was eligible for reward.

"It's really giving people the freedom to stay HIV negative in their own way that works for them. For people that might not get tested as often, it would incentivize them to say, oh, I should get tested. People that don't use condoms would be more likely to use condoms. The money is going to get people doing whatever keeps them negative." (27, Mixed Race, Never PrEP User)

A Black non-user grounded the autonomy argument in a community-specific dimension, connecting flexible program design to the particular importance of privacy around sexuality in Black communities and framing the freedom to choose one's prevention method as a form of structural support rather than institutional imposition.

"Most people like freedom and autonomy, especially privacy in regards to sexuality, especially for the Black community which is very taboo and not very supportive of it. So to feel we get support from anywhere or any given time, or incentivized to do something that you already want to do, it's an added bonus." (38, Black, Never PrEP User)

A Latino current PrEP user added a pharmaceutical mistrust dimension to the autonomy argument, describing how his own historical apprehension about PrEP, rooted in distrust of pharmaceutical institutions, would have made a PrEP-mandatory CCT less appealing than one that offered flexibility in prevention approach.

"It sounds like you'd get more people on board if you took the approach of letting people take whatever they want to stay negative. For people who are apprehensive about taking PrEP, it's also distrust of big pharmacy and big

medicine, at least for me, that's why I was apprehensive. So people who are distrusting of big pharma are like, why are they going to pay me to take pills? It sounds weird." (24, Latino, Current PrEP User)

At the same time, several participants raised concerns that linking payments to HIV-negative status could inadvertently reproduce stigma by framing negativity as the behavior being rewarded. One Black previous PrEP user articulated this concern with clarity, connecting it to the broader work of HIV destigmatization and describing the loss of eligibility upon testing positive as a form of punishment that would reinforce a clean/unclean binary.

"I know we've done so much work to de-stigmatize being HIV positive and I feel like if somebody were to become positive within this thing that you're doing and then you're like, oh, you can't receive money anymore, that would make me feel bad as a person. It reinforces the idea of negative being clean." (26, Black, Previous PrEP User)

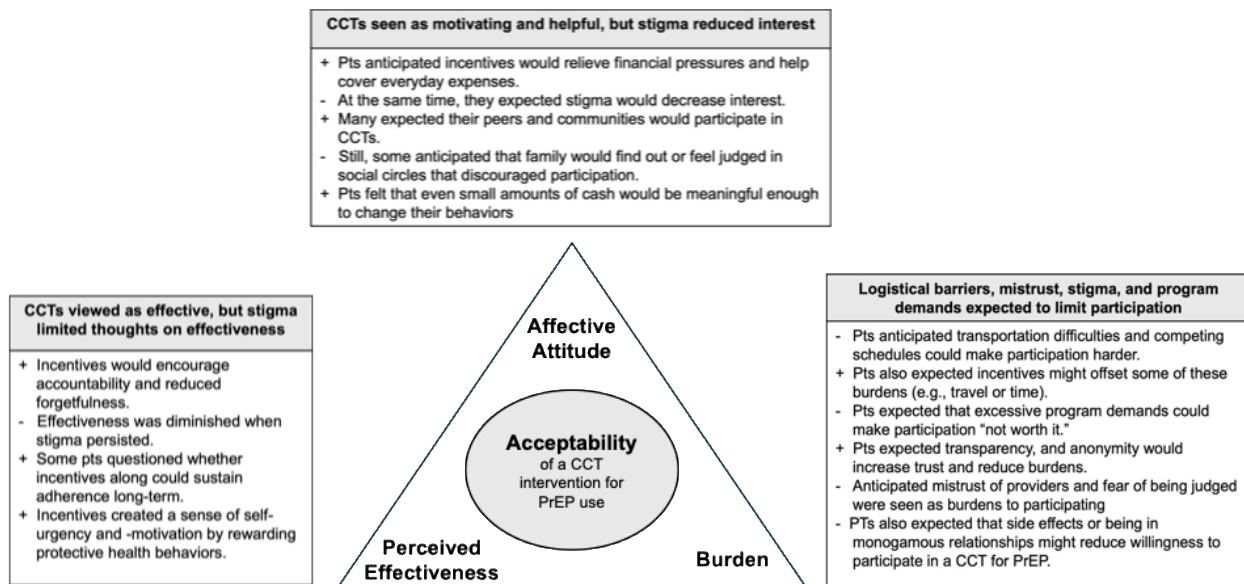
This concern appeared specifically among Black participants and carries analytic weight given the disproportionate burden of HIV in Black communities and the documented role of stigma in deterring prevention engagement.

Taken together, these accounts reveal that participants were less focused on whether incentives work in principle and more focused on how specific design and delivery choices would shape effectiveness in practice. Individual versus group formats, the behaviors tied to incentives, the degree of autonomy and flexibility, and the potential for inadvertent stigma all emerged as design-level determinants of perceived

effectiveness with direct implications for how PrEP-based CCTs should be structured, communicated, and delivered to Black and Latino MSM in Los Angeles County.

5.5 Discussion

The findings of Study One directly address the three research questions guiding this study. Analyzing the data through the TFA demonstrated that participants' views were shaped not only by individual motivations and experiences but also by the broader social, cultural, and structural contexts in which those motivations were situated. Each construct illustrated a distinct but interconnected dimension of acceptability. Affective attitude captured how participants felt about receiving incentives for PrEP use. Burden reflected the perceived effort and barriers associated with CCT participation. Perceived effectiveness revealed participants' beliefs about whether incentives could realistically improve HIV prevention outcomes. The interrelationship among these constructs are seen in Figure 5.1, which demonstrates how affective attitude, burden, and perceived effectiveness converge to shape overall CCT acceptability. Positive emotional reactions and confidence in a program's potential reinforced one another, while burdens such as stigma, medical mistrust, and structural barriers modified enthusiasm and willingness to engage. This interconnectedness suggests that CCT acceptability is dynamic, shifting in response to the balance between individual motivation, perceived effort, and belief in intervention impact.



+ Positive perception of the construct in relation to the intervention; - Negative perception of the construct in relation to the intervention
 Pts – Participants; CCTs – Conditional cash transfers; PrEP – pre-exposure prophylaxis

Figure 5.1. Summary of Themes and Subthemes Arranged by Interconnected Acceptability Constructs for a PrEP-based CCT Intervention

Across all three research questions, participants generally described positive emotional and personal reactions to receiving financial incentives for PrEP use. Incentives were viewed as affirming and practical forms of support that acknowledged the cost and effort of consistent HIV prevention. Many linked the appeal of CCTs to broader economic insecurity and the rising cost of living in Los Angeles County, framing incentives as tangible recognition of structural barriers rather than coercion. For some, incentives were described as providing motivation, accountability, and willpower for adherence. For example, one participant noted that a structured incentive program might help him shift from event-driven PrEP use (2-1-1 PrEP) to daily oral PrEP, because the program would create external motivation and routine. This perspective highlights that incentives may influence not only whether individuals initiate or stay on PrEP, but also which PrEP regimens they feel capable of sustaining, a finding with direct implications for how CCT conditionality is structured. These accounts also

underscore the need for CCTs to be aligned with clinical guidance and participant preference, so that incentives support appropriate regimen choice rather than implicitly privileging one PrEP modality over another.

Participants also reflected on how injectables might fit into this picture. While most narratives centered on oral PrEP, several participants suggested that long-acting injectable PrEP could reduce the day-to-day burden of adherence yet increased reliance on clinic visits where stigma and provider interactions are more salient. For these individuals, a CCT attached to injectable PrEP might reduce logistical barriers and support retention in care, but it would not eliminate concerns about being judged or misunderstood in clinical or social environments. These findings suggest that CCTs can support different PrEP modalities by compensating for the specific burdens associated with each regimen, while still requiring thoughtful attention to stigma and safety within healthcare settings.

Although participants overwhelmingly described incentives as empowering, their enthusiasm was consistently tempered by stigma tied to HIV, PrEP, sexuality, and perceptions of promiscuity. Never users and previous users described stigma as a barrier to initiation that CCTs alone might not overcome, while current PrEP users described it as an ongoing navigational burden that CCT participation could amplify by increasing the visibility of their PrEP use. Importantly, participants also highlighted institutional stigma. When stigma comes from providers or within healthcare institutions, CCTs that rely on clinic-based activities may not be sufficient to motivate engagement and could be undermined if participants perceive that accessing incentives requires repeated exposure to stigmatizing or discriminatory environments. This finding

underscores the need for CCT interventions to be coupled with provider training, structural-stigma reduction efforts, and options for privacy-protective delivery methods such as community-based or telehealth supported approaches.

For CCTs to be acceptable for communities disproportionately impacted by HIV, program designers and interventionists must be intentional about safeguarding participant privacy and building trust with populations who have been historically overlooked in health research. Participants recommended features such as culturally responsive staff, clear and transparent communication, flexible scheduling, and low-burden procedures as ways to reduce perceived burden and increase comfort with participation. These recommendations suggest that CCTs should be designed as equity-oriented interventions that directly engage with rather than ignore the structural conditions that produce HIV disparities. By doing so, CCTs may operate not only as behavioral interventions but also as tools that redistribute resources, acknowledge structural constraints, and validate participants' efforts to maintain their health.

Perceptions of effectiveness were similarly nuanced. Participants generally believed CCTs could increase PrEP uptake and adherence, often describing incentives as the extra push that could move individuals from contemplation to action, especially for those facing financial or social barriers. Effectiveness was also understood as context dependent. Incentives tied to maintaining an HIV-negative status were seen as potentially stigmatizing or punitive, particularly for communities already blamed for HIV transmission, whereas incentives linked to PrEP adherence, clinic visits, or routine testing were perceived as more empowering and supportive. Participants emphasized that incentives should “meet people where they are” and support behaviors they were

already motivated to pursue but found difficult to sustain because of structural and social barriers. In this sense, CCTs were often framed as creating a degree of structural stability, helping with bills, transportation, or basic needs, that enabled participants to act on pre-existing motivation for HIV prevention.

Participants' reflections on "doing it for the cash" offer additional insight into the debate about coercion. Some noted that people might feel "less shy" about acknowledging they were participating in a CCT primarily for the financial incentive and described peers who openly acknowledged getting paid to engage in HIV-related programs. Rather than interpreting this as evidence of manipulations, participants framed it as realistic response to economic hardship and as a normalized, even pragmatic, way of engaging in prevention. For them, the central ethical issue was not whether money was a motivator but whether the program was transparent, voluntary, and respectful. This interpretation challenges common critiques that CCTs undermine autonomy and suggests that in contexts shaped economic precarity, incentives can function as both a practical resource and a socially intelligible reason to participate in prevention programs (Ladhani & Sitter, 2020).

This study addresses several important gaps in the literature. While CCTs have been tested extensively in global HIV prevention and treatment programs, particularly in sub-Saharan Africa and Latin America (de Sampaio Morais et al., 2022; Geng et al., 2023; Packel et al., 2020; Rasella et al., 2022), there is limited qualitative evidence exploring the acceptability of PrEP-based CCTs among Black and Latino cisgender MSM in the United States. This study builds on the broader evidence showing that CCTs can improve HIV testing, linkage to care, and ART adherence globally (Baird et

al., 2012; Hadis et al., 2025; Swartz et al., 2022) by specifically focusing on PrEP use among a population disproportionately affected by HIV yet remain underrepresented in CCT intervention development. It also illustrates how acceptability sits at the intersection of structural realities, including stigma, medical mistrust, and economic precarity, in ways that quantitative preference studies alone cannot capture. Furthermore, while critics often raise concerns that CCTs are coercive or paternalistic (Fiszbein et al., 2009), these findings diverge from and challenges this narrative. Participants overwhelmingly perceived incentives as supportive tools that validated or rewarded their engagement in HIV prevention rather than as mechanism that restricted their agency or dictated what is best for them.

These insights carry important implications for policy and implementation. Participants' perspectives suggest that CCTs should be positioned as behavioral nudges as well as and more importantly as structural investments in health and HIV equity. By reducing barriers to PrEP uptake and adherence, CCTs may generate long-term costs savings, as demonstrated in various global health settings (García & Saavedra, 2017; Kabeer & Waddington, 2015), since preventing HIV infections is far less costly than lifetime treatment. Policymaker buy-in will likely depend on evidence of feasibility, sustainability, and integration with existing systems of social policy. Framing CCTs as a cost-saving component of public health infrastructure, aligned with social welfare programs such as food or housing assistance, could help situate them within established social policies and strengthen stakeholder acceptance. At the same time, any policy efforts must be grounded in the priorities of communities most affected by HIV to ensure that CCTs do not reproduce the very inequities they aim to address.

Several strengths of this study warrant discussion. This project is one of the first to apply the TFA to assess CCT acceptability for PrEP use specifically among Black and Latino MSM in the United States. The qualitative design allowed for rich exploration of lived experiences and nuanced perspectives that quantitative measures of acceptability often overlook. The focus on populations disproportionately affected by HIV ensures that the findings are also relevant to groups at greatest need of HIV prevention services. Limitations should also be noted. Because participants reflected on a hypothetical CCT intervention, responses were based on anticipated experiences rather than actual engagement in a CCT. The study was geographically limited to Los Angeles County, and thus the findings may not be generalizable to other communities or geographic contexts. Social desirability bias may also have influenced how participants framed their responses. Finally, the study examined only three of the seven TFA constructs, leaving other dimensions of the TFA unexplored, such as ethicality, intervention coherence, opportunity costs, and self-efficacy.

Future research should build on these findings incorporating all TFA constructs, as well as explore provider or interventionist perspectives on CCT delivery, and piloting such programs to assess how acceptability evolves with real-world participation. Additional research integrating cost-effectiveness analyses and policy evaluation will also be critical for demonstrating the long-term sustainability and scalability of CCTs. A robust research-to-policy pipeline, economic analyses, and community-engaged evaluation will be essential for securing broader stakeholder buy-in and ensuring that CCTs are implemented in ways that advance health equity.

5.6 Conclusion

Study One demonstrates that CCTs are an acceptable and promising strategy for promoting PrEP use and adherence among Black and Latino cisgender MSM in Los Angeles County. Participants perceived incentives as supportive, empowering, and tangible forms of assistance that reduced financial strain and helped sustain consistent engagement in HIV prevention. Rather than functioning solely as behavioral motivators, CCTs were viewed as mechanisms that expand opportunity and agency, making preventive action more attainable within contexts of economic and social constraint.

By grounding participants' perspectives within the TFA and Social Ecological Model's individual-intrapersonal level, Study One contributes new knowledge about how financial incentives can function as effective public health interventions while remaining responsive to the structural and sociocultural realities of communities most affected by HIV. The findings suggest that CCTs should not be seen as temporary or transactional solutions but as integral components of broader strategies aimed at dismantling barriers to HIV prevention. Designing and implementing CCTs with transparency, cultural responsiveness, stigma reduction, and flexibility in mind can strengthen both their acceptability and their long-term public health impact. Chapter 6 extends this analysis to the individual-behavioral level, examining how PrEP use status shapes preferences for specific CCT design attributes among the same population.

CHAPTER 6: STUDY TWO - RESULTS & DISCUSSION

6.1 Chapter Overview

This chapter reports the quantitative findings of Study Two, which examines whether preferences for a PrEP-based conditional cash transfer (CCT) intervention differ by PrEP use status among Black and Latino cisgender men who have sex with men (MSM) in Los Angeles County. Data are drawn from a discrete choice experiment (DCE) completed by 133 study participants. The chapter is organized to mirror the analytic workflow. First, I describe the analytic sample, including sociodemographic characteristics and key PrEP and sexual health indicators. Next, I summarize the DCE design and dataset structure, including coding, reference categories, and quality control checks. I then present exploratory summaries of choice patterns overall and by PrEP use status to provide an initial view of potential preference difference. The primary analyses use conditional logistic regression to estimate preference weights for each CCT attribute level and to test whether attribute preferences vary by PrEP use status through PrEP-by-attribute interaction terms, thereby evaluating the study hypotheses. Findings are interpreted using the Health Belief Model as a guiding framework for understanding how incentive features may map onto perceived benefits and perceived barriers relevant to PrEP engagement, with the goal of informing the design of an acceptable PrEP-based CCT intervention. The subsequent sections address the following study aim, research question, and hypotheses:

Study Two Aim. To assess how an individual behavioral characteristic, specifically PrEP use status, shapes the design preferences for a PrEP-based CCT intervention among Black and Latino MSM.

- RQ2.1. How do preferences for CCT attributes differ by PrEP use status (PrEP user vs. non-PrEP user)?
 - H2.1. Non-PrEP users will prefer higher payment amounts compared to PrEP users.
 - H2.2. Non-PrEP users will prefer more frequent payments compared to PrEP users.
 - H2.3. Non-PrEP users will prefer cash over gift cards compared to PrEP users.
 - H2.4. Non-PrEP users will prefer injectable PrEP over daily oral PrEP compared to PrEP users.

6.2 Sample Characteristics & Data Structure

6.2.1 Analytic Sample

The final analytic sample for Study Two included 133 participants who completed the DCE. The data collected also captured sociodemographic characteristics and HIV prevention-related measures, including PrEP knowledge, PrEP use, and sexual health behaviors. The DCE included 8 discrete choice tasks per participant, and each task presented 2 intervention options with randomized attribute levels for payment amount, payment frequency, payment type, and PrEP type. This design generated 2,128 option-level observations nested within 1,064 respondent-task choice sets (133 participants x 8 tasks x 2 options) for conditional logistic regression modeling. Throughout this chapter, N=133 refers to the participant-level analytic sample, whereas 2,128 observations refers to the long-format DCE dataset used for conditional logistic regression estimation.

