



CFAR Substance Use Research Core (SURC) Faculty Publication Digest

New research on HIV and substance use by our SURC faculty.

If you have any other papers on this topic, please send them to [Trevor Baker](#) to include in the next publication digest!

Visit the SURC webpage

Sociodemographic factors and social determinants associated with toxicology confirmed polysubstance opioid-related deaths.

[Barocas JA, Wang J, Marshall BDL, LaRoche MR, Bettano A, Bernson D, Beckwith CG, Linas BP, Walley AY. *Drug Alcohol Depend.* 2019;200: 59-63.](#)

BACKGROUND AND AIMS:

While prescribed and illicit opioid use are primary drivers of the national surges in overdose deaths, opioid overdose deaths in which stimulants are also present are increasing in the U.S. We determined the social determinants and sociodemographic factors associated with opioid-only versus polysubstance opioid overdose deaths in Massachusetts. Particular attention was focused on the role of stimulants in opioid overdose deaths.

METHODS:

We analyzed all opioid-related overdose deaths from 2014 to 2015 in an individually-linked population database in Massachusetts. We used linked postmortem toxicology data to identify drugs present at the time of death. We constructed a multinomial logistic regression model to identify factors associated with three mutually exclusive overdose death groups based on toxicological results: opioid-related deaths with (1) opioids only present, (2) opioids and other substances not including stimulants, and (3) opioids and stimulants with or without other substances.

RESULTS:

Between 2014 and 2015, there were 2,244 opioid-related overdose deaths in Massachusetts that had accompanying toxicology results. Toxicology reports indicated that 17% had opioids only, 36% had opioids plus stimulants, and 46% had opioids plus another non-stimulant substance. Persons older than 24 years, non-rural residents, those with comorbid mental illness, non-Hispanic black residents, and

persons with recent homelessness were more likely than their counterparts to die with opioids and stimulants than opioids alone.

CONCLUSIONS:

Polysubstance opioid overdose is increasingly common in the US. Addressing modifiable social determinants of health, including barriers to mental health services and homelessness, is important to reduce polysubstance use and overdose deaths.

Strategies used by people who inject drugs to avoid stigma in healthcare settings.

[Biancarelli DL, Biello KB, Childs E, Drainoni M, Salhaney P, Edeza A, Mimiaga MJ, Saitz R, Bazzi AR. *Drug Alcohol Depend.* 2019;198:80-86.](#)

Strategies used by people who inject drugs to avoid stigma in healthcare settings.

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BACKGROUND:

People who inject drugs (PWID) have limited engagement in healthcare services and report frequent experiences of stigma and mistreatment when accessing services. This paper explores the impact of stigma against injection drug use on healthcare utilization among PWID in the U.S. Northeast.

METHODS:

We recruited PWID through community-based organizations (CBOs; e.g., syringe service programs). Participants completed brief surveys and semi-structured interviews lasting approximately 45 min exploring HIV risk behaviors and prevention needs. Thematic analysis examined the emergent topic of stigma experiences in relation to healthcare utilization.

RESULTS:

Among 33 PWID (55% male; age range 24-62 years; 67% White; 24% Latino), most used heroin (94%) and injected at least daily (60%). Experiences of dehumanization in healthcare settings were common, with many participants perceiving that they had been treated unfairly or discriminated against due to their injection drug use. As participants anticipated this type of stigma from healthcare providers, they developed strategies to avoid it, including delaying presenting for healthcare, not disclosing drug use, downplaying pain, and seeking care elsewhere. In contrast to large institutional healthcare settings, participants described non-stigmatizing environments within CBOs, where they experienced greater acceptance, mutual respect, and stronger connections with staff.

CONCLUSIONS:

Stigma against injection drug use carries important implications for PWID health. Increased provider training on addiction as a medical disorder could improve PWID healthcare experiences, and integrating health services into organizations frequented by PWID could increase utilization of health services by this population.

The role of therapist MI skill and client change talk class membership predicting dual alcohol and sex risk outcomes.

[Janssen T, Magil M, Mastroleo NR, Laws MB, Howe CJ, Walthers JW, Monti PM, Kahler CW. *J Clin Psychol.* 2019. \[Epub ahead of print\]](#)

OBJECTIVE:

We investigated the technical model of motivational interviewing (MI) in a dual-outcome intervention (i.e., alcohol, sexual risk; N = 164; 57% female).

METHOD:

We identified latent classes of client change statements, based on the proportion of change talk (CT) over the session. We then examined whether outcomes were related to CT class, and whether the relations between MI skill and outcomes varied by CT class.

RESULTS:

We found three classes of alcohol-CT and two classes of sexual risk-CT. While CT class membership did not predict outcomes directly, greater therapist MI-consistent skill was associated with fewer heavy drinking days in the increasing alcohol-CT class. For sexual risk outcomes, therapist MI-consistent skill was associated with reduced odds of condomless sex for the low sexual risk-CT class.

CONCLUSIONS:

The relation of therapist MI consistency to outcomes appears to be a function of client CT during the session.

