RESEARCH ON ALCOHOL AND HIV

2026 RSA Satellite Meeting

PRESENTED BY Vanderbilt Center for Population Science and Randomized Clinical Trials (V-POLARIS), NIH Office of AIDS Research, and the National Institute on Alcohol Abuse and Alcoholism

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SAT. JUNE 20, 2026 | SAN ANTONIO, TX

Research on Alcohol and HIV

Meeting Overview

The objective of this satellite meeting is to present updates on alcohol research among people living with HIV from several large NIAAA-funded HIV and alcohol consortia. We will present data from observational studies, pilot studies, and randomized controlled trials involving participants from the United States and around the world.

Presented by:

NIH NIAAA

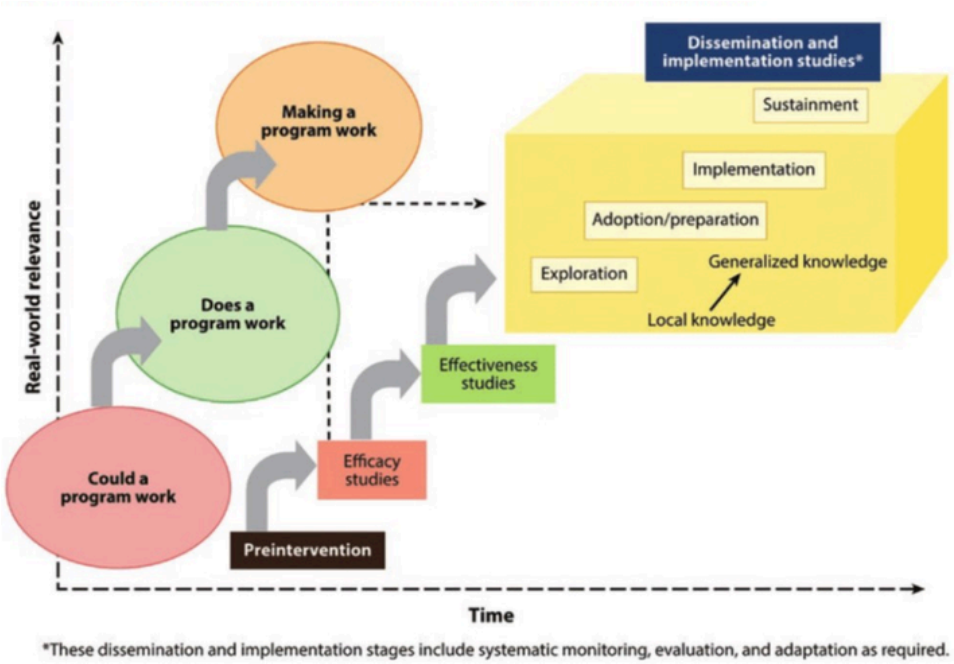
V-POLARIS

NIH National Institutes of Health Office of AIDS Research

35 YEARS

VANDERBILT UNIVERSITY MEDICAL CENTER

NIAAA Focus of Implementation Science in the Larger Context of Research



*These dissemination and implementation stages include systematic monitoring, evaluation, and adaptation as required.

RESEARCH ON ALCOHOL AND HIV

Sat. June 20, 2026
San Antonio, TX

8.30 - 8.45 a.m **Opening Remarks** Matthew Freiberg, MD & **NIAAA Welcome** Kendall Bryant, PhD

8.45 - 10.00 a.m

Implementation, intervention development, targeting, application

Moderated by Hilary Tindle, MD

8.45 – 9.00 Scott Braithwaite, Cost-effectiveness of screening and treating alcohol use and depression as an HIV intervention in sub-Saharan African settings

9.00 – 9.15 Madeleine Bentley, I feel like I never am doing enough": Provider Perspectives on Identifying Unhealthy Alcohol Use and Initiating Care in Three HIV Clinics

9.15 – 9.30 Adelyn Garcia Clinical usability of digital support for an intervention to reduce bothersome symptoms from polypharmacy and alcohol use among persons with HIV

9.30 – 9.45 Q & A

9.45 – 10.00 Break

10.00 - 11.15 a.m

Translational science, comorbidities, coinfections, and complications

Moderated by Shirish Barve, PhD

10.00 – 10.15 Patricia Molina Environmental factors and AUD synergize to drive comorbidity risk factors in PWH

10.15 – 10.30 Kaitlin Couvillion Plasma-derived extracellular vesicles from People with HIV with liver injury: impact on hepatocyte function

10.30 – 10.45 Seema Singh ER Stress Regulates NLRP6 Inflammasome-Mediated Astrocytic Neuroinflammation Induced by HIV Tat and Ethanol

10.45 – 11.00 Q & A

11.00 – 11.15 Break

11:15 - 12.00 Poster Session

12.00 - 1.00 p.m Lunch & Optional Mentoring Session (see last page)

1.00 - 2.15 p.m

Aging, treatment, prevention, and biomarkers

Moderated by Jeffrey Samet

1.00 – 1.15 Natalie Chichetto Longitudinal associations of depressive symptoms and PEth with systemic inflammation among older adults with and without HIV: A probiotic pilot study

1.15 – 1.30 Judy Hahn Incentives to reduce alcohol use as a strategy to reduce intimate partner violence among people co-infected with HIV and TB: secondary findings

1.30 – 1.45 Elizabeth Austin The Role of Economic Deprivation in PrEP Receipt in a National Sample of U.S. Veterans, Overall and Among Those at High Risk

1.45 – 2.00 Q & A

2.00 – 2.15 Break

2:15 - 3.15 p.m

Lightning Round

Moderated by Matthew Freiberg, MD and Kaku So-Armah, PhD

1. Joe Coleman, Multilevel Predictors of Alcohol Use in Sexual Contexts Among Recent Latino Immigrants: A Longitudinal Analysis
2. Scott Edwards, Comparative Effects of Alcohol and Cannabis Use on Pain and Cognition Outcomes in the New Orleans Alcohol Use in HIV (NOAH) Cohort
3. Rebecca Fisk-Hoffman, Barriers and Facilitators of Interventions for Alcohol Use in HIV and TB Care: A Qualitative Study among Persons with HIV and Providers
4. Smita Ghare Hazardous Alcohol Use Compromises Adherence to Pre-exposure prophylaxis (PrEP) and Promotes Gut Microbial Dysbiosis: Relevance to HIV Prevention Outcomes
5. Kayla McNeely Alcohol-Associated Behavioral Health Syndemics across Menopause among Women with and without HIV: Latent Class and Latent Transition Analyses
6. Mollie Monnig Acute Alcohol Effects on Markers of Microbial Translocation and Immune Activation in People with HIV and Controls: A Randomized, Placebo-Controlled Trial
7. Winnie Muyindike, Effect of Alcohol use on active TB incidence among persons with HIV and Latent TB who received TB Preventive Therapy
8. Moses New-Aaron Revisiting Pioglitazone: A Re-Emerging Therapeutic Targeting Bioenergetic Dysfunction in Alcohol- and HIV-Exposed Alveolar Macrophages