6.2.2 Sociodemographic Characteristics

Sample characteristics of 133 Black and Latino MSM are presented in Table 6.1. Most participants were under 40 years of age (n=98, 73.6%), with 36.8% (n=49) aged 20-29 and 36.8% (n=49) aged 30-39. Nearly half of the sample identified as Latino

(49.6%, n=66), followed by Black participants (36.8%, n=49) and participants of mixed race (13.5%, n=18). Educational attainment was high: 47.4% (n=63) reported completing a college degree and 14.3% (n=19) reported completing graduate-level studies. In terms of employment, over half of participants were employed full-time (54.9%, n=73), while 21.1% worked part-time (n=28). Housing status varied, with most participants reported they rented their current home (73.7%, n=98); 18% reported unpaid arrangements (n=24) and 8.3% reported home ownership (n=11).

Table 6.1. Demographic Characteristics among Full Sample (N=133)			
Demographics		Overall	
		n	%
Age			
	20-29	49	36.8
	30-39	49	36.8
	40-49	22	16.5
	50+	13	9.8
Race/Ethnicity	Black	49	36.8
	Latino	66	49.6
	Mixed Race	18	13.5
Highest Level of Education Completed	Below high school diploma	2	1.5
	High school diploma/GED	18	13.5
	Some college / Associate's degree	31	23.3
	College /University	63	47.4
	Graduate studies	19	14.3
Employment Status	Part-time	28	21.1
	Full-time	73	54.9
	On disability	3	2.3
	Not working	29	21.8
Housing Status during the last three months	Own	11	8.3
	Rent	98	73.7
	Unpaid housing arrangement	24	18.0

6.2.3 PrEP and Sexual Health Indicators

Table 6.2 summarizes PrEP-related indicators and sexual health indicators to contextualize what “PrEP user” and non-PrEP user” represent in this sample.

Approximately half of participants (49.6%; n=66) reported current PrEP use, indicating a substantial variation in prevention engagement. Among current PrEP users, adherence patterns were heterogenous, with a majority reporting daily use (57.6%; n=38) and a sizeable subset reporting less consistent use (42.4%; n=28), suggesting PrEP use in this study captures differences not only in uptake but also in persistence and consistency.

Participants also reported a routine sexual health monitoring in the prior 6 months. Most reported 1-2 HIV tests (62.4%, n=83) and 1-2 STI tests (63.2%, n=84), with a smaller proportion reporting more frequent HIV (n=3, 2.3%) and STI testing (n=2, 1.5%). The PrEP and sexual behavior indicators in Table 6.2 describe a sample with substantial heterogeneity in HIV prevention engagement. Testing frequencies were moderate overall, with most participants reporting one to two HIV and STI tests in the prior sex months, and a meaningful proportion reporting no recent testing. Sexual behavior indicators further reflect a wide range of risk contexts, from participants reporting no recent and sex partners to those reporting 10 or more and condom use was inconsistent across the sample.

This heterogeneity is analytically important for two reasons. First, it confirm that PrEP use status in this sample reflects genuine variation in prevention behavior, strengthening its justification as a moderator variable in the conditional logistic regression models. Second, the diversity of prevention context represented here, spanning current adherent users, less consistent users, and those who have never

initiated PrEP. This suggests that preferences for CCT design features may reflect meaningfully different barriers and needs across subgroups. The moderation analyses reported in Section 6.5 are designed to evaluate whether and how these differences shape attribute preferences.

Table 6.2. PrEP Utilization and Sexual Health Characteristics among Full Sample									
Sexual Behavior Characteristics		Overall		Current PrEP Users		Inconsistent PrEP Users		Non-PrEP User	
		n = 133	%	n = 38	%	n=28	%	n=67	%
PrEP Discussion - 12 months									
No		42	31.7	3	7.9	2	7.1	38	56.7
Yes		89	66.9	35	92.1	26	92.9	29	43.3
PrEP Use									
No		67	50.4	0	0.0	0	0.0	67	100.0
Yes		66	49.6	38	100.0	100	100.0	0	0.0
If PrEP Use - Type of User									
Every Day		38	42.4	38	100.0	0	0.0	0	0.0
Almost Every Day		24	36.4	0	0.0	24	85.7	0	0.0
Less Often		4	6.1	0	0.0	4	14.3	0	0.0
STI Testing - Last 6 months									
No Test		13	9.8	0	0.0	1	3.6	12	17.9
Infrequent Tester (1-2 times)		84	63.2	28	73.7	17	60.7	39	58.2
Regular Tester (3-6 times)		34	25.6	9	23.7	10	35.7	15	22.4
Frequent Tester (7+ times)		2	1.5	1	2.6	0	0.0	1	1.5
HIV Testing - Last 6 months									
No Test		12	9.0	0	0.0	1	3.6	11	16.4
Infrequent Tester (1-2 times)		83	62.4	22	57.9	17	60.7	44	65.7
Regular Tester (3-6 times)		35	26.3	14	36.8	10	35.7	11	16.4
Frequent Tester (7+ times)		3	2.3	3	5.3	0	0.0	1	1.5
# of Anal Sex Partners - Last 6 months									
No Partners		10	7.5	1	2.6	0	0.0	9	13.4
1-4 Partners		64	48.1	12	31.6	16	50.0	38	56.7
5-9 Partners		23	17.3	8	21.1	5	17.9	10	14.9
10+Partners		36	27.1	17	44.8	9	32.2	10	15
Condom Use - Last 6 months									
Not Sexually Active		10	7.5	1	2.6	0	0.0	9	13.4
No Condom Use		15	11.3	1	2.6	3	10.7	11	16.4
Yes Condom Use - with 1 Partner		108	81.2	36	94.8	25	89.3	47	70.2

6.2.4 DCE Data Structure and Study Variables

DCE dataset and structure. The DCE data were structured in long format for conditional logistic regression analysis. In this format, each row represented one option within a respondent's choice task. With 133 participations, 8 choice tasks per participant, and 2 intervention options per task, the analytic dataset contained 2,128 option-level observations, corresponding to 1,064 respondent-task choice sets. This structure allowed estimation of attribute-level preferences at the option level while accounting for repeated choices by the same respondent. In all conditional logistic regression models, standard errors were clustered at the respondent level.

Outcome variable. The dependent variable was an option-level binary indicator of selection (chosen), coded 1 for the intervention option selected in each choice task and 0 for the non-selected option. This outcome specification aligns with DCE design (Richardson et al., 2009; Street et al., 2008), in which the observed outcome is the participant's choice between intervention options within each respondent-task choice set.

Predictor variables. Independent variables were the various CCT design attributes describing each intervention option: 1) payment amount, 2) payment frequency, 3) payment type, and 4) PrEP type. These attributes serve as predictors because they vary across intervention option within a choice task and are hypothesized to influence the probability that an intervention option is chosen.

Moderator variable (PrEP use status). PrEP use status was measured using a self-report item assessing current PrEP use in the past 12 months (Yes/No) and coded as a binary indicator (prep01; 1=current PrEP use, 0=not currently using PrEP).

Because PrEP use status is a respondent-level characteristic that is constant within each choice task, it cannot be estimated as a standalone main effect in conditional logistic regression models that compare intervention options within tasks. Therefore, preference heterogeneity by PrEP status was evaluated using PrEP-by-attribute interaction terms, which test whether attribute preference weights differ between PrEP users and non-PrEP users.

Covariates and adjustment strategy. I did not include traditional covariates in the primary models because the choice tasks were design so that the CCT attributes differed across the two options within each task, and the estimated attribute effects from these within-task comparison. This design reduces concern that respondents' characteristics confound the association between attribute levels and choice, so covariates were not needed as control variables for unbiased estimate of attribute preference weights (Lancsar et al., 2017; Lancsar & Louviere, 2008). In conditional logistic regression, respondent characteristics (e.g., age, race/ethnicity, education) do not change within a respondent-task choice set and therefore cannot be estimated as main effects (Lancsar et al., 2017; Lancsar & Louviere, 2008); when relevant, I assessed preference heterogeneity by interacting respondent characteristics with attribute levels (e.g., PrEP use-by-attribute interactions).

Coding, reference categories, and quality control. Table 6.3 summarizes attribute levels as shown to participant, dataset coding, and reference categories used for model estimation. Reference categories were coded as level 1 for each attribute and implemented using Stata factor-variable notation (ib1.). Quality control checks indicated approximately balanced exposure to attribute levels across interventions. Across the

2,128 option-level observations, payment amount levels were distributed evenly (33.2%-33.5% per level), and payment frequency levels were similar balances (33.4%-33.5% per level). The binary attributes (payment type and PrEP type) were also designed to be approximately balanced, reducing concern that estimated preference parameters reflect design imbalance rather than stated preferences.

Table 6.3. DCE Attribute Levels, Dataset Coding, and Reference Categories			
Attribute	Level (Shown to study participants)	Dataset code	Reference Category
Payment Amount	\$300 per year	1	Yes
	\$600 per year	2	No
	\$1,200 per year	3	No
Payment Frequency	Monthly	1	Yes
	Every 3 Months	2	No
	Annually	3	No
Payment Type	Cash	1	Yes
	Gift Card	2	No
PrEP Type	Daily Oral PrEP	1	Yes
	Injectable PrEP	2	No
Note. Reference categories were coded as level 1 for each attribute and implemented using Stata factor-variable notation (ib1.)			

6.2.5 Justification for deviations from the proposal

In the original proposal, I planned to estimate a multinomial logistic regression model with PrEP use as the primary predictor variable and the DCE attribute levels treated as outcome variables. As the analysis progress, I revised this plan to better match how DCE data are structured and analyzed.

The core issue is one of analytic logic. In a DCE, participants are repeatedly asked to choose between two intervention options, and the natural question the data can answer is: what makes someone more likely to choose one option over the other? The revised approach reflects this logic directly, the outcome is whether a given

intervention option was selected in each choice task, and the CCT attributes that describe each option, such as payment amount, payment frequency, payment type, and prep type, serve as the predictors. This is the standard analytic framework for DCE data and produces more interpretable estimates of how much each design feature influences participant preferences. The original approach would have inverted this logic in a way that does not align with how DCE data are generated or how preference weight are typically estimated in this literature (Hall et al., 2004; Hauber et al., 2016; Lancsar et al., 2017).

Consistent with this framework, I specified the dependent variable as an option-level indicator of selection (chosen=1 if the option was selected; 0 if the option was not selected) and estimated conditional logistic regression models that compare intervention options within each respondent-task choice set. This approach is widely used for DCE data because it directly estimates attribute preference weights from within-task comparisons (Hauber et al., 2016; Lancsar et al., 2017). Accordingly, I operationalized PrEP use in the past 12 months as a moderator and tested whether attribute preferences differed by PrEP use status using PrEP-by-attribute interaction terms was jointly different from zero (StataCorp, 2025). These decisions were informed by iterative review of the DCE methods literature and refined through consultations with the UCLA's Office of Advanced Research Computing and the UCLA Department of Statistics Statistical Consulting Center, which helped me ensure that the final specification was consistent with standard DCE practices and appropriately matched to the structure of the analytic dataset (Hauber et al., 2016; Lancsar et al., 2017).

6.3 DCE Data Quality & Descriptive Preference Summaries

To provide an initial description of CCT intervention preferences, I examined descriptive choice shares, defined as the proportion of times an attribute level was selected when shown in a choice task ($P[\text{chosen} \mid \text{shown}]$) (Friedel et al., 2022). These summaries describe observed selection patterns in the full analytic sample ($N=133$) and provide descriptive context prior to subgroup comparison by PrEP use status and conditional logistic regression model estimation

6.3.1 Data Integrity and Exposure Balance by PrEP Use Status

Before presenting descriptive comparisons by PrEP use status, I verified the integrity of the option-level outcome and balance of attribute exposure across groups. The DCE dataset were structured in long format (i.e., 2 options per choice task), and the binary outcome (choice) indicated whether a given alternative was selected (1) or not selected (0). Because the raw variable `OptionChosen` recorded the selected alternative ID (1 or 2) rather than a 0/1 indicator, I defined choice as `OptionID==OptionChosen`. I then confirmed that each respondent by task choice set contained exactly one selected alternative by summing choice within `SURID x ChoiceSet`. This check was necessary because under-selection or over-selection within a task would indicate data errors that could invalidate descriptive and model-based results.

To evaluate whether PrEP users and non-users were comparably exposed to attribute levels, I examined the distribution of attribute levels that were shown across alternatives by current PrEP use status. Current PrEP use was defined as any current use (daily or less consistent use), consistent with the analytic moderator used in subsequent models. Attribute level distributions were similar across PrEP users and

non-users for payment amount, payment frequency, payment type, and PrEP type, supporting balances randomization across groups

6.3.2 Full Sample Descriptive Choice Shares by Attribute Level

Figure 6.1. Full Sample Descriptive Choice Shares by Attribute Level



Figure 6.1 presents the full sample of choice shares by attribute level. Higher payment amounts were selected more frequently when offered, with a clear preference favoring \$1,200 over \$600 and \$300. For payment frequency, monthly and every 3 months payments were selected at similar rates, whereas annual payments were selected less often, suggesting lower acceptability for delayed or less frequent

reinforcement. For payment type, cash was selected more often than gift card, indicating a preference for more flexible incentive formats. Finally, choice shares for PrEP type were relatively similar across daily oral and injectable PrEP, suggesting less separation by PrEP type in the full sample. Collectively, these exploratory summaries provide an initial descriptive view of preferences that informs subsequent PrEP-stratified comparison and model-based estimates.

6.4 Unadjusted Descriptive Comparisons by PrEP Use Status

Next, I summarized descriptive choice shares by PrEP use status to describe unadjusted differences observed preferences prior to formal moderation testing in the conditional logistic regression and interaction models. Table 6.5 shows the selection probabilities that an attribute level was selected when it was presented.

Payment Amount. In both PrEP users non-PrEP users, higher payment amounts were selected more often when shown. The \$1,200 amount was selected 70.5% of the times it was presented, compared with approximately 48% for \$600 and 31.1% for \$300. Among non-PrEP users, \$1,200 was selected 67.2% of the times it was presented, while \$600 was selected about half of the times it was shown and \$300 was selected 35.1% of the times it was shown.

Payment Frequency. In both PrEP users and non-PrEP users, participants did not strongly differentiate between receiving payments monthly versus every 3 months. When either of these frequencies was presented, the corresponding option was selected a little more than half of the time (~52%-57% when shown). Annual payments were chosen less often about 41% when shown for both groups, suggesting that participants were less likely to select intervention options that delayed receiving

incentives until a yearly payout compared with options that provided payments on a monthly or every 3-month basis.

Payment Type. Cash was selected more frequently than gift cards in both groups. Among PrEP users, cash was selected 55.8% of the time it was presented compared to 44.1% for gift cards. Among non-PrEP users, cash was selected 54.2% of the times it was presented compared with 45.8% for gift cards.

PrEP Type. Differences were most apparent for PrEP type. Among current PrEP users, daily oral PrEP was selected more often than injectable PrEP (54% vs. 46% when shown). Among non-PrEP users, selection probabilities were nearly evenly split, with a slight preference for injectable prep (50.1% vs. 49.9% when shown).

Overall, PrEP-stratified descriptive differences were modest across incentive attributes, with the largest separation observed for PrEP type. These bivariate summaries do not account for within-task trade-offs across attributes or within-respondent correlation. The conditional logistic regression models reported in Section 6.5 provide the primary test of whether PrEP status modifies preferences for CCT attributes.

Table 6.4. Descriptive Selection Probabilities by Attribute Level and PrEP Use Status		
CCT Attributes	PrEP User (%)	Non-PrEP User (%)
Payment Amount		
\$300	31.1	35.1
\$600	48.7	47.6
\$1200	70.5	67.2
Payment Frequency		
Monthly	56.5	54.6
Every 3 months	52.4	53.6
Annually	41.1	41.7
Payment Type		
Gift Card	55.8	54.2
Cash	44.2	45.8
PrEP Type		
Daily Oral PrEP	53.9	49.9
Injectable PrEP	46.1	50.1

6.5 Conditional Logistic Regression Results

6.5.1 Overview of Model Specification

To estimate attribute-level preferences while accounting for repeated choices within respondents, I fitted a full-sample conditional logistic regression models to the DCE data. The dependent variable indicated whether an alternative was selected within each choice task (chosen=1 vs not chosen=0), and models were estimated by comparing the two alternatives within each respondent-task choice set. The full-sample base model included indicator variables for all attributes, using \$300 (payment amount), monthly (payment frequency), cash (payment type), and oral PrEP (PrEP type) as reference categories. Robust standard errors were calculated at the respondent level.

6.5.2 Base Model (Main Effects)

Table 6.6 presents results from the full-sample baseline conditional logit model.

Table 6.5. Base Model: Conditional Logistic Regression of CCT Attribute Main Effects on Intervention Selection						
Attribute	Level	β	Robust SE	z	p	95% CI
Payment Amount	\$300 (ref.)	—	—	—	—	—
	\$600	0.695	0.129	5.40	<.001	[0.443, 0.947]
	\$1,200	1.732	0.175	9.87	<.001	[1.388, 2.076]
Payment Frequency	Monthly (ref.)	—	—	—	—	—
	Every 3 months	-0.187	0.113	-1.66	.097	[-0.408, 0.034]
	Annually	-0.739	0.137	-5.39	<.001	[-1.009, -0.470]
Payment Type	Cash (ref.)	—	—	—	—	—
	Gift card	-0.522	0.117	-4.46	<.001	[-0.752, -0.292]
PrEP Type	Oral PrEP (ref.)	—	—	—	—	—
	Injectable PrEP	-0.209	0.174	-1.20	.230	[-0.550, 0.132]
Note. The participant-level analytic sample included 133 respondents. The conditional logit model was estimated on 2,128 option-level observations nested within 1,064 respondent-task choice sets, with choice sets grouped by csid and robust standard errors clustered at the respondent level (133 clusters). Reference categories were \$300 for payment amount, monthly for payment frequency, cash for payment type, and oral PrEP for PrEP type. Pseudo $R^2 = 0.178$. Wald $\chi^2(6) = 128.45$, $p < .001$.						

Payment amount. Participants demonstrated strong preferences for higher incentive amounts. Relative to \$300, both \$600 ($b=0.695$, $SE=0.129$, $p<0.001$) and \$1200 ($b=1.732$, $SE=0.175$, $p<0.001$) were associated with higher likelihood of selecting an option when these levels were presented, with the largest preference weight observed for the \$1200 level. In practical terms, when participants are presented with competing CCT designs, options offering larger total payout values are more likely to be selected.

