

8th Annual Conference

RURAL ADDICTION AND HEALTH

OCTOBER 8-9, 2020

ONLINE



Vermont Center on
Behavior & Health
The University of Vermont

Welcome

Dear Colleagues:

It is my sincere pleasure to welcome you to the 8th Annual Vermont Center on Behavior and Health Conference. We are gathering together this year under exceptional circumstances due to COVID-19 however, given how much of our collective work is founded in behavior change, we knew we were up to the challenge of moving this conference to a virtual space.

While we miss gathering in person and taking in the fall beauty of Vermont, we are delighted to bring together an outstanding group of speakers who will present on this year's theme, Rural Addiction and Health. This topic could not be timelier with the emergence of COVID-19 and the ripple effects we have seen, from health disparities to increased opioid overdoses and the use of telemedicine.

I would like to take a moment to thank U.S. Senator Patrick Leahy for taking time to share a video welcome to our conference again this year as well as UVM Vice President for Research Dr. Kirk Dombrowski for joining us as both a welcome speaker and presenter. A special thanks goes to our keynote speaker, Dr. Steven Woolf, for his long-standing commitment to this year's conference, which pre-dates the pandemic. I am also grateful to our speakers and presenters for giving their time to us and the larger research community. We understand how life has changed over the past seven months with schedules and obligations. We appreciate your participation and collaboration.

It is my hope that next year we will be able to gather again in person, but we will be prepared for any circumstance that comes our way.

Many thanks for your work and support.

Sincerely,



Stephen T. Higgins, PhD
Director, Vermont Center on Behavior and Health
Virginia H. Donaldson Professor of Translational Science
Departments of Psychiatry and Psychological Science





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The University of Vermont designates this internet live for a maximum of 8.5 *AMA PRA Category 1 Credit(s)*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Target Audience: Physicians

Conference Objectives:

1. Discuss the relationship between behavior patterns (lifestyle) and risk for chronic disease and premature death.
2. Identify evidence-based interventions that successfully promote health-related behavior change.

Funded in part by non-commercial support from the [National Institute of General Medical Sciences](#), Centers of Biomedical Research Excellence (COBRE), and the [National Institutes of Health](#)/Food and Drug Administration Tobacco Centers of Regulatory Science (TCORS)

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Conference Agenda, Day 1

Thursday, October 8

8:30 – 8:55 Opening Remarks

<https://uvmcom.zoom.us/j/91868894510>

STEPHEN T. HIGGINS, PHD, Director, Vermont Center on Behavior and Health,
Professor, Departments of Psychiatry and Psychological Science, University of Vermont

Welcome: **KIRK DOMBROWSKI, PHD**, Vice President for Research, University of Vermont

Video Welcome: United States **SENATOR PATRICK J. LEAHY** of Vermont

8:55 – 9:45 Keynote Address **The Decline in US Life Expectancy:** **Are Deaths of Despair Responsible?**

<https://uvmcom.zoom.us/j/91868894510>

Keynote delivered by **STEVEN WOOLF, MD, MPH**, Professor of Family Medicine and Population Health,
Virginia Commonwealth University

Introduction by **STEPHEN T. HIGGINS, PHD**, Director, Vermont Center on Behavior and Health,
Professor, Departments of Psychiatry and Psychological Science, University of Vermont

9:45 – 10:00 BREAK

10:00 – 12:15

SESSION 1

Substance Use Disorders and Adverse Health Outcomes

<https://uvmcom.zoom.us/j/96769850014>

Session Chair:

SARAH H. HEIL, PHD, Vermont Center on Behavior and Health
Professor, Departments of Psychiatry and Psychological Science,
University of Vermont

Speakers:

The Medical Consequences of the Injection Opioid Epidemic in Rural America: The Case of West Virginia

JUDITH FEINBERG, MD, Professor, Department of Behavioral Medicine & Psychiatry,
West Virginia University

Disease Risk Network Topologies Among People Who Inject Drugs in Rural Puerto Rico

KIRK DOMBROWSKI, PHD, Vice President for Research, University of Vermont

Treating Women for Opioid Use Disorder in the Era of COVID-19

HENDRÉE JONES, PHD, Professor, Department of Obstetrics and Gynecology,
School of Medicine, University of North Carolina in Chapel Hill

Smoking-Attributable Cancer by State: A Source of Rural Public Health Disparity?

ANDREA VILLANTI, PHD, MPH Vermont Center on Behavior and Health
Associate Professor, Department of Psychiatry,
University of Vermont

AUDIENCE Q&A

12:15 – 1:30

A SPECIAL LUNCHTIME EVENT (Attendance by Registration Only) Leveraging Innovation for Rural SUDs Care

During this Lunch & Learn session from the Center on Rural Addiction, join SUD treatment champions for small group discussions on the most common clinical challenges: OUD & pain, stimulant use, OUD & pregnancy, adolescents & SUDs, expanding rural treatment access.

Session Chairs:

SANCHIT MARUTI, MD, Assistant Professor, Department of Psychiatry,
University of Vermont

ROBERT ALTHOFF, MD, PHD, Associate Professor,
Department of Psychiatry, University of Vermont

1:30 – 3:45

SESSION 2

Rural Residence, Cancer, and Cardiovascular Disease

<https://uvmcom.zoom.us/j/99824294709>

Session Chair:

PHILIP A. ADES, MD, Vermont Center on Behavior and Health
Professor, Department of Medicine, Division of Cardiology,
University of Vermont

Speakers:

Rural Obesity, Cancer, and Weight Control

CHRISTIE BEFORT, PHD, Professor, Department of Population Health,
Associate Director, Cancer Prevention and Control, University of Kansas
Cancer Center, University of Kansas Medical Center

Breast Cancer Control in Rural Settings

BRIAN L. SPRAGUE, PHD, Vermont Center on Behavior and Health
Associate Professor, Office of Health Promotion,
Department of Surgery, University of Vermont

Rural-Urban Differences in Stroke Risk

GEORGE HOWARD, DRPH, Professor and Chair, Department of Biostatistics,
School of Public Health, University of Alabama at Birmingham

Rural Urban Difference in Cardiac Prevention

DAVID SCHOPFER, MD, Program Officer, Clinical Cardiovascular Disease,
National Heart, Lung, and Blood Institute

AUDIENCE Q&A

3:45 – 4:00

BREAK

4:00 – 4:45

VIRTUAL POSTER SESSION 1

Group 1: Opioids
Group 2: Addiction/Dependence and
Secondary Prevention
Group 3: Alternative Tobacco Products

4:45 – 5:00

BREAK

5:00 – 5:45

VIRTUAL POSTER SESSION 2

Group 1: Improving Treatment
Group 2: Smoking
Group 3: Marijuana

Poster Session Schedule and Presenters

4:00 – 4:45 SESSION 1

Group 1: Opioids

Zoom Link: <https://uvmcom.zoom.us/j/97324757818>

TATUM OLESKOWICZ, MA: Interim Buprenorphine Treatment (IBT): Preliminary Outcomes Over a Longer Duration

HEIDI MELBOSTAD, PHD: Hormonal Contraceptive Side Effects Reported by Women Receiving Medication for Opioid Use Disorder and Living in a Rural State

VALERIE HARDER, PHD, MHS: Rural Primary Care Practitioners' Perceptions of Substance Use Disorders and Treatment during COVID-19

SAMARA S. RAGAVEN, MSC: Where are the Black, Indigenous, and People of Color (BIPOC) in the Rural Opioid Epidemic? Examining Treatment Needs in Vermont

Group 2: Addiction/Dependence and Secondary Prevention

Zoom Link: <https://uvmcom.zoom.us/j/93801016174>

KAITLYN BROWNING, PHD: Relations between Individual Differences in Primary and Secondary Dependence Motives and Underpinning Motivational and Pharmacological Processes in Vulnerable Populations of Smokers

ELISHA LEPINE, BA: Defining Addiction in Youth and Young Adults: Analysis of Qualitative Survey Data from the PACE Vermont Study

WILLIAM MIDDLETON, BSC: Fitness Benefits in Cardiac Rehabilitation: Sex and Education

SHERRIE KHADANGA, MD: Predictors of Cardiac Rehabilitation Participation

Group 3: Alternative Tobacco Products

Zoom Link: <https://uvmcom.zoom.us/j/92823635121>

ELI KLEMPERER, PHD: Characterizing US Adult Electronic Cigarette Users Who Are Never Combustible Tobacco Smokers in Wave 4 (2016–2018) of the Population Assessment of Tobacco and Health Study

ANTHONY OLIVER, PHD: Investigating the Substitutability of Alternative Nicotine and Tobacco Products for Conventional Cigarettes in an Experimental Tobacco Marketplace among Vulnerable Populations

JESS WILHELM, PHD, MHS: Reducing Harm From Smokeless Tobacco with Tobacco-Free Nicotine Pouches?