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3.15 - 3.30 p.m. **Closing Remarks** Kendall Bryant, PhD & Matthew Freiberg, MD

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Kendall Bryant, PhD

Director of HIV/AIDS Research
National Institute on Alcohol Abuse and Alcoholism

Dr. Bryant is the Director of HIV/AIDS Research in the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Extraordinary progress in HIV/AIDS research has led to the development of interventions and medications to reduce transmission and has transformed an almost inevitably fatal disease into a preventable and treatable disorder. People with HIV/AIDS can achieve their full potential and normal life expectancy if antiretroviral therapy (ART) is initiated promptly and continued for life. Nonetheless, alcohol misuse can compromise the treatment and prevention of HIV, which remains a serious public health concern worldwide.

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Matthew Freiberg, MD, MSc

Professor of Medicine and Dorothy and Laurence Grossman Chair in Cardiology
Founding Director V-POLARIS
Co-Director V-SCHOLARS
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Dr. Freiberg is an internal medicine physician and cardiovascular epidemiologist. He is a Professor of Medicine and the Dorothy and Laurence Grossman Chair in Cardiology in the Division of Cardiovascular Medicine at Vanderbilt University Medical Center. He is the founding director of the Vanderbilt Center for Population Science and Randomized Clinical Trials (V-POLARIS). His work focuses on the epidemiology of alcohol consumption, HIV infection, and CVD; mechanisms underlying this association; and conducting clinical trials designed to lower CVD risk in persons with HIV (PWH) who consume alcohol.

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Cost-effectiveness of screening and treating alcohol use and depression as an HIV intervention in sub-Saharan African settings

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R. Scott Braithwaite, MD, MSc, FACP is Chief of the Division of Comparative Effectiveness and Decision Science at NYU Langone Health, founding Director of the NYU Master of Science - CEIRT Program, and Past-President of the Society of Medical Decision Making. He is an accomplished investigator in the field of decision science, quality, and cost-effectiveness, focusing on policy-relevant research to optimize quality and value in healthcare. He has an outstanding record of funding from the NIH and other extramural sources.

R. Scott Braithwaite, Yao-Rui Yeo, Cebisile Ngcamphalala, Dyanna L. Charles, Mellesia Jeetoo, Owen Mugurungi, Tsitsi Apollo, Anthony P. Moll, Sheela V. Shenoi, Neo Morojele, Joel Francis

Abstract

Purpose: Alcohol use disorder (AUD) and major depressive disorder (MDD) are prevalent in sub-Saharan Africa (e.g. prevalence of AUD and/or MDD: 12.0% Zimbabwe; 28.4% Kwazulu-Natal, South Africa), increasing behaviors that contribute to HIV infections in high HIV-burden settings. We evaluated the impact and cost-effectiveness of AUD and/or MDD screening and treatment (AUD/MDD-SCR/TRT) as an HIV intervention in Zimbabwe and Kwazulu-Natal.

Methods: Using a validated HIV compartmental transmission model, we estimated the health effects of AUD/MDD-SCR/TRT in Zimbabwe and Kwazulu-Natal. Screening tools included AUDIT and PHQ-9. Treatment included culturally tailored interventions, motivational interviewing and problem-solving therapy for AUD and cognitive-behavioral therapy for MDD, with enduring effect sizes of 43.7% for AUD and 40.3% for MDD. Cost included client and staff time, assuming one hour of screening followed by eight 45-minute treatment sessions for people with AUD and/or MDD. Modeling outcomes were infections averted, QALYs gained and cost/QALY-gained through time horizon of greatest stakeholder interest (2030). We conducted a three-way sensitivity analysis varying the effectiveness of AUD/MDD-SCR/TRT, cost of AUD/MDD-SCR/TRT, and the proportion of people with AUD and/or MDD. Analyses were compared to a willingness-to-pay (WTP) threshold of $2,500/QALY-gained.

Results: In Zimbabwe, AUD/MDD-SCR/TRT approached but did not meet WTP threshold, averting 12.7% new infections (AUD-only treatment: 6.3%; MDD-only treatment: 5.4%; synergy: 1.0%) and gaining 27,200 QALYs through 2030 (AUD-only treatment: 13,450; MDD-only treatment: 11,550; synergy: 2,200), costing $3,050/QALY-gained (AUD-only treatment: $3,200/QALY-gained; MDD-only treatment: $2,500/QALY-gained). In sensitivity analyses, AUD/MDD-SCR/TRT would be cost-effective if costs are <0.8X current levels, or if effect sizes improved to >1.2X current levels. Results were different in Kwazulu-Natal, in part due to higher prevalence. In Kwazulu-Natal, AUD/MDD-SCR/TRT satisfied the WTP threshold, averting 24.7% new infections (AUD-only treatment: 11.7%; MDD-only treatment: 9.1%; synergy: 3.9%) and gaining 61,850 QALYs through 2030 (AUD-only treatment: 29,300; MDD-only treatment: 22,750; synergy: 9,800), costing $2,250/QALY-gained (AUD-only treatment: $2,850/QALY-gained; MDD-only treatment: $1,250/QALY-gained). In sensitivity analyses, AUD/MDD-SCR/TRT would remain cost-effective if costs do not exceed 1.1X current levels, or if effect sizes stay above 0.9X current levels.

Conclusion: AUD/MDD-SCR/TRT can be cost-effective as an HIV intervention in Zimbabwe if costs and/or effects are slightly more favorable, and is cost-effective in Kwazulu-Natal assuming effectiveness is maintained when scaled.

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"I feel like I never am doing enough": Provider Perspectives on Identifying Unhealthy Alcohol Use and Initiating Care in Three HIV Clinics

Madeleine J Bentley, MPH is a Research Coordinator within the Department of Health Systems and Population Health at the University of Washington where she manages multiple studies aimed at the development and implementation of interventions for unhealthy alcohol use in primary care and community settings. She serves as a coordinator for the implementation arm of the Alcohol Research Consortium in HIV (ARCH) study, which supports 3 HIV clinics in providing alcohol-related care for people living with HIV. Prior to her current role, Ms. Bentley worked in adolescent mental health as a group facilitator (Cognitive and Dialectical Behavioral Therapies) and teacher.