Payment frequency. Payment frequency also shaped preferences. Compared with monthly payments, annual payments were less preferred ($b=-0.739$, $SE=0.317$, $p<0.001$), indicating that annual payments were less desirable. Payments paid out every

3 months were also negatively signed relative to monthly payments ($b=-0.187$, $SE=0.113$), though this comparison did not reach conventional statistical significance ($p=0.097$). This pattern suggests that annual lump-sum structures may reduce the appeal of a CCT intervention, whereas monthly and every 3 months schedules appear more comparable in terms of acceptability.

Payment type. Participants preferred cash relative to gift cards. Compared with cash, gift cards were associated with lower likelihood of selection ($b=-0.522$, $SE=0.117$, $p<0.001$). This finding indicates that, all else equal, cash incentives may be perceived as a more attractive and flexible form of payment than gift cards in a PrEP-based CCT intervention.

PrEP Type. Preferences for PrEP type were less distinguishable in the full-sample model. Injectable PrEP had a negative coefficient relative to PrEP ($b=-0.209$, $SE=0.174$), but this difference was not statistically significant ($p=0.230$). This result suggests that, on average across participants, PrEP type alone was not a dominant driver of choice compared with incentive amount and payment structure.

Overall, the full-sample baseline model indicates that incentive amount and payment structure were the most salient drivers of choice in the full sample, with clear preference for higher amounts, non-annual payment schedules, and cash incentives. In the next section, I evaluate whether these attribute preferences differ by PrEP use status by estimating conditional logit interaction models aligned with Study Two hypotheses.

6.5.3 Moderation Model (PrEP x Attribute Interactions)

To test whether PrEP use status shapes participant preferences for CCT intervention attribute levels, I estimated a full-sample conditional logistic regression model that included interaction terms between PrEP use (prep01: 0=non-PrEP user, 1=current PrEP user) and each attribute level. Before presenting the results, it is helpful to explain how to read the model. The main effects for each attribute level reflect the preferences of participants not currently using PrEP, who served as the reference group. The interaction terms then capture whether current PrEP users responded differently to those same attribute levels relative to non-PrEP users. A positive and statistically significant interaction term means that current PrEP users placed greater weight on that attribute level when choosing between intervention options, relative to non-PrEP users. A negative interaction term would indicate the reverse. As expected for conditional logistic regression models, the main effect of PrEP use itself was omitted because PrEP status does not vary across the two intervention options within a given task. A joint test of all attribute-by-PrEP interaction terms did not reject the null hypothesis of no moderation ($\chi^2(6)=8.93$, $p=0.178$), indicating limited evidence that PrEP use status systematically modified preferences across attributes overall. However, individual interaction coefficients suggested some evidence of moderation for payment amount.

Payment amount (H2.1). PrEP use significantly moderated preferences for payment amount. The interaction terms for both \$600 ($b=0.609$, $SE=0.264$, $p=0.021$) and \$1,200 ($b=0.881$, $SE=0.352$, $p=0.012$) were positive and statistically significant, indicating that current PrEP users showed a stronger preference for higher payment amounts than participants not currently using PrEP. In practical terms, both groups

preferred larger incentive amounts, but the incremental pull of higher payments was stronger among current PrEP users. This pattern does not support H2.1, which hypothesized stronger preferences for higher payment amounts among non-PrEP users.

Payment frequency (H2.2). Both PrEP users and non-PrEP users showed a consistent pattern of disliking annual payments relative to monthly payments. Delayed or infrequent payouts were less appealing regardless of PrEP use status. The interaction terms for payment frequency were not statistically significant for either every 3 months ($b=-0.281$, $SE=0.225$, $p=0.212$) or annually ($b=-0.354$, $SE=0.269$, $p=0.189$), meaning there was no meaningful difference between PrEP users and non-users in how they responded to payment timing. In plain terms, both groups wanted to be paid more often rather than later, and PrEP use status did not change that preference. These results do not support H2.2, which hypothesized stronger preferences for more frequent payments among non-PrEP users.

Payment type (H2.3). Both PrEP users and non-PrEP users preferred cash over gift cards, and this preference was consistent across the sample. Among non-PrEP users, gift cards were significantly less preferred than cash ($b=-0.453$, $SE=0.159$, $p=0.004$), indicating that restricting how participants could spend their incentive reduced the appeal of an intervention option. The interaction term for payment type was not statistically significant (gift card x PrEP: $b=0.149$, $SE=0.233$, $p=0.523$), meaning current PrEP users did not respond meaningfully differently to gift cards versus cash compared with non-PrEP users. Both groups, in other words, wanted the flexibility that cash provides, and that preference did not vary by prevention status. These data do not

support H2.3, which hypothesized stronger preferences for cash among non-PrEP users specifically. The finding instead suggests that cash is universally preferred across the sample, making it a design feature that does not need to be tailored by PrEP use status.

PrEP Type (H2.4). PrEP use did not significantly moderate preferences for PrEP type. The interaction term was not statistically significant (injectable x PrEP: $b=-0.362$, $SE=0.349$, $p=0.300$), indicating that current PrEP users did not respond differently to injectable versus oral PrEP compared with non-users. In practical terms, neither group showed a strong preference for one PrEP delivery format over the other when choosing between CCT designs, and PrEP use status did not change that pattern. This is notable given that PrEP type might have been expected to matter more for current users who have direct experience with one format, but the data suggest that delivery format was less influential than payment features in shaping overall choice. These results do not support H2.4, which hypothesized stronger preferences for injectable PrEP among non-PrEP users.

Overall, while the base model results indicate strong preferences for higher incentive amounts and cash payments across the full sample, the interaction model provides limited evidence that PrEP use status broadly modifies or shapes attribute preferences for a PrEP-based CCT. The omnibus interaction test was not statistically significant, suggesting that preferences were largely similar across PrEP use groups overall. The most notable exception is payment amount, where current PrEP users demonstrated stronger preferences for higher incentive levels than non-PrEP users, though the joint test of all PrEP-by-attribute interaction terms was not statistically

significant. For payment frequency, payment type, and PrEP type, preferences were largely similar across PrEP use subgroups, suggesting that the core design features of an acceptable CCT intervention are broadly shared rather than requiring extensive tailoring by prevention status.

Table 6.6. Interaction Coefficients from PrEP Use × Attribute Moderation Model

Interaction Term	β	Robust SE	z	p	95% CI
Payment Amount × PrEP Use					
PrEP user × \$600	0.609	0.264	2.31	.021*	[0.092, 1.125]
PrEP user × \$1,200	0.881	0.352	2.50	.012*	[0.190, 1.572]
Payment Frequency × PrEP Use					
PrEP user × Every 3 months	-0.281	0.225	-1.25	.212	[-0.723, 0.160]
PrEP user × Annually	-0.354	0.269	-1.31	.189	[-0.882, 0.174]
Payment Type × PrEP Use					
PrEP user × Gift card	-0.149	0.233	-0.64	.523	[-0.606, 0.308]
PrEP Type × PrEP Use					
PrEP user × Injectable PrEP	-0.362	0.349	-1.04	.300	[-1.047, 0.323]
Note. Conditional logit model with choice sets grouped by respondent-task choice set (csid) and robust standard errors clustered at the respondent level (SURID; 133 clusters). Coefficients for the interaction terms represent the difference in attribute preferences between participants currently using PrEP and those not currently using PrEP. Wald $\chi^2(12)=157.50$, $p<0.001$; McFadden pseudo- $R^2=0.1887$. The joint test of all PrEP use × attribute interactions was $\chi^2(6)=8.93$, $p=0.178$. statistical significance: * $p<0.05$					

6.6 Discussion

Study Two assesses whether individual-behavioral factors such as PrEP use status shapes the design preferences for a PrEP-based conditional cash transfer (CCT) intervention among Black and Latino cisgender MSM in Los Angeles County. Using a discrete choice experiment (DCE), participants repeatedly chose between CCT designs that varied payment amount (\$300, \$600, or \$1200), payment frequency (monthly, every 3 months, or annually), payment type (cash or gift card), and PrEP type (oral daily

PrEP or injectable PrEP). The primary goal of this study was to test whether preferences for these CCT attributes differed between participants currently taking PrEP and those not taking PrEP.

In the full sample, participants strongly preferred higher payment amounts, more frequent payout schedules (particularly monthly and every 3 months compared to annual lump sum payments), and cash payments, while PrEP type was not a dominant driver of choice. To evaluate whether PrEP status modified attribute preferences, I estimated a PrEP moderation model and used an omnibus joint Wald χ^2 test to assess whether the full set of PrEP-by-attribute interaction terms was jointly different from zero (StataCorp, 2025). This omnibus test was not statistically significant, indicating limited evidence that PrEP use broadly shaped preferences across the CCT attributes. However, payment amount showed the clearest divergence, with PrEP users placing greater relative utility on higher incentive amounts than non-PrEP users.

These findings are interpreted through the Health Belief Model (HBM), which was introduced in Chapter 3 as a guiding framework for understanding how intervention features map onto the psychological mechanism that shape health behavior engagement. In this study, the HBM applied at the individual-behavioral level of the Social Ecological Model, where personal decision-making and prevention history shape how participants evaluate and respond to CCT design feature. Two HBM constructs are most relevant here. Perceived benefits refers to the degree to which a person believes a health behavior or intervention will produce as a positive outcome (Glanz & Bishop, 2010). In this context, whether CCT design features make participation feel worthwhile and rewarding. Perceived barriers refer to the psychological, logistical, and material

obstacles that reduce the appeal of engaging in a health behavior (Glanz & Bishop, 2010). This highlights whether specific design features make participation feel burdensome, restrictive, or inaccessible.

Each CCT attribute tested in the DCE can be understood through this lens. Payment amount and frequency map onto perceived benefits by shaping how immediate and substantial the reward feels, payment type maps onto perceived barriers by determining how flexibly the reward can be used, and PrEP type maps onto both constructs by reflecting the effort and clinical burden associated with different delivery formats. Higher payment amounts and avoiding long delays between payouts likely increase perceived benefits and can function as cues to action by making the incentive feel more immediate and worthwhile for sustaining prevention behaviors (Alyafei & Easton-Carr, 2025). Payment type maps onto perceived barriers because gift cards can be experienced as more restrictive or inconvenient than cash (Tomaszewski et al., 2017). PrEP type may reflect perceived barriers and benefits tied to regimen fit and burden (e.g., daily routines versus clinic-based visits/injections), and this remains important in the broader prevention landscape given the high efficacy of long-acting injectable PrEP in randomized trials (Delany-Moretlwe et al., 2022; Landovitz et al., 2021).

At the same time, in this dataset PrEP type did not meaningfully differentiate choices, which suggests that, for many participants, how the incentive is delivered (payment amount, frequency, and type) mattered more than PrEP type specific features. This interpretation is also consistent with prior CCT preference evidence HIV prevention showing that higher amounts and more frequent payments tend to be among

the strongest drivers of choice in PrEP-related CCT designs (Eshun-Wilson et al., 2022; Moucheraud et al., 2026; Salinas-Rodríguez et al., 2022). Practically, this points to a straightforward implementation implication: PrEP-based CCT interventions may gain acceptability and engagement by prioritizing the benefit delivery features that participants valued most (higher amounts, avoiding annual lump sum payouts, and offering cash when feasible). It also suggests that programs should avoid assuming a single PrEP type will motivate participation across participants; when feasible, allowing people to choose their preferred PrEP type may preserve autonomy and support acceptability.

Although the omnibus moderation test was not statistically significant and my hypotheses were not supported by the data, PrEP use may still capture meaningful differences that help interpret why payment amount emerged as the clearest exception. One possibility is that PrEP users may see higher incentives as reinforcing a behavior they already maintain (Giles et al., 2014; Mantzari et al., 2015; Stanger & Budney, 2019), whereas non-PrEP users may face barriers to initiation that are less responsive to payment value alone, including stigma, medical mistrust, and public health access hurdles such as navigating healthcare systems, insurance, and clinic visits (Bonacci et al., 2021; Lelutiu-Weinberger & Golub, 2016). These dynamics provide a practical way to interpret the pattern without overstating the moderation evidence: PrEP-based heterogeneity appears limited overall and may be concentrated in how participants value payment amount rather than representing broad differences across all CCT features.

This study is not without limitations, and the results should be interpreted carefully. First, while the sample size (N=133) supports estimate of main effects, it could be too small for conducting additional moderation and subgroup analyses that rely on multiple interaction terms, which can be underpowered and produce less precise estimates. Second, the DCE reflects stated preferences rather than real-world behavior, and hypothetical bias is a known concern in DCE research when respondents stated choices differ from what they would do under real conditions and constraints (Menapace & Raffaelli, 2020). As an exploratory extension responding to committee feedback, I also conducted race/ethnicity-stratified models; these were informative but less precise, and subgroup interaction tests should be interpreted cautiously. These models are included only as an appendix since it is out of the scope for this current study. Future work should evaluate preference heterogeneity using approaches such as latent class or mixed logistic regression to identify distinct preference profiles (Vass et al., 2022). Lastly and most critical, these findings from this study need to be translated into an implementation ready PrEP-based CCT pilot that measures the effectiveness of improving the uptake, persistence, and adherence outcomes in real settings.

6.7 Conclusion

This chapter examined whether PrEP use status shapes preferences for key design features of a PrEP-based CCT intervention among Black and Latino cisgender MSM in Los Angeles County. Overall, participants preferred higher payment amounts, preferred receiving payments in cash, and tended to dislike annual or lump sum payout schedules. In contrast, PrEP type was not a dominant driver of choice, with no clear evidence of a strong preference for incentivizing injectable PrEP versus daily oral PrEP.

Addressing the primary research question, the PrEP moderation analysis provided limited evidence that PrEP use status broadly shaped CCT attribute preferences; most PrEP-by-attribute interaction terms were not statistically significant, however preferences for payment amount stood out here. The association between higher payment amounts and choice was stronger among PrEP users than among non-PrEP users, indicating that PrEP users were more responsive to increases in incentive amounts.

These findings offer practical intervention design takeaways and guidance for implementation of PrEP-based CCT interventions by clarifying which features are most likely to matter for acceptability and PrEP uptake. Specifically, payment amount and frequency emerged as central attributes that can be optimized without requiring extensive tailoring by PrEP use status across all attributes. At the same time, conclusions should be interpreted considering key limitations, including the modest sample size for interaction testing and the stated-preference nature of DCEs, which may not fully capture real-world constraints and behavior. Future should build on these results in three ways. First, studies with larger samples should evaluate preference heterogeneity and assess whether patterns differ across demographic and cultural contexts. Second, these design principles should be translated into a pilot PrEP-based CCT intervention to test real-world feasibility and measure PrEP uptake, persistence, adherence and HIV outcomes. Third, cost-effectiveness analyses are needed to estimate longer-term impacts on HIV prevention and care delivery and to inform scalability and public health policy decisions for local jurisdiction in California or the

United States that are exploring implementing the use of CCTs for improving HIV prevention among vulnerable populations.

CHAPTER 7: STUDY THREE - RESULTS & DISCUSSION

7.1 Chapter Overview

This chapter presents the results for Study Three, which examines whether housing status — an individual structural condition and proxy for structural vulnerability — moderates preferences for a PrEP-based conditional cash transfer (CCT) intervention among Black and Latino men who have sex with men (MSM) in Los Angeles County. Study Three builds directly on the analytic approach and discrete choice experiment (DCE) structure used in Study Two, extending the moderation analysis from an individual behavioral characteristic (PrEP use status) to an individual structural condition (housing status). The analytic sample included 133 participants, and the conditional logistic regression analyses were estimated using the long-format DCE dataset derived from participants' repeated choices across all choice tasks. Consistent with Chapter 6, participant-level counts are reported as N=133, whereas model-based analyses use the full option-level dataset generated from the DCE design. The chapter is organized in ten sections. Section 7.2 summarizes the analytic sample. Section 7.3 presents sociodemographic characteristics by housing status. Section 7.4 describes the DCE data structure and study variables. Section 7.5 reports the data integrity checks and confirms that exposure to attribute levels was balanced across housing groups. Section 7.6 presents descriptive selection probabilities for the full sample and stratified by housing status. Section 7.7 reports the primary conditional logistic regression results. Section 7.9 presents the moderation model testing by housing-by-attribute- interactions. Sections 7.10 and 7.11 discussing findings, addresses limitations, and considers implications for CCT intervention design and implementation.

Study Three Aim. To assess how an individual structural condition, specifically housing status, shapes the design preferences for a PrEP-based CCT intervention among Black and Latino MSM.

- RQ3.1. How do preferences for CCT attributes differ by housing status (stable vs. unstable)?
 - H3.1. Unstably housed participants will show a stronger preference for higher payment amounts compared to stably housed participants.
 - H3.2. Unstably housed participants will show a stronger preference for more frequent payments compared to stably housed participants.
 - H3.3. Unstably housed participants will show a stronger preference for gift cards compared to stably housed participants.
 - H3.4. Unstably housed participants will show a stronger preference for injectable PrEP compared stably housed participants.

7.2 Analytic Sample

Study Three uses the same final analytic sample as Study Two, consisting of 133 Black and Latino MSM recruited through The Incentives & Prevention Study (TIPS) in Los Angeles County. Because each participant completed 8 choice tasks with 2 options per task, the conditional logistic regression models were estimated on 2,128 option-level observations nested within 1,064 respondent-task choice sets. In this chapter, N=133 refers to the participant-level analytic sample, whereas 2,128 observations refers to the long format DCE dataset used for model estimation. Full sociodemographic characteristics of the sample, including age, race/ethnicity, education, and employment are reported in Chapter 6, Section 6.2. This chapter focuses on housing status as the primary moderator variable and presents sociodemographic characteristics stratified by housing group in Section 7.3 to contextualize structural vulnerability within the sample.