ROXANNE F. HARFMANN, BA: Characterizing Use of E-cigarettes in a Randomized Clinical Trial Investigating Reduced Nicotine Content Cigarettes among Smokers with Psychiatric Conditions or Socioeconomic Disadvantage

Poster Session Schedule and Presenters

5:00 – 5:45 SESSION 2

Group 1: Improving Treatment

Zoom Link: <https://uvmcom.zoom.us/j/95662562531>

ANTHONY ELLER, MPH: Strengthening Systems of Care for People with Substance Use Disorders and People with or at High Risk for HIV (Project MOHRE)

NATHANIEL MOXLEY-KELLY, BA: Using Attendance-Based Monetary Incentives to Increase Attendance to Prolonged Exposure Therapy Sessions in Individuals with Concurrent OUD and PTSD

MITCHELL GARETS, BSW: Opioid Use Disorder Stigma & Barriers to Pregnancy Care and Treatment in Rural Communities

CHRISTOPHER J BRADY, MD, MHS: Teleretinal Diabetic Retinopathy Screening is Cost-Saving in a Rural Accountable Care Organization

Group 2: Smoking

Zoom Link: <https://uvmcom.zoom.us/j/98512123229>

THOMAS GEIST, MS: Development and Validation of the Smoker Self-Stigma Questionnaire (SSSQ)

CAROLYN EVELY, BS: Exploring the Influence of Rural Status on Sociodemographic, Behavioral, and Psychosocial Characteristics of Smoking During Pregnancy

RHIANNON C. WILEY, BA: Urban and Rural Differences in Smoking Behavior Among Vulnerable Populations during the COVID-19 Pandemic

EMILY POMICHTER, BA: Mediation and Moderation of Smoking and Vaping Expectancies on the Association Between Depression and Weight Concerns with Nicotine Dependence

Group 3: Marijuana

Zoom Link: <https://uvmcom.zoom.us/j/98333924132>

KAREN TANG, BA: Increasing Addiction Service Access for Rural Populations in North America: The Screening, Self Management, and Referral to Treatment (SSMRT) Resource Platform

CHELSEA PIKE: Prenatal and During Pregnancy Cannabis Use: Association with Perceived Risks and Benefits and Delay Discounting

MICHAEL SOFIS, PHD: Initial Evaluation of Domain-Specific Episodic Future Thinking on Delay Discounting and Cannabis Use

JULIA C. WEST, BA: Knowledge of State Marijuana Policy as a Measure of Exposure to Changes in Legal Status

Conference Agenda, Day 2

Friday, October 9

8:30 – 10:30

SESSION 1:

Challenges of Opioid Use Disorder in Rural Settings

<https://uvmcom.zoom.us/j/93964363413>

Session Chair:

STACEY C. SIGMON, PHD, Director, UVM Center on Rural Addiction, Associate Professor, Departments of Psychiatry and Psychological Science, University of Vermont

Speakers:

Challenges of Addressing Opioid Use Disorder in Rural Settings: A State Perspective

LISA LETOURNEAU, MD, MPH, FACP, Senior Advisor, Delivery System Change, Maine Dept. Health & Human Services

Challenges of Opioid Use Disorder in Rural Settings: A Federal Perspective

RICHARD JENKINS, PHD, Health Scientist Administrator, National Institute on Drug Abuse

Polysubstance Use: A Broader Understanding of Substance Use During the Opioid Crisis

MATTHEW ELLIS, MPE, Instructor, Department of Psychiatry, Washington University School of Medicine in St. Louis

AUDIENCE Q&A

10:30 – 10:45

Break

10:45 – 12:05

SESSION 2:

Challenges of Opioid Use Disorder in Rural Settings

<https://uvmcom.zoom.us/j/93604016343>

Session Chair:

STACEY C. SIGMON, PHD, Director, UVM Center on Rural Addiction, Associate Professor, Departments of Psychiatry and Psychological Science, University of Vermont

Speakers:

Innovative Interventions for Rural Adults with Opioid Use Disorder

KELLY PECK, PHD, Vermont Center on Behavior and Health, Assistant Professor, Departments of Psychiatry and Psychological Science, University of Vermont

Increasing Buprenorphine Access for Veterans with Opioid Use Disorder in Rural Clinics Using Telemedicine

NICOLE BRUNET, PHARM.D., BCPP, VA Maine Healthcare System

AUDIENCE Q&A

12:10 – 1:10 LUNCH BREAK

**1:15 – 3:05 SESSION 3:
Challenges of Opioid Use Disorder in Rural Settings**

<https://uvmcom.zoom.us/j/94756371887>

Session Chair: **STEPHEN T. HIGGINS, PHD**, Director, Vermont Center on Behavior and Health, Professor, Departments of Psychiatry and Psychological Science, University of Vermont

Speakers: **Contingency Management with Patients Receiving Medication for Opioid Use Disorder: A Meta-Analysis**

HYPATIA BOLIVAR, PHD, Instructor, Department of Psychology, University of Illinois – Springfield

An Update on Long-Acting Buprenorphine: Implications for Reducing Rural Disparities

MICHELE R. LOFWALL, MD, Professor, Department of Behavioral Science, University of Kentucky College of Medicine

Understanding the Increase in Opioid Overdoses in New Hampshire: A Rapid Epidemiologic Assessment of People Who Use Opioids and Emergency Personnel

ELIZABETH C. SAUNDERS, PHD, Senior Research Scientist, Center for Technology and Behavioral Health, Geisel School of Medicine, Dartmouth

AUDIENCE Q&A

3:15 ADJOURN

Poster Session Abstracts

Session 1

GROUP 1: Opioids

Interim Buprenorphine Treatment (IBT): Preliminary Outcomes Over A Longer Duration

Tatum Oleskiewicz, MA, Taylor A. Ochalek, PhD, Kelly R. Peck, PhD, Peter Lontine, BA, Stephen Crosswhite, BS, Samara Ragaven, BA, Kanchan Jha, MS, Arnela Grujic, BA, and Stacey C. Sigmon, PhD.

University of Vermont, Burlington, VT

Aim: Despite its demonstrated efficacy, many rural geographic regions experience insufficient opioid agonist treatment availability. We previously demonstrated initial efficacy of a 12-week technology-assisted IBT for reducing illicit opioid use and other risks during waitlist delays to comprehensive treatment. In two ongoing randomized trials, we are seeking to extend those initial findings with a larger sample, over a longer duration and with individuals residing rurally.

Methods: Thus far, 67 adults with OUD have been randomized to 24-week IBT (n=34) or control (n=33) conditions. Participants are 39.0+11.9 years old, 45% female, and 46% from medically-underserved rural counties. Following stabilization, IBT participants visit the clinic twice-monthly to ingest buprenorphine and provide staff-observed urine specimens. Remaining doses are provided through a computerized dispenser for home administration. IBT participants receive system-generated random callbacks and daily automated calls assessing craving, withdrawal and drug use. Both groups are offered resources, assistance with contacting treatment providers, intranasal naloxone, and complete monthly follow-ups.

Results: IBT participants are achieving greater illicit opioid abstinence, with 88%, 90%, 82%, 86%, 82% and 81% providing illicit opioid-negative specimens at Weeks 4, 8, 12, 16, 20 and 24 vs. 6%, 30%, 30%, 37%, 42% and 40% of controls. IBT participants' adherence to daily monitoring calls (94%) and random callbacks (89%) is also high. Outcomes related to opioid overdose and infectious disease education outcomes will also be available for October's meeting.

Conclusion: Preliminary data from these ongoing randomized trials are providing exciting additional support for IBT efficacy over longer durations and among individuals in geographically isolated areas.

This work was supported in part by NIDA (R01DA042790, T32 DA007242), and the Laura and John Arnold Foundation.

Hormonal Contraceptive Side Effects Reported by Women Receiving Medication for Opioid Use Disorder and Living in a Rural State

Heidi S. Melbostad^{1,2}, Deborah Wachtel⁵, Kerstin A. Lipke^{1,4}, Alexis K. Matusiewicz^{1,4}, Catalina N. Rey^{1,4}, Lauren K. MacAfee³, & Sarah H. Heil^{1,2,4}

University of Vermont

¹Vermont Center on Behavior and Health; Departments of ²Psychological Science; ³Obstetrics, Gynecology, and Reproductive Sciences; and ⁴Psychiatry; ⁵College of Nursing

Background: There are some concerns about potential interactions between opioids and hormonal contraception. A recent systematic review could not find any data about side effects reported by women using opioids and hormonal contraception (Ti et al., 2019). Rural health disparities may exacerbate contraceptive side effects. We conducted a secondary analysis of data collected from a randomized clinical trial aimed at improving contraceptive use among women receiving medication for opioid use disorder (OUD) and living in a rural state to identify contraceptive side effects in this population.

Methods: During the 176-day trial intervention, participants randomly assigned to two conditions could initiate hormonal contraception. Participants were prompted throughout the trial to report any side effects. Verbatim-reported side effects were systematically classified based on Medical Dictionary for Regulatory Activities (MedDRA) terminology. Side effects that resulted in death or significant disability, were life threatening, or required in-patient hospitalization were designated serious side effects.

Results: Fifty participants had documented hormonal contraceptive use. A total of 273 side effects were reported. There were no serious side effects. By far the most common side effects were changes in menstrual cycle and uterine bleeding (45%) followed by far fewer reports of headaches (7%), insertion site complications (7%), and abdominal/pelvic pain (5%).

Conclusion: None of the side effects reported were serious and all were consistent with experiences reported by women using hormonal contraception in the general population. These results provide initial preliminary evidence that hormonal contraception is safe for and well tolerated by women receiving medication for OUD in a rural state.

Rural Primary Care Practitioners' Perceptions of Substance Use Disorders and Treatment During COVID-19

Valerie Harder^{a,d}, Caitlin McCluskey^{a,d}, Lindsey Smith^{b,d}, Jeanne Ryer^{c,d}, Janet Thomas^{c,d}, Stacey Sigmon^{a,d}, Sarah Heil^{a,d}, Andrea Villanti^{a,d}

^aUniversity of Vermont, Larner College of Medicine. ^bUniversity of Southern Maine, Cutler Institute for Health and Social Policy. ^cUniversity of New Hampshire, Institute for Health Policy and Practice. ^dUVM Center on Rural Addiction

Background: The coronavirus may have negative effects on both substance use prevalence as well as access to treatment in rural areas.

Methods: A needs assessment among 64 primary care practitioners identifying ways to improve the delivery of evidence-based substance use treatment in rural Vermont counties from April – May 2020. We describe the perceptions of substance use and access to treatment during COVID-19. We assess the association between level of concern about opioid use disorder (OUD) among patients and the likelihood of being waived to treat OUD with Buprenorphine.

Results: Over 38% of primary care practitioners reported that substance use increased during COVID-19, and only 3% reported substance use decreased. About 33% of practitioners reported that access to medication assisted treatment decreased during COVID-19, while only 3% reported access to treatment increased. Among the 26 practitioners that were waived to treat OUD, 85% had high concern about OUD among their patients. Among the 36 practitioners that were not waived, 72% had high concern about OUD among their patients, and this difference was not statistically significant ($P=0.25$).

