Vermont Center on Behavior & Health
The University of Vermont

10th Annual Conference

Contingency Management: Increasing Abstinence from Substance Use & Promoting Health in Vulnerable Populations

October 6–7, 2022
Hilton Burlington Lake Champlain
A Hybrid Event
#VCBH2022

Welcome

Dear Colleagues:

Welcome to the 10th Annual Vermont Center on Behavior and Health Conference. We are excited to be back in person while also providing an option for remote attendance. We have learned a great deal after holding our last two conferences virtually and are excited to bring people together in a hybrid environment, allowing everyone to attend in a way that works best for their own circumstances.

In celebration of our 10th anniversary, we chose to focus on a topic that has gained important traction over the past 12-18 months, contingency management (CM). Many may recall that some of the seminal research on contingency management as an efficacious intervention for treating those with cocaine use disorder started in the 1990s here at UVM. Since then, CM studies have expanded to include a diverse set of people, many other substance use disorders, smoking cessation in pregnant women and other vulnerable populations, and secondary prevention and adherence with wellness programs. Last year, California became the first state to approve a state-wide CM program for psychomotor stimulant use disorders with a Medicaid benefit, which is scheduled to launch this fall.

The speakers participating in this year's conference, *Contingency Management: Increasing Abstinence from Substance Use and Promoting Health in Vulnerable Populations*, touch on several important CM-related research areas on day one. Our day two speakers take us on a deep dive into the framework and implementation of CM, discussing the advances, challenges, and lessons learned along the way.

I would like to thank U.S. Representative Peter Welch for taking time to share a video welcome to our conference this year. This is his first time as our welcome speaker, taking over the mantle from our long-time supporter, U.S. Senator Patrick Leahy. I would also like to thank our newly-appointed UVM Chair of Psychiatry Robert Althoff, MD, PhD, who is a special guest as a former VCBH Project Leader.

A warm thanks goes to Dr. Kenneth Silverman, a long-time friend, collaborator, and outstanding scientist for delivering our keynote speech on a topic that has been part of our shared research history.

I am grateful to our speakers for giving us their time and energy on such a timely and rapidly evolving subject. We appreciate your continued dedication to research and collaboration. I also extend my deep gratitude to the National Institute of General Medical Sciences, the National Institute on Drug Abuse, the US Food and Drug Administration Center for Tobacco Products, and the University of Vermont for their generous support without which these conferences would not be possible.

We hope you enjoy our 10th anniversary conference and look forward to the next ten! Many thanks for your contributions 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

Accreditation

In support of improving patient care, The Robert Larner College of Medicine at The University of Vermont is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

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The University of Vermont designates this internet live for a maximum of 10.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This program has been reviewed and is acceptable for for up to 10.25 Nursing Contact Hours.

As a Jointly Accredited Organization, The Robert Larner College of Medicine at the University of Vermont is approved to offer social work continuing education by the Association of Social Work Boards (ASWB) Approved Continuing Education (ACE) program. Organizations, not individual courses, are approved under this program. State and provincial regulatory boards have the final authority to determine whether an individual course may be accepted for continuing education credit. The University of Vermont maintains responsibility for this course. Social workers completing this course receive 10.25 general continuing education credits.

Target Audience

Physicians, Nurses, Social Workers

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.

Meeting Disclaimer

Regarding materials and information received during this educational event, the views, statements, and recommendations expressed during this activity represent those of the authors and speakers and do not necessarily represent the views of the University of Vermont.

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Funding

This event is funded in part by generous support from the National Institute of General Medical Sciences (NIGMS), National Institute on Drug Abuse (NIDA), US Food and Drug Administration (FDA) Center for Tobacco Products (CTP). The content is solely the responsibility of the authors and does not necessarily represent the official views of NIGMS, NIDA, FDA, or CTP.

Conference Agenda, Day 1

Thursday, October 6

8:15–9:00	BREAKFAST REGISTRATION	Adirondack AB Lobby
9:00–9:10	OPENING REMARKS ▪ **Stephen T. Higgins**, PhD, Director, Vermont Center on Behavior and Health, Virginia H. Donaldson Professor, Departments of Psychiatry and Psychological Science, University of Vermont	Adirondack CD uvmcom.zoom.us/j/98293552733 password: 100622
9:10–9:20	UVM WELCOME ▪ **Robert R. Althoff**, MD, PhD, Chair, Department of Psychiatry, Larner College of Medicine, University of Vermont	
9:20–9:25	VIDEO WELCOME ▪ United States Representative **Peter Welch** of Vermont	
9:25–10:10	KEYNOTE ADDRESS *Contingency Management Interventions to Address Drug Addiction, HIV, and Poverty* ▪ **Kenneth Silverman**, PhD, Director, Center for Learning and Health, Professor of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine	
10:10–10:25	BREAK	Prefunction

Session 1

10:30–12:25 SELECTED RESEARCH ADVANCES IN CONTINGENCY MANAGEMENT — PART 1

Adirondack CD
uvmcom.zoom.us/j/98160885084
password: 100622

- Session Chair: **Stacey C. Sigmon**, PhD, Director, UVM Center on Rural Addiction, Professor of Psychiatry and Psychological Science, University of Vermont

10:30–10:55 *Contingency Management for Improving Family Planning with Socioeconomically Disadvantaged Women*

- **Sarah H. Heil**, PhD, Associate Director, UVM Center on Rural Addiction, Associate Director, UVM Tobacco Center of Regulatory Science, Professor of Psychiatry and Psychological Science, University of Vermont

11:00–11:25 *Advancing Practice: Translating Evidence for the Uptake of Culturally Tailored Contingency Management in Partnership with American Indian and Alaska Native Communities*

- **Katherine "Kait" A. Hirchak**, PhD, Assistant Professor of Medical Education and Clinical Science, Elson S. Floyd College of Medicine, Washington State University

11:30–11:55 *Contingency Management for Secondary Prevention: A Focus on Cardiac Rehabilitation*

- **Diann E. Gaalema**, PhD, Associate Professor, Departments of Psychiatry and Psychological Science, University of Vermont

11:55–12:25 AUDIENCE/PANEL Q&A DISCUSSION

12:30–1:55 LUNCH

Buffet — Prefunction
Tables — Adirondack AB

12:45–1:45 LUNCH EVENT: RURAL HEALTH DISPARITIES

Adirondack CD
uvmcom.zoom.us/j/99192993106
password: 100622

- Session Chair: **Jennifer W. Tidey**, PhD, Associate Dean for Research, Professor of Behavioral and Social Sciences and Psychiatry and Human Behavior, Brown University