7.3 Sociodemographic Characteristics by Housing Status

To contextualize structural vulnerability in the sample, Table 7.1 presents key sociodemographic indicators stratified by housing status. In this study, participants reporting an unpaid housing arrangement, defined as sharing housing with friends or family without paying rent, residing in a shelter, safe haven, or transitional housing, are treated as the primary indicator for structural vulnerability. This categorization reflects the CFIR Outer Setting construct, which frames housing instability as an external structural condition that shapes individual experience, competing needs, and capacity to engage with health interventions.

Understanding whether housing groups differ on background characteristics is critical because significant demographic imbalances across groups could confound the interpretation of moderation findings. For example, if the unpaid housing group were substantially younger or more racially diverse than the renter group, observed differences in CCT design preferences might reflect those demographic differences rather than housing status itself. Each p-value in Table 7.1 reflects a single omnibus chi-square test asking whether the overall distribution of a given characteristic differs across all three housing groups simultaneously, not whether any single category within it differs.

Age and race/ethnicity distributions were broadly similar across housing groups, with no statistically significant differences detected for either characteristic (age: $p=0.347$; race/ethnicity: $p=0.240$). In practical terms, this means that the three housing groups were comparable in how their members were distributed across age categories and racial/ethnic identities, which supports the interpretability of housing status as a

meaningful source of variation rather than a proxy for demographic differences.

Education was not statistically significant at the convention threshold ($p=0.065$), though the pattern of differences across groups is worth noting.

Participants in unpaid housing arrangements more frequently reported a high school or GED education (20.8%) compared with renters (13.3%) and less frequently reported a college degree (33.3% vs. 50.0%). Employment differences were not statistically significant overall ($p=0.139$), though full-time employment was most common among owners (63.6%) and renters (59.2%) and substantially less common among participants in unpaid housing arrangements (33.3%). These patterns indicate that the unstably housed subgroup carries additional markers of economic vulnerability beyond housing instability alone, including lower educational attainment and reduced full-time employment.

This layering of economic disadvantage reinforces the use of unpaid housing arrangements as a proxy for structural vulnerability in this study and is directly relevant to interpreting the null moderation findings presented in later sections, as it raises the possibility that housing status in this sample may function as a broader indicator of structural conditions rather than a narrowly defined residential category.

Table 7.1. Sociodemographic Characteristics by Housing Status (N=133)					
Characteristic	Category	Own (n = 11)	Rent (n = 98)	Unpaid (n = 24)	<i>p</i>
Age	20–29	3 (27.3)	34 (34.7)	12 (50.0)	0.347
	30–39	3 (27.3)	36 (36.7)	10 (41.7)	
	40–49	3 (27.3)	18 (18.4)	1 (4.2)	
	50+	2 (18.2)	10 (10.2)	1 (4.2)	
Race/Ethnicity	Black	5 (45.5)	40 (40.8)	4 (16.7)	0.240
	Latino	5 (45.5)	46 (46.9)	15 (62.5)	
	Mixed Race	1 (9.1)	12 (12.2)	5 (20.8)	
Education	Below high school	0 (0.0)	0 (0.0)	2 (8.3)	0.065
	High school/GED	0 (0.0)	13 (13.3)	5 (20.8)	
	Some college/Associates	2 (18.2)	24 (24.5)	5 (20.8)	
	College/University	6 (54.5)	49 (50.0)	8 (33.3)	
	Graduate studies	3 (27.3)	12 (12.2)	4 (16.7)	
Employment	Part-time	0 (0.0)	21 (21.4)	7 (29.2)	0.139
	Full-time	7 (63.6)	58 (59.2)	8 (33.3)	
	On disability	0 (0.0)	2 (2.0)	1 (4.2)	
	Not working	4 (36.4)	17 (17.3)	8 (33.3)	
Note. Values are n(column %). Own=housing you own; Rent=housing you rent; Unpaid= unpaid housing arrangement (sharing with friends/family without paying rent, shelter, safe haven, or transitional housing). P-values are form Pearson chi-square tests comparing distributions across all three housing groups.					

7.4 DCE Data Structure and Study Variables

The DCE dataset was organized in long format at the option level, with two intervention options per choice task and eight tasks per participant, yielding 2,128 option-level observations across 1,064 respondent-task choice sets. The dependent variable was a binary indicator of whether the intervention option was selected within each choice set (choice =1/0). Independent variables were the four CCT attributes that

varied across options: payment amount, payment frequency, payment type, and PrEP type (Table 7.2). Attribute coding and reference categories followed the same conventions described in Chapter 6.

Moderator variable (housing status). Housing status was the primary Study Three moderator. Participants were asked to self-report their housing situation during the prior three months. Response options included housing you own, housing you rent, sharing with friends, or family without paying rent, shelter or transitional housing, unsheltered, other, and prefer not to answer. These responses were recoded into a binary indicator distinguishing stable housing (own or ren; n=109, 81.95%) from unstable housing (unpaid arrangements; n=24, 10.08%). The unstable category combined participants who lived with friends, family or acquaintances without paying rent (n=22) and those residing in a shelter, safe haven, or transitional housing setting (n=2). One participant who reported “other” housing (stipend-supported student housing) was reclassified as stable.

Since housing status is a respondent-level characteristics that does not vary across intervention options within a choice task, it cannot be estimated as a standalone main effect in conditional logistic regression (Lancsar et al., 2017). Preference heterogeneity, defined as a systematic variation in how different subgroups value the same set of attributes (Lancsar et al., 2017), by housing status was therefore evaluated using housing-by-attribute interaction terms, which test whether attribute-level preference weights differ between stably housed and unstably housed participants.

Table 7.2. DCE Attribute levels, Dataset Coding, and Reference Categories			
Attribute	Level (Shown to study participants)	Dataset code	Reference Category
Payment Amount	\$300 per year	1	Yes
	\$600 per year	2	No
	\$1,200 per year	3	No
Payment Frequency	Monthly	1	Yes
	Every 3 Months	2	No
	Annually	3	No
Payment Type	Cash	1	No
	Gift Card	2	Yes
PrEP Type	Daily Oral PrEP	1	Yes
	Injectable PrEP	2	No
Note. Reference categories were coded as level 1 for each attribute and implemented using Stata factor-variable notation (ib1.)			

7.5 DCE Data Integrity and Exposure Balance by Housing Status

Before estimating choice models, data integrity checks confirmed that the analytic dataset retained the expected long-format structure. Each respondent-task choice set (identified by a unique choice-set ID, *csid*) contained exactly one selected and one non-selected intervention option, consistent with the binary forced-choice DCE design. These checks verified that the dataset was correctly structured for conditional logistic regression models grouped by choice set and clustered at the respondent level.

As a design validation step, Table 7.3 presents the distribution of attribute levels shown to participants in each housing group. Since the DCE used a balanced experimental design, attribute levels should appear at approximately equal rates regardless of participant characteristics (Reed Johnson et al., 2013). If exposure were systematically imbalanced by housing status, difference in observed preferences could reflect what participants were shown rather than what they preferred (Ellis, 2021). Attribute levels were distributed at near-equal rates within each housing group. For

payment amount, the three levels each appeared in approximately 33% of intervention options for both stably and unstably housed participants. Similar balance was observed for payment frequency, type, and PrEP type. These results confirm that the randomization procedures functioned as intended and that housing-stratified preference patterns reported in subsequent sections are not attributable to differential exposure.

Table 7.3. Attribute-Level Exposure by Housing Status					
Attribute	Level	Stable n	Stable %	Unstable n	Unstable %
Payment Amount	\$300	583	33.4	127	33.1
	\$600	582	33.4	130	33.9
	\$1,200	579	33.2	127	33.1
Payment Frequency	Monthly	587	33.7	124	32.3
	Every 3 months	578	33.1	127	33.1
	Annually	579	33.2	133	34.6
Payment Type	Gift card	872	50.0	191	49.7
	Cash	872	50.0	193	50.3
PrEP Type	Oral PrEP	872	50.0	191	49.7
	Injectable PrEP	872	50.0	193	50.3
<i>Note.</i> Stable = own or rent (n = 109); Unstable = unpaid arrangement (n = 24). Percentages are column percentages within each housing group. Minor deviations from equal exposure reflect random variation.					

7.6 Descriptive Selection Probabilities by Housing Status

Before estimating moderated regression models, this section presents descriptive selection probabilities to characterize overall preference patterns and to examine whether unadjusted preferences varied by housing status. Selection probabilities represent the proportion of times a given attribute level was chosen when it appeared in a choice set ($P[\text{chosen} \mid \text{shown}]$). These descriptive summaries orient subsequent modeling by establishing baseline preference patterns and by allowing a

preliminary assessment of whether housing-stable and housing-unstable participants exhibited different selection behaviors prior to regression adjustment.

7.6.1 Overall Exploratory DCE Summaries

Table 7.4 reports the full-sample selection probabilities for each attribute level across all choice tasks. Payment amount showed a clear dose-response pattern, in which selection probability increased monotonically as the payment level rose from \$300 to \$600 to \$1,200. A dose-response relationship describes a graded association between the magnitude of an exposure or stimulus and the magnitude of the resulting response (Redelmeier & Zipursky, 2023).

Table 7.4. Overall Selection Probabilities by Attribute Level (N=133)				
Attribute	Level	n Chosen	n Shown	Selection %
Payment Amount	\$300	235	710	33.1
	\$600	343	712	48.2
	\$1,200	486	706	68.8
Payment Frequency	Monthly	395	711	55.6
	Every 3 months	374	705	53.0
	Annually	295	712	41.4
Payment Type	Gift card	478	1,063	45.0
	Cash	586	1,065	55.0
PrEP Type	Oral PrEP	552	1,063	51.9
	Injectable PrEP	512	1,065	48.1
Note. Selection probability = $P[\text{chosen} \mid \text{shown}]$. Values represent the percentage of times an attribute level was selected when it appeared in a choice set.				

In this context, the term indicates that participants systematically preferred higher payment amounts at each successive level rather than at a single threshold. For example, the \$1,200 attribute level was selected in 68.8% of choice sets in which it appeared, compared to 48.2% for \$600 and 33.1% for \$300. Payment frequency also

differentiated preferences. Monthly payments were selected 55.6% of the time, followed by Every 3 Month payments at 53% and annual payments at 41.4%. For payment type, cash was selected more frequently than gift cards (55% vs 45%). PrEP type showed the weakest differentiation, with oral PrEP selected 51.9% of the time and injectable PrEP selected 48.1%. These full-sample patterns establish a consistent preference ordering: higher payment amounts were most strongly preferred, followed by more frequent payment schedules and cash over gift cards, while PrEP type preferences were close to evenly split. This hierarchy provides the reference pattern against which housing-stratified comparisons are evaluated in the next section.

7.6.2 Descriptive Selection Probability by Housing Status

Table 7.5 presents selection probabilities stratified by housing status (stable: n=109; unstable: n=24). Across all four attributes, the preference patterns observed in the full sample were replicated within each housing group. For payment amount, both groups showed a dose-response pattern, with selection probabilities increasing from \$300 to \$600 to \$1,200. The unstable group selected the \$1,200 level slightly more often (70.9%) than the stable group (68.4%), though both groups showed strong preference for the highest amount. For payment frequency, both groups preferred monthly or every 3-month payment over annual payments. The stable group showed somewhat stronger preference for monthly payments (56.4%) compared to the unstable group (51.6%), while the unstable group showed modestly higher selection of annual payments (45.1% vs. 40.6%). For payment type, both groups preferred cash over gift cards at similar rates (stable: 54.8%; unstable: 56%), PrEP type preferences were close

to evenly split in both groups, with a slight preference toward oral PrEP (stable: 51.8%; unstable: 52.4%).

In summary, unadjusted selection patterns were highly similar across both housing groups. The rank ordering of attribute levels was consistent between stable and unstable participants for all four attributes, with only minor absolute difference in selection probabilities. These descriptive results provide preliminary evidence that housing status did not substantially differentiate CCT design preferences in this sample, an observation formally tested through moderated regression models in Section 7.5.

Table 7.5. Selection Probabilities by Housing Status				
Attribute	Level	n Chosen	n Shown	Selection %
Payment Amount	\$300	235	710	33.1
	\$600	343	712	48.2
	\$1,200	486	706	68.8
Payment Frequency	Monthly	395	711	55.6
	Every 3 months	374	705	53.0
	Annually	295	712	41.4
Payment Type	Gift card	478	1,063	45.0
	Cash	586	1,065	55.0
PrEP Type	Oral PrEP	552	1,063	51.9
	Injectable PrEP	512	1,065	48.1
Note. Stable=own or rent (n=109); Unstable=unpaid arrangements (n=24). Selection probability= $P[\text{chosen} \mid \text{shown}]$. Values represent percentages.				

7.7 Conditional Logistic Regression Results — Base Model (Main Effects)

Table 7.6 presents the main effects of all four CCT attributes on intervention option selection. The model was estimated using conditional logistic regression with choice sets grouped by a unique choice-set identifier (csid) and robust standard errors

clustered at the respondent level. The participant-level analytic sample included 133 participants, and the model was estimated on 2,128 option-level observations nested within 1,064 respondent-task choice sets. Reference categories were \$300, for payment, monthly for payment frequency, cash for payment type, and oral PrEP for PrEP type.

Table 7.6. Base Model: Conditional Logistic Regression of CCT Attribute Main Effects on Intervention Selection						
Attribute	Level	β	Robust SE	z	p	95% CI
Payment Amount	\$300 (ref.)	—	—	—	—	—
	\$600	0.695	0.129	5.40	<.001	[0.443, 0.947]
	\$1,200	1.732	0.175	9.87	<.001	[1.388, 2.076]
Payment Frequency	Monthly (ref.)	—	—	—	—	—
	Every 3 months	-0.187	0.113	-1.66	.097	[-0.408, 0.034]
	Annually	-0.739	0.137	-5.39	<.001	[-1.009, -0.470]
Payment Type	Cash (ref.)	—	—	—	—	—
	Gift card	-0.522	0.117	-4.46	<.001	[-0.752, -0.292]
PrEP Type	Oral PrEP (ref.)	—	—	—	—	—
	Injectable PrEP	-0.209	0.174	-1.20	.230	[-0.550, 0.132]
Note. The participant-level analytic sample included 133 respondents. The conditional logit model was estimated on 2,128 option-level observations nested within 1,064 respondent-task choice sets, with choice sets grouped by csid and robust standard errors clustered at the respondent level (133 clusters). Reference categories were \$300 for payment amount, monthly for payment frequency, cash for payment type, and oral PrEP for PrEP type. Pseudo $R^2 = 0.178$. Wald $\chi^2(6) = 128.45$, $p < .001$.						

Payment amount was the strongest predictor of intervention selection. Relative to \$300, participants were significantly more likely to select intervention options offering \$600 ($\beta = 0.695$, $p < .001$) and \$1,200 ($\beta = 1.732$, $p < .001$), with the magnitude of the coefficient approximately doubling from \$600 to \$1,200. This pattern is consistent with a dose-response relationship in which higher incentive amounts monotonically increased

the probability of selection. Payment frequency also influenced preferences. Compared to monthly payments, annual payments were significantly less preferred ($\beta = -0.739$, $p < .001$), while every 3 months payments showed a modest, non-significant reduction ($\beta = -0.187$, $p = .097$). For payment type, gift cards were significantly less preferred than cash ($\beta = -0.522$, $p < .001$). PrEP type did not significantly differentiate preferences: the coefficient for injectable PrEP relative to oral PrEP was negative but not statistically significant ($\beta = -0.209$, $p = .230$).

These results establish a clear preference hierarchy. Payment amount exerted the largest influence on selection, followed by payment type and payment frequency, while PrEP modality had minimal impact on stated preferences. This baseline preference structure is consistent with the descriptive selection probabilities reported in Section 7.4 and replicates the main effects pattern reported in Chapter 6 (Study Two). The base model serves as the reference against which housing-by-attribute interaction effects are evaluated in the next section.

7.8 Moderation Model (Housing x Attribute Interactions)

To test whether housing status moderated preferences for CCT attributes, a base conditional logistic regression model was first estimated to establish main-effect preference weights across the full sample. Housing-by-attribute interaction terms were then introduced to assess whether attribute-level preference weights differed systematically between stably and unstably housed participants. This approach follows recommended practice for examining observed preference heterogeneity in DCEs through the inclusion of interactions between attributes and individual respondent characteristics (Lancsar et al., 2017).

As noted in Section 7.4, the main effect of housing instability cannot be estimated in conditional logistic regression because it is a respondent-level characteristic that does not vary across intervention options within a choice task. Moderation was therefore assessed by adding one housing-by-attribute interaction block at a time to the base model and evaluating each block with a joint Wald test using the “testparm” command in Stata. This approach was adopted after a full interaction model with all four blocks entered simultaneously failed to converge. Each sequential model retained the full set of main effects and added a single interaction block using Stata’s ## operator, with robust standard errors clustered at the respondent level.

Table 7.7 summarizes the omnibus Wald test results for each interaction block, and Table 7.8 presents the individual interaction coefficients from each sequential model. Across all four attributes, no interaction block reached statistical significance. The joint test for payment amount by housing was not significant ($\chi^2(2) = 0.35$, $p=0.838$), nor were the tests for payment frequency by housing ($\chi^2(2) = 3.24$, $p = 0.198$), payment type by housing ($\chi^2(1) = 0.01$, $p = 0.914$), or PrEP type by housing ($\chi^2(1) = 0.11$, $p = 0.743$). Housing instability did not significantly moderate DCE preferences for any attribute.

Table 7.7. Omnibus Wald Tests for Housing × Attribute Interaction Blocks				
Interaction Block	Hypothesis	df	Wald χ^2	<i>p</i>
Payment Amount × Housing	H3.1	2	0.35	0.838
Payment Frequency × Housing	H3.2	2	3.24	0.198
Payment Type × Housing	H3.3	1	0.01	0.914
PrEP Type × Housing	H3.4	1	0.11	0.743
Note. Each row reports the joint Wald test (testparm) from a sequential conditional logistic regression model that added a single housing × attribute interaction block to the base model. df = degrees of freedom for the interaction block. No interaction reached statistical significance at $\alpha = .05$.				