Madeleine J. Bentley, MPH; Elizabeth J. Austin, PhD, MPH; Vincenzo Malo, MS; Varuna Ravi, BS; Edward R. Cachay, MD; David J. Grelotti, MD; Conall O'Cleirigh, MD; Julia Fleming, MD; Sonia Napravnik, PhD; Claire E Farel; Mary E. McCaul, PhD; D. Scott Batey, PhD, MSW; Geetanjali Chander, MD, MPH; Emily C. Williams, PhD, MPH,

Abstract

Providing evidence-based alcohol-related care such as screenings, brief interventions, and/or pharmacotherapy alongside HIV primary care is recommended but inconsistently offered. As part of a large implementation study testing the integration of stepped care for unhealthy alcohol use (UAU) in three HIV clinics across the United States, we utilized mixed methods to assess provider perspectives on delivering alcohol-related care. Prior to implementation, we surveyed and then conducted semi-structured interviews with clinic staff who held patient-facing roles at each clinic. Interviews assessed current attitudes and beliefs; surveys contained validated and structured questions to assess current practices, knowledge, and confidence providing alcohol-related care. Interviews were recorded, transcribed, and analyzed using Rapid Assessment, where researchers iteratively code data using structured templates, guided by the Consolidated Framework for Implementation Research. Surveys were analyzed descriptively. We triangulated qualitative and quantitative findings to understand provider perspectives on alcohol-related care, assess individual clinic readiness, and tailor implementation efforts. Across three clinics, 13 providers participated in qualitative interviews, and 46 responded to surveys. Four themes emerged from qualitative data. Providers: 1) perceived an increase in UAU among their patients and reported interest in providing alcohol-related care, 2) lacked knowledge of standard screening tools, 3) experienced workflow barriers and struggled to prioritize alcohol during appointments, 4) wanted skills to approach patients with UAU who did not see their drinking as problematic and more resources to engage patients in care quickly. Similar trends emerged from survey data with 44 (96%) providers reporting interest in learning more about alcohol-related care and 45 (98%) believing alcohol-related care is compatible with HIV care. Survey data found that providers' current knowledge and confidence providing alcohol-related care varied significantly by clinic; 61% of Clinic 3 providers felt they did not know enough about UAU to carry out their role compared to 20% at Clinic 1 and 15% at Clinic 2. Providers emphasized the importance of integrating alcohol-related care in their clinics but reported multiple workflow and skill-based barriers. Implementation efforts should provide trainings to bolster skills for providing alcohol-related care to patients with UAU. Implementation should address clinic variation and tailor efforts in collaboration with local staff to enact sustained practice change.

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Clinical usability of digital support for an intervention to reduce bothersome symptoms from polypharmacy and alcohol use among persons with HIV

ADELYN GARCIA
BA

Program Coordinator,
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Adelyn Garcia is a Program Coordinator and Junior Investigator for the Veterans Aging Cohort Study (VACS) within the Yale School of Medicine. She graduated from Clark University in 2022 with a Bachelors in Psychology and Spanish. This background has served as a foundation for the behavioral health work she conducts as part of the HIV and Alcohol Research Center focused on Polypharmacy (HARP) Pilots in which she assists with Motivational Interviewing training sessions, collects qualitative data, and curates coaching lessons for the study's interventionists. Adelyn has co-authored papers related to the ongoing pilots, attended several conferences on VACS' behalf, and is an administrative lead for a few national/international projects.

Adelyn intends to continue her career and research in the mental health field and will be applying to Clinical Psychology graduate school programs for the 2027 academic year.

Authors Adelyn Garcia; Stephen A. Maisto; Micaela M. Leblanc; S. Annette Sager; Lauren N. Zaets; E. Jennifer Edelman; Lydia Aoun-Barakat; Shan-Estelle Brown; Liana Fraenkel; Vincent C. Marconi; Steve Martino; Derek D. Satre; Amy C. Justice; Evelyn Hsieh; Julie A. Womack; Farah Kidwai-Khan

Background: Among persons with HIV, unhealthy alcohol use and polypharmacy (taking >5 medications) pose significant risks. Yet few tools exist to help providers communicate these health risks. In support of a pilot intervention study, the HIV and Alcohol Research Center focused on Polypharmacy (HARP) developed a suite of digital tools to assist clinical pharmacists and research staff to deliver a feasible and personalized intervention and study experience.

Methods: The HARP team of data scientists and study staff developed tools through a combination of Research Electronic Data Capture (REDCap), structured query language (SQL) database programming, and custom web development, with two objectives: 1)estimating risk of bothersome symptoms associated with alcohol consumption and specific medications, and 2)supporting clinical pharmacist led medication reconciliation and motivational interviewing. The System Usability Scale (SUS) was used as a standard measure for usability assessment (68-80.3 good; >80.3 excellent).

Results: The digital tools scored highly for usability by 3 clinical pharmacists and 3 study coordinators (SUS=81.25). REDCap populated a personalized feedback form based on data input by the clinicians regarding discussed medication changes, and goals for reduced alcohol consumption, for each participant (n=50). The tool also compiled biomarker results and participant self-reports, which allowed for an overview that personalized the intervention. SQL programming enabled clinical pharmacists to view extracted medication lists to preface the intervention. The tools provided administrative support by serving as an accessible platform for survey/sample/study tracking and fidelity monitoring. At different points of the study, users provided feedback leading to adjustments in the functionality and layout of the tools. Clinicians and administrators reported willingness to use the tools in future studies.

Conclusions: HARP digital tools organized material for study staff and facilitated the clinical pharmacists' ability to summarize risks in a personalized and feasible way to PWH with polypharmacy and consume alcohol. The tools have subsequently been adapted for 3 additional ongoing studies. Personalized health assessment tools are feasible for clinical intervention research; future work can include broader provider feedback to expand to other areas of patient-centered care, and pave way for a universalized provider-focused implementation of these tools.

