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Determining the roles that illicit drugs, marijuana, and heavy drinking play in PrEP adherence among gay and bisexual men: Implications for Treatment

**Christian Grov, PhD, MPH; H. Jonathon Rendina, PhD, MPH;
Steven A. John, PhD, MPH; & Jeffrey T. Parsons, PhD**

Disclosure

- No Conflicts to Disclose

Things I don't need to tell you



- What is PrEP?
- Does PrEP work? Is PrEP Safe?
- Who benefits from PrEP?
- What are the “bonus” benefits of PrEP?
- In order for PrEP to work, what must one do?

Is Daily PrEP adherence a Problem?

- {earlier}, One demonstration project with MSM and transgender women found only 52% of participants from San Francisco, 35% from Washington, DC, and 13.5% from Miami were taking their PrEP daily
- Liu et al., 2016: 80.0% to 85.6% had protective levels (consistent with ≥ 4 doses/wk) at follow-up visits.
- Hoagland et al., 2017: After 4 weeks on PrEP, 94.1% had reported adherence levels (through DBS) of 2 or more doses per week, and 78% had 4 or more doses per week.



Is Daily PrEP adherence a Problem?



- Stigma about carrying around “HIV meds”
- Stigma about being sexually active (slut shaming, Truvada whore)
- Renewing the Rx every 30 days, insurance issues, not seeing doctor on time for renewal
- Traveling (planned and unplanned), changes to your routine
- Remembering to take a pill every day (you don’t get “sick” if you forget)
- What else?

What about Drugs and Alcohol?

- “Club” Drugs: Ketamine, Ecstasy, GHB, Coke, Meth
- Substantial research indicating that club drugs
 - Negatively impact HIV medication adherence for HIV-positive (HIV+) MSM,
 - use is associated with condomless anal sex (CAS) (both for HIV-neg and HIV+ MSM).
 - Thus Club drug use presents a dual risk for HIV transmission—it impacts HIV medication adherence (demonstrated in HIV+ MSM) and increases the odds of CAS (for HIV+ and HIV-neg MSM).

What about Drugs and Alcohol?

- “Heavy drinking:” 5 or more alcoholic drinks in one sitting. (i.e., getting drunk).
 - Negatively impacts medication adherence in HIV+ populations
 - Some studies have connected alcohol abuse with CAS



How might substances impact adherence?

- Partying through a scheduled dose
- Hung over or slept through a dose
- Being unexpectedly away from home/meds longer than anticipated (spent the night as a “trick’s” place)



What do the data tell us

- Surprisingly little with regard to PrEP (zip on marijuana)
- LOTS of medication adherence data among HIV+
 - But HIV+ populations may take more than one pill, at various times of the day.
 - Different sets of consequences for an HIV+ person missing a dose



Hold on a second...

- *I thought that PrEP was still effective even in the event of a missed dose? So, why do we care?*
 - Alternate dosing strategies.
 - Missed doses may be timed with substance use and sex without condoms. (A perfect storm?)





Club Drug Use and PrEP Adherence in Vulnerable Men R21DA039019

Principal Investigator	Christian Grov
Co-Investigators	Jeffrey T. Parsons, Jonathon Rendina
Research Scientist	Demetria Cain
Project Director	Mark Pawson
Project Coordinators	Brian Salfas, Andrew Cortopassi
Director of Recruitment	Ruben Jimenez
Senior Biostatistician	Chloe Mirzayi
Director of Operations	Carlos Ponton
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Enrollment



- Recruitment:
 - Recruited via targeted sampling (online, gay hookup websites & apps, venue-based sampling, and social media)
- Eligibility:
 1. 18 years or older,
 2. Cisgender male
 3. Identify as gay or bisexual
 4. Taking PrEP for at least 30 days, but not via a research study
 5. Reside in the New York City area
 6. Have internet access (for study components, not discussed here)
 7. ~ Half targeted to be club drug users

Note: No criteria around missed doses

Study Procedures



- Baseline assessment
 - One-on-One Qualitative Interview (semi-structured)
 - Structured qualitative interview (Time line follow back) – Sex, Drugs, Alcohol, Adherence
 - Computerized survey
- 10 Week Prospective Assessment
 - Twice weekly online diary (sex, drugs, alcohol, adherence)
 - Wisepill containers
- Week 10 Follow up assessment
 - Return Wisepill, debrief