Discussion: During the first few months of COVID-19, primary care practitioners in rural areas observed an increase in substance use disorders and a decrease in the availability of treatment for OUD. Waivered and non-waivered practitioners had similar levels of concern about OUD among their patients. Therefore, since the level of concern about OUD is high among practitioners, this may be an avenue to promoting more to become waived, especially during COVID-19.

Where are the Black, Indigenous, and People of Color (BIPOC) in the Rural Opioid Epidemic? Examining Treatment Needs in Vermont

Samara S. Ragaven MSc, Kanchan Jha MS, Kelly R. Peck, PhD, Stacey C. Sigmon, PhD.

Vermont Center on Behavior and Health, University of Vermont, Burlington, VT

Rates of opioid overdoses are rising in BIPOC communities nationally, and African American and Hispanic individuals are disproportionately incarcerated for drug offenses. Discourse characterizing opioid use and treatment in urban BIPOC communities is slowly emerging however little data has been collected on rural BIPOC users. As a first step toward better understanding these vulnerable populations in Vermont, we descriptively examined the drug use, treatment, and legal histories of BIPOC enrolled in a randomized clinical trial examining efficacy of Interim Buprenorphine Treatment (IBT) for reducing illicit opioid use and other risks during treatment delays.

Of the 137 participants examined, 10.2% (14) self-identified as BIPOC, identifying as American Indian (71.4%), Mixed Race (21.4%) and Black (7.1%). Among BIPOC and non-BIPOC participants, 57.1% and 44.6% were female, respectively. Lifetime prevalence of opioid overdose was 1.6 times higher among BIPOC than non-BIPOC (42.9% vs. 26.8%, respectively), and history of intravenous drug use was also greater in this group (71.4% vs. 62.2%). However, BIPOC and non-BIPOC participants reported similar rates of prior opioid treatment (64.3% vs. 61.6%). With regard to legal histories, 35.7% and 34.8% of BIPOC and non-BIPOC participants reported >1 drug charge, while 0% and 58% reported a history of incarceration of drug-related charges.

Among this sample of untreated Vermonters with OUD, BIPOC presented with more severe opioid use on several measures, though the limited sample size prevented statistical analysis. Obtaining more data is critical for improving our understanding of their unique risks and treatment needs, particularly around prevention of opioid-related overdose. Efforts are also needed to recruit representative samples in clinical drug abuse research to better understand OUD treatment needs among BIPOC who use opioids.

GROUP 2: Addiction/Dependence and Secondary Prevention

Relations Between Individual Differences in Primary and Secondary Dependence Motives and Underpinning Motivational and Pharmacological Processes in Vulnerable Populations of Smokers

Kaitlyn Browning, PhD¹, Michael DeSarno, MS¹, Danielle Davis, PhD², Joanna Streck, PhD³, Cecilia Bergeria, PhD⁴, Roxanne Harfmann, BA¹, Maria Parker, PhD⁵, Sarah Heil, PhD¹, Stacey Sigmon, PhD¹, Diann Gaalema, PhD¹, Jennifer Tidey, PhD⁶, Dustin Lee, PhD⁴, John Hughes, MD¹, Haley Tetreault, BA¹, Catherine Markesich, BA¹ & Stephen Higgins, PhD¹

¹University of Vermont, ²Yale University School of Medicine, New Haven, CT, ³Harvard Medical School, ⁴Johns Hopkins University, ⁵Indiana University Bloomington, ⁶Brown University

Nicotine dependence severity is a strong predictor of smoking-cessation outcomes. The Brief Wisconsin Inventory of Smoking Dependence Motives (WISDM) is a well-validated measure of dependence severity comprised of primary- (PDM) and secondary-dependence motives (SDM) wherein PDM significantly predicts smoking cessation and SDM does not. The present study evaluated the relation between PDM and SDM and potential motivational/pharmacological processes underlying smoking persistence. Data were from intake assessments from 745 adult smokers with co-morbid psychiatric conditions or socioeconomic disadvantage enrolled in a clinical trial evaluating reduced-nicotine-content cigarettes. Participants completed the Brief-WISDM and the Cigarette Purchase Task (CPT), which models demand for cigarettes under escalating price with results expressed as two latent factors: Amplitude (demand unconstrained by price), and Persistence (price sensitivity). Additionally, participants provided blood samples for analysis of combined cotinine and 3'-hydroxycotinine (COT+3HC) and nicotine-metabolite ratio (NMR). Multiple regression was used to evaluate associations between dependence severity, CPT factors, COT+3HC, and NMR. PDM and SDM predicted both CPT factors ($ps < .0001$), but the association between PDM and Amplitude was strongest. Nicotine intake (COT+3HC) predicted PDM and Amplitude ($ps < .001$), but not SDM or Persistence ($ps \geq .33$). NMR predicted both PDM and SDM ($ps \leq .005$), and this relation was stronger for PDM; NMR did not predict either CPT factor ($ps \geq .31$). These results suggest that PDM's utility in predicting relapse may be attributable to its greater sensitivity to individual differences in Amplitude and nicotine intake compared to SDM. The results also suggest a need for interventions that more effectively target Amplitude to reduce smoking in vulnerable populations.

Defining Addiction in Youth and Young Adults: Analysis of Qualitative Survey Data from the PACE Vermont Study

S. Elisha LePine¹, Julia C. West^{1,2}, Catherine Peasley-Miklus, PhD¹, Caitlin McCluskey¹, Rhonda Williams, MES³, Andrea C. Villanti, PhD, MPH¹

¹Vermont Center on Behavior and Health, Department of Psychiatry, University of Vermont. ²Department of Psychological Science, University of Vermont. ³Health Promotion & Disease Prevention, Vermont Department of Health

Adolescents and young adults are particularly vulnerable to addiction, exhibiting high rates of risk behaviors and substance use. Prior research shows that mass media campaigns can be effective in preventing substance use in this population, and addiction has been a common theme in cigarette and electronic vapor product prevention campaigns. Substance use is an especially pressing public health problem in rural communities, where it is more prevalent and where there are more barriers to prevention and treatment. The present study aimed to illuminate how young people describe addiction in their own words to inform and support future prevention messaging efforts throughout Vermont, a largely rural state.

Data for this study come from Wave 2 of the Policy and Communication Evaluation (PACE) Vermont study conducted with Vermont youth (aged 12-17; n=385) and young adults (aged 18-25; n=790). A total of 1149 participants responded to an open-ended item asking, "what does "addiction" mean?" Approximately half of our respondents (47%) resided in Health Resources & Services Administration (HRSA)-designated rural counties. Responses were coded independently by two coders. Three inductive categories and 15 subcategories were developed to capture emergent themes. Participants most frequently defined addiction by physiological changes (68%), followed by psychological changes (65%). Few participants identified behavior changes as a key component of addiction (6%), and even fewer respondents reported a holistic understanding of addiction (3%; i.e., physiological, psychological, and behavioral).

Messages targeting addiction perceptions are typically less effective than messages targeting harm perceptions, possibly due to lack of knowledge among young people about the true impact of addiction. These results show ample room for improvement in youth and young adults' understandings of addiction which may be addressed through messaging. The emergent categories align with existing validated measures of addiction and highlight sub-themes media campaigns may utilize to design efficacious prevention messages for this population.

Fitness Benefits in Cardiac Rehabilitation: Sex and Education

William A. Middleton, Diann E. Gaalema, Patrick Savage, Sherrie Khadanga, Philip Ades

Sex differences are found across myriad factors related to health and well-being. Unfortunately, women yield fewer health benefits from associated financial, social, educational, and psychological variables. This is especially pronounced in women in rural environments, who tend to have lower educational attainment than men, and receive fewer conferred benefits from education than their same-sex urban counterparts. Cardiovascular health may also be an area in which education impacts female health differently than men. Previous research has established that there exists a disparity between sexes in entrance fitness levels in Cardiac Rehabilitation programs (CR), and that women tend to garner fewer fitness benefits across secondary cardiac event prevention programs. Education has been found to be an overall predictor of higher cardiovascular health and higher improvement in cardiovascular fitness across CR. The UVMHC Cardiac Rehabilitation Program operates in Chittenden County, and accepts patients from rural areas over a wide portion of the state of Vermont. To establish the effect of education as a risk factor we see associated with rural women, we hypothesized that being female would be associated with lower fitness improvements over the duration of the UVMHC Cardiac Rehabilitation program, and that this effect would be strongest in patients with low educational attainment, a factor associated with rurality. Consistent with previous literature, women improved their fitness significantly less than men, measured by change in maximal volume of oxygen uptake (VO₂) (2.56 vs. 3.54 mL/kg/min), however there was no significant interaction effect between sex and years of education completed.

Predictors of Cardiac Rehabilitation Participation

Sherrie Khadanga MD[†], Patrick D. Savage MS[†], Diann E. Gaalema PhD[†], Philip A. Ades MD[†]

*Department of Medicine, Division of Cardiology, University of Vermont, Burlington, VT. †Departments of Psychiatry and Psychology, University of Vermont, Burlington, VT. ‡Vermont Center on Behavior and Health, University of Vermont, Burlington, VT.

Purpose: Participation in Cardiac Rehabilitation (CR) is low, especially among rural patients, despite proven benefits. The aim was to assess medical, psychosocial and behavioral predictors of participation in a Phase 2 CR.

Methods: This was a prospective observational study. Participants hospitalized for an acute cardiac event and eligible for CR completed in-hospital assessments and the primary outcome was CR participation over a 4-month follow-up. Measures included age, sex, educational attainment, smoking status, medical diagnosis, ejection fraction, and electronic referral to CR. Data included General Anxiety Disorder, Patient Health Questionnaire, Medical Outcomes Study Short Form-36, Behavioral Rating Inventory of Executive Function and Duke Social Support Index. Logistic regression and Classification and Regression Tree analysis were performed.

