



CFAR Substance Use Research Core (SURC) Faculty Publication and New Awards Digest

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

If you have any other publications or awards, please send them to [Natalia Gnatienco](#) to include in the next publication digest!

Please remember to cite CFAR support (P30AI042853) on your future publications!

Visit the SURC
webpage

Announcements

SURC New Investigator Meet-and-Greet

Are you a post-doc, resident, or faculty member new to the Prov/Bos CFAR and work in the field of HIV and substance use research? The Substance Use Research Core (SURC) is organizing a fall virtual meet-and-greet event **tomorrow, Tuesday, November 12 from 11am-12pm ET** to connect HIV/substance use researchers across our institutions. New members will have an opportunity to introduce themselves and their research. Please register [here](#) to join us.

Recent Funding Announcements

View NIDA funding opportunities at the intersection of HIV and substance use [here](#).

Please [let us know](#) if you are interested in pursuing these opportunities!

New Grants

Optimizing treatment of co-occurring smoking and unhealthy alcohol use among PWH in Nairobi, Kenya

Sub-Saharan Africa is home to >70% of people with HIV (PWH) globally. It is also burdened with rising rates of tobacco use, high rates of unhealthy alcohol use, and high rates of tobacco and alcohol co-use. These disparities are amplified in PWH in this region. Tobacco users drink more and alcohol users smoke more and quit less than mono-users. Tobacco combines with alcohol to exert a destructive synergy expressed, in particular, in extremely high rates of aerodigestive (especially esophageal) cancers. Kenya is the 7th most populous country in Africa, with 54 million people, 1.6 million of whom are PWH. Tobacco and alcohol use rates in Kenya, including Kenyan PWH, are higher than those in most sub-Saharan nations. Incidence rates of esophageal cancer in Kenya are 2.9 times those of the US in men and 8.4 times those of the US in women. There is an enormous need for better strategies to manage tobacco and alcohol co-use in Kenya and throughout the world. Our group has been engaged in tobacco treatment research for PWH in Nairobi, Kenya since 2018. We are completing a 2 x 2 factorial design randomized controlled trial (RCT) of Positively Smoke Free intensive behavioral counseling ± bupropion, and we have collected detailed information on alcohol usage in Kenyan PWH in the course of that study. We have created and piloted a new version of Positively Smoke Free counseling to include content related to alcohol co-use and strategies to cut down or quit alcohol use. Cytisine is a nicotinic acetylcholine receptor partial agonist that has been used for tobacco treatment since the 1960's, mostly in Eastern Europe, Russia, and Canada. Multiple trials of cytosine, conducted almost exclusively in White participants, have demonstrated that its efficacy in promoting smoking cessation is comparable to varenicline, the first line tobacco treatment in the US. Cytisine is inexpensive, safe, and does not interact with antiretroviral therapies. It is a potent treatment for alcohol dependence in animal models, but data to support its use for this purpose in humans are scarce. There is virtually no published experience with cytosine on the African continent, but Kenya's Ministry of Health has expressed interest in this affordable agent if it is proven effective in a Kenyan population. A placebo controlled trial of intensive counseling ± cytosine for Kenyan PWH who smoke and drink alcohol heavily will advance the science of tobacco and alcohol co-use, it will strengthen the case for cytosine use in Kenya and other low- and middle-income nations if effective, and it will address significant health disparities in a resource-constrained area of the world. In this application to renew 1R01CA225419, we propose a 2 x 2 factorial RCT comparing Positively Smoke Free including alcohol-referent content to standard care and comparing cytosine to placebo. We will study both tobacco and alcohol use endpoints as primary and secondary outcomes. We will also examine putative mediators of intervention effects on study outcomes. Finally, we will complete detailed cost analyses to estimate the cost-effectiveness of the trial interventions in relation to the trial's tobacco and alcohol use outcomes.

New Publications

Efficacy of behavioral intervention, text messaging, and extended intervention to address alcohol misuse in sexual minority men with HIV: a factorial randomized clinical trial. [AIDS Behav.](#) 2024 Sep 13.

Kahler CW, Surace A, Liu T, Pantalone DW, Mastroleo NR, Yan Y, **Wray TB**, Mayer KH, **Monti PM**.