These results are interpreted below in order of the Study Three hypotheses.

Payment amount (H3.1) predicted that unstably housed participants would show a stronger preference for higher payment amounts. The interaction coefficients for unstable housing by \$600 ($\beta = 0.088$, $p = 0.810$) and by \$1,200 ($\beta = 0.215$, $p = 0.594$) were both positive in direction, indicating a slightly higher preference for larger amounts among unstably housed participants, but neither coefficient was statistically significant and the joint test confirmed no moderation ($\chi^2(2) = 0.35$, $p = 0.838$). H3.1 was not supported. That said, the positive direction of both coefficients is consistent with overall patterns of strong preferences for higher payment amounts observed in the full sample base model, suggesting that unstably housed participants' preferences align with rather than diverge from the broader sample trend.

Payment frequency (H3.2) predicted that unstably housed participants would show a stronger preference for more frequent payments. The interaction coefficient for unstable housing by every 3 months payments was positive ($\beta = 0.233$, $p = 0.259$), while the interaction for annual payments was near zero ($\beta = -0.050$, $p = 0.859$). The joint test was not significant ($\chi^2(2) = 3.24$, $p = 0.198$), and H3.2 was not supported. This blocked produced the smallest p-value among the four interaction tests, and while it remained well above the conventional threshold, the magnitude of the coefficient for every 3-month payments is worth noting. The positive direction and relatively larger coefficient for every 3 months payments among unstably housed participants is consistent with the strong preference for more frequent disbursement observed among the full sample in the base model and may reflect a meaningful tendency that the

current sample size was insufficient to detect with statistical precision. This pattern does not constitute evidence of moderation, but it reinforces the broader finding that frequent payment schedules are a consistently valued design feature across housing subgroups.

Payment type (H3.3) predicted that unstably housed participants would show a stronger preference for gift cards over cash. The interaction coefficient for unstable housing by gift card was near zero ($\beta = 0.030$, $p = 0.914$), and the joint test confirmed no moderation ($\chi^2(1) = 0.01$, $p = 0.914$). H3.3 was not supported. Notably, the direction of the interaction was opposite to the hypothesis: unstably housed participants showed no preference toward gift cards and, like their stably housed counterparts, preferred cash. This null finding in the full sample base model holds consistently regardless of housing status.

PrEP type (H3.4) predicted that unstably housed participants would show a stronger preference for injectable PrEP. The interaction coefficient for unstable housing by injectable PrEP was small and positive ($\beta = 0.149$, $p = 0.726$), and the joint test was not significant ($\chi^2(1) = 0.11$, $p = 0.743$). H3.4 was not supported. Both housing groups showed similar, non-significant preferences between oral and injectable PrEP, consistent with the minimal role of PrEP type as a preference driver in the full sample base model.

In summary, housing instability did not significantly moderate preferences for any CCT attribute. The null moderation findings were consistent across all four interaction blocks and aligned with the descriptive and bivariate results reported in Sections 7.3 and 7.4. The interaction coefficients were uniformly small in magnitude, and the omnibus tests produced p-values ranging for 0.198 to 0.914, providing no evidence that

structural vulnerability as measured by housing status shifted intervention design preferences in this sample.

Table 7.8. Interaction Coefficients from Sequential Housing × Attribute Models					
Interaction Term	β	Robust SE	z	p	95% CI
Payment Amount × Housing					
Unstable × \$600	0.088	0.364	0.24	.810	[-0.625, 0.801]
Unstable × \$1,200	0.215	0.403	0.53	.594	[-0.576, 1.006]
Payment Frequency × Housing					
Unstable × Every 3 months	0.233	0.206	1.13	.259	[-0.171, 0.637]
Unstable × Annually	-0.050	0.282	-0.18	.859	[-0.603, 0.503]
Payment Type × Housing					
Unstable × Gift card	0.030	0.280	0.11	.914	[-0.519, 0.579]
PrEP Type × Housing					
Unstable × Injectable PrEP	0.149	0.426	0.35	.726	[-0.687, 0.985]
Note. Each block was estimated in a separate conditional logistic regression that retained all base model main effects and added a single housing × attribute interaction block. Reference group for housing: stable (own/rent). Robust standard errors clustered at the respondent level (133 clusters).					

7.9 Predicted Probabilities by Housing Status

To make the modeled results easier to interpret, I calculated the predicted probability that a participant would choose one intervention option over another when the two options differed on a single design feature. In each scenario, one option was held constant at the least preferred levels across all four attributes — a payment amount of \$300 per year, paid monthly, in cash, for daily oral PrEP — while the other option varied on one attribute at a time. The predicted probability reflects how likely a participant was to choose the option with a given design feature over that fixed reference option, broken out separately for stably and unstably housed participants. These probabilities are a way of translating the statistical model results into plain

quantities, they illustrate the strength and direction of preferences already captures in the model rather than testing new hypotheses. Table 7.9 presents these predicted probabilities by attribute level and housing status, organized below by hypothesis.

Payment Amount (H3.1). Increasing the incentive from \$300 to \$600 raised the predicted probability of selection from 0.500 to 0.644 among stably housed participants and to .678 among unstably housed participants, a difference of 1.4 percentage point. Increasing the amount to \$1,200 further raised selection probabilities of 0.845 (stable and 0.872 (unstable), a difference of 2.7 percentage point. Both groups showed a strong dose-response pattern, and the modest differences between housing groups were consistent with the non-significant interaction test reported in Section 7.8.

Payment Frequency (H3.2). Relative to monthly payments, every 3-month payments reduced the predicted probability of selection to 0.437 among stably housed participants but increased it slightly to 0.520 among unstably housed participants. Annual payments reduced selection probabilities in both groups, though the reduction was larger for stably housed participants (0.303) than for unstably housed participants (0.417). These were the largest housing-group differences observed across any attribute, consistent with the payment frequency interaction block producing the smallest (though still non-significant) omnibus p-value in Section 7.8 ($p=0.198$). The predicted probability differences suggests that unstably housed participants were somewhat less sensitive to changes in payment timing, but this pattern did not reach statistical significance and should be interpreted cautiously given the small unstable subgroup ($n=24$).

Payment Type (H3.3). Gift cards were less likely to be selected than cash in both housing groups, with predicted probabilities of 0.374 (stable) and 0.367 (unstable). The difference between groups was less than one percentage point, reinforcing the null interaction finding. Both groups consistently preferred cash.

PrEP Type (H3.4). Injectable PrEP was slightly less likely to be selected than oral PrEP in both groups, with predicted probabilities of 0.441 (stable) and 0.476 (unstable). The 3.5 percentage-point difference between groups was small and consistent with the non-significant interaction test ($p=0.743$). Neither group showed a strong preference for one PrEP modality over the other.

Overall, predicted probabilities served three interpretive functions in this analysis. First, they translated log-odds coefficients into the probability scale, which is the metric most relevant to intervention design decision (Lancsar et al., 2017). Second, they made the magnitude of housing-group differences concrete in a way that interaction coefficients alone cannot: a non-significant interaction on the log-odds scale does not automatically indicate how similar two groups are in practice, and predicted probabilities quantify the actual gap (Hauber et al., 2016). Third, they addressed the applied equity question motivating Study Three: whether a single CCT design can accommodate both housing groups at acceptable selection levels.

On this point, the results were consistent. Higher payment amounts, non-annual payment schedules, and cash incentives showed the highest predicted selection probabilities regardless of housing status. The largest housing-group differences appeared for payment frequency, but these differences did not reach statistical significance and should be considered in the context of the limited statistical power

available for the unstable group (n=24). These results support the conclusion that housing instability did not meaningfully shift preferences for CCT design attributes in this sample, and that a single intervention design can serve both stably and unstably housed participants.

Table 7.9. Predicted Probabilities of Selecting the Focal Intervention Profile by Attribute Level and Housing Status				
Attribute	Focal Level (Alt. A)	Stable	Unstable	Difference
Payment Amount	\$300 (ref.)	0.500	0.500	0.000
	\$600	0.664	0.678	0.014
	\$1,200	0.845	0.872	0.027
Payment Frequency	Monthly (ref.)	0.500	0.500	0.000
	Every 3 months	0.437	0.520	0.083
	Annually	0.303	0.417	0.114
Payment Type	Cash (ref.)	0.500	0.500	0.000
	Gift card	0.374	0.367	-0.007
PrEP Type	Oral PrEP (ref.)	0.500	0.500	0.000
	Injectable PrEP	0.441	0.476	0.035
Note. Predicted probabilities derived from sequential conditional logistic regression models with housing × attribute interactions. Each probability represents P(select Intervention A) in a two-intervention scenario where Intervention B is fixed at all reference levels (\$300, monthly, cash, oral PrEP) and Intervention A varies on one attribute. Stable = own or rent (n = 109); Unstable = unpaid arrangement (n = 24). Difference = Unstable – Stable.				

7.10 Discussion

The central finding of Study Three is that housing instability did not significantly modify preferences for CCT intervention design attributes in this sample of Black and Latino MSM. Across all four attributes tested, omnibus interaction tests were non-significant (p-values ranging from 0.198 to 0.914), individual interaction coefficients were small in magnitude, and predicted probabilities showed minimal differences

between housing-groups. The preferred design profile was consistent across housing groups: participants preferred higher payment amounts, non-annual payment schedules, and cash over gift cards, with PrEP type exerting little influence on selection. This preference structure aligns with the broader CCT literature, which has documented dose-response relationships between incentive magnitude and health behavior engagement across diverse populations and structural contexts (Guimarães et al., 2023; Stoner et al., 2021).

These results should be interpreted with one important caveat. The unstably housed subgroup was considerably smaller than the stably housed group ($n=24$ vs. $n=109$), and this imbalance means the study may not have been adequately powered to detect modest differences in preferences between housing-groups. The null interaction findings therefore reflect the absence of detectable moderation at this sample size rather than a definitive conclusion that no differences exist. This does not make these findings inconclusive — the preference patterns observed within and across housing subgroups are meaningful and consistent — but the possibility of small or moderate housing-related differences in preferences cannot be ruled out. These findings represent the best available evidence from this sample and provide a foundation for future research with larger, more balanced subgroup representation.

Within these limitations, the consistency of these preferences across housing status points to what may be the most notable finding of Study Three — and of this dissertation more broadly. A foundational assumption in behavioral intervention research is that personalized and targeted design produce better outcomes, and that interventions tailored to the specific circumstances of distinct subgroups are more

effective and acceptable than universal approaches (Noar et al., 2007; Nye et al., 2023). The evidence from this study runs counter to that assumption in a specific and instructive way. For CCT interventions, where the mechanism of action is financial incentive rather than behavioral skill-building or individualized counseling, a well-resourced universal design may perform as well as or better than a more individualized approach. Black and Latino MSM across housing subgroups wanted the same things — more money, paid more often, and in cash — and that convergence suggests that a single CCT design can accommodate both stably and unstably housed participants without requiring customization of the incentive package itself. This does not mean that intervention personalization is irrelevant. What these findings suggest is that for incentive-based HIV prevention programs, universal design may be the right starting point, and that equity is built through specific implementation decisions that determine whether participants can engage with the program. This is a first and important step toward designing CCT interventions that are both effective and broadly acceptable among communities disproportionately affected by HIV.

Going into Study Three, I hypothesized that housing status would modify preferences between housing groups. Specifically, I hypothesized that unstably housed participants would place greater weight on higher payment amounts, more frequent disbursement schedules, and gift cards over cash, and that they would prefer injectable PrEP to reduce the daily demands of an oral regimen. None of these hypotheses were supported. Unstably housed participants showed no stronger preference for larger payments than their stably housed peers, and the direction and magnitude of preferences across payment type and PrEP type were nearly identical between groups.

The one pattern worth noting is that unstably housed participants showed somewhat more variation in their responses to payment frequency — the predicted probability differences were the most pronounced among the four attributes — but this did not reach statistical significance and should be interpreted cautiously. Additionally, unstably housed participants preferred cash just as strongly as stably housed participants and showed no preference for gift cards. The null findings for PrEP type are consistent with the recent evidence that preferences between oral and injectable PrEP do not consistently cluster by structural indicators (Quaife et al., 2018; Raiford et al., 2025).

These results take on additional meaning when interpreted through the Outer Setting construct of the Consolidated Framework for Implementation Research (CFIR) — the domain that addresses the structural, economic, and policy-level conditions in which an intervention operates (Damschroder et al., 2022). Study Three tested whether one dimension of structural vulnerability shifted what participants said they wanted from a CCT. It did not. But the absence of preference differences does not mean housing instability is irrelevant to implementation. Research on housing and HIV outcomes has consistently shown that unstable housing creates barriers to medication adherence, care retention, and sustained viral suppression (Aidala et al., 2016; Velloza et al., 2024). An unstably housed participant may want the same \$1,200 cash incentive as their stably housed peers but face greater barriers to meeting adherence conditions, maintaining contact with program staff, or receiving payments through channels that required bank accounts or technology. The CFIR Outer Setting draws attention to exactly this gap — the distance to what people want and what they can access. Study

Three addressed the preference side of that gap. The access side remains an open and urgent research question.

These findings carry direct practical value for the Ending the HIV Epidemic initiative, which prioritizes PrEP scale-up among Black and Latino MSM in high-burden jurisdictions including Los Angeles County (Fauci et al., 2019). Interventionist and program designers can proceed with a single CCT structure — higher payments, frequent disbursement, cash-based —without evidence that this configuration disadvantages unstably housed participants. The consistency of preferences across housing groups simplifies intervention design by reducing the case for personalized intervention arms or adaptive incentive structures. At the same time, the payment frequency results suggest that future research should examine whether flexible or more frequent disbursement schedules improve retention specifically among unstably housed participants, even if their stated preferences did not differ significantly. These design considerations should ultimately be tested in real-world pilot studies where actual enrollment and retention behavior can be observed (de Bekker-Grob et al., 2015; Zhang et al., 2025).

Several limitations specific to Study Three warrant consideration. First, the unstably housed subgroup was ($n=24$, 18% of the sample) and internally heterogeneous — participants ranged from informal family and friend arrangements to shelter-based settings, representing meaningfully different levels of structural precarity that a single binary indicator could not fully capture. This limited both statistical power and precision to detect moderation effects. The non-significant interaction tests may reflect genuinely similar preferences, or they may reflect insufficient power to detect real differences;

simulation research suggests that detecting interaction effects in DCEs requires substantially larger samples (de Bekker-Grob et al., 2015). Second, housing status was measured with a single self-report question covering the prior three months, which may not fully represent the complexity or duration of housing instability. Third, preferences were elicited under hypothetical scenarios, and stated preferences can diverge from ; revealed preferences, particularly among populations facing acute resource constraints where real financial trade-offs carry different weight than hypothetical ones (Quaife et al., 2018). Finally, the sample was drawn Black and Latino MSM in Los Angeles County, and limited generalizability to other populations, geographic settings, and structural vulnerability indicators.

Future research should address these limitations in three ways. First, adequately powered studies with larger samples and more precisely stratified samples of unstably housed participants are needed to provide more definitive estimates of whether housing instability modifies CCT preferences. Second, longitudinal or mixed methods designs that pair stated preference data with observed enrollment and retention outcomes would clarify whether the preference consistency observed here translates into equitable uptake, an approach consistent with recent calls to integrate DCE findings with implementation outcomes (Soekhai et al., 2019). Third, additional structural moderators beyond housing, including employment status, food insecurity, and socioeconomic status, should be examined to determine whether other dimensions of structural vulnerability shift CCT design preferences in ways that housing status alone did not. Despite these limitations, Study Three provides initial evidence that PrEP-based CCT preferences are robust across housing status in this sample, and that a single, well-

designed CCT intervention can serve both stably and unstably housed Black and Latino MSM without requiring personalizing the CCT design structure.

7.11 Conclusion

Study Three examined whether housing status modified preferences for a PrEP-based CCT intervention among Black and Latino MSM in Los Angeles County. Five findings anchor this chapter. First, the base conditional logistic regression model confirmed clear preferences among this sample: higher payment amounts were the strongest driver of intervention selection, followed by cash over gift cards and more frequent payments over annual payment schedules, while PrEP type had minimal influence. Second, housing instability did not significantly moderate preferences for any of the four CCT attributes, not supporting any of the hypotheses. Third, predicted probabilities reinforced the null moderation findings, with minimal differences between housing groups across all attribute levels. Fourth, the most pronounced differences appeared for payment frequency, where unstably housed participants showed somewhat more variation in their sensitivity to payout schedules, though this pattern did not reach statistical significance and may reflect limited power in the unstable subgroup (n=24). Lastly, interpreted through the CFIR Outer Setting, the results establish that housing status did not moderate CCT design preferences in this sample — a finding that support universal incentive design while underscoring the continued importance of equity-centered implementation for reaching the most structurally vulnerable participants at risk for HIV.

CHAPTER 8: CONCLUSION

8.1 Chapter Overview

This dissertation examined the acceptability and design preferences for a PrEP-based conditional cash transfer (CCT) intervention among Black and Latino cisgender men who have sex with men (MSM) in Los Angeles County, a population that continues to bear disproportionate burden of new HIV infections despite major advances in biomedical (Center for Disease Control and Prevention, 2024). Across three integrated studies, this research explored whether PrEP-based CCTs were viewed as acceptable, which intervention attributes participants preferred, and whether behavioral or structural factors shaped those preference in ways that would matter for implementation. This chapter synthesizes those findings and considers their implications for intervention design, implementation, and incentives-based HIV prevention research. I begin by briefly revisiting the dissertation purpose and study aims, then present major finding, outline core recommendations, discuss contributions to science and practice, acknowledge strengths and limitations, identify future research priorities, and conclude with broader significance of this work.

