



## 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 Gnatienko](#) to include in the next publication digest!

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

Visit the SURC webpage

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### New Grants Awarded

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#### Center for Addiction and Disease Risk Exacerbation (CADRE)

P20GM130414 (P Monti)

8/1/2019-7/31/2024

The Center for Addiction and Disease Risk Exacerbation (CADRE) will concentrate on the substance abuse that leads to different diseases in the human body. The funds will be used to set up a lab, which will collect blood and other samples from the patients to check the chemical indicators which are responsible for inflammation and stress. The program will provide support to four new faculty members in their study of substance use and chronic diseases.

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#### Applying User-centered Design Strategies to Develop a Tablet-optimized Intervention to Help High-Risk Men Starting PrEP Reduce their Heavy Drinking and Adhere to their Medication

R34AA027195 (T Wray)

9/1/2019-8/31/2022

The proposed research will support the development of an intervention called Game Plan for PrEP, that is intended to help heavy drinking MSM on PrEP reduce heavy episodic drinking and adhere to/persist with PrEP. Specifically, we will (1) employ user-centered design methods to help design and develop a tablet-optimized, internet-facilitated intervention that addresses these goals by drawing on the perspectives of intended users, as well as existing alcohol BMIs and medication adherence interventions. We will also (2) conduct a small randomized-controlled pilot study exploring the intervention's effects on biomarkers of alcohol use and PrEP adherence over a 6-month period.

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#### A Peer Navigation Model to Improve Quit Attempts, Quitline Use, and Smoking Cessation Rates among HIV-Positive Smokers

R21CA243906 (P Cioe)

9/12/2019-8/31/2020

Linking HIV-positive smokers with a PN who has quit smoking successfully may improve smoking cessation outcomes among PLWH. The primary objectives of this project is to examine the feasibility and

acceptability of a peer navigation social support for smoking cessation (PNSS-S) intervention for HIV-positive smokers. We will determine whether enhanced treatment will increase quit attempts and smoking cessation rates compared with standard care (SC). We will also obtain an effect size estimate for the PNSS-S intervention compared to SC.

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## New Publications

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### Receipt of Opioid Agonist Treatment Halves the Risk of HIV-1 RNA Viral Load Rebound Through Improved ART Adherence for HIV-infected Women Who Use Illicit Drugs.

Adams JW, Marshall BDL, Mohd Salleh NA, Barrios R, Nolan S, Milloy MJ. [Drug Alcohol Depend. 2019;107670.](#)

#### BACKGROUND:

Women living with HIV who use illicit drugs may be particularly vulnerable to HIV-1 RNA viral load (VL) rebound.

#### METHODS:

We used longitudinal data from 2006 to 2017 to evaluate the impact of sociodemographic, behavioral, social-structural, and clinical factors on the hazard of viral rebound for women enrolled in the ACCESS study, a prospective cohort with systematic VL monitoring. Women were included if they achieved VL suppression (<50 copies/mL) following antiretroviral therapy (ART) initiation and had more than one study interview. Sociodemographic as well as substance use, social-structural, addiction treatment, and HIV clinical factors were evaluated as predictors of viral rebound (VL > 1000 copies/mL). Cox regressions using a recurrent events framework, time-varying covariates, robust standard errors, and a frailty component were used.

#### RESULTS:

Of the 185 women included, 62 (34%) experienced at least one viral rebound event over an 11-year period, accumulating a total of 87 viral rebound events. In adjusted analysis, stimulant use more than doubled the hazard of viral rebound (adjusted hazard ratio [AHR]: 2.35, 95% confidence interval [CI]: 1.07-5.14) while the only factor protective against viral rebound was receipt of opioid agonist treatment (OAT) in the past six months (AHR: 0.46, 95% CI: 0.26-0.81). After adjusting for ART adherence in the past six months, the effect of OAT was attenuated (AHR: 0.57, 95% CI: 0.32-1.02).

#### CONCLUSIONS:

Efforts to improve access to and retention within OAT programs and decrease stimulant use may improve rates of viral suppression for HIV-positive women who use illicit drugs.

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### Social Desirability Bias Impacts Self-Reported Alcohol Use Among Persons with HIV in Uganda.

Adong J, Fatch R, Emenyonu NI, Cheng DM, Muyindike WR, Ngabirano C, Kekibiina A, Woolf-King SE, Samet JH, Hahn JA. [Alcohol Clin Exp Res. 2019;43\(12\):2591-2598.](#)

#### BACKGROUND:

Self-report is widely used to assess alcohol use in research and clinical practice, but may be subject to social desirability bias. We aimed to determine if social desirability impacts self-reported alcohol use.