This clinical trial examined the individual and combined effects of three different approaches to reducing alcohol misuse among a sample of sexual minority men (SMM) with HIV. Specifically, we used a 2 × 2 × 2 randomized factorial design to compare: (a) behavioral intervention based in motivational interviewing (MI) vs. brief intervention (BI), (b) interactive text messaging (ITM) for alcohol use vs. no ITM, and (c) extended intervention (EI) length of nine months vs. a one-month intervention duration. Participants (N = 188) were SMM with HIV and alcohol misuse recruited in Miami, FL, and Boston, MA. Participants were randomized to one of eight intervention combinations and assessed at 6- and 12-month follow-ups. Large reductions of over 50% in drinks per week and heavy drinking days were observed in all conditions at follow-up. Those who received ITM, compared to those who did not, reported significantly lower drinks consumed per week at

6 and 12 months (incidence rate ratios = 0.73 [95% CI = 0.57, 0.90] and 0.72 [95% CI = 0.56, 0.87], respectively), and increased odds of cessation of alcohol misuse at 12 months, odds ratio = 1.46, 95% CI = 1.03, 2.08. Results provided no evidence of better alcohol use outcomes for either MI or EI relative to their comparison conditions, and no specific combination of intervention components demonstrated a notable benefit. This study suggests a two-session BI can effectuate substantial reductions in alcohol use in SMM with HIV and that adding one month of ITM can yield further improvements.

Peer navigation for smoking cessation in people with HIV who smoke: a pilot randomized controlled trial. [Nicotine Tob Res.](#) 2024 Sep 10.

Cioe PA, Pinkston M, Stang GS, Tashima KT, **Kahler CW**.

Introduction: People with HIV (PWH) cite smoking within their social networks as a barrier to quitting. We examined the feasibility, acceptability, and preliminary efficacy of a tailored intervention, Peer Navigation Social Support for Smoking cessation (PNSS-S), designed specifically for PWH who smoke.

Methods: We randomized 64 PWH who smoked (mean age 54.5 years; 41% female) to PNSS-S or standard care (SC). After meeting with a clinic nurse to discuss quitting strategies and pharmacotherapy, the PNSS-S group received 12 weekly phone calls from a trained HIV peer navigator (PN), who provided smoking cessation counseling and social support for quitting. Outcomes were assessed at 12- and 24-weeks.

Results: Sixty-two percent of participants indicated interest in quitting at baseline. PN utilization was high with a mean number of weekly calls completed of 8.9 (SD 3.1), demonstrating excellent feasibility. Higher treatment satisfaction scores (29.1 [SD 3.0]) were reported in PNSS-S, compared to control (25.8 [SD 4.1], $t = -3.39$, $d = 0.89$, $p = .001$). Notably, positive social support for quitting increased significantly from baseline to week 12 in PNSS-S (17.4 [SD 11.4] to 25.1 [SD 12.2], $p = .01$), whereas SC showed no significant change ($t = 1.11$, $df = 29$, $p = .24$). At week 24, 5 (16.6%) participants in PNSS-S and 3 (8.8%) in SC endorsed 7-day point prevalence smoking abstinence: OR=2.05 95% CI=[0.45-10.88].

Conclusions: Peer-based smoking cessation counseling increased the odds of abstinence and significantly increased social support for quitting. Further study is warranted.

Implications: Cross training HIV peer navigators to address smoking cessation may be a cost-effective approach, as it utilizes existing HIV clinic-based resources. By strengthening social support and providing a peer-based approach, this intervention may help reduce the burden of tobacco-related health issues in this population, ultimately contributing to better overall health and longevity for PWH. Further research is needed to refine and expand upon these findings.

Social vulnerability and mental health among people with HIV and substance use: the role of race. [AIDS Behav.](#) 2024 Sep 27.

Shangani S, Winter MR, Shea M, Kim TW, **So-Armah K**, Magane KM, Bellamy SL, Saitz R, **Stein MD**.