Rural Disparities in Tobacco Use: Implications for Tobacco Control and Regulatory Science

- **Megan E. Roberts**, PhD, Assistant Professor of Health Behavior and Health Promotion, The Ohio State University

Session 2

2:00–3:55 SELECTED RESEARCH ADVANCES IN CONTINGENCY MANAGEMENT — PART 2

Adirondack CD
uvmcom.zoom.us/j/99438957527
password: 100622

- Session Chair: **Sarah H. Heil**, PhD, Associate Director, UVM Center on Rural Addiction, Associate Director, UVM Tobacco Center of Regulatory Science, Professor of Psychiatry and Psychological Science, University of Vermont

2:00–2:25 *Technology-Based Contingency Management: Evolution and Trajectories in the Treatment of Substance-Use Disorders*

- **Jesse Dallery**, PhD, Director, Behavioral Health and Technology Research Clinic, Professor of Psychology, University of Florida

2:30–2:55 *Contingency Management for Smoking-Cessation Among Perinatal Women: An Efficacious and Cost-Effective Intervention*

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

3:00–3:25 *Incentives for Health Behavior: A Qualitative Analysis of U.S. State Laws*

- **Barbara Andraka-Christou**, PhD, JD, Assistant Professor, School of Global Health Management and Informatics, and Internal Medicine, University of Central Florida

3:25–3:55 AUDIENCE/PANEL Q&A DISCUSSION

4:00–4:30 BREAK ON YOUR OWN

4:30–6:00 RECEPTION AND POSTER SESSION

Montpelier Conference Room

- Session Chair: **Diann E. Gaalema**, PhD, Associate Professor of Psychiatry and Psychological Science, University of Vermont

Conference Agenda, Day 2

Friday, October 7

8:15–9:00	BREAKFAST REGISTRATION	Adirondack AB Lobby

Session 3

9:00 – 10:30 FEDERAL AND STATE PERSPECTIVES

Adirondack CD
uvmcom.zoom.us/j/94083893234
password: 100622

- Session Chair: **Richard A. Rawson**, PhD, Co-Director, Collaboration, Dissemination, and Education Core, Vermont Center on Behavior and Health, Professor, Department of Psychiatry, University of Vermont

9:00–9:20 *Federal Contingency Management Policy Challenges and Accomplishments*

- **Cecelia "Cece" McNamara Spitznas**, PhD, Senior Science Policy Analyst, Office of National Drug Control Policy

9:25–9:45 *NIDA DTMC Research Priorities and Funding Opportunities*

- **Evan S. Herrmann**, PhD, Program Officer, Clinical Research Grants Branch, Division of Therapeutics and Medical Consequences, National Institute on Drug Abuse

9:50–10:10 *Contingency Management for Treatment of Smoking and Other Substance Misuse: The Public Health Perspective*

- **Mark A. Levine**, MD, Commissioner, Vermont Department of Health

10:10–10:30 AUDIENCE/PANEL Q&A DISCUSSION

10:30–10:45 BREAK — Prefunction

Session 4

10:50–12:40 IMPLEMENTATION OF CONTINGENCY MANAGEMENT IN COMMUNITY SETTINGS: ADVANCES AND CHALLENGES – PART 1

Adirondack CD
uvmcom.zoom.us/j/95419785513
password: 100622

- Session Co-Chair: **Richard A. Rawson**, PhD, Co-Director, Collaboration, Dissemination, and Education Core, Vermont Center on Behavior and Health, Professor, Department of Psychiatry, University of Vermont
- Session Co-Chair: **Stephen T. Higgins**, PhD, Director, Vermont Center on Behavior and Health, Virginia H. Donaldson Professor, Departments of Psychiatry and Psychological Science, University of Vermont

10:50–11:15 *A Legal and Regulatory Framework for Contingency Management Implementation*

- **H. Westley Clark**, MD, MPH, JD, Deans Executive Professor (retired August 2022), Department of Public Health, Santa Clara University

11:20–11:45 *Implementation of Contingency Management in the U.S. Veterans Administration Hospital System*

- **James R. McKay**, PhD, Director of the Philadelphia VA Center of Excellence in Substance Addiction Treatment and Education, Professor of Psychology in Psychiatry, University of Pennsylvania

11:50–12:15 *Lessons Learned Implementing Contingency Management in Opioid Treatment Programs*

- **Sara Becker**, PhD, Director, Center for Dissemination and Implementation Science, Alice Hamilton Professor of Psychiatry, Feinberg School of Medicine, Northwestern Medicine

12:15–12:40 AUDIENCE/PANEL Q&A DISCUSSION

12:45–1:45 LUNCH BREAK

Adirondack AB

Session 5

Adirondack CD
uvmcom.zoom.us/j/92012739926
password: 100622

1:50–3:00 IMPLEMENTATION OF CONTINGENCY MANAGEMENT IN COMMUNITY SETTINGS: ADVANCES AND CHALLENGES — PART 2

- Session Chair: **Stephen T. Higgins**, PhD, Director, Vermont Center on Behavior and Health, Virginia H. Donaldson Professor, Departments of Psychiatry and Psychological Science, University of Vermont

1:50–2:15 *State Level Training and Implementation Support of CM: Progress and Lessons Learned*

- **Michael G. McDonell**, PhD, Professor, Department of Community and Behavioral Health, Elson S. Floyd College of Medicine, Washington State University

2:20–2:45 *Recovery Incentives: Key Issues in Implementation in California and Beyond (Part 1)*

- **Thomas E. Freese**, PhD, Co-Director, UCLA Integrated Substance Abuse Programs, Co-Director, Pacific Southwest Addiction Technology Transfer Center, HHS Region 9

2:50–3:15 *Recovery Incentives: Key Issues in Implementation in California and Beyond (Part 2)*

- **Richard A. Rawson**, PhD, Co-Director, Collaboration, Dissemination, and Education Core, Vermont Center on Behavior and Health, Professor, Department of Psychiatry, University of Vermont

3:20–3:50 AUDIENCE/PANEL Q&A DISCUSSION

3:50–4:00 CLOSING REMARKS

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

4:00 ADJOURN

Poster Session Abstracts

(Alphabetical Order by Author)

A Model for Improvements in Contingency Management Implementation

Sydney R. Batchelder [1, 2, 3]
Stacey Sigmon [1, 2, 3]
Sarah Heil [1, 2, 3]
Kelly Peck [1, 2, 3]
Diann Gaalema [1, 2, 3]

[1] University of Vermont
[2] Vermont Center on Behavior and Health
[3] Center on Rural Addiction

INTRODUCTION

Contingency management (CM) is among the most effective intervention for increasing abstinence in individuals with substance use disorders. However, CM is rarely implemented in treatment settings due to implementation barriers. Therefore, strategies are needed to increase its implementation among treatment providers.