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Food and Alcohol Outlet Environment Promote Unhealthy Behaviors that Synergistically Enhance Comorbidity Risk in People with HIV

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Richard Ashman Professor and Head Department of Physiology, Senior Associate Dean for Research
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Dr. Molina completed her MD training at the Universidad Francisco Marroquin in Guatemala, Central America and her PhD in Physiology at LSUHSC in New Orleans. Following postdoctoral training at Vanderbilt University and appointment to Assistant Professor of Surgery and Physiology at the State University of New York, Stony Brook and later as Director of Surgical Research at North Shore University Hospital, she joined the Department of Physiology at LSUHSC as an Associate Professor in 1998. In 2008, she was appointed Department Head for Physiology and Director for the Alcohol and Drug Abuse Center of Excellence (ADACE), and in April 2025 was appointed Senior Associate Dean for Research at LSUHSC School of Medicine. Her research has focused on the biomedical consequences of alcohol use utilizing an integrative approach to elucidate inter-organ mechanisms of tissue injury. Dr. Molina is Principal Investigator and Director of the NIAAA-funded Comprehensive Alcohol Research Center on HIV/AIDS (CARC), where her research focuses on the impact of unhealthy alcohol use on risk of behavioral and metabolic comorbidities associated with HIV/AIDS. Dr. Molina served as President of the American Physiological Society (APS), the Association of Chairs of Department of Physiology (ACDP) and the Research Society on Alcoholism (RSA), and the National Hispanic Science Network on Drug Abuse.

Authors Patricia E. Molina, Liz Simon, Tekeda F. Ferguson, David A. Welsh, Eden M. Gallegos, Kaitlin Couvillon.

Background: Environmental determinants of dietary behavior, including food outlet density and neighborhood socioeconomic context, may contribute to comorbidity risk through promotion of high fat and high sugar intake. In people with HIV (PWH), who experience chronic immune activation and heightened comorbidity risk, the interaction between neighborhood food environments and diet-driven metabolic injury remains poorly characterized. Obesity, insulin resistance, and metabolic dysfunction are established contributors to malignancy risk, particularly hepatocellular carcinoma (HCC) and other obesity-associated cancers. Methods: Neighborhood food and alcohol outlet density, self-reported dietary intake, and liver injury markers (AST, ALT, APRI, FIB-4) were determined. Multilevel mediation models assessed indirect environmental effects on alcohol use, dietary intake, and select comorbidities. Liver samples were collected from simian immunodeficiency virus infected non-human primates (NHP) administered chronic binge alcohol (CBA), high fat/high sucrose diet, and treated with antiretrovirals. Differentiated human hepatocyte (HepaRG) spheroids exposed to ethanol (50 mM for 10 days), in combination with high sugars/fats was used to dissect the synergistic impact of alcohol and sugars and fat on triglyceride accumulation, cell death, and oxidative stress.
Results: Participants were predominantly African American (83.3%) and had a mean age of 49.2 ± 9.9 years. Participants lived in areas with markedly higher unhealthy food and alcohol outlet density, more than 50% were overweight or obese, and reported low healthy eating index. Alcohol use in PWH was associated with higher fat, sugar and total calorie intake, and higher Framingham risk score. Alcohol use was associated with elevated FIB-4 and percent immune-activated immunosenescent CD8 T cells and positively correlated with markers of senescent associated secretory pathway (IFN=g & IL-6). Livers from SIV-infected NHP fed a high fat/high sucrose diet showed lower lipid deposition (compared to SIV-). However, liver steatosis was higher in CBA vs. vehicle SIV+ NHP. Livers from CBA/SIV+ NHP showed evidence of greater neutrophil infiltration and activation. Complementary in vitro studies showed that, combined ethanol and sugar/fat exposure synergistically increased triglyceride accumulation and oxidative stress (interactions $p<0.0001$), suppressed expression of antioxidant defense genes (CoQ10A), decreased ATP content, and increased cell death, reflecting early stages of liver injury. Exposure of HepaRG spheroids to ethanol and IFN-g increased lipid accumulation and cell death. Conclusions: Neighborhood food and alcohol outlet environments may promote dietary and alcohol use patterns conducive to hepatic injury in PWH. Dietary stressors (i.e., high fat/high sugar diet) synergize with alcohol exposure to accentuate oxidative stress and steatotic adaptations central to MetALD progression and hepatocarcinogenesis. These findings link structural determinants of diet and alcohol use patterns with cellular mechanisms underlying alcohol-associated comorbidity risk in PWH. Supported by: NIH P60AA009803

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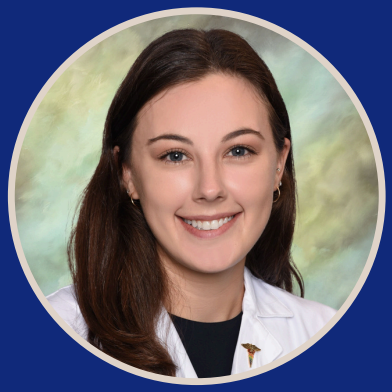
Plasma-derived extracellular vesicles from People with HIV with liver injury: impact on hepatocyte function



KAITLIN COUVILLION
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MD/PhD Student, Louisiana State University Health Sciences Center

Kaitlin Couvillion is an MD/PhD student at LSU Health New Orleans in the Department of Physiology. Her research investigates how immune activation contributes to liver disease among people with HIV, particularly in the setting of alcohol use. Her current work focuses on circulating mediators such as interferon-gamma and extracellular vesicles, using human hepatocyte spheroid models and biological samples from people with HIV to define mechanisms of hepatocyte injury.

Kaitlin Couvillion, Eden Gallegos, David Welsh, Patricia Molina, Liz Simon

Abstract

Background: People with HIV (PWH) are more likely to have alcohol misuse, and liver disease is a leading cause of mortality among PWH. Previous studies have shown that both HIV status and alcohol consumption increase plasma extracellular vesicles (EVs). EVs contain microRNAs (miRNAs) that have been associated with inflammation and comorbidities in PWH. Furthermore, alcohol use alters EV miRNA composition that may contribute to alcohol-associated liver disease. Therefore, the purpose of this study was to investigate the effect of plasma EVs from PWH with liver injury on markers of hepatocyte injury using a human hepatocyte spheroid model.

Methods: Plasma EVs were isolated from three individuals with HIV and comorbid alcohol misuse and liver disease from the New Orleans Alcohol Use and HIV Study (NOAH). Individuals were matched for age, gender, and smoking status. Alcohol misuse was defined as an AUDIT≥8 and/or PEth≥8ng/ml. Liver injury was defined as documented liver pathology on Electronic Medical Records (EMR) and an AST/ALT ratio>1 and/or FIB4 index>1.3. All individuals were Hepatitis B and C negative. EVs were isolated using Izon qEVOriginal 35nm columns into EV-enriched and protein-enriched fractions. Human hepatocyte spheroids were formed by plating human HepaRG cells into ultra-low attachment plates and treated with 50mM ethanol for 7 days. On day 7, 10uL plasma equivalents of EVs were added to spheroids and cultured for 3 days. At endpoint, measures of hepatocyte injury were evaluated. Two-way ANOVAs were utilized for hypothesis testing in GraphPad Prism, with a significance level of $p=0.05$.