Participants

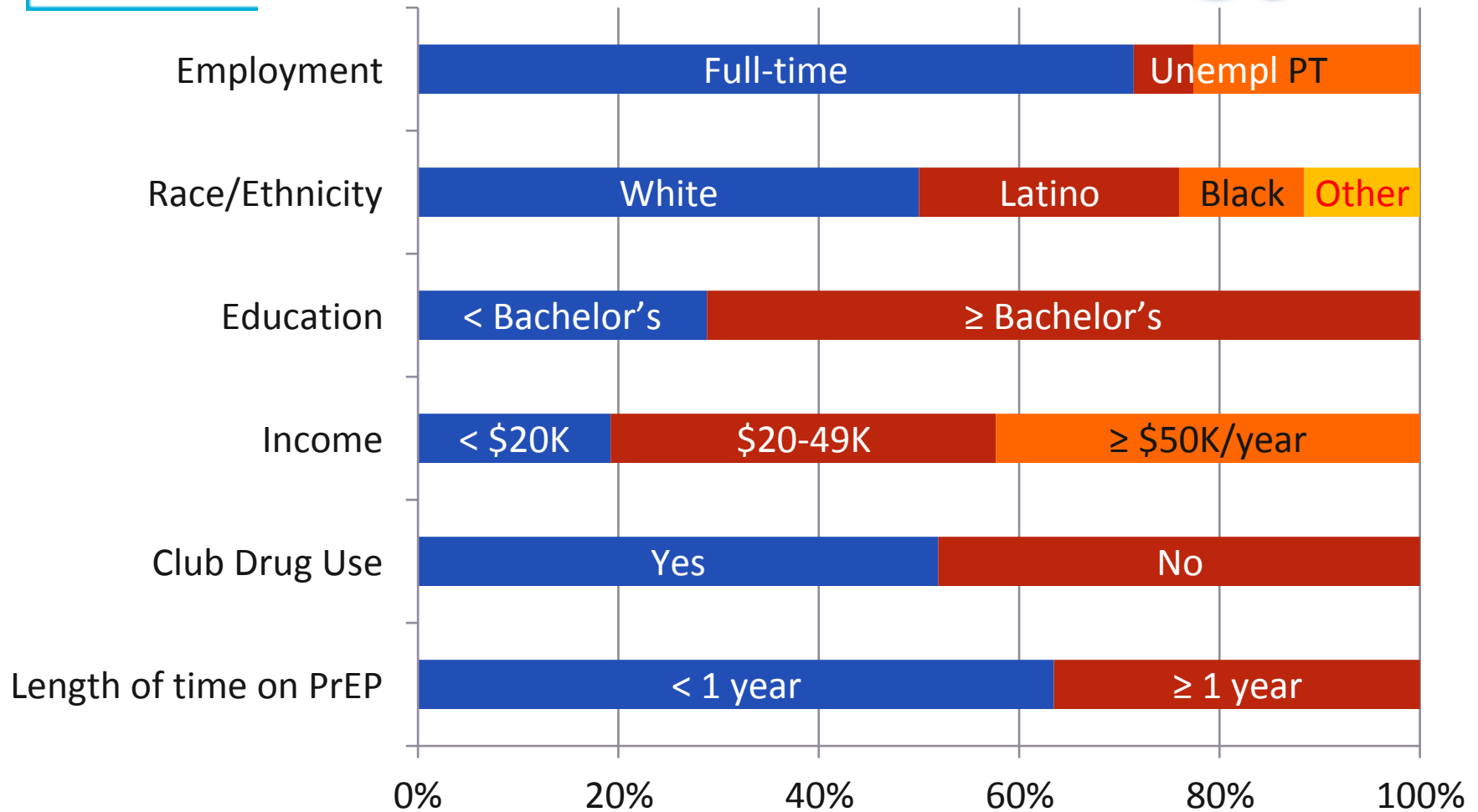
- N = 104
 - 47 club drug users (2+ days of use in last 30)
 - 50 non-club drug users
 - 7 *kinda* club drug users (1 days in the last 30)
- Enrolled 2015 – 2016
- Mean age 32.5
- 63.5% on PrEP for less than 1 year
- Half were men of color
- Average of 1.6 missed PrEP doses in the 30 days prior (low!)