#### METHODS:

Among 751 human immunodeficiency virus (HIV)-infected patients from a clinic in southwestern Uganda, we measured social desirability using the Marlowe-Crowne Social Desirability Scale (SDS) Short Form C, self-reported alcohol use (prior 3 months) Alcohol Use Disorders Identification Test-Consumption (AUDIT-C), and phosphatidylethanol (PEth), a biomarker of prior 3 weeks' drinking. We conducted multiple regression analyses to assess the relationship between SDS score (low, medium, and high levels) and (i) any self-reported recent alcohol use, among those who were PEth-positive ( $\geq 8$  ng/ml), and (ii) continuous AUDIT-C score, among those reporting any recent alcohol use. We controlled for PEth level, age, gender, education, economic assets, marital status, religion, spirituality/religiosity, social support, and study cohort.

#### RESULTS:

Of 751 participants, 59% were women; the median age was 31 years (interquartile range [IQR]: 26 to 39). Median SDS score was 9 (IQR: 4 to 10). Two-thirds (62%) self-reported any recent alcohol use; median AUDIT-C was 1 (IQR: 0 to 4). Among those who were PEth-positive (57%), 13% reported no recent alcohol use. Those with the highest SDS tertile had decreased odds of reporting any recent alcohol use compared to the lowest tertile, but the association did not reach statistical significance in multivariable analyses (adjusted odds ratio 0.55 [95% confidence interval (CI): 0.25, 1.23]). Among participants self-reporting recent alcohol use, SDS level was negatively associated with AUDIT-C scores (adjusted  $\beta$ : -0.70 [95% CI: -1.19, -0.21] for medium vs. low SDS and -1.42 [95% CI: -2.05, -0.78] for high vs. low SDS).

**CONCLUSIONS:**

While use of objective measures (e.g., alcohol biomarkers) is desirable for measuring alcohol use, SDS scores may be used to adjust self-reported drinking levels by participants' level of social desirability in HIV research studies.

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## **Cost-effectiveness of Integrating Buprenorphine-naloxone Treatment for Opioid Use Disorder into Clinical Care for Persons with HIV/Hepatitis C Co-infection Who Inject Opioids.**

Barocas JA, Morgan JR, Fiellin DA, Schackman BR, Eftekhari Yazdi G, Stein MD, Freedberg KA, Linas BP. [Int J Drug Policy. 2019;72:160–168.](#)

**BACKGROUND:**

Untreated opioid use disorder (OUD) affects the care of HIV/HCV co-infected people who inject opioids. Despite active injection opioid use, there is evidence of increasing engagement in HIV care and adherence to HIV medications among HIV/HCV co-infected persons. However, less than one-half of this population is offered HCV treatment onsite. Treatment for OUD is also rare and largely occurs offsite. Integrating buprenorphine-naloxone (BUP-NX) into onsite care for HIV/HCV co-infected persons may improve outcomes, but the clinical impact and costs are unknown. We evaluated the clinical impact, costs, and cost-effectiveness of integrating (BUP-NX) into onsite HIV/HCV treatment compared with the status quo of offsite referral for medications for OUD.

**METHODS:**

We used a Monte Carlo microsimulation of HCV to compare two strategies for people who inject opioids: 1) standard HIV care with onsite HCV treatment and referral to offsite OUD care (status quo) and 2) standard HIV care with onsite HCV and BUP-NX treatment (integrated care). Both strategies assume that all individuals are already in HIV care. Data from national databases, clinical trials, and cohorts informed model inputs. Outcomes included mortality, HCV reinfection, quality-adjusted life years (QALYs), costs (2017 US dollars), and incremental cost-effectiveness ratios.

**RESULTS:**

Integrated care reduced HCV reinfections by 7%, cases of cirrhosis by 1%, and liver-related deaths by 3%. Compared to the status quo, this strategy also resulted in an estimated 11/1,000 fewer non-liver attributable deaths at one year and 28/1,000 fewer of these deaths at five years, at a cost-effectiveness ratio of \$57,100/QALY. Integrated care remained cost-effective in sensitivity analyses that varied the proportion of the population actively injecting opioids, availability of BUP-NX, and quality of life weights.

**CONCLUSIONS:**

Integrating BUP-NX for OUD into treatment for HIV/HCV co-infected adults who inject opioids increases life expectancy and is cost-effective at a \$100,000/QALY threshold.

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## **A Pilot Study to Examine the Acceptability and Health Effects of Electronic Cigarettes in HIV-positive Smokers.**

Cioe PA, Mercurio AN, Lechner W, Costantino C, Tidey W, Eissenberg T, Kahler C. [Drug Alcohol Depend. 2019;107:678.](#)

**INTRODUCTION:**

Some HIV-positive smokers report ambivalence about quitting. Switching to electronic cigarettes (ECs) may be a viable option to reduce the negative health effects for smokers who are unable or unwilling to quit smoking combustible cigarettes (CCs). This study examined the acceptability and health-related effects of ECs in HIV-positive smokers who were not seeking smoking cessation treatment.