Results: Treatment of hepatocyte spheroids with plasma EV-enriched fractions from one individual significantly altered markers of hepatocyte injury. Treatment of hepatocyte spheroids with plasma protein-enriched fractions from two individuals significantly altered markers of hepatocyte injury. There were no differences in the markers from 1 individual, including both EV-enriched and protein-enriched fractions.

Conclusions: These results highlight the potential contribution of EVs from PWH with alcohol misuse on the development of liver disease, and individual variation in plasma components that may alter hepatocyte function. Preliminary data indicate that fractions enriched for EVs and plasma proteins may differentially alter functional results. Long term, this study may identify potential biomarkers and therapeutic targets for liver disease in PWH.

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ER Stress Regulates NLRP6 Inflammasome-Mediated Astrocytic Neuroinflammation Induced by HIV Tat and Ethanol

SEEMA SINGH
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Seema Singh, PhD, is an Instructor in the Department of Pharmacology & Experimental Neuroscience at University of Nebraska Medical Center, Omaha, Nebraska. She recently completed her R03-NIAAA funded project (R03AA031444), titled "HIV Tat- and alcohol-mediated activation of astrocytes involves the ER stress/NLRP6 inflammasome axis," which investigated the underlying molecular mechanisms driving astrocyte-specific inflammasome activation in the context of HIV and alcohol exposure. She also completed a pilot project funded by the Alcohol Center of Research–Nebraska (ACORN), focused on the epigenetic regulation of NLRP6 in HIV Tat- and alcohol-mediated astrocyte activation. Her studies demonstrated that alcohol downregulates miR-339, which normally binds to the 3'UTR of NLRP6 and suppresses its activation. Together, these projects have contributed significantly to her development as an independent investigator with a research focus on the molecular and epigenetic mechanisms underlying alcohol use in the context of HIV-associated neuroinflammation.

Authors
Seema Singh, Elias Horanieh, Shilpa Buch, Palsamy Periyasamy

Abstract
Background: Alcohol misuse is highly prevalent among people living with HIV (PLWH) and significantly contributes to the development and progression of HIV-associated neurocognitive disorders (HAND). Both the HIV-1 transactivator of transcription (Tat) protein and ethanol independently promote neuroinflammation, however, the cellular mechanisms underlying their combined effects remain poorly defined.
Aim: This study investigated the role of endoplasmic reticulum (ER) stress and astrocytic NOD-like receptor family pyrin domain-containing 6 (NLRP6) inflammasome activation in mediating HIV Tat- and ethanol-induced neuroinflammatory responses.
Methods: Mouse primary astrocytes were exposed to HIV Tat (50 ng/mL) and ethanol (50 mM), alone or in combination. Expression of NLRP6 inflammasome components (NLRP6, ASC, and cleaved caspase-1) and ER stress markers (BiP, ATF6, and phosphorylated eIF2α) was assessed by western blotting. Proinflammatory cytokines interleukin-1β (IL-1β) and interleukin-18 (IL-18) were measured at the transcript and protein levels using qPCR and western blotting, and cytokine release was quantified by ELISA. ER stress signaling was pharmacologically inhibited using 4-phenylbutyric acid (4-PBA), and NLRP6 expression was selectively silenced using siRNA.
Results: Combined exposure to HIV Tat and ethanol induced robust astrocyte activation, evidenced by increased glial fibrillary acidic protein (GFAP) expression, and significantly enhanced NLRP6 inflammasome activation, caspase-1 cleavage, and IL-1β and IL-18 production compared with individual treatments. Silencing of NLRP6 markedly attenuated astrocytic inflammatory responses, confirming its essential role in HIV Tat- and ethanol-mediated astrocyte activation. Co-exposure also significantly increased ER stress signaling, as indicated by elevated BiP, ATF6, and phosphorylated eIF2α levels. Importantly, pharmacological inhibition of ER stress with 4-PBA reduced NLRP6 inflammasome signaling and astrocyte activation, whereas NLRP6 knockdown did not alter ER stress markers, indicating that ER stress occurs upstream of NLRP6 signaling.
Conclusion: These findings demonstrate that ER stress-dependent activation of the NLRP6 inflammasome is a key mechanism driving HIV Tat- and ethanol-induced astrocytic neuroinflammation. This study provides novel mechanistic insight into alcohol-exacerbated HAND and identifies ER stress-NLRP6 signaling as a potential therapeutic target in PLWH.
Keywords: HIV Tat; ethanol; astrocytes; NLRP6 inflammasome; ER stress

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Longitudinal associations of depressive symptoms and PEth with systemic inflammation among older adults with and without HIV: A probiotic pilot study

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Natalie Chichetto, PhD MSW is an Assistant Professor in the Department of Epidemiology at the University of Florida, Assistant Director of the SHARC, and Director of the BRIDGE lab (Biobehavioral Research on Intersecting Dynamics in Epidemiology). She is currently completing her K01 (K01AA029042, Alcohol-associated syndromic and microbiome evaluation and targeted treatment in persons living with HIV), which has supported her development as an independent investigator focused on bio-behavioral mechanisms and interventions related to alcohol use, HIV, and mental health. She recently completed a pilot probiotic clinical trial (34 participants; 124 observations across 4 time points) among adults with and without HIV and heavy or non-heavy drinking, with integrated blood biomarkers, fecal microbiome specimens, and questionnaire data.

NE Chichetto, LM Rubio, KV McNeely, E Porges, HA Tindle, MS Freiberg, RL Cook

Background: Depressive symptoms and alcohol use frequently co-occur and are independently associated with systemic inflammation, a biological pathway underlying alcohol-related morbidity and cardiometabolic risk. Much of the existing literature relies on cross-sectional designs and self-reported alcohol measures, limiting the ability to characterize longitudinal associations and increasing exposure misclassification. Phosphatidylethanol (PEth) provides an objective assessment of recent alcohol use and may clarify alcohol-mental health-inflammation pathways. Leveraging longitudinal data, this study examined associations of depressive symptoms and PEth with systemic inflammation over time.