HIV infection, HCV coinfection, and alcohol use: Associations with microbial translocation and immune activation.

[Monnig MA, Cohen R, Ramratnam, McAdams M, Tashima K, Monti PM. *Alcohol Clin Exp Res*. 2019;43\(6\):1126-1134.](#)

BACKGROUND:

Human immunodeficiency virus (HIV) infection and heavy drinking independently promote microbial translocation and inflammation. However, it is not known how alcohol use may affect these processes in people living with HIV (PLWH). This study tested the hypothesis that alcohol exacerbates innate immune dysfunction in PLWH.

METHODS:

Participants were 75 PLWH and 34 uninfected controls. Groups were recruited to have similar proportions of nondrinkers, moderate drinkers, and heavy drinkers. Substance use data and plasma samples were collected at up to 3 visits over a 5-year study period. Recent alcohol use was assessed with the Timeline Followback Interview. Biomarkers of microbial translocation (lipopolysaccharide, LPS) and immune activation (lipopolysaccharide binding protein, LBP; soluble CD14, sCD14; soluble CD163, sCD163) were quantified using enzyme-linked immunosorbent assays. Analyses tested 2 hypotheses: (i) that biomarker levels would be significantly higher in PLWH than controls with comparable alcohol use and (ii) that current alcohol use would exacerbate biomarker elevations in PLWH. The second analysis included the interaction of alcohol use with hepatitis C virus (HCV) coinfection.

RESULTS:

Groups were matched on alcohol use, smoking, and other drug use. All biomarkers were significantly higher in PLWH relative to controls (LBP: $p = 0.005$; LPS: $p = 0.014$; sCD14: $p < 0.001$; sCD163: $p < 0.001$). In PLWH, alcohol use showed a significant, positive association with sCD163, but not with other biomarkers. However, the interaction of alcohol use with HCV coinfection was significant for all biomarkers (LBP: $p = 0.002$; LPS: $p = 0.026$; sCD14: $p = 0.0004$; sCD163: $p = 0.001$). In pairwise tests with sequential Bonferroni correction, HIV/HCV coinfecting individuals who drank heavily had significantly higher sCD163 compared to coinfecting nondrinkers and to HIV mono-infected nondrinkers, moderate drinkers, and heavy drinkers ($ps < 0.005$). Coinfecting moderate drinkers had significantly higher sCD163 than each mono-infected group ($ps < 0.003$). In addition, sCD14 was significantly higher in coinfecting moderate drinkers than coinfecting nondrinkers ($p = 0.027$).

CONCLUSIONS:

As predicted, PLWH had higher levels of LBP, LPS, sCD14, and sCD163 than uninfected individuals with similar alcohol use. In PLWH, alcohol by itself was significantly associated only with higher sCD163. However, heavy or moderate alcohol use was associated with elevations in macrophage activation (sCD163) and monocyte activation (sCD14) in HIV/HCV coinfecting individuals.

Prevalence and correlates of unhealthy alcohol and drug use among men who have sex with men prescribed HIV pre-exposure prophylaxis in real-world clinical settings.

[Ogbuagu O, Marshall BDL, Tiberio P, Ogunbajo A, Barakat L, Montgomery M, Almonte A, Wray T, Williams EC, Edelman EJ, Chan PA. *AIDS Behav.* 2019;23\(1\):190-200.](#)

Pre-exposure prophylaxis (PrEP) is effective in preventing HIV acquisition among men who have sex with men (MSM). However, little is known about unhealthy substance use among MSM initiating PrEP in real-world settings. Unhealthy substance use is a risk factor for HIV acquisition and non-adherence to treatment, and may also impact PrEP use. MSM who were prescribed PrEP from 2015 to 2017 at clinics in Providence, Rhode Island and New Haven, Connecticut were recruited to participate in a prospective observational study. Structured clinical assessments were used to assess demographics, HIV risk behaviors, and unhealthy alcohol (alcohol use disorders identification test [AUDIT]-C scores ≥ 4) and drug use (use of any drugs in the past 3 months). Bivariate and multivariate analyses were performed to determine demographics and behaviors associated with unhealthy alcohol and drug use. Among 172 MSM initiating PrEP, 64% were white and 40% were 25-34 years old. Participants reported a median of 3 (IQR 2-7) sexual partners in the last 3 months; 20% reported an HIV positive partner. Unhealthy alcohol and any drug use were reported by 54 and 57%, respectively, and 76% reported at least one of the two. The majority of drug use reported was marijuana and poppers (41 and 26% of participants, respectively). Relative to those without unhealthy alcohol use, unhealthy alcohol use was independently associated with any drug use (adjusted odds ratio [AOR] = 2.57, 95% CI 1.32-5.01). Frequent drug use was associated with younger age (< 25 years, AOR 4.27, 95% CI 1.51-12.09). Unhealthy alcohol use is common among MSM taking PrEP. Drug use other than marijuana and poppers was uncommon among our cohort. Further efforts may be needed to understand the influence of unhealthy alcohol and other substance use on PrEP outcomes and to engage MSM who use drugs for PrEP.

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