N = 104

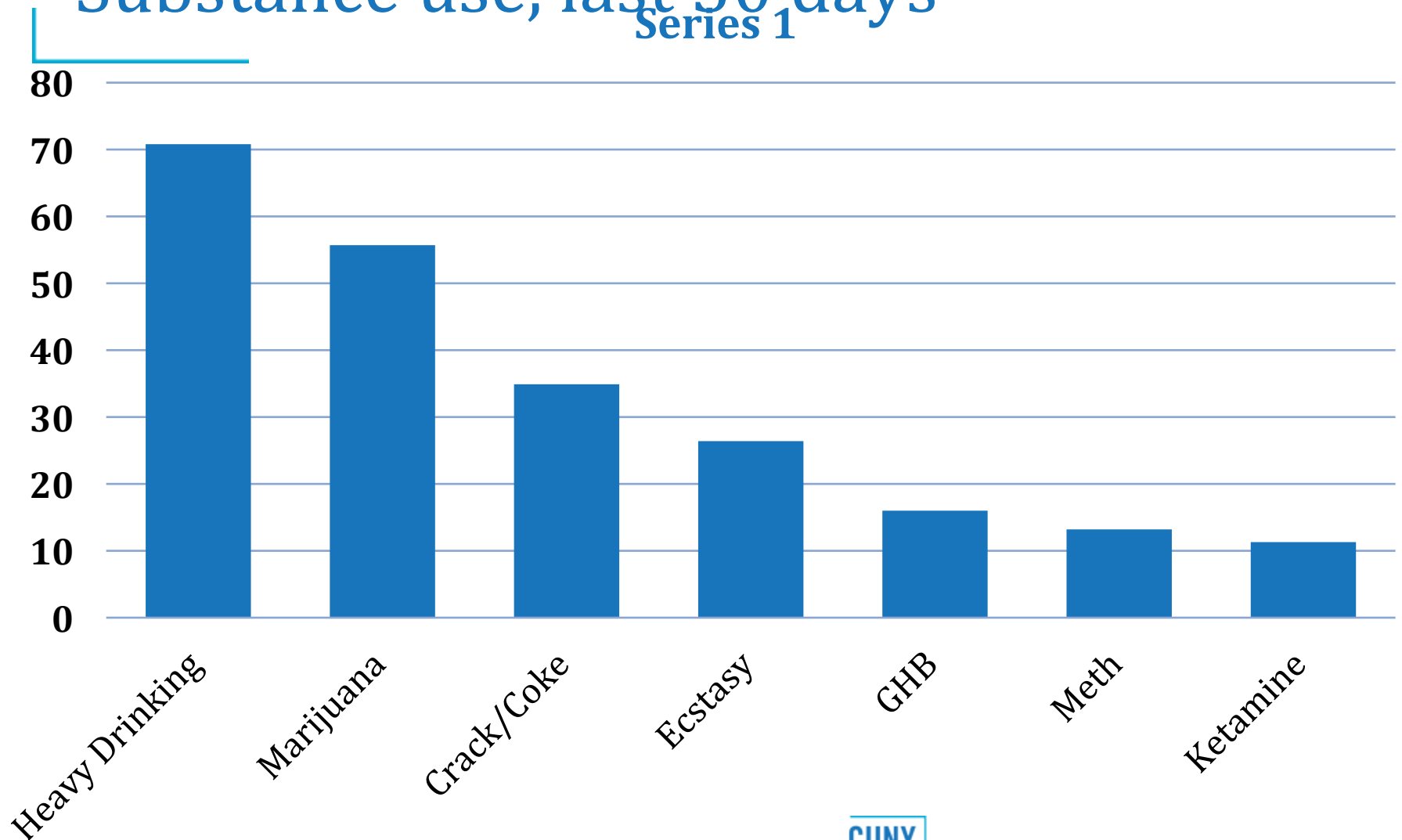
Mean Age = 32.5, Range: 21-61

39% in a Relationship

94% gay identified



Substance use, last 30 days



Analysis

- Using the baseline 30 day TLFB Interview
- Multilevel logistic regression with random intercept
 - Specified *missed PrEP* as the day-level outcome.
- Predictors included
 - Individual-level: Club drug user, Age, White race, College educated, and Relationship Status
 - Day-level: Illicit drug use, Marijuana use, and Heavy drinking



Results

- College education was the only significant individual-level factor (AOR = 0.46, $p = -0.02$)
 - Men with a college degree had lower odds of a missed PrEP dose on an average day.
- Day-level predictors indicated that using illicit drugs (AOR = 1.88, $p = 0.04$) and marijuana (AOR = 1.89, $p = 0.04$) were each independently associated with greater odds of a missed PrEP dose, while heavy drinking was not.

What you should take away

- Good News! PrEP Adherence was REALLY high
 - Much higher than some demonstration projects
 - Are *PrEP and Me* participants early (motivated) adopters?



What you should take away

- Not so good: Drug use and Marijuana nearly doubled the odds of missing a dose.
 - But PrEP is generally forgiving of the occasional missed dose
 - PrEP adherence counseling may need to include drug use.
 - Should Alternate Dosing strategies become “a thing,” we may need special considerations for Substance users



A word of caution



- Study visits concluded earlier this year and we still have a lot of data yet analyzed
 - Prospective twice weekly diaries (every day of the week was asked about)
 - Wisepill Data (hmm?)
 - Rich qualitative data 1-on-1 interviews at baseline
- NYC cis men only - We need data on trans men and trans women.
- Substance use can also interfere with treatment *engagement* (i.e., getting on PrEP in the first place)

Thank you

Christian Grov, PhD, MPH

Associate Professor

CUNY Graduate School of Public Health and Health Policy

cgrov@sph.cuny.edu