METHODS

The UVM Center on Rural Addiction (CORA) has developed three main strategies to improve CM implementation specifically in rural areas. 1) CORA created an interactive video, eligible for CEUs, that can be distributed to treatment providers to explain what CM is, why it works, and how providers can use it in their practice. This is a direct-to-provider service that allows providers to learn ways to implement CM in their practice and address the gap from research to treatment. 2) CORA is conducting a qualitative analysis of state laws about CM. It is crucial to understand what state laws set a precedent for CM to be accepted or prohibited among providers. Determining that there are no laws prohibiting the practice of CM or that there are precedents for similar interventions currently being practiced would increase the likelihood providers will adopt CM. 3) CORA is piloting a project testing if CM for stimulant use, within those with OUD, can be deployed remotely, with patients recruited directly from provider offices. If successful, this model could help overcome multiple barriers that rural patients encounter when trying to access treatment.

CONCLUSIONS

Altogether, these approaches seek to overcome barriers to implementation by improving knowledge around the use of CM (implementation and applicable state laws) and testing methods of implementation that could overcome barriers rural patients experience in accessing CM.

Awareness and Use of Tobacco Products Among Underage Individuals: Findings from the Altria Client Services Underage Tobacco Use Survey 2020–2022

Hui G. Cheng, PhD
Andrea R. Vansickel, PhD
Edward G. Largo, PhD

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601 E. Jackson
Richmond, VA 23219, USA

INTRODUCTION
Timely data about tobacco products, especially emerging products such as novel oral nicotine products (ONPs), provides critical information for the prevention of underage tobacco use. With a recent federal law raising the legal age of purchase of tobacco products from 18 to 21, it is of interest to benchmark awareness and use of tobacco products in the new underage population, young adults 18–20 years old. This study provides estimates on awareness and use of tobacco products among individuals 13–20 years old during April 2020 to February 2022 in the United States.

METHODS
Altria Client Services Underage Tobacco Use Survey (UTUS) is a repeated cross-sectional survey conducted every quarter-year. A stratified random sampling approach was used to draw nationally representative samples of household dwelling individuals 13-20 years old. Information about the awareness and use of tobacco products was obtained via online self-administration or phone interviews after a consent/assent process.

RESULTS
Despite that 40–50% of underage individuals were aware of ONP, use of such products remained at a low level during the study period (i.e., past 30-day use <1.5%). E-cigarettes were the most used tobacco products among underage individuals. Underage young adults were more likely to use tobacco products than youth. There was no clear trend in the awareness and use of tobacco products during the study period despite some quarter-to-quarter fluctuations.

CONCLUSIONS
The awareness and use of tobacco products remained relatively stable during the study period. There is a notable level of awareness of novel ONPs among underage individuals.

A Pilot Study of Prolonged Exposure with Financial Incentives Contingent on Therapy Attendance in Individuals with Concurrent Posttraumatic Stress Disorder and Opioid Use Disorder

Rebecca Cole, BA
Letizia Mosca, BS
Gary Badger, MS
Stacey Sigmon, PhD
Kelly Peck, PhD

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

INTRODUCTION

Posttraumatic stress disorder (PTSD) frequently co-occurs with opioid use disorder (OUD). Prolonged exposure (PE) therapy is a first line treatment for PTSD. However, the efficacy of PE may be limited by poor attendance. We are conducting a 12-week randomized trial evaluating the feasibility and initial efficacy of a novel PE protocol for improving PE session attendance and PTSD symptoms among individuals receiving medications for OUD (MOUD) with concurrent diagnosis of PTSD.

METHODS

Thus far, thirty-two adults with a diagnosis of PTSD and who were receiving buprenorphine or methadone treatment for OUD have been randomly assigned to receive either: MOUD treatment as usual (TAU; n=11), PE (n=11), or PE with financial incentives delivered contingent upon therapy attendance (max $920) (PE+; n=10).

RESULTS

PE+ participants have been more likely to attend therapy sessions vs. PE (88% vs. 19%). Furthermore, the PE+ group has demonstrated significant improvements in PTSD, depression, and anxiety symptoms (ps<.01). Participants in the two PE groups have also submitted numerically fewer urine samples that were positive for illicit opioids during treatment (0% vs. 22%) than TAU participants. Formal statistical comparisons with a larger sample size will be presented at the October meeting.

CONCLUSIONS

Preliminary findings from this pilot study indicate that individuals with co-occurring OUD and PTSD are more likely to attend PE sessions if they are incentivized to do so. Furthermore, participants randomized to PE+ are demonstrating significant reductions in PTSD and other psychiatric symptoms. Additional work is needed to more rigorously evaluate this novel treatment approach.

Extending Contingency Management for Smoking Cessation to Patients with Cardiovascular Disease

Sulamunn R. M. Coleman
Stephen T. Higgins
Joshua M. Smyth
Diann E. Gaalema

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

INTRODUCTION

Cigarette smoking is a key risk factor for developing cardiovascular disease (CVD), and smokers with established CVD are high risk for experiencing a major cardiac event (e.g., myocardial infarction). Contingency management (CM) is an effective behavioral intervention for smoking cessation involving the provision of financial incentives for biochemically-verified smoking abstinence; however, research has not yet determined whether CM is an effective smoking intervention for CVD patients. The purpose of this study is to present preliminary data from an ongoing pilot examining the comparative efficacy of usual care versus CM for smoking cessation in CVD patients.

METHODS

Participants (N=16) were randomly assigned to one of two, 6-week treatment conditions: (1) usual care, including advice to quit smoking and a referral to the Vermont State Quitline (802Quits), or (2) CM, including usual care plus financial incentives (i.e., monetary vouchers) for biochemically-confirmed smoking abstinence (i.e., exhaled carbon monoxide < 6ppm). Vouchers started at $10 and escalated by $2.50 for each subsequent negative sample over 14 abstinence monitoring visits. Positive samples earned no vouchers, but two negative samples following a positive sample allowed participants to continue earning vouchers as scheduled. Point prevalence smoking abstinence at week 6 was the primary outcome.

