Occupational PrEP for young men who have sex with men and transgender women who exchange sex: Development and implementation of an effectiveness and adherence support open-label study in Bangkok, Thailand

Andrea Wirtz¹, Brian Weir², Sandra Hsu-Hnin Mon¹, Michele Decker³, Chris Beyrer¹, and the Combination Prevention Effectiveness (COPE) Study Group

¹Department of Epidemiology, Johns Hopkins School of Public Health, Baltimore, US,

²Department of Health Behavior and Society, Johns Hopkins School of Public Health, Baltimore, US,

³Department of Population Family and Reproductive Health, Johns Hopkins School of Public Health, Baltimore, US

Introduction and Objectives

- Pre-exposure prophylaxis (PrEP) with sufficient adherence prevents HIV infection.
- Challenges to appropriate PrEP use include low uptake, poor adherence, and early discontinuation.
- The community-based Combination Prevention Effectiveness (COPE) study aims to address these challenges for HIV-uninfected young (18-26) men who have sex with men (MSM) and transgender women (TGW) who exchange sex in urban Thailand.
- We describe the unique implementation protocol and analytic plan for this open-label, non-randomized, community-based intervention.



Methods:

- Young MSM and TGW in Bangkok and Pattaya, Thailand who self-report selling/exchanging sex in the previous 12 months.
- Participants are recruited through peer referral and convenience sampling in venues and online. Recruitment is supported by social media and online PrEP informational videos (images above).
- Cohort eligibility is restricted to those aged 18-26 years, Thai citizen, and not living with HIV at baseline testing.
- In-person surveys & biologic testing occur at baseline and quarterly
- All participants receive brief weekly behavioral SMS surveys.
- Participants have the option to start PrEP or stop PrEP at any time during the course of the study.
- During periods of PrEP use, participants pick up pills on a monthly basis, may opt-in to receiving SMS reminders, and receive weekly SMS adherence surveys.
- HIV incidence during time on-PrEP and time off-PrEP are compared to estimate the intervention effect.
- Marginal structural models are used for statistical analysis to adjust the estimate for time-varying confounders.

Results:

• As of 03 June, 2019, 598 participants contributed 280 person-years of study time with 92% completion of weekly SMS surveys and 93% completion of quarterly in-person assessments.

Baseline characteristics among COPE participants (data as of 03 June 2019, N=608) **Education** Primary or secondary 33.7 Vocational or university 399 65.7 Other 0.7 Primary source of income Family or relatives 278 45.7 Full time work 41.3 Part time work 185 30.4 Sugar daddy or partner 14.6 4.9 Sex work Sold sex last 30 days 196 32.2 **Gender identity** Man / Gay 567 87.3 TG/ Woman 54 8.9 Other 2.8 Anal sex with man in last 30 days 42.8 Used condom during last anal sex 75.0 Meet partners/clients via online site or app 25.7 Hazardous drinking or active alcohol use disorder **Ever used drugs** 23.7 Used drugs in last 3 months (among those with lifetime use) 57.4 **Ever heard of PrEP** 531 87.3 Number of people known who take PrEP (among those aware of PrEP) 187 35.0 None 286 53.6 1 to 5 4.1 6 or more Ever used PrEP (among those aware of PrEP) 29.6 158

Results:

- As of 03 June 2019, 429 participants (72%) initiated PrEP at baseline, 26 initiated after baseline, 17 discontinued PrEP use.
- Self-reported adherence is high: 98% report 4-7 pills/last 7 days.
- Monitoring of unexpected events has identified some peer stigmatization of PrEP and HIV.

PrEP beliefs and self-efficacy, by lifetime PrEP use PrEP can protect me from HIV** I will worry less about STI I may experience side effects* Others will think I have HIV* More difficult to get drunk/high I will be less likely to use condom* I may become less attractive I will be able to take PrEP daily I will be willing to PrEP daily * 0.0 50.0 100.0 Percent (%) * Different at p<0.05; **p<0.10 ■ Lifetime PrEP use (n=158) ■ No use (n=373)

Conclusions:

- MSM and TGW who exchange sex and participate in this study are interested in PrEP, report taking sufficient PrEP, and stay on PrEP
- Perceptions among PrEP naïve participants highlight critical areas for PrEP counseling.
- Additional efforts are needed to address community stigma.
- This novel open-label study design and analytic plan will evaluate the effectiveness and cost-effectiveness of a combination prevention intervention in the context of organized exchange sex.