8.2 Dissertation Purpose and Study Aims Recap

The overall purpose of this dissertation was to generate community-informed evidence to guide the design and implementation of a PrEP-based CCT intervention for Black and Latino cisgender MSM in Los Angeles County. This work addressed an important gap in the CCT and HIV prevention literature. Although financial incentive and CCT approaches have been studied in relation to HIV testing, treatment adherence, and linkage to care in a range of setting, far less is known about whether such approaches

are acceptable for PrEP and how they should be designed in U.S. contexts, particularly for Black and Latino MSM (Guimarães et al., 2023; Stoner et al., 2021).

This dissertation used three integrated studies to address that gap. Study One was a qualitative study guided by the Theoretical Framework of Acceptability (TFA) and informed by the intrapersonal level of the Social Ecological Model. It examined how three selected acceptability constructs, specifically affective attitude, burden, and perceived effectiveness, shaped participant views of a hypothetical PrEP-based CCT intervention (Sekhon et al., 2017). Study Two used a discrete choice experiment (DCE), drawing on the individual-behavioral level of the Social Ecological Model and constructs consistent with the Health Belief Model, to examine whether PrEP use status moderated preferences for key intervention attributes, including payment amount, payment frequency, payment type, and PrEP type. Study Three extended this analysis by examining whether housing instability, as an indicator of structural vulnerability, moderated those preferences. This final study was conceptually driven by the structural levels of the Social Ecological Model and the Outer Setting domain of the Consolidated Framework for Implementation Research (CFIR), with particularly attention to how broader structural conditions may shape intervention feasibility even when core preferences are shared.

These studies provide an expanded picture of how PrEP-based CCTs are understood, what features participants value most, and what conditions will likely determine whether such interventions are both acceptable and feasible in practice.

8.3 Integrated Findings Across Studies

CCTs have demonstrated promise as HIV prevention tools in global settings, particularly in sub-Saharan Africa and Latin America, where they have been linked to improvements in HIV testing, anti-retroviral therapy (ART) adherence, and linkage to HIV care (Guimarães et al., 2023). Yet critical gaps remain in applying this evidence to domestic HIV prevention contexts (Guimarães et al., 2023; Stoner et al., 2021). Prior to this dissertation, we did not know whether PrEP-based CCTs would be acceptable to Black and Latino MSM in the United States, which specific design features of CCTs this population would prefer, or whether behavioral or structural factors would alter those preferences in ways that matter for feasibility and implementation. This dissertation was designed to address those gaps across three integrated studies. The findings that follow include the evidence needed to address those gaps and their implications for how PrEP-based CCTs should be developed, designed, and implemented going forward.

8.3.1 PrEP-Based CCTs are Broadly Acceptable to Black and Latino Cisgender MSM

The first and most foundational finding of this dissertation is that PrEP-based CCTs were broadly acceptable to Black and Latino cisgender MSM in this study. This is an important contribution because domestic evidence on PrEP-based CCTs remain limited, and ethical debates about financial incentives have often proceeded without direct empirical input from the populations such programs are meant to serve (Operario et al., 2013; Stoner et al., 2021). In Study One, using a qualitative approach, participants generally did not view the intervention as inherently coercive or manipulative. Instead, they described it as a potentially helpful form of support that

could make engagement in HIV prevention more realistic under conditions of financial strain, competing demands, and structural vulnerability.

This finding matters because it challenges a common assumption in the literature that offering money will automatically pressure people, especially those with fewer financial resources, into doing something they would not otherwise choose. Study participants did not dismiss these ethical concerns altogether, but they expressed those concerns differently. For example, their concerns were less about whether incentives violated autonomy and more about whether the program would be implemented in a way that was transparent, voluntary, respectful, and responsive to their lived experiences. In other words, acceptability was not about offering financial incentives but more about what the money represented and how the intervention was delivered.

This pattern aligns with broader public health and HIV prevention research showing that intervention acceptability is shaped not only by the intervention content, but also by whether participants view the program as appropriate, respectful, and beneficial within the context of their everyday lives (Sekhon et al., 2017). It also suggests that discussion about the ethics of CCTs should focus less on theoretical concerns about whether incentives are coercive and more on the real-world conditions that determine whether participants experience them as helpful or harmful. Across this dissertation, the evidence suggests that participants understood PrEP-based CCTs as acceptable when they reduced barriers, acknowledged effort, and preserved personal agency.

8.3.2 Participants Preferred CCT Designs That Offered Meaning & Flexible Financial Support

A second major finding is that participants had clear preferences for intervention designs that offer meaningful financial support. In Studies Two and Three, payment amount emerged as the most important CCT attribute, with higher amounts consistently favored over lower amounts. This result reinforces what participants described in Study One: payment amount mattered because participants evaluated whether the incentive would meaningfully offset transportation, food, bills, and other daily expenses that compete with continued PrEP engagement. In other words, participants were not simply drawn to higher payments. They were assessing whether the amount was sufficient to ease real barriers to care.

This finding is important considering prior literature on incentives for HIV prevention, which has often documented mixed or context-specific effects depending on the amount, timing, and framing of the payment (Guimarães et al., 2023; Stoner et al., 2021). In this dissertation, the preference for higher payment amounts was clear and consistent. Cash was also preferred over gift cards, suggesting that flexibility and autonomy mattered to participants. Similarly, payment schedules that aligned more closely with routine care were viewed more favorable than annual disbursement structures that delayed support or felt less useful in daily life.

These findings indicate that participants preferred CCTs that functioned as meaningful, practical support rather than symbolic incentives. This point is central to this dissertation's overall narrative. Acceptability was not driven by the incentive but shaped by whether the incentive felt materially useful, flexible, and worth the effort association with participation. This helps clarify what "preference" means in this context.

Participants were not simply stating preferences. They were showing which intervention designs seemed most practical, valuable, and feasible in the context of their daily lives.

Simultaneously, Study One introduced an important nuance. For some participants, especially those receiving public benefits, larger payments could create anxiety about possible effects on eligibility. This finding complicates any simplistic conclusion that larger amounts are always better. It suggests that the design of a PrEP-based CCT must consider not only the attractiveness of the payment, but also the administrative and policy environments in which participants are making decisions. In this way, the dissertation contributes to a more grounded understanding of incentive design by showing that meaningful support must also be administratively safe and structurally realistic.

8.3.3 Burden, Trust, Confidentiality, and Stigma Shaped Whether Preferred Designs Felt Usable in Practice

A third major finding is that even attractive incentive structures could lose acceptability if the intervention was burdensome, stigmatizing, or delivered through untrustworthy systems. This is one of the most critical conclusions. Participants did not evaluate CCTs only by what they offered; they also evaluated them by what participation would require.

Study One showed that burden was multidimensional. Participants described transportation barriers, scheduling difficulties, clinic-related issues, work and family obligations, and concern about rigid program rules. They also expressed concern about interventions that might penalize inconsistency, fail to account for life disruptions, or demand more time and procedural effort than the payment justified. These findings map

directly onto the burden construct within the TFA and underscore why acceptability must be understood as conditional rather than absolute (Sekhon et al., 2017). A program may seem valuable in principle but become unacceptable if participation is too difficult, too rigid, or too intrusive.

The quantitative findings from Study Two supported this interpretation by showing that participants generally favored payment structures that fit more naturally with routine care and everyday financial needs. These results complement a growing body of HIV prevention literature showing that access, continuity, and retention are shaped by practical barriers as much as by motivation or awareness (Furukawa et al., 2020; Quinn et al., 2019). They also reinforce a broader implementation science lesson: intervention effectiveness depends not only on the intervention itself, but on how well its delivery model fits participants' lives.

Trust, confidentiality, and stigma were equally central. Study One showed that participants were attentive to the social meaning of program participation. Concerns about HIV-related stigma, assumptions about PrEP use, fear of unwanted disclosure, and mistrust toward providers or institutions shaped how safe or risky a PrEP-based CCT might feel. Participants distinguished between incentives that supported prevention and incentives that might feel morally judgmental or stigmatizing. For example, designs tied to maintaining HIV-negative status could be experienced as punitive or ethically fraught, whereas designs linked to PrEP use, adherence, or care engagement were seen as more supportive and appropriate.

These findings extend existing literature on PrEP implementation by showing that stigma and mistrust do not only shape the broader context of care. They also shape

whether a PrEP-based CCT itself is viewed as acceptable and safe (Furukawa et al., 2020; Quinn et al., 2019; Raiford et al., 2025). A PrEP-based CCT may have an appealing payment structure and still fail if participants do not trust the people administering it, do not believe their privacy will be protected, or fear that participation could expose them to stigma. For that reason, this dissertation argues that confidentiality protections, affirming staff interactions, and transparent communication are not peripheral operational details, but core design and implementation requirements (Dutta et al., 2024; Zhang et al., 2025).

8.3.4 Shared Preferences Do Not Eliminate Equity Concerns

The final major finding is that preferences for core CCT attributes were more similar across groups than different, but that similarity should not be mistaken for equity. In Study Two, PrEP use status showed only limited evidence of moderating overall preferences, although current PrEP users appeared to place somewhat greater value on higher payment amounts than non-users. In Study Three, housing instability did not significantly alter the overall ordering of preferred attributes. Across groups, participants generally favored higher payment amounts, cash, and payment structures that did not create unnecessary burden.

At one level, these findings are encouraging. They suggest that a common core intervention design may be feasible and that extensive segmentation of the intervention package may not be necessary. This is useful from a program design standpoint because it supports a clearer and potentially more scalable model. However, the deeper contribution of this dissertation is that shared preferences did not eliminate structural

inequality. Participants may want the same intervention while facing very different chances of accessing it, remaining engaged, and benefiting from it.

This is where Study Three makes an important contribution to both the HIV prevention and implementation science literatures. Too often, questions of equity are reduced to whether different groups prefer different intervention features. The findings here suggest a different problem. Structural vulnerability may not always appear as preference heterogeneity. Instead, it may emerge through uneven capacity to navigate enrollment systems, maintain contact, comply with program requirements, attend appointments, or receive benefits through standard channels. This distinction is especially important considering the Consolidated Framework for Implementation Research (CFIR) and Social Ecological Model-informed thinking, which emphasize that implementation is shaped by outer-setting conditions and structural realities, not solely by individual-level attitudes or choices.

This dissertation therefore argues that the central equity challenge for PrEP-based CCTs is not simply identifying the “right” design. It is ensuring that a preferred design is accessible under unequal social and material conditions. That insight shifts the focus of future intervention development away from designing entirely different incentives for different groups and toward building flexible, low-barrier implementation systems around a shared core model.

8.4 Public Health Recommendations

These findings support three core recommendations for the future design and implementation of PrEP-based CCT interventions.

First, PrEP-based CCTs should be designed around meaningful financial support and low-burden participation. Payment amount should be treated as a central design decision rather than a secondary program feature. The findings suggest that participants were most responsive to higher-value support that felt capable of addressing real barriers. Payment schedules should align with routine PrEP care whenever possible, and cash should be prioritized over more restrictive formats such as gift cards. Programs should also avoid unnecessary documentation requirements, rigid attendance expectations, or other administrative features that make participation harder than it needs to be.

Second, implementation must center trust, confidentiality, and flexibility. A PrEP-based CCT should not be designed as a surveillance mechanism or a narrow compliance tool. It should be framed and delivered as supportive care. That requires strong privacy protections, clear communication about data use and eligibility, LGBTQ-affirming and anti-stigma staff training, and procedures that minimize the risk of unwanted disclosure. It also requires flexible implementation strategies, including multiple enrollment pathways, diverse communication options, rescheduling without penalty, and re-engagement opportunities after interruptions. These are especially important for participants facing housing instability, economic precarity, or other structural barriers.

Third, future programs and research should invest not only in incentive payments, but also in implementation infrastructure. The dissertation findings make clear that equitable success will depend on much more than incentive amount. Care navigation, outreach, retention support, community partnerships, discreet

communication systems, and administrative flexibility are likely to be essential to reach and sustain participation. Researchers, practitioners, and funders should therefore treat implementation capacity as part of the intervention itself rather than as a separate operational concern.

8.5 Contributions to Science and Practice

This dissertation contributes to science and practice in several ways. First, it addresses a meaningful empirical gap in the HIV prevention literature by examining the acceptability and design preferences of PrEP-based CCTs among Black and Latino cisgender MSM, a population that remains disproportionately affected by HIV and underrepresented in intervention development research. Although prior studies have explored incentives for HIV testing, treatment adherence, and care engagement, much less work has examined how target communities interpret the acceptability, ethics, and practical design of PrEP-linked incentives in U.S. contexts (Guimarães et al., 2023; Stoner et al., 2021). This dissertation helps fill that gap by generating direct evidence from the communities such interventions are intended to serve.

Second, this dissertation contributes conceptually by showing that acceptability, preference, and implementation are related but distinct. Study One demonstrated that acceptability was shaped by how participants felt about the intervention, how burdensome they anticipated it to be, and whether they believed it would be effective. These findings reinforce the value of the Theoretical Framework for Acceptability (TFA) for understanding not only whether an intervention is acceptable, but why. The Social Ecological Model provided a strong and primary theoretical foundation by situating findings across individual-intrapersonal, individual-behavioral, and structural levels.

Study Three further showed the relevance of implementation science by demonstrating that structural vulnerability may shape access and feasibility even when broad preference patterns remain similar. Altogether, these frameworks helped show that intervention design cannot be separated from the larger contexts in which prevention decisions are made.

Third, this dissertation contributes methodologically by integrating qualitative acceptability research with DCE-based preference estimation. This mixed-methods approach made it possible to understand both the meanings participants attached to PrEP-based CCTs and the tradeoffs they made across specific intervention attributes. It also allowed me to test preference heterogeneity by behavioral and structural characteristics, which remains relatively uncommon in this area of research (Bohorquez et al., 2024; Soekhai et al., 2019). Importantly, the limited moderation findings are not methodologically empty. They provide useful evidence that the primary equity challenge may lie less in divergent preferences and more in unequal implementation conditions.

Finally, this dissertation offers practical guidance for intervention development. The findings suggest that PrEP-based CCTs are most likely to be acceptable when they offer meaningful financial support, reduce burden, preserve autonomy, and are delivered through trustworthy and affirming systems. This provides a concrete starting point for future pilot studies, implementation research, and policy discussion. Rather than treating CCTs as a generic incentive strategy, the dissertation clarifies the specific design and delivery principles that may make such interventions more responsive to the needs and realities of Black and Latino cisgender MSM.

8.6 Strengths and Limitations

This dissertation has several strengths. Most notably, the mixed-methods design allowed for a more complete understanding of PrEP-based CCTs than either qualitative or quantitative methods alone could provide. The qualitative study identified how participants interpreted incentive-based prevention support, while the DCE studies quantified which design features participants valued most. The dissertation also maintained a clear focus on equity by examining both behavioral and structural dimensions of intervention design and implementation. In addition, the use of multiple theoretical frameworks strengthened the interpretation of findings by connecting individual perceptions, health-related decision-making, and broader structural conditions.

Several limitations should also be acknowledged. First, the dissertation relied on stated views and stated preferences rather than observed behavior. Participants described what they believed would be acceptable or preferable in a hypothetical intervention, but actual decisions in a real-world program may differ once issues such as trust, competing demands, institutional experience, and day-to-day barriers come into play (Menapace & Raffaelli, 2020; Quaife et al., 2018). Second, Study One examined selected TFA constructs rather than the full framework. This focused approach allowed deeper attention to affective attitude, burden, and perceived effectiveness, but it may have left other dimensions of acceptability less fully explored. Third, the DCE necessarily included a limited set of attributes. Other potentially important features, including program duration, eligibility criteria, privacy protections, and integration with other support services, were not experimentally varied. Fourth, the

sample size, particularly for subgroup analyses, may have limited power to detect more subtle moderation effects. Fifth, the dissertation focused on one geographic setting and one priority population, which may limit transferability to other regions or populations.

8.7 Future Directions

This dissertation points to several next steps for research, but three priorities stand out. The first priority is pilot implementation. The findings provide a strong rationale for developing and testing a PrEP-based CCT that reflects the design principles identified here. A pilot study should assess not only participant uptake and retention, but also the practical feasibility of delivering the intervention with low burden, strong privacy protections, and flexible engagement pathways. Process evaluation will be especially important for understanding where implementation succeeds or breaks down. The second priority is effectiveness research. Once a feasible intervention model is established, future studies should test whether PrEP-based CCTs improve meaningful prevention outcomes such as PrEP initiation, re-engagement, adherence, and persistence. Hybrid effectiveness-implementation designs may be especially useful because they can capture both intervention impact and the conditions that shape delivery and uptake (Landes et al., 2019; Mustanski et al., 2025). The third priority is economic and policy evaluation. Because CCTs require both direct payments and delivery infrastructure, future studies should assess cost-effectiveness, budget impact, and administrative feasibility. These analyses will be important for determining whether PrEP-based CCTs can be sustained and scaled through existing public health and healthcare funding mechanisms (Galárraga et al., 2024; Jacobsen & Walensky, 2016).

8.8 Final Conclusion

This dissertation shows that PrEP-based conditional cash transfers are a credible and promising intervention approach for Black and Latino cisgender MSM when they are designed as meaningful support rather than narrow compliance tools. Across the three studies, participants generally viewed PrEP-based CCTs as acceptable when the intervention felt respectful, useful, and aligned with real barriers to prevention. They preferred intervention designs that offered meaningful financial value, flexibility, and autonomy. At the same time, the dissertation makes clear that no payment structure alone can guarantee success. Burden, stigma, confidentiality, and trust remained central to whether a preferred intervention would feel usable in practice.

The broader contribution of this work is not simply that participants liked some CCT designs more than others. It is that acceptability and preference must be understood within the larger social and structural contexts that shape HIV prevention. Across studies, the findings suggest that participants may share core preferences while still facing unequal conditions for accessing and sustaining the same intervention. That is the central equity lesson of the dissertation. The problem is not only identifying what people want. It is ensuring that what they want can reach them under real-world conditions.