**METHODS:**

HIV-positive smokers (N = 19) were enrolled and followed for 12 weeks. Cartridge-based ECs were provided at baseline, and E-liquid was provided weekly for 8 weeks. At baseline, weeks 1-8, and week 12, EC and CC use, cardiopulmonary function, respiratory symptoms, and carbon monoxide (CO) levels were measured.

**RESULTS:**

At week 8, cigarettes per day (CPD) were reduced by more than 80%, with reduction maintained at week 12 ( $p$ 's < .001). Cigarette dependence scores were 40% lower at week 8 than at baseline ( $p$  < .001). Seven (36.8%) participants reported transitioning completely from CCs to ECs. Mean CO decreased significantly from BL to week 8 ( $p$  < .05) and remained significantly lower at week 12 ( $p$  < .001). Intention to quit increased significantly over time.

**CONCLUSIONS:**

Switching from CCs to ECs in HIV-positive smokers who are not ready to quit smoking in the next 30 days appears to be feasible. Beneficial effects were seen, such as reduced CPD, reduced CO and CC dependence, and increased motivation to quit. ECs may be promising as a harm reduction approach among HIV-positive smokers who are unable or unwilling to quit smoking.

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## **the INREACH (Inpatient REadmission Post-addiction Consult Help) Study.**

D'Amico MJ, Walley AY, Cheng DM, Forman LS, Regan D, Yurkovic A, Samet JH, Weinstein ZM. [J Subst Abuse Treat. 2019;106:35-42.](#)

### **INTRODUCTION:**

Despite the high prevalence and significant health risks of substance use disorders (SUDs), a minority of individuals with SUDs receive treatment of any kind. The aims of this study are to describe inpatients with an SUD who receive an addiction consult at a large urban safety net hospital and explore characteristics associated with receiving an addiction consult.

### **METHODS:**

This is a retrospective cohort study of all adult patients with a discharge diagnosis of an SUD from July 2015 to July 2016. A generalized estimating equation (GEE) logistic regression model was used to explore patient factors associated with receipt of an addiction consult, such as demographics, social, medical, and SUD characteristics.

### **RESULTS:**

A total of 3905 patients with SUD diagnoses with 5979 hospitalization encounters were included in this study. There were 694 addiction consults (11.6%, 95% CI: 10.71% to 12.5%) across all of the encounters and 576 unique patients that received consults. Patients with opioid use disorder had higher odds of receiving a consult (Adjusted Odds Ratio: 6.39, 95% CI 5.14-7.94), as did patients with acute complications from their substance use (AOR: 1.64, 95% CI 1.34-2.02), patients with human immunodeficiency virus (HIV) (AOR: 2.06, 95% CI 1.59-2.67), and homeless patients (AOR: 1.31, 95% CI 1.08-1.59). Patients with a psychiatry consult had higher odds of receiving an addiction consult (AOR: 1.75, 95% CI 1.37-2.23), and so did patients receiving benzodiazepines and/or phenobarbital (AOR: 1.88, 95% CI 1.55-2.28). Older patients (AOR: 0.82, 95% CI 0.76-0.88 per 10 year increase) had lower odds of receiving a consult, as did patients with an overdose diagnosis (AOR: 0.71, 95% CI 0.53-0.96).

### **CONCLUSION:**

A minority of inpatients with SUD received an addiction consult, however, inpatients with opioid use disorder, acute complications (medical, mental health) and homelessness had higher odds of receiving an addiction consult. Patients surviving overdose, a severe acute complication of substance use, had lower odds of receiving a consult and, thus, warrant development of care pathways to provide overdose prevention and addiction treatment engagement.

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## **Global Patterns of Opioid Use and Dependence: Harms to Populations, Interventions, and Future Action.**

Degenhardt L, Grebely J, Stone J, Hickman M, Vickerman P, Marshall BDL, Bruneau J, Altice F, Henderson G, Rahimi-Movaghar A, Larney S. [Lancet. 2019;394\(10208\):1560-1579.](#)