Methods: Data from an open-label probiotic pilot, were utilized, including 109 observations from 34 adults with and without HIV across four timepoints (baseline, 2-week, 30-day, 90-day). Depressive symptoms were assessed using the Center for Epidemiologic Studies Depression Scale-Revised (CESD-R). Alcohol use was measured via PEth in whole blood and categorized as ≥20 versus <20 ng/mL. Systemic inflammation was operationalized using a composite inflammatory index derived from principal component analysis of circulating biomarkers (log-transformed IL-6, IL-10, TNF-α, and D-dimer). Linear mixed-effects models with participant-specific random intercepts were estimated using restricted maximum likelihood to account for within-person correlation over time, adjusting for timepoint. Sensitivity analyses controlled for HIV, sex, and smoking status. Effect modification by PEth was explored.

Results: At baseline, mean age was 58.1 years (SD 10.5) and mean CESD score was 10.4 (SD 9.4); 41% were female, 41% HIV-seropositive, 32% reported current smoking, and 27% had PEth ≥20. Higher depressive symptoms were associated with greater systemic inflammatory burden over time (β=0.037, 95% CI 0.007, 0.066; p=0.01). PEth positivity was not associated with inflammation (p=0.63) and did not modify the association between depressive symptoms and inflammation (interaction p=0.86). Sensitivity analyses adjusting separately for HIV, sex, and smoking yielded nearly identical estimates for depressive symptoms ((β=0.035, β=0.039, and β=0.036 respectively).

Conclusions: In this longitudinal pilot, greater depressive symptoms were consistently associated with higher systemic inflammatory burden, independent of recent alcohol exposure, HIV status, sex and smoking. Findings extend cross-sectional work and may represent a key pathway of inflammatory dysregulation that warrants further investigation. Larger studies with longer follow-up and integrated behavioral and biological data are needed to characterize temporal relationships and inform intervention strategies targeting co-occurring mental health and inflammatory dysregulation.

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Incentives to reduce alcohol use as a strategy to reduce intimate partner violence among people co-infected with HIV and TB: secondary findings

JUDY
HAHN
PHD

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Dr. Judy Hahn, is Professor of Medicine in the HIV, ID, and Global Medicine Division in the Department of Medicine at the University of California, San Francisco. She is an epidemiologist with extensive experience studying the behavioral and biological intersections of alcohol use and infectious diseases. She is a pioneer in the use of biomarkers for objective measurement of alcohol use, to improve the validity of research studies and as personalized feedback in clinical care. She is the MPI of the new NIH-funded P60 Center for Alcohol/HIV Innovations and Biomarker Research (CALIBER) to leverage advances in alcohol measurement technology to address the complex relations between alcohol use and HIV, especially among highly impacted populations of men and women. She is also a committed mentor of numerous scholars in the US and worldwide.

A.P. Miller , S. Lodi , B. Beesiga , A. Kekibiina , R. Fatch , N. Emenyonu , K. Marson , G. Chamie , W. Muyindike , J. Hahn

Abstract

Background: Alcohol use is linked to both intimate partner violence (IPV) perpetration and victimization. We found that economic incentives delivered over six months were associated with reductions in alcohol use at three, six, and twelve months among persons living with HIV (PLWH). We therefore hypothesized that this intervention may also reduce IPV.

Methods: The Drinkers Intervention to Prevent Tuberculosis (DIPT) was a 2x2 factorial trial conducted from 2018-2022 in Uganda evaluating whether incentive-based approaches over 6 months reduce alcohol use and improve isoniazid (INH) preventive therapy adherence among PLWH with latent tuberculosis (TB) who engage in heavy alcohol use. Analyses included participants with baseline IPV data. The IPV outcomes were IPV, IPV perpetration, and IPV victimization in the past six months measured at the 6-month (intervention end) and 12-month visits. After estimating inverse probability weights to account for missing outcome data, we fit weighted generalized estimating equation models to estimate the effect of the alcohol incentive intervention on IPV outcomes at 6 and 12 months. Models included a study visit by alcohol incentive arm interaction and adjusted for participant sex, INH incentive arm, and study site. We assessed effect modification by sex by including an interaction term.

Results: Of 411participants, 67.4% were male, prior 6-month IPV prevalence was 4.4% for perpetration, 15.3% for victimization, and 16.8% for any IPV at baseline. In adjusted models those receiving incentives to reduce alcohol use were significantly less likely to report any IPV (aOR:0.40, 95%CI:0.19, 0.83) and IPV victimization (aOR:0.30; 95%CI:0.13, 0.67) at six months compared to those not in the alcohol incentive arms. No significant 12-month effect or effect modification by sex was observed.

Conclusions: Incentives to reduce alcohol use were associated with reductions in experiences of IPV, particularly IPV victimization, among PLWH with latent TB who engage in heavy alcohol use during the period of receipt of incentives, although this reduction was not sustained when incentives stopped. These results are important for intervention design and policy to reduce IPV in PLWH, particularly in settings where dedicated services are scarce, suggesting that alcohol-focused interventions may yield ancillary benefits for IPV.

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The Role of Economic Deprivation in PrEP Receipt in a National Sample of U.S. Veterans, Overall and Among Those at High Risk

ELIZABETH AUSTIN
PHD, MPH

Research Assistant Professor, University of Washington

Elizabeth J. Austin, PhD, MPH is a Research Assistant Professor in the Division of General Internal Medicine at the University of Washington. Her research aims to understand and reduce barriers to care for people with multiple stigmatized conditions (e.g., HIV, hepatitis C, substance use). She has methodological expertise in evaluative and implementation science, with substantial experience conducting in-depth qualitative methods including ethnography, formative evaluation, and participatory methods. Her doctoral training was grounded in implementation science and knowledge translation approaches, and she completed a Center for AIDS Research (CFAR)-sponsored fellowship in HIV implementation science. She has over 15 years of experience directly implementing and evaluating interventions to improve care delivery for substance use and mental health disorders, including among people with or at risk for HIV. She is an NIAAA-funded K01 recipient whose research focuses on the intersection of stigma, mental health, and substance use disorders.