Results: Of 378 hospitalized patients approached, 294 (31% female) enrolled in the study and 175 participated in CR. The presence of electronic referral, surgical diagnosis, non/former smoker, and strength of physician recommendation (all $p < 0.02$) were independent predictors for CR participation. No differences were seen in participation by measures of anxiety, depression or executive function. Males with a profile of electronic referral to CR, > high school education, ejection fraction >50%, and strong physician recommendation were the most likely cohort to participate in CR (89%). Patients not referred to cardiac rehabilitation were the least likely to attend (20%).

Conclusions: Lack of CR referral, lower educational attainment, non-surgical diagnosis, current smoking and reduced ejection fraction can predict patients at highest risk of CR non-participation. Specific interventions such as electronic referral and a strong in-person recommendation from a medical provider may enhance CR participation rates.

GROUP 3: Alternative Tobacco Products

Characterizing US Adult Electronic Cigarette Users Who Are Never Combustible Tobacco Smokers in Wave 4 (2016-2018) of the Population Assessment of Tobacco and Health Study

Elias M. Klemperer, PhD^a, John R. Hughes, MD^{a,b}, Peter W. Callas, PhD^c, Julia C. West, BA^{a,b}, & Andrea C. Vilianti, PhD, MPH^{a,b}

Vermont Center on Behavior & Health, Department of Psychiatry,^a Department of Psychological Science,^b and Department of Biostatistics,^c University of Vermont

Introduction: Electronic cigarette (EC) use among US adult never smokers has increased dramatically in the past decade. Over 20% of EC use occurs among adult never smokers and most (62%) continue to use ECs exclusively at a 2-year follow-up. However, little is known about never smokers who use ECs, their use of ECs, or exposure to other nicotine products.

Methods: We analyzed cross-sectional data from 14,465 adults who were never regular combustible tobacco smokers (NTS) in Wave 4 (2016 to 2018) of the Population Assessment of Tobacco and Health (PATH) study, a United States nationally representative sample.

Results: Among US adult NTSs, 1.5% ($n=232$) were current regular EC users. Most NTS EC users were white (76.9%), male (65.1%), young adults (83.5%, 18-24 years old), and approximately half (49.8%) had some college or more. Many had smoked cigarettes (41.7%) or cigars (24.2%) ≥ 1 time in the past 30 days. Most used fruit flavored ECs (62.4%) containing nicotine (74.3%) every day (51.4%). Approximately half (49.9%) reported they never plan to quit ECs, few (8.1%) intend to quit in the next month, and 15.3% had attempted to quit ECs in the past year.

Discussion: Most NTS EC users are young adults who vape fruit flavored ECs containing nicotine. Despite never smoking regularly, some past 30-day cigarette or cigar smoking was common. Continued EC use among NTSs could be because few intend to quit ECs in the near future. Further research is needed on the public health implications of long-term exclusive EC use.

Investigating the Substitutability of Alternative Nicotine and Tobacco Products for Conventional Cigarettes in an Experimental Tobacco Marketplace Among Vulnerable Populations

Anthony C. Oliver, Ellaina N. Reed, Michael J. DeSarno, Kaitlyn Browning, & Stephen T. Higgins

University of Vermont

Background: Rural areas have the highest smoking rates in the United States, which suggests the need to develop more effective regulatory policies to address smoking in these areas. One way to model the effects of potential policy changes on the use of various concurrently available products in the tobacco landscape is with the experimental tobacco marketplace (ETM). The ETM is an online marketplace wherein, through increasing the price of conventional cigarettes, one can investigate the substitutability of other fixed-price tobacco products (e.g., e-cigarettes) for cigarettes. To date the ETM has not been used to investigate cigarette demand and product substitutability among populations especially vulnerable to tobacco addiction.

Methods: Participants were 21 daily smokers from three vulnerable populations. In each session, prices per conventional cigarette were increased (\$0.12, \$0.25, \$0.50, \$1.00, \$2.00) while the prices for other commodities (e.g., JUUL, filtered cigars, snus, etc.) remained fixed. Across three ETM sessions, either all products, all products except cigars, or all products except JUUL were available. Linear regression was performed on group mean data as a function of log-transformed cigarette price to determine substitution.

Results: Cigarette demand decreased as a function of increasing cigarette price. JUUL substituted for cigarettes when all products were available, with slope of price vs demand significantly greater than zero [$F(1,4)=12.56$, $p<0.05$, $R^2=.81$]. In the session where cigars were unavailable, the JUUL slope was positive, albeit not significantly different than zero [$F(1,4)=6.59$, $p=.08$, $R^2=.69$]. When JUUL was unavailable, cigar purchasing increased with price, but the slope was not significantly different than zero [$F(1,4)=7.46$, $p=.07$, $R^2=.71$].

Conclusion: JUUL was the preferred substitute when constraints on cigarettes increased in the current study with vulnerable populations, suggesting that JUUL availability could be an important moderator on the effect of tobacco regulatory policies on cigarettes.

Reducing Harm from Smokeless Tobacco with Tobacco-Free Nicotine Pouches?

Jess Wilhelm, Bartosz Koszowski, Carson Smith, Wallace Pickworth

Smokeless tobacco (ST) is disproportionately used in rural areas of the U.S. While considerable attention has been paid to reducing the harms from smoking, reducing the harm from ST use has received less attention. Tobacco-free nicotine pouches (TFNP) have recently emerged as potential candidates for ST risk reduction; however, little is known about their chemical properties. Nicotine absorption from ST is known to be affected by pH, which determines the fraction of nicotine in the un-ionized (bioavailable) form. We conducted a chemical analysis of two TFNPs products from each of four brands sold in the U.S., including two American brands (Dryft, Velo) and two brands originating in Europe (On!, Zyn) and compared their pH, total nicotine, and un-ionized nicotine content to those reported for American moist snuff. The pH of the nicotine products was higher for the European brands (On! pH=8.19, Zyn pH=8.17) than the American brands (Dryft pH=7.85, Velo pH=7.53). The marketed nicotine content varied from 2–8 mg/portion with unionized nicotine content ranging from 0.3–3.9 mg/portion. While the total and un-ionized nicotine content per portion was lower than that commonly reported for a 2g portion of moist snuff (12-50mg total; 1-14mg unionized), studies suggest that nicotine extraction from TFNPs is more efficient than from ST. ST users who switch to TFNPs will reduce or eliminate their exposure to several harmful components of ST; however, their nicotine intake may not decline or may even increase, depending on product selection, use behaviors, and nicotine release profile.

Characterizing Use of E-cigarettes in a Randomized Clinical Trial Investigating Reduced Nicotine Content Cigarettes Among Smokers with Psychiatric Conditions or Socioeconomic Disadvantage

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Significance: Reducing the nicotine content of cigarettes may lead smokers to seek other sources of nicotine to compensate, particularly for smokers living in rural areas where use of some non-cigarette tobacco products is already higher compared to urban areas. The current study is examining associations between use of e-cigarettes among vulnerable populations and the effect of VLNCs on total cigarettes smoked per day (CPD).

Method: This is a secondary analysis of a randomized clinical trial evaluating the effects of VLNCs among individuals from three vulnerable populations. Most participants enrolled lived in a rural state. Participants were assigned to smoke one of three research cigarettes (15.8, 2.4, 0.4 mg of nicotine/g of tobacco). Participants reported CPD and daily use of e-cigarettes for the duration of the study. Total CPD was the primary outcome in the parent trial. Outcomes were analyzed using repeated measures analysis of variance with alpha at $p < .05$.

Results: Use of e-cigarettes was reported by a subset of smokers in all populations but the only significant effect observed was an interaction with population and cigarette nicotine content ($F[4,758]=3.30$, $p=0.01$) wherein smokers with OUD assigned to 15.8 mg/g were more likely to report use of e-cigarettes than those assigned to 2.4 mg/g and 0.4 mg/g ($P_s < .001$). Differences in e-cigarette use by assigned cigarette nicotine content were not observed among smokers with affective disorders or socioeconomically disadvantaged women. We saw no significant main effect of e-cigarette use ($F[1,252]=0.06$, $p=0.81$) nor interaction of use with cigarette nicotine content ($F[2,7413]=1.95$, $p=0.14$) on total CPD.

Conclusion: We found no evidence that e-cigarette use moderated the effect of VLNCs on reducing total CPD among these vulnerable populations. Additional analyses focused on use of other products, like smokeless tobacco and NRT, are warranted.

SESSION 2

GROUP 1: Improving Treatment

Strengthening Systems of Care for People with Substance Use Disorders and People with or at High Risk for HIV (Project MOHRE)

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¹Yale School of Medicine, ²Seton Hall University, ³University of South Florida

The volatile opioid epidemic in the U.S. has ushered in unprecedented morbidity and mortality, including new and emerging epidemics of overdose, hospitalization and new outbreaks of HIV and HCV in a number of vulnerable states and counties. In rural areas, where HIV and OUD prevention and treatment services are limited or altogether absent, the emerging situation presents providers with unique challenges that necessitate immediate and coordinated responses across these often-disconnected systems of care.

In collaborating across 2 regions, and five states utilizing the NIATx Treatment Improvement Framework and Learning Collaborative Model, the primary aims of this HRSA SPNS funded project are to scale-up medication-assisted therapies (MAT) and HIV/HCV screening and treatment services to improve the cascades of care for these diseases and ease the burden these dual epidemics impose on local health systems.

By conducting a system-wide comprehensive gap analysis to identify deficiencies in MAT coverage, as well as community-specific structural drivers of HIV and OUD disparities, including the legal and financial impediments, it has become evident that a variety of innovative treatment solutions are needed to curb these complex crises. In the poster presentation, we would present our initial gap analysis findings from the 5 sites – VT, ME, KY, WV, CT - and introduce the resulting proposed collaborative actions that are currently underway. With the impacts of COVID-19 disproportionately affecting the substance using population, the need for evidence-backed OUD and HIV treatment scale up strategies becomes all the more urgent.