We summarise the evidence for medicinal uses of opioids, harms related to the extramedical use of, and dependence on, these drugs, and a wide range of interventions used to address these harms. The Global Burden of Diseases, Injuries, and Risk Factors Study estimated that in 2017, 40.5 million people were dependent on opioids (95% uncertainty interval 34.3-47.9 million) and 109 500 people (105 800-113 600) died from opioid overdose. Opioid agonist treatment (OAT) can be highly effective in reducing illicit opioid use and improving multiple health and social outcomes-eg, by reducing overall mortality and key causes of death, including overdose, suicide, HIV, hepatitis C virus, and other injuries. Mathematical modelling suggests that scaling up the use of OAT and retaining people in treatment, including in prison, could avert a median of 7.7% of deaths in Kentucky, 10.7% in Kiev, and 25.9% in Tehran over 20 years (compared with no OAT), with the greater effects in Tehran and Kiev being due to reductions in HIV mortality, given the higher prevalence of HIV among people who inject drugs in those settings. Other interventions have varied evidence for effectiveness and patient acceptability, and typically affect a narrower set of outcomes than OAT does. Other effective interventions focus on preventing harm related to opioids. Despite strong evidence for the effectiveness of a range of interventions to improve the health and wellbeing of people who are dependent on opioids, coverage is low, even in high-income countries. Treatment quality might be less than desirable, and considerable harm might be caused to individuals, society, and the economy by the criminalisation of extramedical opioid use and dependence. Alternative policy frameworks are recommended that adopt an approach based on human rights and public health, do not make drug use a criminal behaviour, and seek to reduce drug-related harm at the population level.

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## **Motivation to Quit Drinking in Individuals Coinfected with HIV and Hepatitis C.**

Hayaki J, Anderson BJ, Herman DS, Moitra E, Pinkston MM, Kim HN, Stein MD. [AIDS Behav. 2019;10.1007/s10461-019-02709-z.](#)

Alcohol consumption is common among individuals coinfecting with HIV and hepatitis C (HCV) despite the uniquely harmful effects in this population. Limited research has examined factors that could influence drinking reduction or cessation among HIV/HCV coinfecting persons; this study investigates motivation to

quit. Participants were 110 alcohol-consuming HIV/HCV coinfecting patients recruited from medical clinics. Participants self-reported 90-day drinking frequency and intensity; alcohol-related problems; reasons to quit drinking; reasons to drink; and motivation to quit drinking. Participants consumed alcohol on 54.1 ( $\pm$  26.9) of the past 90 days. In a multivariate model that controlled for demographic variables, motivation to quit drinking was directly associated with alcohol-related problems ( $\beta_{y,x} = 0.35$ ,  $p = .007$ ) and reasons to quit drinking ( $\beta_{y,x} = 0.23$ ,  $p = .021$ ), and inversely associated with drinking for enhancement ( $\beta_{y,x} = -0.36$ ,  $p = .004$ ). This study identified several factors associated with motivation to quit drinking in a sample of alcohol-consuming HIV/HCV patients.

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## **Design of a Randomized Controlled Trial to Link Infectious and Narcology Care (LINC-II) in St. Petersburg, Russia.**

**Gnatienko N**, Lioznov D, Raj A, Blokhina E, Rosen S, Cheng DM, **Lunze K**, Bendiks S, Truong Ve, Bushara N, Toussova O, Quinn E, Krupitsky E, **Samet JH**. [Addict Sci Clin Pract. 2020;15\(1\):1. Published 2020 Jan 13.](#)

### **BACKGROUND:**

If Russia is to achieve the UNAIDS 90-90-90 HIV targets, better approaches to engage, effectively treat, and retain patients in care are needed. This paper describes the protocol of a randomized controlled trial (RCT) testing the effectiveness of LINC-II, a strength-based case management program for HIV-positive people who inject drugs (PWID) to increase rates of HIV viral suppression, ART initiation, and opioid abstinence.

### **METHODS:**

This RCT will enroll and randomize 240 participants, recruited from a narcology (addiction care) hospital in St. Petersburg, Russia. Participants are randomized to the intervention or control arms. Those in the intervention arm receive: (1) strengths-based HIV case management supporting coordinated care; (2) rapid ART initiation; and (3) pharmacotherapy for opioid use disorder. We will evaluate the intervention's effectiveness compared to standard of care on the following outcomes: (1) undetectable HIV viral load at 12 months (primary); (2) initiation of ART within 28 days of randomization; (3) change in CD4 count from baseline to 12 months; (4) retention in HIV care (i.e.,  $\geq 1$  visit to medical care in 2 consecutive 6 month periods); (5) undetectable HIV viral load at 6 months; and (6) past 30-day opioid abstinence (at 6 and at 12 months).

### **DISCUSSION:**

This RCT will assess the LINC-II intervention in an urban Russian setting. If effective, it will offer a new approach for increasing the uptake of both HIV and opioid use disorder treatment and coordination of these modalities in standard Eastern European clinical settings.