RESULTS

The current sample (N=16) is primarily male (76.5%) with an average age of 48.5 (SD=11.8, range=30–66). All participants identified as White, Non-Hispanic. For receiving CM for smoking cessation (n=10), the point prevalence smoking abstinence rate at week 6 was 90.0%, and for participants receiving usual care (n=6), point prevalence smoking abstinence at week 6 was 33.3%.

CONCLUSIONS

These data provide initial evidence that CM for smoking cessation may effectively promote smoking abstinence in people with CVD. Analyses will be repeated upon completion of data collection.

Predicting Response Effort to Use Usual Brand Menthol Cigarettes Under a Simulated Menthol Cigarette Ban

Tyler G. Erath, PhD [1]
Jonathan A. Schulz, PhD, MPH [1]
Alice Hinton, PhD [2, 3]
Toral Mehta, PhD [3]
Jennifer Tidey, PhD [4]
Theodore L. Wagener, PhD [3]
Andrea C. Villanti, PhD, MPH [5]

[1] Vermont Center on Behavior and Health, Department of Psychiatry, University of Vermont
[2] Division of Biostatistics, College of Public Health, The Ohio State University
[3] Center for Tobacco Research, The Ohio State University James Comprehensive Cancer Center, Department of Internal Medicine, The Ohio State University
[4] Department of Behavioral and Social Sciences, Brown University School of Public Health
[5] Rutgers Center for Tobacco Studies, Rutgers University

INTRODUCTION
The goal of this study was to examine how indices from the hypothetical cigarette purchase task (CPT) predict response effort for usual brand menthol cigarettes (UBMC) and combustible menthol cigarette alternatives (MCA) in adults who smoke menthol cigarettes.

METHODS
Eighty menthol cigarette smokers completed a clinical lab study smoking their UBMC and 1 of 3 MCAs: a pre-assembled menthol roll-your-own cigarette, menthol-filtered little cigar, and non-menthol cigarette. Participants completed the CPT to assess demand after sampling each of the 4 products (Phase 1). Participants were then instructed to substitute their preferred MCA for their UBMC for one week (Phase 2). At a final lab visit (Phase 3), participants completed a 90-min progressive ratio (PR) task to assess the reinforcing efficacy of their UBMC and preferred MCA. Linear regression models explored associations between demand indices assessed by the CPT and total clicks in the PR task. Separate models were fit for each demand index, adjusting for preferred study product.

RESULTS
Several indices from the UBMC-CPT (breakpoint, p=.04; essential value, p=.02; and Omax, p=.02) predicted the total clicks in the PR task, but intensity and Pmax did not. For the MCA-CPT, breakpoint (p=.03), essential value (p=.03), Pmax (p=.04), and Omax (p=.03) were significant predictors of the total clicks, but intensity was not.

CONCLUSIONS
Demand indices of the CPT in general, and indices related to demand persistence (i.e., sensitivity to price) in particular, predicted effort to obtain UBMC puffs on the PR task. Results suggest the CPT is prospectively associated with actualized response effort for UBMC.

The Association Between Cumulative Vulnerabilities and Cigarette Smoking in the United States: A Review of Nationally Representative Studies

Marc Jerome P. Feinstein
Diann E. Gaalema
Elias M. Klemperer

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

INTRODUCTION
Recent tobacco research has used a cumulative vulnerability (CV) framework to examine the number of social, demographic, or health disadvantages as an indicator of risk for cigarette smoking. We reviewed nationally representative studies on the association between CVs and tobacco smoking in the United States.

METHODS
We searched PubMed and our personal libraries for US nationally representative studies that reported the association between CVs and combusted tobacco use. Our search resulted in 816 papers, which were screened for inclusion in duplicate. Seven studies met criteria and were included in this review.

RESULTS
All seven studies examined socioeconomic status (poverty status, income, or employment), education, age, and race/ethnicity as vulnerabilities for smoking. Six studies (85.7%) also included gender/sex. Five of the seven studies (71.4%) examined psychopathology and comorbid substance use disorders and two studies (28.6%) included sexual orientation in their CV analysis. For primary outcomes: five studies (71.4%) used current established cigarette smoking, one used tobacco-related cancer mortality, and one reported preference for high nicotine/tar cigarettes. All seven studies found the risk for smoking or tobacco-related mortality successively increased with each additional vulnerability. Four of the seven studies (57.1%) examined the relative explanatory power of each included variable and all four found lower education was the single strongest risk factor for cigarette smoking.

CONCLUSIONS
The CV framework is a useful approach to understanding emerging patterns of tobacco disparities. Findings from this review demonstrate a consistent graded effect in which more disparities are associated with successively greater risk for cigarette smoking in the United States.

Sex Differences in Carbon Monoxide Exposure

Diann E. Gaalema
Jennifer W. Tidey
Stacey C. Sigmon
Sarah H. Heil
Dustin C. Lee
Michael DeSarno
Stephen T. Higgins

University of Vermont
Brown University
Johns Hopkins University

INTRODUCTION
Exposure to cigarette smoking can be measured in different ways including self-reported cigarettes per day (CPD) and objective measures (cotinine, carbon monoxide (CO)). However, measures can be affected by characteristics of the population; for example, in the pulmonary field, it has been demonstrated that females have lower CO measurements than males who are similarly exposed. Data from a baseline visit of a large multi-site trial (n=775) recruiting adults who currently smoke from vulnerable populations were used for this analysis.

METHODS
Participants used study-provided usual brand cigarettes for a week then provided a self-report of CPD and urine cotinine and breath CO samples. Analyses included Spearman correlations between the variables of interest, t-tests for comparisons of mean CPD, CO, and cotinine between males and females, and ANOVAs with CO (dependent variable) and sex, cotinine, and CPD (independent variables).

RESULTS
Females had significantly lower mean CPD (18.8 vs. 21.9, $t(773)=3.66$, $p=0.0003$) and CO (16.3 vs. 19.3 ppm, $t(773)=3.77$, $p=0.0002$) than males. Cotinine levels did not differ significantly by sex (4843 vs. 5141 ng/ml; $t(761)=0.62$, $p=0.54$). Correlations between variables within each sex were significant (all $p<0.0001$); however, the correlation between CO and cotinine was significantly lower in females than males (.37 vs. .51, respectively; $p=0.02$). In the ANOVA model, females had lower mean CO than males when controlling for cotinine and CPD ($F(1,759)=7.60$, $p=0.01$).

CONCLUSIONS
Females may have lower breath CO than would be expected given their reported CPD and urine cotinine levels. This could be explained by the generally faster respiratory rate and smaller lung volume of females which may result in faster CO turnover.