This dissertation therefore argues that the future of PrEP-based CCT research should not focus only on whether incentives can change behavior. The more important question is whether financial support can be designed and delivered in ways that reduce barriers, preserve dignity, protect privacy, and expand access to prevention for those most affected by HIV. In that sense, PrEP-based CCTs are not important simply because they offer money. They are important because they may function as structural

supports within a prevention system that too often asks individuals to overcome structural barriers on their own.

As the United States continues to pursue the goal of ending the HIV epidemic, interventions that address both behavioral and structural constraints will remain essential. This dissertation offers evidence that PrEP-based CCTs deserve serious consideration as one such strategy. It also offers a clearer roadmap for how they should be designed, tested, and implemented. The next task is to move from stated acceptability and preference to real-world intervention development. That work is now necessary, and this dissertation provides a foundation for it.

APPENDICES

Appendix A: Eligibility Screener

University of California, Los Angeles (UCLA) SCREENING SCRIPT (Quantitative Survey)

Financially incentivizing strategies for HIV prevention in high-incidence populations in LA County

Thank you for speaking with me, my name is [insert name]. I would like to ask you a few questions in order to determine whether you may be eligible for a research study called “Financially incentivizing strategies for HIV prevention in high-incidence populations in LA County.” The purpose of the study is to understand how financial incentives for “staying HIV negative” can be most responsive to the needs and preferences of young, Black and Latino men who have sex with men (MSM) in Los Angeles County. The study will take place at two APLA clinics: “Out Here” in Baldwin Hills and the APLA Health Center at CDU/MLK in Watts/Willowbrook.

The screening will take approximately two minutes. You do not have to answer any question you do not wish to answer or are uncomfortable answering, and you may stop at any time. Your participation in the screening is voluntary. Your answers will be confidential. No one will know your answers except for the research team. If you qualify for the study and agree to participate, the answers to the questions will only be accessible by the research team. Additionally, if you are eligible, the team will share more about the study and what the interview will entail, as well as the potential benefits of your participation.

Would you like to continue with the screening?

[If yes: continue with the screening.]

[If no: thank the person and end the screening process.]

1. How old are you? ____ (open response)
2. Do you identify as Black and/or Latino? (yes/no)
3. Are you a cisgender man – meaning you were born male and you still identify as male today -- who has sex with men? (yes/no)
4. Are you a person living with HIV? ____ (open response)
5. Are you currently taking oral or injectable PrEP? (yes/no)
If no:
 - a. When is the last time you took oral PrEP?
 - b. When is the last time you took injectable PrEP?

Eligible if all the below are true:

- *The person is between the ages of 18 and 34*
- *The person identifies as Black or Latino*

- *The person identifies as a cisgender man who has sex with men*
- *The person says their HIV status is negative, or HIV status unknown*
- *The person is not currently taking PrEP and has never, or more than 3 months ago, taken oral PrEP, or never, or more than 12 months ago, used injectable PrEP*

If so:

Thank you for completing the screening process, after reviewing your responses, we have determined you are [eligible] to participate in our research study.

As part of this study, you will be asked to participate in an informed consent process before beginning the interview. This will provide you with more detailed information about the research study and your rights as a participant. Is this something you would like to do?

[If yes: Continue.]

[If no: Thank the person and hang up.]

Prior to the start of the research study, you can ask us any questions that you have and we will be happy to answer them for you. You will then have the opportunity to decide whether or not you want to participate in the study.

[If they decline, thank them for participating in screening and end the call.]

Thank you for your time spent taking this survey! Before we end the call, I need to confirm some basic information so we can reach out to you and schedule the interviews.

Ineligible if any of the below is true:

- *The person is not between the ages of 18 and 34*
- *The person does not identify as Black or Latino*
- *The person does not identify as a cisgender man who has sex with men*
- *The person says their HIV status is positive*
- *The person is currently taking PrEP, or has taken oral PrEP within the last 3 months, or has taken injectable PrEP within the last 12 months*

If so:

I have reviewed your answers and at this time you do not meet our eligibility criteria for this study. However, I do want to thank you for your interest in this study.

Appendix B: Recruitment Flyers and Study Cards



A recruitment flyer with a vibrant background of palm trees and city lights. At the top, the text "WANT TO HELP END THE HIV EPIDEMIC?" is displayed in large, bold, green and blue letters. Below this, two smiling men are shown; one has his arm around the other's shoulder. A QR code is positioned to the right of the men. At the bottom, text specifies eligibility criteria and provides a call to action to scan the QR code.

**WANT TO HELP
END THE HIV
EPIDEMIC?**

**You may be eligible for a
research project if you are:**

- HIV Negative
- Identify as Black and/or Latino

Scan The QR Code To Learn More!

WANT TO HELP

End the HIV Epidemic?

Are you a young Black or Latino cisgender MSM between age 18 - 34 who's HIV negative? You may be eligible to participate in a 45 minute interview!



Why?

The purpose of the study is to understand how financial incentives for HIV prevention can be most responsive to the needs and preferences of young, Black or Latino MSM

What?

This is a study by UCLA and APLA, led by Drs. Corrina Moucheraud and Raphael Landovitz at UCLA and Terry Smith at APLA Health

Please contact us for more information

 (310) 794-3485

 StayHealthyLA@ucla.edu

 (310) 571-8863

The Incentives & Prevention Study (TIPS)

Are you HIV negative?

Are you 18 years or older & live in
LA County?

Do you identify as a cisgender man
who has sex with men?

You may be eligible!



Contact us!

 **Call** us at (310) 794-3485

 **Text** us at (310) 571-8863

 **Email** us at StayHealthyLA@ucla.edu

Appendix C: Commando Creative Ads



Are you HIV negative?
Not on PrEP?
Identify as Black and/or Latino?

**YOU MAY BE ELIGIBLE FOR
A RESEARCH PROJECT**

**Call us
(310) 794-3485**
**Text us
(310) 571-8863**
**Email us
StayHealthyLA@ucla.edu**

**WANT TO HELP
END THE HIV
EPIDEMIC?**



**You may be eligible for a
research project if you are:**

- HIV Negative
- Identify as Black and/or Latino

LEARN MORE TODAY!

Appendix D: Interest Form – The Incentives & Prevention Form

(Adapted to fit a Google Sheets Form)

Introduction:

Thank you for your interest in participating in our study! We are looking for potential participants to share their opinions about a potential HIV prevention intervention for Black and Latino men who have sex with men in Los Angeles. Please fill out the interest form below and someone from our team will contact you to confirm your eligibility.

Questions:

1. What is your first name?
2. Please provide your email:
3. Please provide your phone number:
4. What is the best time to reach you (Please check all that apply)?
 - a. Morning
 - b. Afternoon
 - c. Evening

Thank you!

Appendix E: Study Information & Consent Sheet (Qualitative Interviews)

University of California, Los Angeles (UCLA) CONSENT TO PARTICIPATE IN RESEARCH – Qualitative Interviews

Financially incentivizing strategies for HIV prevention in high-incidence populations in LA County

Principal Investigators Corrina Moucheraud and Raphael Landovitz from the University of California Los Angeles (UCLA), with co-investigators from UCLA and Terry Smith from APLA Health, are conducting a research study funded by the National Institutes of Health.

You are a possible participant in this study because you are aged 18 or over, identify as a Black or Latino cisgender man who has sex with men, you are not HIV positive, and you live in Los Angeles County. Your participation in this study is voluntary and is not part of the care you receive at APLA. Your decision about participating in this study will not impact the care you receive at this clinic or your relationship with your doctor and other providers.

Why is this study being done?

There is a lot of interest in using rewards, including cash-based and gift-based rewards, to encourage behaviors to prevent the spread of HIV, like PrEP use. We would like to study how these can best fit the needs and preferences of target groups. The results of this proposed study will help to design an acceptable, appropriate and feasible financial incentive intervention to strengthen HIV prevention in LA County.

What will happen if I take part in this research study?

If you volunteer to take part in this study, you will participate in a one-time interview that will be held in-person or through Zoom by a member of the research team. The interview will last about 45 minutes. You will be asked a few general questions about yourself and your background, and then we will ask questions that will help us understand your opinion about a “financial incentive” (cash or gift reward-based) intervention -- including how well it “fits” with your values and lifestyle, how well you think it would work, and any challenges you anticipate. If you consent to participate, your interview will be audio-recorded for research purposes. We will not record any identifying information as part of your interview (like your name, your date of birth or any other identifiable information). We will use a random code to store your data.

How long will I be in the research study?

Your one-time interview will last about 45 minutes.

Are there any potential risks or discomforts that I can expect from this study?

Being in this study is unlikely to cause any risk or discomfort. There may be some minimal discomfort associated with answering questions about preferences for future interventions. You do not have to answer any question you do not wish to answer, and you can stop your participation at any time.

Are there any potential benefits if I participate?

You may not benefit directly from participating in this study. However, your feedback will be used to help develop a program that could improve how HIV prevention programs are implemented at APLA, and at other sites in Los Angeles or across the state of California.

What other choices do I have if I choose not to participate?

You may discontinue participation in the survey at any point, or not participate at all, with no impact on your care at APLA. We encourage you to discuss HIV prevention options with your regular provider whether you participate in this survey or not.

Will I be paid for participating?

You will receive a \$40 gift card for participating in this interview. You can pick up this gift card at participating APLA site at your earliest convenience. There are no costs to you for participating in the study.

Will information about me including information I provide in the interview be kept confidential?

All interviews will be conducted by an experienced member of our study team in a private space at the clinic or by Zoom. This interview will be audio-recorded with your permission, and we will only identify you on the audio recording using a unique code and not with your name, date of birth, or any other identifying information. Interview recordings will be stored on an encrypted, password protected computer and will only be shared with members of the research team using the unique code – so information you report cannot be linked back to you. The research recordings and data will be destroyed after the study has been completed.

Use of data for future research

No data and/or specimens collected during this study, including de-identified data and/or specimens will be shared for future research.

Certificate of Confidentiality

This research is covered by a Certificate of Confidentiality from the National Institutes of Health. This means that the researchers cannot release or use information, documents, or samples that may identify you in any action or suit unless you say it is okay. They also cannot provide them as evidence unless you have agreed. However the Certificate DOES NOT stop reporting that federal, state or local laws require. Some examples are laws that require reporting of child or elder abuse, some communicable diseases, and threats to harm yourself or others. The Certificate of Confidentiality does not stop you from willingly releasing information about your involvement in this research. It also does not prevent you from having access to your own information.

What are my rights if I take part in this study?

- You can choose whether or not you want to be in this study, and you may withdraw your consent and discontinue participation at any time.
- Whatever decision you make, there will be no penalty to you, and no loss of benefits to which you were otherwise entitled as a patient at the clinic.
- You may refuse to answer any questions that you do not want to answer and still remain in the study.
- Your decision of whether or not to participate, or to discontinue study participation, will have no impact on services you receive at APLA, nor your relationship with the clinic and physicians and other types of providers at the clinic.

Who can I contact if I have questions about this study?

- **The research team:**

If you have any questions, comments or concerns about the research, you can reach the study PI, Corrina Moucheraud: 310-206-1185 or via email at cmoucheraud@ucla.edu.

- **UCLA Office of the Human Research Protection Program (OHRPP):**

If you have questions about your rights as a research subject, or you have concerns or suggestions and you want to talk to someone other than the researchers, you may contact the UCLA OHRPP by phone: (310) 206-2040; by email: participants@research.ucla.edu or by mail: Box 951406, Los Angeles, CA 90095-1406.

How do I indicate my agreement to participate?

If you want to participate in this study, you should answer “Yes” when asked about participation. By answering yes, you are agreeing to participate and have your interview audio recorded. You will be given a copy of this consent to keep for your records along with the Research Participant Bill of Rights either by email or you can pick up a copy at your next clinic visit.

ORAL CONSENT TO PARTICIPATE

Do you agree to participate in this study?

YES (Participant must state “Yes”)

NO (Participant must state “No”)

Appendix F: Study Information & Consent Sheet (Survey)

University of California, Los Angeles (UCLA) CONSENT TO PARTICIPATE IN RESEARCH – Surveys

Financially incentivizing strategies for HIV prevention in high-incidence populations in LA County

Principal Investigators Corrina Moucheraud and Raphael Landovitz from the University of California Los Angeles (UCLA), with co-investigators from UCLA and Terry Smith from APLA Health, are conducting a research study funded by the National Institutes of Health.

You are a possible participant in this study because you are aged 18-34, identify as a Black or Latino cisgender man who has sex with men, you are not a current or recent PrEP user, you are not HIV positive, and you live in Los Angeles County. Your participation in this study is voluntary and is not part of the care you receive at APLA. Your decision about participating in this study will not impact the care you receive at this clinic or your relationship with your doctor and other providers.

Why is this study being done?

There is a lot of interest in using rewards, including cash-based and gift-based rewards, to encourage behaviors to prevent the spread of HIV, like PrEP use. We would like to study how these can best fit the needs and preferences of target groups. The results of this proposed study will help to design an acceptable, appropriate and feasible financial incentive intervention to strengthen HIV prevention in LA County.

What will happen if I take part in this research study?

If you volunteer to take part in this study, you will participate in a one-time survey that will be held in-person or through Zoom by a member of the research team who will read the questions out loud and record your answers. The survey will last about 20 minutes. You will be asked a few general questions about yourself and your background, and then we will ask you to make some choices between future HIV prevention interventions so we can understand which ones you think you would prefer. We will not record any identifying information as part of your interview (like your name, your date of birth or any other identifiable information). We will use a random code to store your data.

How long will I be in the research study?

Your one-time survey will last about 20 minutes.

Are there any potential risks or discomforts that I can expect from this study?

Being in this study is unlikely to cause any risk or discomfort. There may be some minimal discomfort associated with answering questions about preferences for future HIV prevention interventions. You do not have to answer any question you do not wish to answer, and you can stop your participation at any time.

Are there any potential benefits if I participate?

You may not benefit directly from participating in this study. However, your feedback will be used to help develop a program that could improve how HIV prevention programs are implemented at APLA, and at other sites in Los Angeles or across the state of California.

What other choices do I have if I choose not to participate?

You may discontinue participation in the survey at any point, or not participate at all, with no impact on your care at APLA. We encourage you to discuss HIV prevention options with your regular provider whether you participate in this survey or not.

Will I be paid for participating?

You will receive a \$25 gift card for completing today's survey. You can pick up this gift card at participating APLA site at your earliest convenience. There are no costs to you for participating in the study.

Will information about me and my participation be kept confidential?

Participation in research can present some risk of loss of confidentiality, but the study team will make every effort to protect the information you provide. Surveys will be conducted by an experienced member of our study team in a private space at the clinic or by Zoom. All data are stored using a unique code (random number) and not with your name, date of birth, or any other identifying information. Data from the study will be stored on an encrypted, password protected computer and will only be shared with members of the research team. All data will be destroyed after the study, and all data analyses have been completed.

Use of data for future research:

Your data, including de-identified data may be kept for use in future research.

Certificate of Confidentiality

This research is covered by a Certificate of Confidentiality from the National Institutes of Health. This means that the researchers cannot release or use information, documents, or samples that may identify you in any action or suit unless you say it is okay. They also cannot provide them as evidence unless you have agreed. However the Certificate DOES NOT stop reporting that federal, state or local laws require. Some examples are laws that require reporting of child or elder abuse, some communicable diseases, and threats to harm yourself or others. The Certificate of Confidentiality does not stop you from willingly releasing information about your involvement in this research. It also does not prevent you from having access to your own information.

What are my rights if I take part in this study?

- You can choose whether or not you want to be in this study, and you may withdraw your consent and discontinue participation at any time.
- Whatever decision you make, there will be no penalty to you, and no loss of benefits to which you were otherwise entitled as a patient at the clinic.
- You may refuse to answer any questions that you do not want to answer during the study surveys and still remain in the study.
- Your decision of whether or not to participate, or to discontinue study participation, will have no impact on services you receive at APLA, nor your relationship with the clinic and physicians and other types of providers at the clinic.

Who can I contact if I have questions about this study?

- **The research team:**

If you have any questions, comments or concerns about the research, you can reach the study PI, Corrina Moucheraud: 310-206-1185 or via email at cmoucheraud@ucla.edu.

- **UCLA Office of the Human Research Protection Program (OHRPP):**

If you have questions about your rights as a research subject, or you have concerns or suggestions and you want to talk to someone other than the researchers, you may contact the UCLA OHRPP by phone: (310) 206-2040; by email: participants@research.ucla.edu or by mail: Box 951406, Los Angeles, CA 90095-1406.

How do I indicate my agreement to participate?

If you want to participate in this study, you should answer “Yes” when asked about participation. By answering yes, you are agreeing to participate. You will be given a copy of this consent to keep for your records along with the Research Participant Bill of Rights either by email or you can pick up a copy at your next clinic visit.

ORAL CONSENT TO PARTICIPATE

Do you agree to participate in this study?

YES (Participant must state “Yes”)

NO (Participant must state “No”)

Appendix G: Qualitative Interview Guide

Financially incentivizing strategies for HIV prevention in high-incidence populations in LA County *Interview guide*

I. Opening statements

Before we start today's interview, I would like to introduce myself. My name is Dillon and I will be your interviewer for today. We are interviewing Black and Latino men who have sex with men in LA county to learn about how financial incentives encourage PrEP initiation, use, and continuation as well as overall HIV prevention. Your participation is very important to us. Thank you for your time.

As a reminder, please do not use your name or anything that could identify you or others during the interview. During the interview, my role is to learn about your personal experiences, feelings, and behaviors. There will be plenty of opportunity to describe them in your own words. To better understand you, I may ask for more details and fuller descriptions about the things you say. The focus of this interview will be on financial incentives, HIV prevention, and PrEP use. Some of these questions may sound the same, but there are slight differences I am trying to get at. I appreciate your patience in answering all these questions. If you wish not to answer a question, simply say so and we'll move on. If you need to use the bathroom, or rest for a few minutes, please let me know and we can take a short break.

II. Confidentiality

Everything you tell me will be completely confidential and will not be shared with anyone. Your name will not be used when anyone writes or speaks about the findings of the project and this interview. I may take some written notes as we talk in order for me to remember questions I want to ask you later.