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## **Telehealth Interventions to Reduce Alcohol Use in Men with HIV Who Have Sex with Men: Protocol for a Factorial Randomized Controlled Trial.**

**Kahler CW**, Surace A, Durst A, Pantalone DW, Mastroleo NR, Miguez MJ, Bueno D, Liu T, **Monti PM**, Mayer KH. [Contemp Clin Trials Commun. 2019;16:100475.](#)

### **BACKGROUND:**

Heavy alcohol use is prevalent among men who have sex with men (MSM) living with HIV and is associated with reduced antiretroviral therapy adherence, reduced HIV viral suppression, and reduced survival. We recently found that compared to HIV treatment as usual, three sessions of in-person motivational interviewing (MI) substantially reduced drinking in MSM with HIV. In an effort to enhance the effectiveness and efficiency of this intervention, the present study will test whether MI is more effective than brief intervention when delivered by videoconferencing, whether interactive text messaging (ITM) can enhance the effects of alcohol intervention, and whether extended duration of intervention is more effective than brief duration.

### **METHODS:**

Using a  $2 \times 2 \times 2$  factorial design, we will randomly assign 224 heavy-drinking MSM with HIV to: MI or brief intervention (BI); ITM or no ITM; Standard or Extended intervention (EI). All participants will receive intervention immediately after baseline assessment via videoconferencing and at 1-month post baseline via telephone. Participants randomized to EI will receive additional intervention sessions at 3, 6, and 9 months. Participants randomized to ITM will receive daily interactive texts about alcohol use for 1 month, with those randomized to EI receiving weekly interactive texts through 9 months. Alcohol and HIV-related outcomes will be assessed at 6 and 12 months post baseline.

### **CONCLUSION:**

By testing the combinations of interventions that can most effectively reduce alcohol use among MSM with HIV, this study will set the stage for wider-scale implementation of an optimized intervention combination.

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## **Perceptions of Alcohol Risk Among HIV/Hepatitis C Coinfected Patients.**

**OBJECTIVES:**

We examined how patient perceptions of alcohol risk, provider discussions about alcohol, and treatment of hepatitis C virus (HCV) differed among HIV-HCV coinfecting patients in primary care.

**METHODS:**

Between April, 2016 and April, 2017, we conducted a screening survey with patients in an HIV primary care clinic in Seattle, Washington, who had chronic HCV coinfection or a history of chronic HCV infection who had successfully cleared their infection with treatment.

**RESULTS:**

Of 225 participants, 84 (37%) were active drinkers (drank  $\geq 2$ -4 times/mo in past 3 months). Of those with little to no use for  $\geq 3$  months, 65 (29%) were former drinkers with a history of alcohol use and 76 were abstainers with no such history. Former drinkers and abstainers were more likely than active drinkers to perceive that any drinking was unsafe (69% vs 58% vs 31%;  $P < 0.001$ ). Former drinkers were more likely to report a physician's recommendation to stop drinking than active drinkers (63% vs 47%;  $P = 0.05$ ). The great majority (87%) of former drinkers decided to stop or reduce drinking on their own (most often in response to a nonhealth life event) and only 13% acknowledged doing so on their doctor's prompting. HCV treatment was not associated with former or active drinking status.

**CONCLUSIONS:**

Our findings underscore the importance of educating not only HIV-HCV patients about the effects of alcohol use but also HIV clinicians about delivering consistent counseling about alcohol avoidance. Understanding the reasons that HIV-HCV coinfecting persons make changes in their alcohol use could drive novel interventions that reduce the negative consequences of drinking.

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## Marijuana Use and Its Associations With Pain, Opioid Dose, and HIV Viral Suppression Among Persons Living With HIV on Chronic Opioid Therapy.

Merlin JS, Samet JH, Cheng DM, Lira MC, Tsui JI, Forman LS, Colasanti J, Walley AY, Del Rio C, Liebschutz JM. [J Acquir Immune Defic Syndr. 2019;82\(2\):195-201.](#)

**BACKGROUND:**

Medical marijuana is legal in 29 US states and the District of Columbia: both HIV and chronic pain are "approved conditions" for receipt. Chronic pain is common among people living with HIV (PLWH). We anticipate PLWH will question their providers about medical marijuana for chronic pain. We examined marijuana use and its associations with pain, opioid dose, and HIV viral suppression among PLWH receiving chronic opioid therapy.

**METHODS:**

PLWH prescribed chronic opioid therapy were recruited into the Targeting Effective Analgesia in Clinics for HIV cohort. The main exposure variable was any past 12-month marijuana use. The primary outcomes were (1) opioid misuse ( $\geq 9$  on the Current Opioid Misuse Measure) and (2) opioid dose (morphine equivalent daily dose). HIV viral load (VL) suppression ( $< 200$  copies/ $\mu$ L) and pain severity and interference using the Brief Pain Inventory were exploratory outcomes.