What is the Impact of COVID-19 on Individuals Recovering from Alcohol and Drug Addiction?

Connie Hassett-Walker, PhD, MPA

Norwich University

INTRODUCTION

The COVID-19 virus has upended all areas of life in the US and internationally. Activities that would normally be undertaken indoors (e.g., work, school) shifted to remote participation; or in-person, socially distanced, masked-up events. This includes attendance at 12-step recovery meetings (e.g., Narcotics Anonymous [NA], Alcoholics Anonymous [AA]).

METHODS

This study examines the effects of remote attendance at 12-step recovery meetings. Goals are as follows: Aim 1—Assess the impact of COVID-19 on individuals' substance abuse and recovery, including feelings about remote meetings, experience of the pandemic as traumatic, and whether and how participants may have relapsed. Aim 2—Assess subjects' attitudes about contracting COVID-19, experiences of having and receiving treatment for COVID-19, and attitudes about masking and vaccines. During the summer of 2022, the principal investigator began the process of recruiting and interviewing what will ultimately be a sample of 100 individuals recovering from alcohol and drug addiction.

RESULTS

Preliminary findings from initial interviews with recovering individuals will be presented.

Cardiopulmonary Effects of Cigarettes and E-cigarettes in Individuals with Pulmonary Disease Undergoing Contingency Management to Promote Cigarette Abstinence

Brian R. Katz
Shannon D. O'Connor
Sulamunn R. M. Coleman
Charles G. Irvin
David A. Kaminsky
Katherine E. Menson
Diann E. Gaalema

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University of Vermont, Burlington, VT

INTRODUCTION
E-cigarettes may be less harmful than combustible cigarettes, though results from research with objective outcomes are limited. Effects of combustible and e-cigarettes in individuals with chronic obstructive pulmonary disease (COPD) were compared, and a contingency management program reinforcing combustible-cigarette abstinence was evaluated.

METHODS
Individuals at least 40 years old who smoke (≥5 cigarettes/day for ≥1 year) while diagnosed with COPD underwent two randomly ordered 2-week phases: a cigarette phase (usual-brand cigarettes) and nicotine-containing e-cigarette phase (abstaining from combustible cigarettes with tobacco-flavored JUUL or Vuse Alto available). Pulmonary (spirometry, oscillometry, pulse oximetry, expired nitric oxide) and cardiac (heart rate, blood pressure) assessments were completed after 0, 2, and 4 weeks. Daily check-ins obtained spirometry, pulse oximetry, heart rate, blood pressure, and breath carbon monoxide (CO) outcomes. Participants earned $5/day for completing check-ins, and additional incentives in the e-cigarette phase for CO readings ≤6ppm indicating cigarette abstinence ($5 base increasing by $2/day; and $10 bonuses at 5, 10, and 14 successful readings).

RESULTS
Cigarette abstinence was maintained for one of three participants who completed the study. These data indicate no lung function changes across phases and, during the cigarette phase, approximately 10mmHg-increases and 8BPM-decreases in average blood pressure and heart rate, respectively. One remaining participant abstained for five days of the e-cigarette phase, and one smoked cigarettes throughout both phases. All participants reported negative experiences with e-cigarettes (chest pain, coughing, harsh taste).

CONCLUSIONS
Preliminary data suggest no pulmonary and minor cardiac changes across phases, and limited success maintaining cigarette abstinence. Negative experiences with e-cigarettes may have contributed to outcomes. Investigation of e-cigarettes with lower nicotine concentrations is warranted to evaluate their efficacy as a combustible-cigarette replacement.

Contingency Management: An Opportunity to Improve Treatment Outcomes for Incarcerated Individuals Receiving Medication for Opioid Use Disorder in Vermont

Elias M. Klemperer, PhD
Annie Ramniceanu, LCMHC, LADC
Jessica King-Mohr, MA
Laura Wreschnig, MA
Richard Rawson, PhD
Elizabeth A. Evans, PhD

Vermont Center on Behavior and Health
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INTRODUCTION

Individuals with opioid use disorder (OUD) are overrepresented in US correctional facilities and experience a disproportionately high risk for overdose after release. We recently completed an evaluation of the implementation of medications for OUD (MOUD) in Vermont's statewide correctional system that identified substantial clinical improvements associated with MOUD prescriptions, including an increase in continuation of care and decrease in overdose after release from incarceration.

METHODS

In this presentation, we report subsequent changes in outcomes associated with the onset of COVID-19 and the opportunity to use contingency management to improve treatment. Our evaluation included a longitudinal analysis of statewide administrative and Medicaid claims data from 07/01/2017 to 03/31/2021.

RESULTS

Prescriptions for MOUD while incarcerated decreased from 33.9% of the VT incarcerated population before to 26.6% of the population after the onset of COVID-19 (OR=0.7). During the same time periods, 16.0% to 8.0% of incarcerated individuals who were prescribed MOUD were later discontinued (OR=0.5), with diversion cited as the most common reason for discontinuation in both time periods. Among individuals with OUD, the proportion of releases that resulted in an MOUD prescription within the first 30 days decreased from 41.0% before to 35.6% after the onset of COVID-19 (OR=0.8).

CONCLUSIONS

Prior research demonstrates contingency management is a highly effective intervention to improve treatment outcomes for individuals receiving MOUD in the community. Thus, the application of contingency management within Vermont correctional facilities could be an effective means to address problems with MOUD diversion and continuation of care that developed with the onset of the ongoing COVID-19 pandemic.

E-cigarettes to Augment Stop Smoking In-Person Support and Treatment with Varenicline (E-ASSIST): A Pragmatic Randomized Controlled Trial

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INTRODUCTION
To examine whether, in adults receiving behavioral support, offering e-cigarettes together with varenicline helps more people stop smoking cigarettes than varenicline alone.

METHODS
A two-group, parallel arm, pragmatic randomized controlled trial was conducted in six English stop smoking services from 2019–2020. Adults enrolled onto a 12-week programme of in-person one-to-one behavioral smoking cessation support (N=92) were randomized to receive either (1) a nicotine e-cigarette starter kit alongside varenicline or (2) varenicline alone. The primary outcome was biochemically verified abstinence from cigarette smoking between weeks 9-to-12 post quit date, with those lost to follow-up considered not abstinent. The trial was stopped early due to COVID-19 restrictions and a varenicline recall (92/1266 participants used).