Elizabeth J. Austin, PhD, MPH (1); Madeleine J. Bentley, MPH (2); Varuna Ravi, BS (2); Vincenzo Malo, MSc (2); Edward R. Cachay, MD (3); David J. Grelotti, MD (3); Conall O'Cleirigh, MD (4,5); Julia Fleming, MD (5); Sonia Napravnik, PhD (6); Claire Farel (6); Mary E. McCaul, PhD (7); D. Scott Batey, PhD, MSW (8); Geetanjali Chander, MD, MPH (1); Emily C. Williams, PhD, MPH (2,9)

Purpose: Alcohol use disorders (AUD) contribute to significant harms for people living with HIV (PLWH) and can undermine HIV treatment success. While several effective medications for AUD (MAUD) exist, they are underutilized in HIV care settings and may need tailoring of implementation supports for HIV care providers and the patients they serve. We assessed HIV care provider attitudes, beliefs, and perceptions on implementation supports needed to expand MAUD delivery.
Methods: Using a convergent-parallel mixed methods design, we conducted surveys and interviews with HIV care providers at three HIV primary clinics in the U.S. Surveys asked structured questions about participant's attitudes, beliefs, and perceived barriers to MAUD delivery. Survey data were analyzed descriptively. We invited a subsample of participants to complete one in-depth interview that further explored their perspectives and experiences with MAUD delivery. Interviews were audio recorded, professionally transcribed, and analyzed using Rapid Assessment Process, a team-based approach that utilizes deductive and inductive analytic approaches. We then integrated and compared quantitative and qualitative data to further enhance data interpretations.
Results: Among survey participants (n=46), 69.5% had prescribing capacity. Participants reflected a range of clinical backgrounds, including infectious disease (54.3%), internal and/or family medicine (34.7%), social work (19.5%), nursing (8.6%), and mental health or addition care (25.9%). All interview participants (n=13) were medical providers with prescribing capacity. Analysis identified four themes that characterize HIV care provider perspectives on MAUD delivery: 1) prescribing providers lack confidence when navigating patient discussions about MAUD and medication starts, but want training; 2) providers believe that MAUD is not clinically sufficient to treat AUD without behavioral support; 3) logistical and structural factors - including onsite medication availability and insurance coverage - hinder the ease and consistency of MAUD delivery; and 4) team-based approaches to MAUD delivery are needed to reduce perceived provider burden and increase flexibility to meet patient needs.
Conclusions: Several barriers limit MAUD delivery in HIV primary care settings, yet HIV care providers identified several opportunities to improve their local implementation supports, including regular training, structural supports, and expansion of team-based care approaches. Attending to these supports will be an important pathway to counteract persisting disparities in MAUD access and delivery for PWH.

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Multilevel Predictors of Alcohol Use in Sexual Contexts Among Recent Latino Immigrants: A Longitudinal Analysis

JOE
COLEMAN
PHARMD

Doctoral Student, Florida International University

Joe Fenny Coleman is a doctoral student in Health Promotion and Disease Prevention at Florida International University. His work focuses on HIV prevention and care, medication adherence, social determinants of health, and health outcomes research. Drawing on experience in pharmacy practice, community health and interdisciplinary public health research, his work aims to advance research that is both analytically rigorous and responsive to lived realities shaping health behaviors and outcomes.

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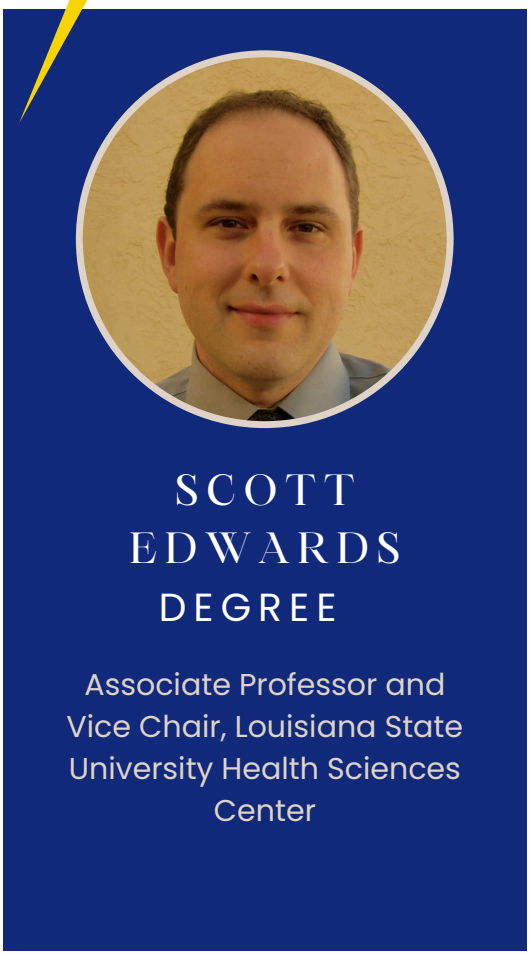
Comparative Effects of Alcohol and Cannabis Use on Pain and Cognition Outcomes in the New Orleans Alcohol Use in HIV (NOAH) Cohort



Dr. Scott Edwards is an Associate Professor and Vice Chair of Training and Mentoring in the Department of Physiology at LSU Health New Orleans. He serves as a member of their NIAAA-funded P60 Comprehensive Alcohol-HIV/AIDS Research Center as Director of Research Component 3 (Pain, Negative Affect, and Cognitive Dysfunction at the Intersection of HIV and AUD Risk) as well as Director of the Information Dissemination Core.

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Barriers and Facilitators of Interventions for Alcohol Use in HIV and TB Care: A Qualitative Study among Persons with HIV and Providers

Rebecca Fisk-Hoffman, PhD is a BU CHART Postdoctoral Fellow at Boston Medical Center. She works with Dr. Kaku So-Armah on the Tuberculosis, Alcohol and Lung Comorbidities Study (TALC) and is working with the TALC team to develop and implement an alcohol reduction intervention for delivery in HIV/TB care in Mbarara, Uganda. She previously received a PhD in Epidemiology from the University of Florida, where she worked with Dr. Robert Cook. Her dissertation focused on the implementation of long-acting injectable antiretroviral therapy for HIV treatment and interest in future long-acting HIV treatments.

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Hazardous Alcohol Use Compromises Adherence to Pre-exposure prophylaxis (PrEP) and Promotes Gut Microbial Dysbiosis: Relevance to HIV Prevention Outcomes

SMITA GHARE
PHD, MSC

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University of Louisville
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Norton Research Institute

Dr. Ghare is dually appointed as Assistant Professor, Department of Medicine, University of Louisville, and as Senior Research Scientist, Norton Neurology Institute, Norton Healthcare (NHC). Her academic research focuses on understanding the alcohol and HIV-1 induced pathogenic changes in T cell immunology, gut-barrier function, and systemic and hepatic inflammation. Her current collaborative research examines alcohol and HIV-1 infection-induced gut-microbial dysbiosis, associated alterations in microbial metabolites and consequent immune changes affecting inflammation and T cell dysfunction. She is Technical Director for NIH-funded Integrated Metagenomics and Metabolomics Core (IMMC) that supports HIV clinical studies examining pathogenic changes in the Gut-Liver-Brain axis and effects of probiotic supplementation.