Using Attendance-Based Monetary Incentives to Increase Attendance to Prolonged Exposure Therapy Sessions in Individuals with Concurrent OUD and PTSD

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Introduction: Over 30% of individuals with opioid use disorder (OUD) meet criteria for posttraumatic stress disorder (PTSD). Although opioid agonist treatment (OAT e.g., buprenorphine, methadone) is the most efficacious treatment for OUD, individuals with concurrent PTSD experience worse treatment outcomes. Prolonged exposure therapy (PET) may reduce PTSD symptom severity among patients receiving concurrent OAT. However, PET's effectiveness may be limited by poor attendance. This study investigates the effect of attendance-based monetary incentives for increasing attendance to PET sessions among adults with co-occurring OUD and PTSD.

Methods: Thus far, 16 participants with PTSD and OUD have been randomized to one of three experimental conditions: a.) OAT as usual (n=6), b.) OAT+PET (n=5), or c.) OAT+PET with attendance-based incentives (OAT+PET+; n=5). All participants completed monthly follow-up assessments. For both PET groups, treatment consisted of 12 weekly 60-minute sessions. However, the OAT+PET+ group also received monetary incentives delivered contingent upon completion of PET sessions (max \$920).

Results: Attendance for follow-up assessments was similar for the OAT as usual (86.7%), OAT+PET (75.0%), and OAT+PET+ groups (86.7%; $p > .05$). However, participants who received OAT+PET+ attended more PET sessions (50/60 sessions; 83.3%) compared to the OAT+PET group (5/48 sessions; 10.4%; $p = .001$), which included more exposure sessions (OAT+PET+ mean=7; OAT+PET mean=0.5; $p < .01$).

Discussion: Preliminary evidence indicates that monetary incentives increase OAT patients' attendance to PET. PET with attendance-based incentives may help combat the opioid epidemic, particularly in rural areas where individuals face additional barriers to treatment. Ongoing efforts are focused on adapting this intervention amid the COVID-19 pandemic.

Opioid Use Disorder Stigma & Barriers to Pregnancy Care and Treatment in Rural Communities

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The University of Utah, Division of Epidemiology, Program of Addiction Research, Clinical Care, Knowledge, and Advocacy.

Background: For pregnant women with opioid use disorder (OUD), provider/community stigma is a barrier to treatment.

Objective: Improve care/perceptions toward pregnant women with OUD in rural communities.

Methods: *Design.* A one-group, repeated-measures, hybrid type-1 effectiveness-implementation study. *Interventions.* Provider education and resource enrichment was delivered in two rural Utah counties that lead the state in OUD deaths. Providers/professionals were trained in: Screening, Brief Intervention and Referral to Treatment (n=97); OUD/maternal health webinars (n=287); warm handoff referrals (n=24); OUD in pregnancy (n=38). Resource enrichment included: resource/referral coordination/dissemination; supporting local nurse care manager and recovery-coach staff who organized various addiction-recovery meetings and case management; collaboration with local organizations to enhance treatment availability. *Assessment.* Using a purposive sampling design, we conducted 16 qualitative interviews with county(s) healthcare providers/community stakeholders assessing community changes in stigma. Data were coded using a rapid-cycle double coding process.

Results: Respondents reported improvements within the community during the study intervention in: attitudes/stigma expressed toward people with addictions ($\kappa = .70$); fear of criminalization ($\kappa = .86$); stigma associated with substance use ($\kappa = .59$); hope for ways of treating OUD ($\kappa = .66$). According to one interviewee, the project has initiated “more open discussions about if somebody [is] pregnant and using, instead of shaming them, ‘you just need to stop’, what can you do to help? [There are] More discussions about helping instead of ‘you’re a bad person, you’re doing bad things’”.

CONCLUSIONS: Addressing OUD stigma through healthcare and community channels may have significant influence in treatment quality and access for those with OUD in pregnancy.

Teleretinal Diabetic Retinopathy Screening is Cost-Saving in a Rural Accountable Care Organization

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Purpose: The use of teleretinal screening (TRS) increases diabetic retinopathy (DR) screening adherence and reduces vision loss. However, it is unclear if TRS is cost-effective when DR management includes expensive intravitreal anti-VEGF injections in a rural Accountable Care Organization (ACO) in which incentives for care are shifted.

Methods: TRS and live screening were compared using decision-tree analysis with TreeAge Pro software. Probabilistic sensitivity analysis with Monte Carlo simulation for 100,000 trials was used to account for the uncertainty. Outcomes include average incremental costs (\$) and disability weights (DW) and the probability that TRS is cost-saving and more effective. One-way sensitivity analysis was used to determine the impact of varying TRS costs.

Results: The average cost/person was \$230 in the TRS intervention and \$292 in the live screen intervention. TRS was cost-saving 98.4% of the time. The average DW outcome is 0.001 for both groups, with TRS resulting in a lower DW 55.9% of the time. When all other variables are constant, the TRS group has a lower average cost/person when the cost of screening is less than \$160. Our rural ocular telemedicine program is also described.

Conclusion: Based on this model, TRS was cost-saving and equally effective compared to live screening, largely driven by the lower cost of the TRS encounter. An ACO is also responsible for the patient experience of care, which is likely improved by TRS, but difficult to quantify in decision tree analysis. Future work needs to be done to characterize the indirect and long-term costs of TRS for DR.

GROUP 2: Smoking

Development and Validation of the Smoker Self-Stigma Questionnaire (SSSQ)

Thomas Geist, MS, Kate Goldberg, BA, Antonio Cepeda-Benito, PhD

Whereas smoking denormalization health messages and anti-smoking policies are believed to be largely responsible for the long and sustained smoking-rate declines observed in the United States (U.S.), recent research demonstrates that these strategies may have been less effective in rural America, where smoking rates have stagnated, particularly among women. There is also the possibility is that anti-smoking campaigns and policies may even backfire with specific segments of the population by further stigmatizing already marginalized individuals. Such scenario could certainly play out in rural America, which carries a large, disproportionate burden of socioeconomic and psychosocial determinants of life-course disadvantages in the U.S. Unfortunately, the field lacks a tool to measure smoking related stigma in smokers and, thus, the capability of studying the extent to which smoking stigma may impact vulnerable populations.

Our poster will narrate the development of a theoretically grounded and psychometrically sound measure of smoking stigma. After constructing 88 items that align with the three self-stigma facets proposed by Bos (2013): *Enacted, Felt, and Internalized Stigma*, we are finalizing the selection of 48 to 60 items we will administer to a sample of 600 to 800 participants through Amazon's Mechanical Turk (MTurk). In the conference, we will highlight rural vs urban health and smoking disparities, smoking stigma related to smoking denormalization and rural populations, as well as the methods, analyses, and preliminary results and psychometric conclusions about the measure.

Exploring the Influence of Rural Status on Sociodemographic, Behavioral, and Psychosocial Characteristics of Smoking During Pregnancy

Carolyn G. Evemy, BS, Joan M. Skelly, MS, Claire S. Park, BS, Allison N. Kurti, PhD

Significance: This study explored individual differences in nicotine dependence, sociodemographics, and measures of cigarette demand among a national sample of pregnant women living in urban versus rural areas. The purpose of this study was to explore conventional and behavioral economic variables as a function of urban/rural status, as these variables may relate to the higher smoking prevalence and lower quit success that have been observed among pregnant women living in rural regions.

Method: Participants were a sample of 401 pregnant women seeking to enroll in a smartphone-based smoking-cessation trial. Bivariate analyses compared sociodemographic characteristics, smoking history, and cigarette demand among women identified as urban- versus rural-dwellers. Following bivariate analyses, backwards elimination stepwise regression distinguished variables that were significantly associated with urban or rural status.

Results: Bivariate analyses indicate that relative to urban areas, rural-dwelling pregnant women were older, less likely to smoke menthol cigarettes, smoking more cigarettes per day, were more likely to be non-Hispanic white, and were more likely to be married (all $p < .05$). Variables that remained significantly associated with rural-dwelling pregnant women in the stepwise regression model were older age, more likely to be married, and less likely to smoke menthol cigarettes (all $p < .05$).

Conclusion: Sociodemographic and smoking history variables differ among women as a function of urban/rural status and may contribute to smoking disparities between pregnant women living in urban versus rural areas. Behavioral economic measures of the reinforcing value of cigarettes, however, do not appear to be influenced by urban or rural status.

Urban and Rural Differences in Smoking Behavior Among Vulnerable Populations During the COVID-19 Pandemic

Rhiannon C. Wiley, Anthony C. Oliver, Janice Y. Bunn, Anthony J. Barrows, Jennifer W. Tidey, Dustin Lee, Stacey C. Sigmon, Diann E. Gaalema, Sarah H. Heil, Catherine Markesich, Andrea C. Villanti, Steve T. Higgins

Background: The effect of cigarette smoking on COVID-19 risks are still unclear. Differences in healthcare accessibility and perceived risk of transmission between urban and rural areas might influence coronavirus-related changes in smoking behavior. We compared changes in smoking related behaviors during the COVID-19 pandemic between vulnerable rural and urban smoking populations.

Methods: Web-based surveys were distributed between 6/22/2020 and 7/13/2020 to 457 adult life-time smokers who previously participated in a trial investigating effects of VLNC cigarettes in vulnerable populations. Respondents were categorized as rural or urban based on zip code in accordance with Federal Office of Rural Health Policy methodology. Perceptions of the danger of the ongoing pandemic, changes to smoking and smoking-related behavior prior to vs. during the pandemic were examined.

Results: Among 227 respondents, 138 (60.8%) and 89 (39.2%) lived in urban and rural areas, respectively. Rural respondents had a higher proportion of primary menthol smokers ($p=.03$). Rural and urban respondents did not differ on heaviness of smoking. During the COVID pandemic, rural respondents were more likely to have bought cigarettes from an Indian reservation ($p=0.02$) but less likely to have left their house specifically to buy cigarettes ($p=0.04$) or to have changed smoking behavior to avoid touching their face ($p<0.01$). Rural and urban respondents did not differ on changing quantity smoked or brand, buying cigarettes online, or avoiding wearing masks in order to smoke.