RESULTS
Nine-to-12-week smoking abstinence rates were 47.9% (23/48) in the e-cigarette-varenicline group compared with 31.8% (14/44) in the varenicline-only group, a 51% increase in abstinence among those offered e-cigarettes; however, the confidence interval (CI) was wide, including the possibility of no difference (risk ratio [RR]=1.51, 95% CI=0.91–2.64). The e-cigarette-varenicline group had 43% lower hazards of relapse from continuous abstinence than the varenicline-only group (hazards ratio [HR]=0.57, 95% CI=0.34–0.96). Attendance for 12 weeks was higher in the e-cigarette-varenicline than varenicline-only group (54.2% vs. 36.4%; RR=1.49, 95% CI=0.95–2.47), but similar proportions of participants in both groups used varenicline daily for ≥8 weeks after quitting (22.9% versus 22.7%; RR=1.01, 95% CI=0.47–2.20). Estimates were too imprecise to determine how adverse events differed by group.

CONCLUSION

Tentative evidence suggests that offering e-cigarettes alongside varenicline to people receiving behavioral support may be more effective for smoking cessation than varenicline alone.

IMPLICATIONS

Offering e-cigarettes to people quitting smoking with varenicline may help them remain abstinent from cigarettes, but the evidence is tentative because our sample size was smaller than planned—caused by Coronavirus Disease 2019 (COVID-19) restrictions and a manufacturing recall. This meant our effect estimates were imprecise, and additional evidence is needed to confirm that providing e-cigarettes and varenicline together helps more people remain abstinent than varenicline alone.

Impact of a Modified Exposure Claim on Smokers' Openness to Using JUUL® E-cigarettes is Completely Mediated by the Claim's Effect on Risk Perceptions

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INTRODUCTION
Many US smokers mistakenly believe that electronic nicotine delivery systems (ENDS) are at least as harmful as cigarette smoking. Communicating accurate risk information can motivate smokers to switch away from smoking with ENDS. The US FDA provides a regulatory pathway to communicate such information for a modified risk tobacco product.

METHODS
We report a large (N=13,053) randomized experiment that exposed US adult smokers, former tobacco users and never tobacco users to (1) marketing information or (2) marketing information plus a health claim that switching to JUUL e-cigarettes reduces smokers' exposure to harmful chemicals and examined effects on risk perceptions and intentions to use JUUL. The claim significantly increased openness to using JUUL among smokers while non-significantly reducing openness among non-users. The claim also affected risk perceptions, significantly increasing smokers' perceived risk differential ("PRD") between JUUL and cigarettes.

RESULTS
The effect of the claim on PRD was modest, and perceptions that JUUL caused no harm were rare. Smokers with greater PRD were more likely to be open to using JUUL. Importantly, the claim's impact on PRD entirely accounted for the relationship between exposure to the claim and openness to use, i.e., the claim impacted smokers' intentions by modifying their risk perception of JUUL. Similar effects were seen for perception of reducing risk of exposure to bystanders, which was also addressed in the claim.

CONCLUSIONS
These findings are consistent with behavioral theory and with the concept underlying the MRTP pathway—that reduced-exposure or reduced-risk communications can promote positive behavior change by changing risk perceptions.

Demographics of Dual E-cigarette and Cigarette Users

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INTRODUCTION

Dual use of e-cigarettes and conventional cigarettes is a concerning health issue. Given the growing complexity of the marketplace of e-cigarettes and the unique use patterns of dual-users, more research is needed on real-world purchasing habits, different product use, and demographics of these users. To describe demographics of dual users and examine different behavior patterns between users of differing device types.

METHODS

The data presented here are preliminary results from a project that examined 60 dual users through an 8-week longitudinal study on their purchasing habits and use patterns. Our participants were on average 37 years old, 50% male, 48% female, 2% other, and most reported being white (65%). 43% of participants used menthol cigarettes. Of participants who used only one device (77%), there was a roughly even split between refillable (30%), prefilled (35%), and disposable devices (35%). Those with refillable vapes smoked more cigarettes per day compared to those who used prefilled or disposable devices (M=11.5(6.23) vs. Combined M=7.9(5.1); $F(1,44)=4.16$, $p < .05$). Refillable users purchased vaping products less frequently than other users, most (64%) only purchased products after two weeks.

RESULTS

Research is limited on the patterns of use for both cigarettes and e-cigarettes among dual users. Dual users did not appear to differ in demographics by device type. However, those who used refillable devices purchased at a lower frequency and smoked more cigarettes per day.

CONCLUSIONS

It may be that refillable vapes are not as suitable a substitute for cigarettes as other device types.

A Therapeutic Workplace for Adults with Alcohol Use Disorder Who Are Experiencing Homelessness

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INTRODUCTION
This study evaluated the effectiveness of abstinence-contingent wage supplements in promoting employment and abstinence from alcohol in adults with alcohol use disorder who are experiencing homelessness.

METHODS
119 participants were randomly assigned to a Therapeutic Workplace group (n=62) or a usual care control group (n=57). Usual care participants were offered counseling and referrals to employment and treatment programs. Therapeutic Workplace participants received employment services and abstinence-contingent wage supplements for working at a community job. They also wore alcohol biosensors (BACtrack Skyn) that continuously monitored alcohol use. If the biosensors detected alcohol use, the magnitude of wage supplements temporarily decreased.

RESULTS
Therapeutic Workplace participants reported significantly higher rates of alcohol abstinence than usual care participants (mdn=100% vs. 67% of months, respectively). Additionally, Therapeutic Workplace participants reported higher rates of employment than usual care participants (mdn=50% vs. 33% of months, respectively).

CONCLUSIONS
This intervention could be an effective and economically sound way to promote long-term alcohol abstinence and employment in homeless adults with alcohol use disorder, a population at risk for many adverse outcomes.

Smoking Cessation Interventions for US Adults with Disabilities

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INTRODUCTION
People with disabilities have a higher prevalence of cigarette smoking than people without disabilities. However, little information exists on smoking cessation interventions tailored to address the unique needs of people with disabilities. This systematic review aimed to identify and evaluate tobacco smoking cessation interventions designed to improve outcomes for people with disabilities.

METHODS
This systematic review of the literature used the procedures outlined by Cochrane. Electronic searches were conducted in CINAHL Plus (EBSCO), Embase (Ovid), Medline (Ovid), and PsycINFO (Ovid) to identify tobacco cessation interventions tailored to meet the needs of people with disabilities. Two independent coders evaluated all retrieved records. A total of 972 records were included in title and abstract screening, with 46 records included in the full text review. Data from included studies will be extracted and assessed for risk of bias using Covidence systematic review software. Quantitative and qualitative syntheses will summarize key study characteristics and outcomes.