**RESULTS:**

Participants ( $n = 166$ ) were men (65%), Black (72%), and had an undetectable VL (89%). We found no significant association between current marijuana use and opioid misuse, opioid dose, or pain. Current marijuana use was associated with 3.03 times the odds of having a detectable VL (95% odds ratio: 1.11-8.31,  $P = 0.03$ ) while controlling for depressive symptoms and other substance use.

**DISCUSSION:**

We did not detect an association between marijuana use and opioid misuse behaviors, opioid dose, or pain. In an exploratory analysis, current marijuana use was associated with 3 $\times$  greater odds of having a detectable VL. This study provides insights into potential consequences of marijuana use among PLWH with chronic pain.

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## The Moderating Role of Social Support on the Relationship Between Anxiety, Stigma, and Intention to Use Illicit Drugs Among HIV-positive Men Who Have Sex with Men.

Mo PKH, Chen X, Lam EHK, Li J, Kahler CW, Lau JTF. [AIDS Behav. 2019;10.1007/s10461-019-02719-x.](#)

The present study examined the association between anxiety, stigma, social support and intention to use illicit drugs, and the moderating role of social support on the association between anxiety/stigma and intention to use illicit drugs among 450 Chinese HIV-positive MSM. Findings show that controlling for significant background variables, self-stigma and anxiety were positively associated with intention to use illicit drugs, while social support was negatively associated with intention to use illicit drugs. A significant moderation effect of social support was also observed, that the negative association between self-

stigma/anxiety and intention to use illicit drugs was only significant among participants with lower levels of social support. Findings highlight the importance of reducing self-stigma and anxiety, and promoting social support in drug use prevention for HIV-positive MSM.

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## **Predictors of Initiation of and Retention on Medications for Alcohol Use Disorder among People Living with and without HIV.**

Oldfield BJ, McGinnis KA, Edelman EJ, Williams EC, Gordon AJ, Akgun K, Crystal S, Fiellin LE, Gaither JR, Goulet JL, Korthuis PT, **Marshall BDL**, Justice AC, Bryant K, Fiellin DA, Kraemer KL. [J Subst Abuse Treat. 2020;109:14–22.](#)

### **INTRODUCTION:**

Infrequent use of and poor retention on evidence-based medications for alcohol use disorder (MAUD) represent a treatment gap, particularly among people living with HIV (PLWH). We examined predictors of MAUD initiation and retention across HIV status.

### **METHODS:**

From Veterans Aging Cohort Study (VACS) data, we identified new alcohol use disorder (AUD) diagnoses from 1998 to 2015 among 163,339 individuals (50,826 PLWH and 112,573 uninfected, matched by age, sex, and facility). MAUD initiation was defined as a prescription fill for naltrexone, acamprosate or disulfiram within 30 days of a new diagnosis. Among those who initiated, retention was defined as filling medication for  $\geq 80\%$  of days over the following six months. We used multivariable logistic regression to assess patient- and facility-level predictors of AUD medication initiation across HIV status.

### **RESULTS:**

Among 10,603 PLWH and 24,424 uninfected individuals with at least one AUD episode, 359 (1.0%) initiated MAUD and 49 (0.14%) were retained. The prevalence of initiation was lower among PLWH than those without HIV (adjusted odds ratio [AOR] 0.66, 95% confidence interval [CI] 0.51-0.85). Older age (for PLWH: AOR 0.78, 95% CI 0.61-0.99; for uninfected: AOR 0.70, 95% CI 0.61-0.80) and black race (for PLWH: AOR 0.63, 95% CI 0.0.49-0.1.00; for uninfected: AOR 0.63, 95% CI 0.48-0.83), were associated with decreased odds of initiation for both groups. The low frequency of retention precluded multivariable analyses for retention.

### **CONCLUSIONS:**

For PLWH and uninfected individuals, targeted implementation strategies to expand MAUD are needed, particularly for specific subpopulations (e.g. black PLWH).

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## **Development of a Tailored, Telehealth Intervention to Address Chronic Pain and Heavy Drinking among People with HIV Infection: Integrating Perspectives of Patients in HIV Care.**

Palfai TP, Taylor JL, **Saitz R**, Kratzer MPL, Otis JD, Bernstein JA. [Addict Sci Clin Pract. 2019;14\(1\):35. Published 2019 Aug 29.](#)

### **BACKGROUND:**

Chronic pain and heavy drinking commonly co-occur and can influence the course of HIV. There have been no interventions designed to address both of these conditions among people living with HIV (PLWH), and none that have used telehealth methods. The purpose of this study was to better understand pain symptoms, patterns of alcohol use, treatment experiences, and technology use among PLWH in order to tailor a telehealth intervention that addresses these conditions.