Conclusions: Urban and rural smokers largely did not differ in their smoking related behavior changes during the current COVID-19 public health crisis.

Mediation and Moderation of Smoking and Vaping Expectancies on the Association Between Depression and Weight Concerns with Nicotine Dependence

Emily Pomichter, BA & Antonio Cepeda-Benito, PhD

Recent research demonstrates that the long and sustained smoking-rate declines observed in the United States, do not apply to women in rural America, whose smoking rates have stagnated (Cepeda-Benito et al., 2018). It is also well known that women are more likely than men to smoke to cope with negative affect and fears of gaining weight (see Cepeda-Benito, 2020). Thus, the present study sought to understand whether negative affect reduction expectancies, as well as weight control expectancies either mediate or moderate the relationships between negative affect and fear of becoming fat and nicotine dependence, respectively. To this effect, we very recently completed collecting data from smokers ($N = 531$, 43% female) and vapers ($N = 421$, 51% female) who responded to a Qualtrics survey accessible through Amazon's Mechanical Turk platform. Our poster will present the results of testing two separate models in smokers and vapers. The first model predicts whether depression and body weight concerns predict nicotine dependence respectively through negative affect and weight control expectancies attributed to nicotine use. The second model hypothesizes that negative affect expectancies moderate depression, and weight control expectancies moderate weight concerns, to predict nicotine dependence. Whether the findings replicate across males and females separately, will also be tested. We anticipate that both types of expectancies will be more strongly associated to nicotine dependence in women.

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GROUP 3: Marijuana

Increasing Addiction Service Access for Rural Populations in North America: The Screening, Self Management, and Referral to Treatment (SSMRT) Resource Platform

Karen T. Y. Tang, Department of Psychology and Neuroscience, Dalhousie University, Halifax, Canada; Alexandra Loverock, School of Public Health, University of Alberta, Alberta, Canada; Jakob Koziel, School of Public Health, University of Alberta, Alberta, Canada; T. Cameron Wild, School of Public Health, University of Alberta, Alberta, Canada; Igor Yakovenko, Department of Psychology and Neuroscience, Department of Psychiatry, Dalhousie University, Halifax, Canada

The lack of mental health resources in remote and rural communities across North America is a significant barrier to treatment access for individuals with substance use problems. Existing data suggest that brief, online tools grounded in evidence-based therapeutic literature have great potential for addressing this disparity. We sought to develop and implement a remotely accessible platform called the Screening, Self Management, and Referral to Treatment (SSMRT). SSMRT is a cannabis informational resource aimed at young adults in rural areas. The platform was based on: (a) a scoping review of 2473 studies that used brief screening instruments and 468 studies of brief interventions for substance use, (b) establishing a reference group of 36 researchers and front-line service providers with expertise in prevention and addiction, and (c) an online survey of 3600 students' substance use habits. The SSMRT platform is a free, online intervention designed to increase access to mental health resources and supports in rural communities across North America. This presentation will provide an overview of the development of the SSMRT platform and the results of the survey on youths' substance use habits. Results indicate that between 26% and 51% of past 6-month cannabis users indicated that they would be very interested or definitely would access screening tools to determine their cannabis use, general information on cannabis, interactive tools to help them manage substance use problems, and locally available treatment resources. Implications of this gap will be discussed as they relate to the implementation of the SSMRT platform.

Prenatal and During Pregnancy Cannabis Use: Association with Perceived Risks and Benefits and Delay Discounting

Chelsea K. Pike, Michael J. Sofis, PhD, and Alan J. Budney, PhD

Center for Technology and Behavioral Health, Geisel School of Medicine at Dartmouth

Background: Cannabis use is increasingly common among pregnant women despite concern that it may be linked to adverse outcomes. Determining whether variables commonly associated with cannabis use, e.g., delay discounting (DD) and perceived risks and benefits of use, can predict whether women continue or quit using during pregnancy may inform interventions designed to reduce prenatal use.

Method: Pregnant women who regularly used cannabis before pregnancy ($n=121$) were recruited from rural and urban areas via Facebook. 35.5% reported quitting ($n=43$), 47.9% reduced or quit but relapsed ($n=58$), and 16.5% continued use ($n=20$) after learning they were pregnant. Demographics, frequency of cannabis and tobacco use, DD, and perceived risks of cannabis to the baby and benefits to the mother were assessed. ANCOVAs controlling for tobacco use compared the three outcome groups (quitters, reducers/relapsers, continued users) on these variables. Data collection is ongoing.

Results: Women who reported continued cannabis use during pregnancy perceived less risk to the baby than reducers/relapsers ($p<.001$, $d=1.34$) or quitters ($p<.001$, $d=2.12$). Those who continued use also perceived greater personal benefit of use compared to quitters ($p<.001$, $d=.90$), but not to reducers/relapsers ($p=.35$). No between-group differences in DD were observed.

Conclusions: Preliminary findings suggest that continued cannabis use during pregnancy is related to lower perceived risks to the baby and greater perceived personal benefit. DD was not associated with outcomes. More research is needed to understand prenatal cannabis use and its effects in order to better educate women and healthcare providers, and to inform intervention development.

Initial Evaluation of Domain-Specific Episodic Future Thinking on Delay Discounting and Cannabis Use

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Geisel School of Medicine at Dartmouth College

Aim: An estimated 12-30% of past-year cannabis users are diagnosed with Cannabis Use Disorder (CUD). Notably, those with CUD who live in rural areas demonstrate lower rates of treatment utilization (4.1%) relative to those who live in small (5.8%) and large metropolitan areas (7.0%), which suggests a potential need for accessible and remotely administered interventions that can help individuals to reduce their cannabis use. One such candidate is Episodic Future Thinking (EFT), which is defined as the brief mental simulation of personally relevant and positive future events. Recent evidence suggests DD may modulate delay discounting (DD) in cannabis users, but it is unknown whether EFT can reduce cannabis use, whether DD mediates this effect, and whether EFT can be enhanced by prompting future events across specific life domains (Domain-specific EFT; DS-EFT).

Methods: Active cannabis users (n=90) recruited from Amazon mTurk and Qualtrics Research Panels completed an Episodic Specificity Induction to enhance perceived quality of imagined events prior to being randomized to an EFT, DS-EFT, or Episodic Recent Thinking (ERT) session. Participants created four, self-relevant, positive life events; DS-EFT participants imagined events relevant to social, leisure, health, and financial domains of life. Episodic event-quality ratings were assessed (e.g., enjoyment). DD was assessed at baseline (Day 1), post-intervention (Day 2-4), and follow-up (Day 9-12). Cannabis use was assessed at baseline and follow-up. Structural equation modeling tested group differences in change in days and amount (grams) of cannabis use, and whether DD mediated observed changes.

Results: DS-EFT, but not EFT, showed significantly greater reductions in grams ($d=.54$) and days of cannabis use ($d=.50$) than ERT. DS-EFT and EFT demonstrated significantly higher event quality ratings than ERT ($ds >.55$). Neither DS-EFT or EFT showed lower DD than ERT at any session, nor did DD mediate reductions in cannabis use.

Discussion: DS-EFT appears to demonstrate promise as an accessible intervention that may reduce cannabis use, although DD may not underlie this effect. Research that examines the repeated exposure of this intervention on cannabis use and explores alternative mechanisms appears warranted.

Knowledge of State Marijuana Policy as a Measure of Exposure to Changes in Legal Status

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Objectives: Current evaluations of changes to marijuana legal assume equal policy awareness across the state. However, policy changes may affect sub-groups differently (e.g., users vs. non-users). The goal of this study was to identify a nuanced measurement of policy exposure (e.g., policy knowledge) and the sociodemographic, cognitive, and behavioral correlates of marijuana policy knowledge among rural and non-rural Vermont young adults.

Methods: Data were collected in Spring 2019 through the PACE Vermont Study, an online cohort study of Vermonters aged 12-25. Approximately half of participants (47.8%) live in Health Resources and Services Administration (HRSA)-designated rural counties. Bivariate and multivariable analyses estimated prevalence ratios (PR) for correlations between knowledge of Vermont's marijuana policy, sociodemographics, marijuana use, and harm perceptions in 1,037 young adults.

Results: Overall, 30.3% of Vermont young adults incorrectly described the state's current marijuana policy. Being younger, non-white race, male, and less educated were inversely correlated with policy knowledge. Ever (PR=1.23) and past-30-day marijuana use (PR=1.16) were positively correlated with policy knowledge. Policy knowledge was less prevalent among young adults who perceived great risk of harm from weekly marijuana use (vs. no risk; aPR=0.46), while those reporting slight risk (vs. no risk; aPR=1.20) had a higher prevalence of policy knowledge.

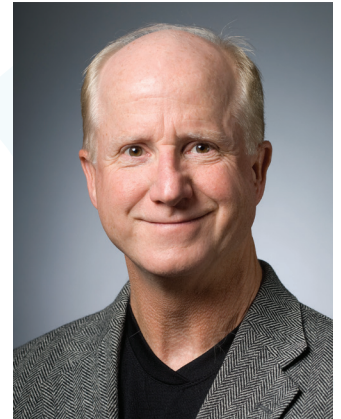
Conclusion: Given the high proportion of young adults in the study who misunderstood Vermont marijuana policy, policy knowledge may be a more nuanced measure of policy exposure than policy implementation year. High prevalence of policy knowledge among past-30-day marijuana users and those with low perceived risk of regular marijuana use signal novel opportunities for state-level education on marijuana to ensure young people understand the potential harms of marijuana.

Conference Kickoff Biographies

Stephen T. Higgins, PhD

Director, Vermont Center on Behavior & Health

Stephen T. Higgins, PhD, is the director of the Vermont Center on Behavior and Health at the University of Vermont Larner College of Medicine and principle investigator on five NIH grants on the general topic of behavior and health, including the UVM Center of Biomedical Research Excellence (COBRE) and the Tobacco Center of Regulatory Science (TCORS). He is the Virginia H. Donaldson Endowed Professor of Translational Science in the departments of psychiatry and psychological science and serves as vice chair of psychiatry. He has held many national scientific leadership positions, including terms as president of the College on Problems of Drug Dependence and the American Psychological Association's Division on Psychopharmacology and Substance Abuse. He is the author of more than 400 journal articles and invited book chapters and editor of a dozen volumes and therapist manuals in the area of behavior and health.