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Alcohol-Associated Behavioral Health Syndemics across Menopause among Women with and without HIV: Latent Class and Latent Transition Analyses

Kayla V. McNeely, MPH, is a PhD candidate in Epidemiology at the University of Florida and an NIA F31 Predoctoral Fellow whose research focuses on behavioral health syndemics, substance use, and women's health, particularly among women living with HIV. Her work integrates quantitative and mixed methods approaches to examine how mental health, substance use, and biological factors intersect across the menopausal transition. Kayla has contributed to multiple federally funded studies, presented nationally and internationally, and received several competitive awards for her research. She is committed to advancing health equity through rigorous, interdisciplinary research and mentorship.

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Acute Alcohol Effects on Markers of Microbial Translocation and Immune Activation in People with HIV and Controls: A Randomized, Placebo-Controlled Trial

MOLLIE
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PHD

Associate Professor,
Brown University

Dr. Mollie Monnig is Associate Professor of Behavioral and Social Sciences at Brown University and Director for Research Capacity at Brown's COBRE Center for Addiction and Disease Risk Exacerbation. Her research examines brain-behavior relationships in the context of alcohol use, chronic disease, and aging. Dr. Monnig's current R01 uses whole-genome sequencing to investigate associations between alcohol use and the gut microbiota in people living with HIV.

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Effect of Alcohol use on active TB incidence among persons with HIV and Latent TB who received TB Preventive Therapy

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Dr. Muyindike, MBChB, MMED, is the Director of the Chronic Infectious Diseases Clinic in Mbarara Regional Referral Hospital (MRRH) and Mbarara University of Science and Technology (MUST), Mbarara, Uganda. She is trained in Internal Medicine and works in infectious diseases as well. She has led numerous research projects in collaboration with several researchers at UCSF (Judy Hahn), Boston University/Boston Medical Center under the URBAN ARCH umbrella, and Massachusetts General Hospital. Her research is on the biomedical, preventive and clinical management of HIV/TB, antiretroviral drug resistance, the social behavioral aspects of HIV, HIV/TB co-infection and the interaction between alcohol use and these diseases.

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Revisiting Pioglitazone: A Re-Emerging Therapeutic Targeting Bioenergetic Dysfunction in Alcohol- and HIV-Exposed Alveolar Macrophages

MOSES
NEW-AARON
PHD, MPH

Postdoctoral Fellow
Emory University

Dr. New-Aaron's research interest was shaped by watching his uncle die of acquired immunodeficiency syndrome (AIDS) and multiple organ failure when he was twelve. This experience motivated him to build a career in HIV research with a strong focus on factors such as alcohol that induce organ dysfunction among people living with HIV. This passion led him to join the pioneering team of the newly established diagnostic molecular laboratory at the Institute of Human Virology of Nigeria for the Early Infant Diagnosis program, a subprogram of the US PEPFAR-funded prevention of mother-to-child transmission of HIV. He later joined the University of Nebraska Medical Center (UNMC) to pursue a Masters in Public Health where he explored HIV-related comorbidities in Tanzania's largest HIV clinic. After obtaining his MPH, he joined Dr. Natalia Osna's laboratory at UNMC to elucidate the molecular mechanisms of hepatocyte-hepatic stellate cell axis in the potentiation of alcohol and HIV-induced liver injury via the support from the NIAAA Ruth L. Kirschstein National Research Service Award for Individual Predoctoral Fellowship. He is currently in Dr. Samantha Yeligar's lab at Emory University studying how alcohol metabolism potentiates HIV-induced lung and liver multimorbidity via interorgan crosstalk. His current research is supported by the NIAAA K99 award.

Research on Alcohol and HIV

Poster Presentations

1. Elizabeth Austin - Provider attitudes towards and needed implementation supports for prescribing medications for alcohol use disorder (MAUD) in HIV primary care settings
2. Geetanjali Chander - Alcohol use severity is associated with increased risk for all-cause mortality among people with HIV reporting alcohol use
3. Tekeda Ferguson - Social Support Moderating the Effects of Discrimination and Hiv-Related Stigma on Alcohol Use in People with HIV
4. Rebecca Fisk-Hoffman - Alcohol Use before and during Treatment for Drug Susceptible Tuberculosis among Persons with HIV in Mbarara, Uganda
5. Rebecca Giguere - Less is More: A Qualitative Examination of the Acceptability and Feasibility of a Gamified-Contingency Management Intervention
6. Judy Hahn – Perspectives and experiences of receiving phosphatidyethanol results to support alcohol reduction among people living with HIV in Uganda
7. Lamia Haque – Feasibility, acceptability, and safety of Spironalactone for alcohol use disorder among patients with HIV and polypharmacy: an open-label pilot study
8. Hannah Hoogerwoerd - Dynamic Trajectories of the Allostatic-Interoceptive Network: Within-Person Adaptation to Reductions in Alcohol Use During Contingency Management
9. Yana Jayampathy - Perceptions of Alcohol Use and HIV Risk amongst Men Living with Alcohol Use Disorder in Rural South Africa
10. Justin Knox - Intervening to Improve HIV Treatment and Reduce drinking: A Pilot Randomized Controlled Trial among People Living with HIV (PLWH)
11. Gayathri Kothawar – Validity of self-reported alcohol use and PrEP adherence among MSM in USA: evidence from PEth and TFV-DP biomarkers
12. Lisbeth Rubio- Alcohol, Dietary Quality, and Depressive Symptoms Across 90 Days: Findings from the Syndemic Intervention with Microbiome Probiotics Pilot Study
13. Kate Worwag – Diet quality moderates associations between alcohol use and systemic inflammation in sample of adults with HIV

Mentor Pairings

If you have signed up for the mentoring session, please meet your pairing at the front of the room at the designated time.

MENTOR - MENTEE

Geetanjali Chander - Kayla McNeely
Natalie Chichetto - Madeleine Bentley
Bob Cook - Emily Presutti
Scott Edwards - Ellen Yeung
Tekeda Ferguson - Nicolas Cardenas
Matt Freiberg - Yana Jayampathy
Smita Ghare - Moses New-Aaron
Judy Hahn - Drew Westmoreland
Justin Knox - Elizabeth Austin
Patricia Molina - Lisbeth Rubio
Jeffrey Samet - Lamia Haque
Derek Satre - Gayatrhi Kothawar
Kaku So-Armah - Joe Coleman
Edith Sullivan - Hannah Hoogerwoerd
Emily Williams - Rebecca Fisk-Hoffman

Notes

Notes

Thank you from our team

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