### **SUBJECTS:**

Ten participants with moderate or greater chronic pain and heavy drinking were recruited from a cohort of patients engaged in HIV-care (Boston Alcohol Research Collaborative on HIV/AIDS Cohort) and from an integrated HIV/primary care clinic at a large urban hospital.

### **METHODS:**

One-on-one interviews were conducted with participants to understand experiences and treatment of HIV, chronic pain, and alcohol use. Participants' perceptions of the influence of alcohol on HIV and chronic pain were explored as was motivation to change drinking. Technology use and treatment preferences were examined in the final section of the interview. Interviews were recorded, transcribed and uploaded into NVivo® v12 software for analysis. A codebook was developed based on interviews followed by thematic analysis in which specific meanings were assigned to codes. Interviews were supplemented with Likert-response items to evaluate components of the proposed intervention.

### **RESULTS:**

A number of themes were identified that had implications for intervention tailoring including: resilience in coping with HIV; autonomy in health care decision-making; coping with pain, stress, and emotion; understanding treatment rationale; depression and social withdrawal; motives to drink and refrain from drinking; technology use and capacity; and preference for intervention structure and style. Ratings of intervention components indicated that participants viewed each of the proposed intervention content areas as "helpful" to "very helpful". Videoconferencing was viewed as an acceptable modality for intervention delivery.

**CONCLUSIONS:**

Results helped specify treatment targets and provided information about how to enhance intervention delivery. The interviews supported the view that videoconferencing is an acceptable telehealth method of addressing chronic pain and heavy drinking among PLWH.

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## **Pre-exposure Prophylaxis Awareness and Interest among Participants in a Medications for Addiction Treatment Program in a Unified Jail and Prison Setting in Rhode Island.**

Peterson M, Macmadu A, Truong AQ, Rich J, Pognon K, Lurie M, Clarke JG, Brinkley-Rubinstein L. [J Subst Abuse Treat. 2019;106:73–78.](#)

People who are incarcerated are at increased risk for HIV (human immunodeficiency virus) acquisition upon release, and one possible intervention for prevention is the use of pre-exposure prophylaxis (PrEP) upon release. The present study assessed HIV risk perceptions as well as PrEP awareness and interest among 39 people who were incarcerated and enrolled in a structured Medication for Addiction Treatment (MAT) program at the Rhode Island Department of Corrections using semi-structured, qualitative interviews. Analysis was conducted using a generalized, inductive method in NVivo 12. While PrEP awareness was low across the study sample, some participants were interested in PrEP uptake or learning more about PrEP after they were provided with an overview of it. PrEP interest strongly related to current perceived HIV risk. Potential barriers included side effects, adherence, and reluctance to take medications in general. MAT programs for people who are criminal justice (CJ) involved may serve as useful linkage spaces to PrEP information, access, and retention.

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## **Patterns and Correlates of Prescription Opioid Receipt Among US Veterans: A National, 18-Year Observational Cohort Study.**

Rentsch CT, Edelman EJ, Justice AC, Marshall BDL, Xu K, Smith AH, Crystal S, Gaither JR, Gordon AJ, Smith RV, Kember RL, Polimanti R, Gelernter J, Fiellin DA, Tate JP, Kranzler HR, Becker WC. [AIDS Behav. 2019;23\(12\):3340–3349.](#)

A better understanding of predisposition to transition to high-dose, long-term opioid therapy after initial opioid receipt could facilitate efforts to prevent opioid use disorder (OUD). We extracted data on 69,268 patients in the Veterans Aging Cohort Study who received any opioid prescription between 1998 and 2015. Using latent growth mixture modelling, we identified four distinguishable dose trajectories: low (53%), moderate (29%), escalating (13%), and rapidly escalating (5%). Compared to low dose trajectory, those in the rapidly escalating dose trajectory were proportionately more European-American (59% rapidly escalating vs. 38% low); had a higher prevalence of HIV (31% vs. 29%) and hepatitis C (18% vs. 12%); and during follow-up, had a higher incidence of OUD diagnoses (13% vs. 3%); were hospitalised more often [18.1/100 person-years (PYs) vs. 12.5/100 PY]; and had higher all-cause mortality (4.7/100 PY vs. 1.8/100 PY, all  $p < 0.0001$ ). These measures can potentially be used in future prevention research, including genetic discovery.