Poor mental health significantly impacts people with HIV (PWH) and those who drink alcohol. Limited data exist on the combined effects of social determinants of health (social vulnerability) on mental health in PWH with unhealthy substance use. We investigated the relationship between social vulnerability and poor mental health in PWH and whether this relationship differed by race/ethnicity. We conducted a cross-sectional analysis using data from the Boston ARCH Cohort among PWH with current or past unhealthy substance use. We created a 23-item social vulnerability index (SVI) using a deficit accumulation approach comprised of social determinants of health indicators. We estimated whether higher SVI score is associated with anxiety and depressive symptoms using logistic regression analysis. Among 251 participants with a mean age of 52 (SD = 10) years, 67.3% were male, 52% Black, 21% Hispanic, 19% White, and 73% unemployed. The SVI had a mean of 9.30 (SD = 3.4) with a 1.5-18 range. Nearly two in five persons reported past month heavy alcohol use and 35% illicit drug use. The prevalence of anxiety and depressive symptoms was 34.4% and 54.2% respectively. Higher SVI score was associated with anxiety symptoms (adjusted odds ratio [aOR] = 2.01, 95% confidence interval [CI] 1.46, 2.76, $p \leq 0.001$), and depressive symptoms (aOR = 2.42, 95% CI 1.74,

3.36, $p \leq 0.001$). Race/ethnicity did not moderate the relationship between SVI and each mental health outcome. SVI was significantly associated with poor mental health across racial/ethnicity groups in this cohort. Interventions that address social vulnerability may improve well-being and quality of life for PWH.

Pain and unhealthy alcohol use among people living with HIV: a prospective cohort study. [Alcohol Clin Exp Res](#) (Hoboken). 2024 Sep 24.

Palfai TP, Winter MR, Magane KM, Heeren TC, Bernier LB, Murray GE, Saitz R, Kim TW, Stein MD.

Background: Unhealthy alcohol use is prevalent among people living with HIV/AIDS (PLWH) and contributes to impaired functioning, diminished quality of life, and poorer HIV outcomes. Common cooccurring conditions such as chronic pain may be associated with negative outcomes both directly and through its influence on unhealthy drinking itself. However, there is relatively little known about how pain influences unhealthy drinking among PLWH over time. The current study examined whether pain was associated with indices of unhealthy alcohol use, namely heavy drinking and alcohol use disorder (AUD) assessed 12 months later.

Methods: The study sample ($n = 207$) was from the Boston Alcohol Research Collaboration on HIV/AIDS (ARCH) Cohort, a prospective cohort of PLWH with a history of illicit substance or unhealthy alcohol use. We conducted logistic regression analyses to examine the associations between pain and both heavy drinking and AUD status (DSM-5 criteria) (yes/no) over time. In secondary analyses, we examined whether pain was associated with greater AUD severity and whether pain interference was associated with heavy drinking and AUD outcomes.

Results: We found that pain at baseline was associated with greater odds of AUD [aOR = 2.29 (95% CI: 1.13, 4.64), $p = 0.02$] but not heavy drinking [aOR = 0.91 (95% CI: 0.44, 1.88), $p = 0.79$] at 12 months. Pain was also associated with more severe AUD. Analyses of pain interference showed similar results.

Conclusions: Pain is prospectively associated with higher odds of AUD among PLWH with a substance/unhealthy alcohol use history. Providers should routinely address pain among PLWH to improve AUD outcomes.

Integrated telehealth intervention to reduce chronic pain and unhealthy drinking among people living with HIV: protocol for a randomized controlled trial. [Addict Sci Clin Pract](#). 2024 Sep 5;19(1):64. PMID: PMC11375999.

Palfai TP, Bernier LB, Kratzer MP, Magane KM, Fielman S, Otis JD, Heeren TC, Winter MR, Stein MD.

Background: Unhealthy alcohol use represents a significant risk for morbidity and mortality among people living with HIV (PLWH), in part through its impact on HIV management. Chronic pain, a common comorbidity, exacerbates suboptimal engagement in the HIV care continuum and has reciprocal detrimental effects on alcohol outcomes. There are no integrated, accessible approaches that address these comorbid conditions among PLWH to date. This paper describes a research study protocol of an integrated telehealth intervention to reduce unhealthy drinking and chronic pain among PLWH (Motivational and Cognitive-Behavioral Management for Alcohol and Pain [INTV]).