Kirk Dombrowski, PhD

Vice President for Research, University of Vermont

Dr. Kirk Dombrowski became Vice President for Research at UVM in April 2020. Prior to joining UVM, Dr. Dombrowski held several leadership positions at the University of Nebraska (UNL). He was the founding director of the university's Rural Drug Addiction Research Center, an NIH designated Center of Biomedical Research Excellence; interim director of the Nebraska Center for Virology, a ~90,000-square-foot biochemistry research institute; and director of UNL's Minority Health Disparities Initiative, a university-wide faculty, recruitment, development and community engagement initiative that he was brought to Nebraska to lead in 2013. A cultural anthropologist by training, Dr. Dombrowski is also an active researcher whose work straddles the social and behavioral health sciences, a link he has used to address issues public of concern and social good, such as HIV infection dynamics, drug and alcohol addiction, minority health disparities, and suicide prevention in Native American/First Nation communities.



Conference Kickoff Biographies

The Honorable Patrick J. Leahy

United States Senator from Vermont

We are pleased that U.S. Senator Patrick Leahy of Vermont joins us again with a special video message of appreciation and support. Senator Leahy is the Vice Chairman of the Senate Appropriations Committee. He is also the senior-most member of the Senate Judiciary Committee and of the Senate Agriculture Committee. Senator Leahy is the ranking member of the Appropriations Subcommittee on the State Department, Foreign Operations and related programs. As the Dean of the Senate he ranks first in seniority.



Steven Woolf, MD, MPH

Keynote Speaker

Steven Woolf, MD, MPH, is the Professor C. Kenneth and Dianne Wright Distinguished Chair in Population Health and Health Equity and Director Emeritus and Senior Advisor at Virginia Commonwealth University's Center on Society and Health. He has centered his career on raising public awareness around the social, economic, and environmental conditions that shape health and produce inequities. Dr. Woolf consults with government agencies and professional organizations on health policy, and critical appraisal of evidence and matters related to preventive medicine. He is the author of more than 200 articles and three books and served as a scientific adviser and member of the U.S. Preventive Services Task Force. His outreach work includes a testimony before Congress, consulting, editorials in major newspapers, and speeches. He obtained his MPH from Johns Hopkins University and his MD from Emory University.



Session Chairs and Speaker Biographies

Phil A. Ades, MD

Dr. Philip Ades is the Endowed Professor of Cardiovascular Disease Prevention and the director of the Cardiac Rehabilitation program at the University of Vermont Larner College of Medicine. His world-class research program has been oriented to the therapeutic use of exercise, specifically on the important role exercise can play in rehabilitation after a heart attack and the benefits of weight loss in obese coronary heart disease patients. Dr. Ades has been the associate director of the UVM COBRE at the Vermont Center on Behavior and Health since its inception and serves as mentor to several project directors. He is the author of more than 230 publications and is the past editor of the Journal of Cardiopulmonary Rehabilitation and Prevention.



Robert Althoff, MD, PHD

Dr. Robert Althoff is an associate professor of psychiatry, pediatrics, and psychological science at the University of Vermont. With a background in cognitive neuroscience and behavioral genetics, Dr. Althoff studies emotion regulation and suicide risk prediction. He is the medical director of psychiatry at Champlain Valley Physician's Hospital in Plattsburgh, NY and is vice chair for clinical affairs in the Department of Psychiatry at the UVM Health Network. He is also the associate editor for the Journal of the American Academy of Child and Adolescent Psychiatry, the world's premier peer-reviewed medical journal covering pediatric psychiatry.



Christie A. Befort, PhD

Dr. Christie Befort is a professor in the Department of Population Health at the University of Kansas (KU) Medical Center and is the Associate Director of Cancer Prevention and Control for KU Cancer Center. For the past 15 years, she has been conducting community-based research in the area of behavioral weight loss intervention and cancer prevention and survivorship. Dr. Befort's research includes behavioral obesity treatment trials that are targeted to special populations including cancer survivors and rural populations. Her research has been funded by the National Cancer Institute, American Cancer Society, and Patient Centered Outcomes Research Institute with a recent focus on a large pragmatic randomized trial examining three models of care delivery for treating obesity in 36 rural primary care practices. In this work, Dr. Befort engages an activated patient advisory board and numerous healthcare systems and community-level stakeholders throughout a four-state rural Midwestern region. Dr. Befort serves on the NIH Psychosocial Risk and Disease Prevention study section and is an active mentor and advocate for promoting diversity with a particular focus on gender.



Hypatia Bolívar, PhD

Dr. Hypatia Bolivar is an instructor in the Department of Psychology at the University of Illinois at Springfield (UIS). She completed her PhD at the University of Florida where she worked on various projects targeting cigarette use, including randomized clinical trials using contingency management to reduce smoking. She completed a postdoctoral fellowship at the Vermont Center on Behavior and Health (VCBH) under Dr. Diann Gaalema, where she received training on nicotine delivery systems, low nicotine content cigarettes, clinical trials research and project management, and behavioral interventions to promote healthy behavior. Her primary research interests are on relapse and maladaptive health behaviors. Dr. Bolivar continues to collaborate with VCBH as she teaches and trains future generations of psychology researchers at UIS.



Nicole Brunet, PharmD, BCPP

Dr. Nicole Brunet graduated from the University of New England College of Pharmacy in 2013. She completed a PGY1 pharmacy residency at the William Jennings Bryan Dorn VA Medical Center in Columbia, SC in 2014 followed by a PGY2 psychiatric pharmacy residency at the Providence VA Medical Center. Upon completion of residency, Nicole joined the VA Maine Healthcare System as a clinical pharmacy specialist in mental health. She provides medication management and education to patients enrolled in the Substance Use Disorder Intensive Outpatient Program, consults with providers on complex psychopharmacotherapy cases, precepts pharmacy residents and functions as the internal facilitator at her site for the implementation of tele-buprenorphine prescribing.



Matthew Ellis, MPE

Matthew Ellis is a research faculty instructor in the Department of Psychiatry at Washington University in St. Louis and the principal investigator for the Survey of Key Informants' Patients Program under the RADARS® national opioid surveillance system. He has a master's degree in psychiatric epidemiology and is a doctoral candidate at Saint Louis University's College for Public Health and Social Justice. He has been a researcher on the opioid crisis for nearly 15 years, primarily on pathways of prescription opioids to heroin, abuse-deterrent opioids, and more recently on growth on polysubstance use and the resurgence of illicit stimulant use.



Judith Feinberg, MD

In 2005, Dr. Judith Feinberg was the first physician in metropolitan Cincinnati to recognize that opioid injection drug use had emerged as a health threat, based on increased admissions for infective endocarditis. She became involved in harm reduction efforts and, in 2014, after a nine-year effort she established Ohio's third syringe exchange and its first true syringe services program, the Cincinnati Exchange Project. West Virginia has the highest rates of acute Hepatitis B, acute Hepatitis C, Neonatal Abstinence Syndrome, and overdose deaths in the U.S. After a long career in HIV/AIDS, Dr. Feinberg came to West Virginia University (WVU) in late 2015 to focus on ending these opioid-related epidemics at their epicenter. As a professor of behavioral medicine and psychiatry and professor of medicine and infectious diseases, she is working hard to turn the tide on opioid misuse and opioid-related epidemics. She has federal funding from the National Institute on Drug Abuse and the Patient-Centered Outcomes Research Initiative as well as state funding from the West Virginia Bureau for Public Health for these efforts. Dr. Feinberg was recently named the first E.B. Flink Vice Chair for Research in the WVU Department of Medicine.



Sarah Heil, PhD

Dr. Sarah Heil is a professor of psychiatry and psychological science at the University of Vermont and a faculty member of the Vermont Center on Behavior and Health. Dr. Heil earned her Ph.D. from Dartmouth College in 1997, then completed National Institutes of Health postdoctoral fellowships in substance abuse research at Wayne State University and the University of Vermont. She joined the faculty at UVM in 2002. Continuously funded by the National Institute on Drug Abuse since that time, her research interests revolve around the reproductive health needs of women with substance use disorders, with a recent focus on helping them avoid unintended pregnancy. Dr. Heil has more than 125 publications to her credit and is an elected fellow of two divisions of the American Psychological Association. She has served as a standing member of a National Institutes of Health study section, on the Board of Directors of the College on Problems of Drug Dependence, and on the editorial boards of the journals of Psychology of Addictive Behaviors and Experimental and Clinical Psychopharmacology.



George Howard, DrPH

Dr. George Howard is a distinguished professor of biostatistics at the University of Alabama at Birmingham (UAB). He received his training in biostatistics from the University of North Carolina at Chapel Hill and has experience in biostatistics, data management, and the direction of coordinating centers of multicenter studies. He is the founding and overall PI for the REasons for Geographic And Racial Differences in Stroke (REGARDS) project, a U.S. national study developing a cohort of 30,239 individuals to provide insights to the excess stroke mortality among African Americans and southerners. In addition, he is the PI of the Statistical and Data Management Center for the Coordinated, Collaborative, Comprehensive, Family-based, Integrated and Technology-Enable Care (C3FIT) Trial, a cluster-randomized trial of coordinated post-stroke care versus standard medical treatment. Previously, he was PI of the coordinating center for the Insulin Resistance Atherosclerosis Study (IRAS) and was one of the original investigators in the Atherosclerosis Risk in Communities (ARIC) study. He is also the past PI of the Coordinating Centers the Carotid Revascularization Endarterectomy Stenting Trial (CREST), Secondary Prevention of Small Subcortical Strokes (SPS3), and the Trial of Early Aggressive Treatment of Rheumatoid Arthritis (TEAR). He has more than 500 publications with an H-index of over 100, primarily in the analysis of cerebrovascular and cardiovascular risk factors and has more than 35 years of experience working directly with clinical investigators.