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## **Liver Fibrosis and Accelerated Immune Dysfunction (Immunosenescence) among HIV-infected Russians with Heavy Alcohol Consumption – an Observational Cross-Sectional Study.**

So-Armah K, Freiberg M, Cheng D, Lim JK, Gnatienco N, Patts G, Doyle M, Fuster D, Lioznov D, Krupitsky E, Samet J. [BMC Gastroenterol. 2019;20\(1\):1.](#)

**BACKGROUND:**

The multifactorial mechanisms driving negative health outcomes among risky drinkers with HIV may include immunosenescence. Immunosenescence, aging of the immune system, may be accentuated in HIV and leads to poor outcomes. The liver regulates innate immunity and adaptive immune tolerance. HIV-infected people have high prevalence of liver-related comorbidities. We hypothesize that advanced liver fibrosis/cirrhosis is associated with alterations in T-cell subsets consistent with immunosenescence.

**METHODS:**

ART-naïve people with HIV with a recent history of heavy drinking were recruited into a clinical trial of zinc supplementation. Flow cytometry was used to characterize T-cell subsets. The two primary dependent variables were CD8+ and CD4+ T-cells expressing CD28-CD57+ (senescent cell phenotype). Secondary dependent variables were CD8+ and CD4+ T-cells expressing CD45RO + CD45RA- (memory phenotype), CD45RO-CD45RA+ (naïve phenotype), and the naïve phenotype to memory phenotype T-cell ratio (lower ratios associated with immunosenescence). Advanced liver fibrosis/cirrhosis was defined as FIB-4 > 3.25, APRI ≥ 1.5, or Fibroscan measurement ≥ 10.5 kPa. Analyses were conducted using multiple linear regression adjusted for potential confounders.

**RESULTS:**



Mean age was 34 years; 25% female; 88% hepatitis C. Those with advanced liver fibrosis/cirrhosis (N = 25) had higher HIV-1 RNA and more hepatitis C. Advanced liver fibrosis/cirrhosis was not significantly associated with primary or secondary outcomes in adjusted analyses.

#### **CONCLUSIONS:**

Advanced liver fibrosis/cirrhosis was not significantly associated with these senescent T-cell phenotypes in this exploratory study of recent drinkers with HIV. Future studies should assess whether liver fibrosis among those with HIV viral suppression and more advanced, longstanding liver disease is associated with changes in these and other potentially senescent T-cell subsets.

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### **Stuck in the Window with You: HIV Exposure Prophylaxis in the Highest Risk People Who Inject Drugs.**

Taylor JL, Walley AY, Bazzi AR. [Subst Abus. 2019;40\(4\):441-443.](#)

The opioid and polysubstance epidemics could drive a surge in new HIV infections among people who inject drugs (PWID). Longstanding strategies to reduce HIV incidence, including syringe service programs, condom distribution, medications for opioid use disorder, and low-barrier HIV testing and treatment have not been adequate to eliminate transmission in this population. Although HIV pre-exposure prophylaxis (PrEP) is an evidence-based intervention that reduces HIV incidence among PWID, uptake in PWID has lagged due to limited PrEP knowledge, discrepancies between perceived and actual HIV risk, stigma, and structural barriers to adherence including homelessness and incarceration. In our efforts to deploy PrEP to PWID in our low-barrier substance use disorder bridge clinic, we have encountered another barrier: the HIV testing window period. We discuss challenges in delivering HIV exposure prophylaxis to the highest risk PWID, our current approach, and the need for more data to guide best practices.

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### **Medication for Addiction Treatment and Acute Care Utilization in HIV-positive Adults with Substance Use Disorders.**

Thakarar K, Walley AY, Heeren TC, Winter MR, Ventura AS, Sullivan M, Drainoni M, Saitz R. [AIDS Care. 2019;1-5.](#)

Medication for addiction treatment (MAT) could reduce acute care utilization in HIV-positive individuals with substance use disorders. The study objective was to determine if HIV-positive people with substance use disorders treated with MAT report less acute care utilization than those not receiving MAT. We assessed the association between MAT and acute care utilization among HIV-positive individuals with alcohol or opioid use disorder. Acute care utilization 6 months later was defined as any past 3-month self-reported (1) emergency department (ED) visit and (2) hospitalization. Of 153 participants, 88% had alcohol use disorder, 41% had opioid use disorder, and 48 (31%) were treated with MAT. Fifty-five (36%) participants had an ED visit and 38 (25%) participants had a hospitalization. MAT was not associated with an ED visit (AOR 1.12, 95% CI 0.46-2.75) or hospitalization (AOR 1.09, 95% CI 0.39-3.04). MAT was not associated with acute care utilization. These results highlight the need to increase MAT prescribing in HIV-positive individuals with substance use disorders, and to address the many factors that influence acute care utilization.

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