Methods: Two-hundred and fifty PLWH with unhealthy drinking and chronic pain will be recruited nationally via online advertisement. Informed consent and baseline assessments occur remotely, followed by 15 days of ecological momentary assessment to assess alcohol use, chronic pain, functioning, and mechanisms of behavior change. Next, participants will be randomized to either the INTV or Control (CTL) condition. Individuals in both conditions will meet with a health counselor through videoconferencing following randomization, and those in the INTV condition will receive 6 additional sessions. At 3- and 6-months post-baseline, participants will complete outcome assessments. It is hypothesized that the INTV condition will result in reduced unhealthy alcohol use and pain ratings compared to the CTL condition.

Conclusion: This protocol paper describes a randomized controlled trial which tests the efficacy of a novel, integrated telehealth approach to reduce unhealthy alcohol use and chronic pain for PLWH, two common comorbid conditions that influence the HIV treatment cascade.

Avoidance and rumination as predictors of substance use, mental health, and pain outcomes among people living with HIV. [Behav Ther.](#) 2024 Sep;55(5):1015-1025.

PMCID: PMC11341950.

Ferguson E, Busch AM, Anderson B, Abrantes AM, Pinkston MM, Baker JV, **Stein MD**, Uebelacker LA.

Pain, substance use, and mental health conditions are common among people living with HIV (PLWH), and avoidance and rumination may influence the co-occurrence of these conditions. The present study examined longitudinal associations between avoidance/rumination and pain outcomes, anxiety, anger, and substance use among PLWH. Participants (N = 187) with chronic pain and depressive symptoms completed self-report assessments over a 1-year period. Greater avoidance/rumination was positively associated with mental health outcomes (anxiety, anger), pain interference, and alcohol use across participants after controlling for depression severity. At time points with greater avoidance/rumination than average, participants also reported increased pain severity and interference, anxiety and anger symptoms, and alcohol use. No associations were found between avoidance/rumination and cannabis use. Results suggest a mechanistic effect of avoidance/rumination, such that increases in avoidance/rumination correspond with poorer health outcomes among PLWH over time. Targeting avoidance/rumination through intervention approaches may be beneficial for addressing comorbid health conditions among PLWH. Additional research is necessary to investigate this possibility and further characterize the effects of avoidance/rumination on health outcomes for PLWH.

Internalized HIV stigma and viral suppression: examining the mediating and moderating roles of substance use and social support. [AIDS.](#) 2024 Aug 29.

Crawford TN, Neilands TB, Drumright LN, Fredericksen RJ, Johnson MO, Mayer KH, Bamford L, **Batchelder AW**, Crane HM, Elopore L, Moore RD, Rosengren AL, Christopoulos KA.

Objective: To examine the effects of internalized HIV stigma on viral non-suppression via depressive symptoms, alcohol use, illicit drug use, and medication adherence and investigate whether social support moderates these effects.

Design: Longitudinal observational clinical cohort of patients in HIV care in the US. **Methods:** Data from the CFAR Network for Integrated Clinical Systems (2016-2019) were used to conduct structural equation models (SEM) to test the indirect effects of internalized HIV stigma on viral non-suppression through depressive symptoms, illicit drug use, alcohol use, and medication adherence. Moderated mediation with an interaction between social support and internalized HIV stigma was examined.

Results: Among 9,574 individuals included in the study sample, 81.1% were male and 41.4% were Black, non-Hispanic. The model demonstrated good fit (root mean square error of approximation = 0.028; standardized root means square residual = 0.067). The overall indirect effect was significant (b = 0.058; se = 0.020; β = 0.048; 95%CI = .019-.098), indicating that internalized HIV stigma's impact on viral non-suppression was mediated by depressive symptoms, illicit drug use, and medication adherence. An interaction was observed between internalized HIV stigma and social support on alcohol use, however, there was no moderated mediation for any of the mediators.

Conclusions: Internalized HIV stigma indirectly impacts viral non-suppression through its effects on depressive symptoms, illicit drug use, and medication adherence. Social support may buffer the impact, but more research is needed. Understanding the pathways through which internalized stigma impacts viral suppression is key to improving health of people with HIV.