HIV Disclosure and Sexual Transmission Risk among HIV-Positive African American MSM

Background: Encouraging disclosure of HIV positive (HIV+) status to sexual partners is an important factor in HIV prevention efforts. HIV status disclosure can allow sexual partners to make informed decisions about sexual relationships and may promote safer sex practices and reduced likelihood of onward HIV transmission (1,2). African American men who have sex with men (AAMSM) account for more than 25% of new HIV infections in the US (3). Furthermore, AAMSM are less likely than whites to disclose their HIV status to sexual partners (4). There is a need to understand what factors are associated with HIV non-disclosure so that those factors amenable to modification can be incorporated into preventive interventions. Additionally, the relationship between HIV disclosure and sexual risk behaviors has yielded mixed findings – in part because most studies have been cross sectional (2). Data for this HPTN scholar proposal will be drawn from the HPTN 061 and my primary mentor will be Dr. Steve Shoptaw and co-mentors Dr. Kenneth Mayer and Mr. Christopher Huck-Ortiz.

Aim 1: To examine longitudinal risk factors for HIV non-disclosure to sexual partners among AAMSM in the HPTN 061 study.

- **Hypothesis 1:** AAMSM with greater HIV-related stigma (5,6), event level substance use, and lower social support will be more likely to report HIV non-disclosure as compared to those who disclose while adjusting for other risk factors.

Aim 1 – Sample:
The analytic sample for Aim 1 will include 185 previously diagnosed at enrollment and 82 newly diagnosed (Reporting no prior diagnosis and ART-naïve at enrollment) HIV+ AAMSM (N=267) enrolled in the HPTN 061. We will include data from all study visits.

Aim 1 Measures:
**Outcome measure** – Question about last sexual episode with a male partner. “Did you discuss your HIV status with this person before you had sex?”
- Yes, I told him I was HIV+
- No, I didn’t discuss it with him

**Other risk factor measures** – Age, depression (7), knowledge of HIV/STIs (8), partner characteristics (main or casual; HIV+ vs. HIV- /unknown status), HIV disease progression (time since HIV diagnosis, CD4+ counts), religiosity/spirituality (9), sexual venue and HPTN 061 site.

Aim 1 – Analytical Plan
Univariate and multivariable logistic regression models will be used to determine risk factors for HIV non-disclosure. The models will be performed using generalized estimating equations (GEE), to account for the dependency between repeated outcome. Variables significant at the P<0.1 level in bivariable analyses will be entered into the
multivariable model. Among the 82 newly diagnosed with HIV we will include only data from their post-diagnosis visit.

**Aim 2: To determine the relationship between HIV disclosure to sexual partners and sexual risk behavior among AAMSM in the HPTN 061 study.**

- **Hypothesis 1:** AAMSM who do not disclose their HIV status to their sexual partners as compared to those who disclose will be more likely to report unprotected anal intercourse (UAI) while adjusting for established risk factors for UAI.

**Aim 2 – Sample:**
Same as Aim 1.

**Aim 2 Measures:**
*Outcome measure –* Sexual risk – will be a dichotomous measure of UAI in the past six months (yes vs. no) with last male sex partner.

*Covariates –* sociodemographic variables (age, income, educational attainment, marital status), substance use (including specific substances e.g. binge drinking) during sex, knowledge of HIV/STIs, partner type (main vs. casual), partner characteristics (HIV+ vs. HIV-/unknown), number of sex acts, multiple sex partners, internalized homophobia (10), social support, childhood sexual or physical abuse, intimate partner violence, religiosity/spirituality, depression, condom use efficacy (11,12), incarceration history, HIV RNA detectability and HPTN 061 site.

**Aim 1 – Analytical Plan**
Univariate and multivariable logistic regression models will be used to determine the relationship between HIV disclosure and UAI. The models will be performed using GEE, accounting for the dependency between repeated outcome measure. We will first conduct bivariable analyses to determine factors associated (P<0.05) with UAI that will be used in the multiple regression. Among the 82 newly diagnosed with HIV we will include data from their post-diagnosis visit only. We will test two potential moderators of the relationship between disclosure and UAI including: (1) partner type (main vs. casual) (2) HIV status of partner (HIV+ vs. HIV-/unknown). To investigate moderation, an interaction term between disclosure status and the moderators will be introduced into the multiple regression models. Missing data for both Aims will be addressed by multiple imputation methods (13). All analyses will be conducted using SAS Version 9.4.