RESULTS
Gaps in the tobacco cessation literature and recommendations for future research that will also inform policy and programmatic changes to improve tobacco treatment in people with disabilities will be discussed.

Loss Aversion and Risk for Cigarette Smoking: Current, Never, and Former Cigarette Smoking Status

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INTRODUCTION
Loss aversion is a decision-making bias and refers to the greater impact of potential losses relative to gains. Recent evidence suggests that low loss aversion is associated with risk for cigarette smoking as well as risk for use of alcohol and other drugs and these substances in combination. To better characterize loss aversion as a potential risk factor, it is important to understand how loss aversion may influence or be influenced by changes in substance use.

METHODS
This study recruited samples of individuals that reported current cigarette smoking (n=364), never smoking (n=306; <100 cigarettes lifetime), or former smoking (n=126; >100 cigarettes lifetime and not currently smoking) using standard crowdsourcing methods. All participants completed measures of loss aversion, substance use, and demographics. Delay discounting was included as a positive control decision-making measure and was expected to replicate seminal results.

RESULTS
Individuals that reported current smoking were less loss averse than those that reported never- and former-smoking status. This was true when accounting for delay discounting and important socio-demographic factors (age, gender, educational attainment). The results document loss aversion in individuals that formerly and never smoked cigarettes and replicate observations of low loss aversion in a third sample of individuals that smoke cigarettes.

CONCLUSIONS
The study further supports the independence of low loss aversion and high delay discounting as risk factors for smoking. Although the results replicate seminal findings with delay discounting, differences in loss aversion were not explained by delay discounting. The findings highlight a causal question: Does quitting smoking increase loss aversion, or are individuals with higher loss aversion more likely to successfully quit smoking cigarettes?

Using Mobile App-Based Contingency Management to Reinforce Drug Abstinence

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INTRODUCTION

Contingency management (CM) interventions manipulate environmental contingencies to change target behaviors. Previous studies demonstrated efficacy of CM in reducing substance use, and focus has turned to virtual CM delivery. Although more research is critical to determine the efficacy of mobile app-based CM for substance use disorders (SUD), research in this area can be challenging, especially with higher-risk patients.

PURPOSE

To discuss the barriers and facilitators identified during enrollment of higher-risk SUD patients into a 12-week study testing mobile app-based CM for co-treatment of SUD with standard of care. To date, this study has enrolled and randomized >115 participants, and >70 have completed the study.

METHODS

Patients are eligible if they are ≥18 years, have a mobile phone and data plan, and are receiving treatment for cocaine, opioid, and/or methamphetamine use disorders. The study targets higher-risk patients by enrolling from partial hospitalization and intensive outpatient programs or outpatients who have used within the past 21 days. Patients are randomized into treatment or control groups, and all groups receive outcome testing at weeks 4, 8, and 12.

RESULTS

Throughout the study, several major barriers were addressed. One early barrier was motivating enrollees to submit their first saliva test; this was addressed by creating an induction phase where participants are incentivized for submitting their first test. Another barrier was a lower-than-expected rate of outcomes submissions (71%), which increased to 81% after increasing incentives. Additionally, virtual enrollment processes produce low enrollment conversion rates (37%), thus requiring in-person enrollment (56% rate) for faster enrollment timelines.

What is the Best Way to Measure Peer Crowd Identification for Tobacco Prevention Campaigns? Comparing Open-Ended, Single Best, and Sliding Scale Methods

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INTRODUCTION

Because identification with specific peer crowds (also known as social types or subcultures, e.g., alternative) increases a young person's risk of tobacco use, peer crowds have been used to target tobacco prevention media campaigns (e.g., FDA's Fresh Empire). The ability to implement such campaigns relies on a valid way to assess peer crowd identification; however, little research has empirically examined the utility of these measures. The objective of this study was to identify utility of these measures for peer crowd identification and predicting tobacco use.

METHODS

Data collected in Wave 1 (Spring 2019) of the PACE Vermont study, an online cohort of adolescents (n=480) and young adults (n=1,037) ages 12-25, assessed peer crowd identification with three measures: 1) open-ended (OE), 2) sliding scale (SS), and 3) single best crowd (SB). The SS and SB measures used 11 pre-identified crowds from the literature. We examined the distribution of crowd identification across measures and concordance in participants' responses across measures. Cross-sectional analyses examined correlations between peer crowd identification, cigarette, and electronic vapor product (EVP) use.

RESULTS

The distribution of crowds was similar across the 3 measures. However, the OE measure identified ten emergent crowds (e.g., athlete, hippie) not identified in the SS and SB items. Concordance was low between the OE and SB crowd measures (<50%), but in all cases, the crowd selected as the SB also held the highest average score for that crowd on the SS. All three measures were correlated with higher past 30-day use for two of the pre-specified crowds (cigarettes: Alternative, Burnouts; EVP: Burnouts, Social). The SB and SS measures were correlated with higher past 30-day cigarette use for County and Social crowds. The OE item alone was correlated with higher past 30-day EVP use in the Country crowd.

CONCLUSIONS

The OE measure can identify crowds within a population not previously captured but may not uniquely predict substance use. The single-best measure is easiest to implement and analyze but likely misses salient crowds for prevention efforts. An SS item with an open-ended response option may be the optimal way to identify priority crowds for tobacco prevention campaigns.

COVID Wariness, Protective Behaviors, Smoking, and Cigarette Purchasing Patterns Among Vulnerable Populations

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INTRODUCTION
Populations vulnerable to smoking are disproportionately impacted by COVID-19. Little research has focused on whether people who smoke have adopted COVID-related protective behaviors (e.g., mask-wearing). Though overall cigarette sales increased during the pandemic, some smokers modified their cigarette purchasing patterns to reduce infection risk. We examined associations between COVID wariness and adoption of COVID-related protective behaviors, changes in smoking, and changes in cigarette purchasing patterns among vulnerable smokers.

METHODS
Web-based surveys were distributed to 709 adults who had participated in a previous trial investigating the effects of very low nicotine content cigarettes in daily smokers with socioeconomic disadvantage, comorbid affective disorders, or opioid use disorder. COVID wariness was rated on three scales: perceived probability of being infected by COVID (probability), likely disease severity upon infection (severity), and perceived personal susceptibility to COVID (susceptibility). Associations between COVID wariness scales and self-reported adoption of COVID-related protective behaviors, changes in smoking, and changes in cigarette purchasing patterns were examined using Chi-square and Fisher's Exact tests.