Please refrain from using any names when speaking about other people. Please also avoid using the names of places that might be used to identify you, such as where you work. Instead, use generic ways of describing them, such as "the store where I work". If a name slips into the conversation, the transcriptionist will delete.

Do you have any questions before we begin?

III. Interview Guide

START RECORDING

This is [Interviewer Name] performing [interview #] on [date] with participant [participant ID]. This study participant provided their consent to be interviewed and for this interview to be audio recorded.

Reminder: Before we begin, I just want to remind that today's interview will focus on the use of conditional cash transfer interventions, a program or service that pays you a reward for completing a certain behavior, like taking PrEP.

A. Individual History

READ: First, I'd like to get to learn about you as an individual.

1. How old are you?
2. What is your race/ethnicity?
 - a. Black/African American
 - b. Hispanic or Latino
 - c. Asian
 - d. Native American
 - e. White/Caucasian
 - f. Other (please describe):
 - g. Prefer not to answer
3. What is the highest level of school you've completed?
 - a. None
 - b. Some school but did not complete high school/GED
 - c. High school/GED
 - d. College/university
 - e. Graduate studies
 - f. Do not know
 - g. Prefer not to answer
4. What do you do for living?
 - a. Probe: What is your employment status?
 - b. Probe if student: what do they do for a living (outside of school)?
5. Where do you live?
 - a. Probe: How long have you lived there?
 - b. Probe: Thinking about the past three months, where have you slept regularly?

B. Perceived knowledge of PrEP services and behaviors

READ: You may have heard of pre-exposure prophylaxis or PrEP before. It's a strategy of taking medicine to prevent getting infected by HIV. You can be prescribed PrEP as a pill that you take either every day or before-and-after sex only, or as an injection that you receive every 2 months.

1. Have you heard of PrEP?
2. Are you currently taking or previously taken PrEP?
 - Probe: What are some of the main reasons why you aren't taking PrEP or stopped using PrEP?
3. Some people don't use PrEP because they find it hard to follow the recommended dosing schedule for their PrEP. What are some reasons you've heard about as to why people struggle with taking their PrEP?

4. Have you heard of anything that helps people stick to their recommended schedule?
 - Probe: Are there any specific strategies that you've heard of like text reminders? Apps? Programs? Online services?
 - Probe: Do you think these types of services work?
5. Have you heard of any activities or programs to incentivize HIV prevention?
 - Probe: Based on what you've heard, do you think these interventions work?
 - Probe: Why or why not?

C. Perceived feelings about CCTs and PrEP use

READ: One type of intervention might be to pay people for taking PrEP, like a reward. We would call this a "conditional cash transfer" – in other words, if you do a certain behavior (like, take PrEP), you will receive some money.

6. If a conditional cash transfer intervention for PrEP use was introduced in your social network of friends and community, would you be interested in participating?
 - Probe Why or why not?
 - Probe: What about your friends or people in your community – especially other gay or bisexual Black and Latino MSM – who don't use PrEP?
7. If you were to participate in a conditional cash transfer intervention for taking PrEP, can you think of any barriers or limitations to participating?
 - Probe: Are there things that you think would cause you to lose interest or drop out of this conditional cash transfer intervention?
8. How could this type of intervention be made more attractive to you?
 - Ask about each of:
 - i. amount of money;
 - ii. timing of payments;
 - iii. pills versus injectable PrEP
 - iv. gift card vs. cash;
 - v. lottery vs. guaranteed payment
9. Is there anyone you think a conditional cash transfer wouldn't work well for?
 - Probe: Why or why not?

D. Perceived feelings about CCTs and HIV prevention

READ: A conditional cash transfer intervention isn't just for encouraging PrEP use but could instead pay rewards for staying HIV negative without dictating exactly how someone achieved this. For example, like getting paid to get HIV tested regularly.

10. Do you think paying someone to remain HIV negative on their own basis would work?
- Probe: Do you think it would work better or worse than paying people to use PrEP?
 - Probe: What do you think works well with this approach? What doesn't work well?
 - Probe: What are some potential reasons that would prevent you from participating in an intervention like this?
11. Do you think incentivizing people for receiving negative HIV test results or remaining HIV negative is stigmatizing in any way?
- Probe: Why or why not?
12. Do you think there should also be a program that continues to incentivize people even if they test positive?
- Probe: Why or why not?

E. Feasibility & Acceptability of Individual & Group Based CCT Interventions

Conditional cash transfers can also be directed within groups instead of individuals. One example of this is to have groups of 3 or 4 people, and if one person in the group demonstrates adherence to PrEP, then that individual person can get a reward. But if everyone in the group demonstrates adherence to PrEP, then each member of the group gets an additional reward.

13. Do you think that this group-based format of a conditional cash transfer would work for encouraging PrEP use and adherence?
- Probe: Why or why not?
14. Do you think this would work best if the groups consisted of members who were already friends? Or would this work if groups consisted of people who did not know each other beforehand?
- Probe: Why or why not?
15. Would you be interested in participating in group-based conditional cash transfers for taking PrEP?
- Probe: Why or why not?
16. Do you think your Black or Latino gay and bisexual friends would be interested in participating in a group-based conditional cash transfer intervention?
- Probe: Why or why not?
17. Are there any problems, barriers, or limitations about this type of intervention, or would cause you to drop out of a group-based conditional cash transfer intervention?

READ: If you or your Black or Latino gay or bisexual friends decided to participate in an incentive-based PrEP intervention (either individual or group):

18. Would you or your friends be willing to share your experiences in the intervention with other potential participants involved with the intervention?
19. Would you or your friends be open to engaging with or meeting other participants involved in the intervention?
 - Probe: why or why not?
20. Would you or your friends be willing to talk about your experiences with other friends or family? What about on social media?
 - Probe: why or why not?

We've come to the end of our interview. Are there any other topics you'd like to share that we didn't discuss here today?

Thank you very much for sharing your time and insights with us.

Appendix H: Quantitative Study Instrument

Financially incentivizing strategies for HIV prevention in high-incidence populations in LA County *Survey tool*

What is the survey ID? _____

Thank you again for speaking with me. I am going to ask you a few questions about yourself, and then your opinions about different types of HIV prevention interventions.

1. How old are you?	_____ years
2. What is your race/ethnicity? Select all that apply.	☐ Black/African American ☐ Hispanic or Latino/a ☐ Asian ☐ Native American ☐ White/Caucasian ☐ Other (please describe): _____ ☐ Prefer not to answer
3. What is the highest level of school you have completed?	☐ None ☐ Some school but did not complete high school/GED ☐ High school/GED ☐ College/university ☐ Graduate studies ☐ Do not know ☐ Prefer not to answer
4. What is your employment status?	☐ Working part-time ☐ Working full-time ☐ On disability ☐ Not working ☐ Prefer not to answer
5. Where have you regularly slept in the past three months (pick the option that best represents the past three months)?	☐ Housing you own ☐ Housing you rent ☐ Housing you share with friends, family or acquaintances but do not pay for ☐ Shelter, safe haven, or transitional housing ☐ Car, in a tent, on the street, or under a bridge ☐ Other: _____ ☐ Prefer not to answer
6. PRE-exposure prophylaxis, or PrEP, is an antiretroviral medicine, such as Truvada, taken for months or years by	☐ No ☐ Yes

a person who is HIV-negative to reduce the risk of getting HIV. Before today, have you ever heard of PrEP?	
7. In the past 12 months, have you had a discussion with a health care provider about taking PrEP?	☐ No ☐ Yes
8. In the past 12 months, have you taken PrEP to reduce the risk of getting HIV?	☐ No ☐ Yes
9. When you took PrEP in the past 12 months, did you take it every day, almost every day, or less often?	☐ Every day ☐ Almost every day ☐ Less often
10. In the last 6 months, how many times were tested for sexually transmitted infections?	_____ times for STIs
11. Have you ever had an HIV test?	☐ No ☐ Yes
12. In the last 6 months, how many times did you test for HIV?	_____ times for HIV
13. One thing researchers have found to be important in understanding HIV risk is the number of partners they have bottomed or topped with (the medical term for that is “anal sex”). During the past 6 months, can you tell me how many people you have topped or bottomed with? Again, this is anonymous and confidential.	If zero (no anal sex in last 6 months), skip remaining Qs

If you're not sure, your best guess is fine.	
14. How many of these partners did you NOT use a condom with?	If none, skip next Q
15. Did you ask all of them their HIV status?	Yes/No
16. Do you have primary partner (spouse/significant other, etc.)	Yes/No

Thank you for answering those questions. We are interested in people's preferences about interventions to prevent HIV.

In this next scenario of questions, I will ask you to choose between two hypothetical scenarios. For each scenario, I want you to think about what might be good about each option and what might be bad about each option and then decide which one you would most prefer. In life, we often have to make these kinds of decisions between two choices. Everyone has different opinions and we just ask that you make your selections based on your own opinions and preferences. \

I am first going to define attributes for you and how they will look in the survey. Then I will show you practice questions in which you will choose between two options for getting paid to take PrEP, so that you can practice thinking about this type of decision before we begin the next section.

Let's take a look at the attributes.

Payment Frequency

Imagine you will be paid to take PrEP. You might be paid in installments every month, every three months, or you might be paid a lump sum at the end of the year. Several combinations of these payment frequencies could occur. (i.e., monthly vs every 3 months, every 3 months vs. annually, etc.)


The total amount of money is paid monthly


The total amount of money is paid every 3 months


The total amount of money is paid every 12 months

Payment Type

Imagine you will be paid to take PrEP. You might be paid in cash or gift cards for taking your PrEP.


Cash payment

Gift card payment


PrEP Type

Imagine you will be paid to take PrEP. You might get paid to take daily oral PrEP or injectable PrEP that you take every two months.



Payment Amount

Imagine you will be paid to take PrEP. You might be paid \$300 each year you've taken PrEP, \$600 each year you've taken, or \$1200 each year you've taken PrEP. Several combinations of these payment amount could occur. (i.e., \$300 vs \$600, \$600 vs. \$1200, etc.)



Do you have any questions about what any of these characteristics mean before we get started?

Now let's practice putting it all together. Remember there is no right or wrong answer to the questions asked in this section and your responses will help us better understand how individuals like you weigh the different attributes of this intervention.

Imagine you will be paid to take PrEP. Which of these interventions would you prefer? Would you prefer to participate in Intervention A (read options) or Intervention B (read options)?

	<i>Intervention A</i>	<i>Intervention B</i>	
	\$1200 each year that you've taken PrEP consistently	\$600 each year that you've taken PrEP consistently	
	The total amount of money is paid every 3 months	The total amount of money is paid every 12 months	
	Cash payment	Gift card payment	
	You take oral PrEP daily	You receive injectable PrEP every two months	

Response: Thank you for your response. We want to remind you that both interventions have their own unique benefits and drawbacks. Could you tell me about your thought process for choosing Intervention A?

Response: Thank you for your response. We want to remind you that both interventions have their own unique benefits and drawbacks. Could you tell me about your thought process for choosing Intervention B?

Now let's move on to the next practice question. Imagine you will be paid to take PrEP. Which of these would you prefer? Would you prefer to participate in Intervention A (read options) or Intervention B (read options)?

	<i>Intervention A</i>	<i>Intervention B</i>	
	\$300 each year that you've taken PrEP consistently	\$600 each year that you've taken PrEP consistently	
	The total amount of money is paid every month	The total amount of money is paid every 3 months	
	Cash payment	Gift card payment	
	You receive injectable <u>PrEP</u> every two months	You take oral PrEP daily	

Response: Thank you for your response. Why did you choose Intervention A? What attributes stood out to you?

Response: Thank you for your response. Why did you choose Intervention B? What attributes stood out to you?

Thank you for completing those warm-up questions. Next, we ask you the actual survey questions for this intervention. I am going to ask you 8 questions just like the ones we practiced, they may look a little different, but the basic premise remains the same. Do you have any questions for me before we begin?

DCE Module Questions – PrEP Intervention

At this point – each participant will get 8 randomized questions that will consist of two options that have a random set of 4 attributes each. Example questions can be seen below:

1. Which option would you choose?

(1/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid every 12 months	 The total amount of money is paid every 3 months
Payment Type	 Gift card payment	 Cash payment
PrEP Type	 Injectable PrEP every 2 months	 Daily oral PrEP
Payment Amount	 \$600 each year that you've taken PrEP consistently	 \$1200 each year that you've taken PrEP consistently
	☐	☐

2. Which option would you choose?

(2/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid every 3 months	 The total amount of money is paid every 12 months
Payment Type	 Gift card payment	 Cash payment
PrEP Type	 Daily oral PrEP	 Daily oral PrEP
Payment Amount	 \$300 each year that you've taken PrEP consistently	 \$300 each year that you've taken PrEP consistently
	☐	☐

3. Which option would you choose?

(3/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid every 3 months	 The total amount of money is paid monthly
Payment Type	 Cash payment	 Cash payment
PrEP Type	 Injectable PrEP every 2 months	 Injectable PrEP every 2 months
Payment Amount	 \$300 each year that you've taken PrEP consistently	 \$600 each year that you've taken PrEP consistently
	☐	☐

4. Which option would you choose?

(4/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid every 12 months	 The total amount of money is paid monthly
Payment Type	 Gift card payment	 Gift card payment
PrEP Type	 Daily oral PrEP	 Injectable PrEP every 2 months
Payment Amount	 \$300 each year that you've taken PrEP consistently	 \$600 each year that you've taken PrEP consistently
	☐	☐

5. Which option would you choose?

(5/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid every 12 months.	 The total amount of money is paid monthly.
Payment Type	 Gift card payment	 Gift card payment
PrEP Type	 Daily oral PrEP	 Daily oral PrEP
Payment Amount	 \$300 each year that you've taken PrEP consistently.	 \$1200 each year that you've taken PrEP consistently.
	☐	☐

6. Which option would you choose?

(6/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid monthly.	 The total amount of money is paid monthly.
Payment Type	 Gift card payment	 Gift card payment
PrEP Type	 Daily oral PrEP	 Injectable PrEP every 2 months
Payment Amount	 \$600 each year that you've taken PrEP consistently.	 \$1200 each year that you've taken PrEP consistently.
	☐	☐

7. Which option would you choose?

(7/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid every 3 months	 The total amount of money is paid every 3 months
Payment Type	 Cash payment	 Cash payment
PrEP Type	 Injectable PrEP every 2 months	 Daily oral PrEP
Payment Amount	 \$600 each year that you've taken PrEP consistently	 \$1200 each year that you've taken PrEP consistently
	☐	☐

8. Which option would you choose?

(8/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid monthly	 The total amount of money is paid every 12 months
Payment Type	 Cash payment	 Cash payment
PrEP Type	 Injectable PrEP every 2 months	 Injectable PrEP every 2 months
Payment Amount	 \$1200 each year that you've taken PrEP consistently	 \$1200 each year that you've taken PrEP consistently
	☐	☐

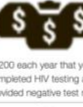
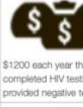
DCE Module Questions – HIV Testing Intervention

Thank you for completing those questions. Next, we are going to ask you a series of similar questions with the same attributes as before but for an HIV testing intervention. Instead of paying you take your PrEP, this intervention will pay you for getting tested for HIV. In this scenario, the resources and tools that for HIV testing will be provided by our care team. This intervention will only include 3 attributes; payment frequency, payment amount, and payment type.

As a reminder, for each scenario, I want you to think about what might be good about each option and what might be bad about each option and then decide which one you would most prefer. Do you have any questions for me before we begin?

1. Which option would you choose?

(1/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid every 12 months	 The total amount of money is paid every 3 months
Payment Type	 Gift card payment	 Cash payment
Payment Amount	 \$1200 each year that you've completed HIV testing and provided negative test results	 \$1200 each year that you've completed HIV testing and provided negative test results
	☐	☐

2. Which option would you choose?

(2/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid every 12 months	 The total amount of money is paid monthly
Payment Type	 Cash payment	 Gift card payment
Payment Amount	 \$600 each year you've completed HIV testing and provided negative test results	 \$300 each year you've completed HIV testing and provided negative test results
	☐	☐

3. Which option would you choose?

(3/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid monthly	 The total amount of money is paid every 3 months
Payment Type	 Gift card payment	 Cash payment
Payment Amount	 \$600 each year you've completed HIV testing and provided negative test results	 \$300 each year you've completed HIV testing and provided negative test results
	☐	☐

4. Which option would you choose?

(4/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid monthly	 The total amount of money is paid every 12 months
Payment Type	 Cash payment	 Gift card payment
Payment Amount	 \$300 each year you've completed HIV testing and provided negative test results	 \$600 each year you've completed HIV testing and provided negative test results
	☐	☐

5. Which option would you choose?

(5/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid every 3 months	 The total amount of money is paid monthly
Payment Type	 Cash payment	 Cash payment
Payment Amount	 \$600 each year you've completed HIV testing and provided negative test results	 \$1200 each year that you've completed HIV testing and provided negative test results
	☐	☐

6. Which option would you choose?

(6/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid monthly	 The total amount of money is paid every 3 months
Payment Type	 Gift card payment	 Gift card payment
Payment Amount	 \$300 each year you've completed HIV testing and provided negative test results	 \$1200 each year that you've completed HIV testing and provided negative test results
	☐	☐

7. Which option would you choose?

(7/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid every 12 months	 The total amount of money is paid every 12 months
Payment Type	 Cash payment	 Cash payment
Payment Amount	 \$600 each year you've completed HIV testing and provided negative test results	 \$300 each year you've completed HIV testing and provided negative test results
	☐	☐

8. Which option would you choose?

(8/8) Choose your preferred option below:

	Option 1	Option 2
Payment Frequency	 The total amount of money is paid monthly	 The total amount of money is paid every 3 months
Payment Type	 Gift card payment	 Gift card payment
Payment Amount	 \$1200 each year that you've completed HIV testing and provided negative test results	 \$300 each year you've completed HIV testing and provided negative test results
	☐	☐

Thank you for sharing your insights with us and for participating in our study. Your responses have been recorded.

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