Richard Jenkins, PhD

Dr. Richard Jenkins is a clinical psychologist and has been with the Prevention Research Branch at National Institute on Drug Abuse (NIDA) since 2006. Previously, he was with the Division of HIV/AIDS Prevention at the Centers for Disease Control and Prevention (CDC) and held earlier research and teaching positions in academia and with the Department of Defense HIV Prevention Program. Prior to coming to NIDA, Dr. Jenkins was involved in a variety of domestic and international projects related to HIV prevention. These have included preparations for HIV vaccine trials, community assessments, investigations of the social and behavioral epidemiology of HIV exposure, and the design and evaluation of HIV prevention interventions. He also has been involved in research related to the implementation of federally-sponsored community planning mechanisms. Dr. Jenkins current portfolio includes HIV prevention in domestic and international settings with a range of key populations including PWID, sex workers, MSM transgender persons, and heterosexuals at high risk. He also serves as the scientific officer for the multi-site, multi-agency NIDA/CDC/SAMHSA/ARC Rural Opioid Initiative that includes a site that incorporates parts of Vermont and New Hampshire.



Hendrée Jones, PhD

Dr. Hendrée Jones is a professor in the Department of Obstetrics and Gynecology at the School of Medicine, University of North Carolina (UNC) in Chapel Hill. She is an internationally-recognized expert in the development and examination of both behavioral and pharmacologic treatments for pregnant women and their children in risky life situations. Dr. Jones has received continuous National Institutes of Health funding since 1994, has written more than 200 publications, and authored two books, one on treating patients for substance use disorders and the other on comprehensive care for women who are pregnant and have substance use disorders. While winning multiple awards, most recently in 2020, she won the American Society of Addiction Medicine R. Brinkley Smithers and Distinguished Scientist Award. She is a consultant for the United Nations and the World Health Organization and leads or is involved in projects around the world focused on improving the lives of children, women, and families.



Lisa Letourneau, MD, MPH, FACP

Dr. Lisa Letourneau is an experienced physician leader and passionate advocate for health care system delivery and payment change, with strong interests in advancing primary care, improving behavioral health integration, and leading efforts to address the opioid epidemic. She currently serves as Senior Advisor for Delivery System Change for the State of Maine's Department of Health & Human Services, as well as supporting several improvement efforts, including serving as Clinical Advisor for the Patient Centered Primary Care Collaborative and the American Board of Internal Medicine Foundation's "Choosing Wisely" initiative. She previously founded and served for eight years as Executive Director of Maine Quality Counts, where she led several quality improvement efforts including the Maine Aligning Forces for Quality initiative, the Maine Patient Centered Medical Home) Pilot, and the Maine Choosing Wisely initiative. Dr. Letourneau is a graduate of Brown University and the Dartmouth-Brown Program in Medicine and is a board-certified internist who practiced emergency medicine for seven years before beginning her work in clinical quality improvement. She holds a master's degree from the Harvard School of Public Health, has a particular interest in helping to build connections between public health and clinical care, and the role of physicians and clinicians in helping to develop and lead health improvement efforts.



Michelle Lofwall, MD

Dr. Michelle Lofwall is a professor of behavioral science and psychiatry at the University of Kentucky College of Medicine in the Center on Drug and Alcohol Research. She is the Bell Alcohol and Addictions Chair and medical director of the First Bridge Clinic, which provides comprehensive outpatient opioid addiction treatment to patients discharging from emergency rooms and inpatient medical/surgical services. Her research has been funded by the NIH and industry and has recently focused on evaluation of long-acting buprenorphine formulations, including CAM2038/Brixadi and Probuphine, for the treatment of opioid use disorder. She was an expert panel member on SAMHSA's Treatment Improvement Protocol (TIP 63) for Medication Treatment of OUD, a past board member of the American Society of Addiction Medicine (ASAM) and President of the KY Chapter of ASAM, an invited speaker to the National Academy of Medicine, and recipient of several medical student teaching and mentorship awards.



Sanchit Maruti, MD, MS

Dr. Sanchit Maruti, MD, MS, is the medical director of the UVM Medical Center (UVMHC) Addiction Treatment Program and an attending psychiatrist on the Inpatient Psychiatry service at UVMHC. He is also an assistant professor of psychiatry at the Larner College of Medicine at the University of Vermont. Dr. Maruti received his MD degree from the University of Vermont College of Medicine where he was awarded an Albert Schweitzer Fellowship. He completed his residency training in psychiatry at the UVMHC and served as chief resident during his final year. He was recognized as the UVMHC Resident of Year and received the Arnold P. Gold Foundation Humanism and Excellence in Teaching Award. He completed fellowship training in addiction psychiatry at Massachusetts General Hospital and Harvard Medical School. Dr. Maruti's clinical focus is on working with acutely ill patients and those with co-occurring disorders. His research interests are in the areas of risk assessment and quality improvement. He has worked with national experts on the revision of the national buprenorphine waiver course and is the course director for the American Academy of Addiction Psychiatry (AAAP) annual Addictions and Their Treatment course. Additionally, he serves on the board of directors of the AAAP.



Kelly Peck, PhD

Dr. Kelly Peck joined the Vermont Center on Behavior and Health faculty in March 2019 after completing his post-doctoral fellowship with Dr. Stacey Sigmon. His research and clinical interests are two-fold. The first involves research focused on the development and evaluation of novel treatments for opioid misuse and use disorder. Most recently, this included two randomized clinical trials evaluating a novel interim buprenorphine treatment for reducing illicit opioid use and other high-risk behaviors among adults with untreated opioid use disorder (OUD). He has also worked extensively with individuals with concurrent substance use disorders and posttraumatic stress disorder (PTSD), particularly around the delivery and evaluation of cognitive-behavioral treatments for PTSD. Dr. Peck is currently conducting a randomized clinical trial aimed at developing and evaluating the effects of an empirically-supported treatment for reducing PTSD symptom severity among individuals with concurrent OUD, which will be the first to empirically evaluate the effect of a 12-session Prolonged Exposure Therapy protocol above and beyond OUD treatment as usual for reducing PTSD symptoms among individuals receiving OUD treatment.



Elizabeth Saunders, PhD

Dr. Elizabeth Saunders is a senior research scientist at the Center for Technology and Behavioral Health at the Geisel School of Medicine. Dr. Saunders earned her PhD from the Dartmouth Institute for Health Policy and Clinical Practice. Her mixed-methods dissertation research examined preferences for medication for opioid use disorder (MOUD) using web-based sampling strategies. Dr. Saunders primary research interest focuses on the evaluation of treatments for opioid use disorder and the implementation of these treatments using both qualitative and quantitative methods. As part of CTBH and the Northeast Node of the National Drug Abuse Treatment Clinical Trials Network, she is currently involved with several studies, including a randomized controlled trial of long-acting MOUD for people involved in the justice system, and an evaluation of the implementation of electronic health record-integrated screening in primary care clinics. Dr. Saunders is also interested in improving outcomes for women with substance use disorders and is engaged in research comparing the effectiveness of integrated versus non-integrated treatment for pregnant women with opioid use disorders.



David Schopfer, MD, MAS

Dr. David Schopfer is a cardiologist at the National Heart, Lung, and Blood Institute. Previously, he was an assistant professor at the University of California at San Francisco where his work focused on the utilization of cardiac rehabilitation services, which is inadequate at this time, and determining how to increase access to and participation in cardiac rehabilitation utilizing new methods of delivery including telemedicine and mobile technologies. Dr. Schopfer recognized the importance of physical activity as a mechanism to reduce morbidity and mortality for patients with both ischemic heart disease and heart failure. He received the Young Investigator Award from the American Association of Cardiovascular and Pulmonary Rehabilitation in 2013 and was named Best Mentor in 2011 by the University of Illinois at Chicago College of Medicine.



Stacey C. Sigmon, PhD

Dr. Stacey Sigmon is a tenured associate professor in the University of Vermont (UVM) Larner College of Medicine with 25 years of experience conducting addiction research, particularly aimed at developing more efficacious treatments for opioid use disorder. She also conducts research in the Vermont Center on Behavior and Health evaluating smoking and smoking cessation interventions in challenging groups of smokers, including those with co-occurring substance use. Dr. Sigmon is the director of the UVM Center on Rural Addiction and currently serves as president of The College on Problems of Drug Dependence, the oldest and largest US organization dedicated to advancing the scientific study of addiction.



Brian L. Sprague, PhD

Dr. Brian Sprague is a cancer epidemiologist and associate professor in the Department of Surgery at the Larner College of Medicine at the University of Vermont. He leads the Vermont Breast Cancer Surveillance System a research program that collects integrated patient, radiology, pathology, and outcomes data associated with breast imaging at all radiology facilities in Vermont. Dr. Sprague's research comprises observational studies of breast cancer risk, detection, and survivorship. He is currently principal investigator of National Cancer Institute-funded studies investigating supplemental ultrasound screening strategies and molecular characterization of screen-detected breast cancers. He also conducts collaborative research on risk-based breast cancer screening strategies within the national Breast Cancer Surveillance Consortium and serves on its steering committee. Dr. Sprague is co-leader of the Cancer Control and Population Health Sciences program within the University of Vermont Cancer Center and is the senior epidemiologist in the Vermont Center on Behavior and Health.



Andrea Villanti, PhD, MPH

Dr. Andrea Villanti is an associate professor in the department of psychiatry at the Vermont Center on Behavior and Health at the University of Vermont Larner College of Medicine. She also holds an adjunct faculty appointment in the University of Vermont department of psychological sciences. Dr. Villanti's primary focus is on young adult tobacco use, including predictors and patterns of use and interventions to reduce tobacco use in young adults. She has expertise in population surveillance of tobacco and substance use and translational research to improve substance use-related policy and program decision-making, including tobacco regulatory science. She received her doctorate in social and behavioral sciences from the Johns Hopkins University and her master's degree in public health from Columbia University.





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