RESULTS
Among respondents (N=440, 55.2% female), adoption of protective health behaviors was high (all behaviors endorsed by >85% of respondents). COVID wariness was positively associated with perception of smoking as a risk factor for COVID ($p's \leq .01$). Greater severity was associated with avoiding touching one's face, using hand sanitizer, and staying home except for essential reasons ($p's < .05$).

Greater susceptibility was associated with avoiding touching one's face while smoking (p=.03). Smoking rate and cigarette purchasing patterns were generally unrelated to COVID wariness scales, though there was an association between greater severity and buying more packs of cigarettes per store visit (p=.03).

CONCLUSIONS

Among vulnerable smokers, COVID wariness was associated with adoption of protective behaviors but was generally unrelated to changes in smoking or cigarette purchasing behavior. Vulnerable smokers may be unable to reduce smoking even during public health crises.

Pilot Testing Remote CM Plus NRT for Smoking Cessation in Patients Hospitalized for ACS

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University of Vermont, University of Vermont Medical Center

INTRODUCTION

Following an acute cardiac event, such as a myocardial infarction, the most effective behavior to reduce the chances of morbidity and mortality is smoking cessation. Hospitalization also serves as an ideal time to intervene on smoking, as patients are sensitized to their medical condition and smoking's role in it. However, smoking cessation in those with cardiovascular disease is challenging. Most patients relapse to smoking within 2 weeks of leaving the hospital. An ideal intervention would be intensive, begun in hospital, and continued remotely. In this poster, we review an intervention that is currently being piloted.

METHODS

Participants are being recruited in hospital and provided with a CO monitor for use during the study. Those in the active intervention receive their choice of combination NRT (short acting NRT plus patch) and can earn incentives on an escalating schedule ($5 up to a maximum of $30 per test) over 3 months for demonstrated abstinence (CO<6ppm). Participants also complete symptom-limited exercise tolerance tests after discharge from the hospital and following the 3-month intervention period.

RESULTS

This poster will report on the experience of the first 5 participants.

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 Larner College of Medicine, University of Vermont and is the principal 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. His research centers around behavioral economics and behavioral pharmacology to investigate tobacco, substance use, and other health-related risk behaviors in vulnerable populations. Dr. Higgins' projects focus on examining mechanisms underpinning vulnerability to tobacco and other risk behaviors, treatment interventions to reduce them and improve health outcomes, and regulatory science. He has held many national scientific leadership positions, including terms as president of the College on Problems of Drug Dependence (CPDD) and the American Psychological Association's Division on Psychopharmacology and Substance Abuse. He is the author of more than 425 journal articles and invited book chapters and editor of a dozen volumes and therapist manuals in behavior and health. In 2022, he received the SABA Award for Scientific Translation and the Nathan B. Eddy Memorial Award, a career achievement award from CPDD.

Robert Althoff, MD, PhD

Chair of Psychiatry, Larner College of Medicine, University of Vermont

Robert Althoff is the chair of the Department of Psychiatry and health care service leader for psychiatry at the Larner College of Medicine, University of Vermont. An associate professor of psychiatry, Dr. Althoff joined the UVM faculty and UVM Health Network Medical Group in 2006 and since 2017 has served as medical director for psychiatry at the UVM Health Network-Champlain Valley Physicians Hospital (CVPH), and division chief, Adirondack Division, in the Department of Psychiatry. From 2014 to 2017, he was executive vice president of UVM's Research Center for Children, Youth and Families. A national leader in child and adolescent psychiatry, Althoff specializes in research on the development of emotional self-regulation in children. He is a Distinguished Fellow of the American Academy of Child and Adolescent Psychiatry and is an associate editor of the Journal of the American Academy of Child and Adolescent Psychiatry. He teaches undergraduate, graduate, and medical students along with residents and fellows, and mentors Ph.D. students in his laboratory, and has twice received awards for Excellence in Academic Teaching within the UVM psychiatry residency. Dr. Althoff received his MD from the University of Illinois College of Medicine and his PhD in Neuroscience from the University of Illinois, Urbana-Champaign. He was also a former COBRE Project Leader at the VCBH.

Congressman Peter Welch

United States Representative from Vermont

Congressman Peter Welch has represented Vermonters in Congress since 2007. He is a Chief Deputy Whip of the House Democratic Caucus and a member of the Democratic Steering and Policy Committee. He serves on the House Permanent Select Committee on Intelligence, the House Committee on Energy and Commerce, and the House Committee on Oversight and Reform. Prior to serving in Congress, Representative Welch worked for a year in Chicago fighting housing discrimination as one of the first Robert F. Kennedy Fellows. He then served as a public defender, an attorney in private practice, and a Vermont State Senator, before being elected to the United States Congress in 2006. During his time in office, Representative Welch has been a leading advocate for clean energy, energy efficiency, cutting the price of prescription drugs, investing in infrastructure, and expanding broadband and telemedicine in rural America.

Kenneth Silverman, PhD

Keynote Speaker

Kenneth Silverman has been on the faculty of the Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine for more than 30 years and is currently a professor of psychiatry and behavioral sciences. Since 1996 he has directed the department's Center for Learning and Health, which he founded. His research has focused on developing operant treatments to address the interrelated problems of drug addiction, HIV, and poverty. Specifically, Dr. Silverman has focused on the development and evaluation of abstinence reinforcement interventions for the treatment of heroin and cocaine addiction; incentives to promote and maintain HIV viral suppression; computer-based training to establish academic and job skills that chronically unemployed adults need to gain and maintain employment and escape poverty; and the therapeutic workplace intervention and employment-based reinforcement to the promote and maintain of drug abstinence and employment. He received his PhD in developmental and child psychology from the University of Kansas and has been highly successful in securing extramural support for his research and practice as well as for his mentorship of junior faculty members, postdoctoral trainees and interns, predoctoral students, and undergraduates in practica and internships.

Session Chairs and Speaker Biographies

Barbara "Basia" Andraka-Christou, PhD, JD

Barbara "Basia" Andraka-Christou is an assistant professor in the School of Global Health Management and Informatics with a joint secondary appointment in the Department of Internal Medicine at the University of Central Florida. She is also a licensed attorney in Florida. Her research explores substance use disorder treatment from health services and health policy perspectives. Dr. Andraka-Christou has authored forty-five peer reviewed articles. Her work has been published in many substance use and health policy journals, including Health Affairs, the International Journal of Drug Policy, the Journal of Substance Abuse Treatment, the Journal of Addiction Medicine, JAMA Network Open, and Substance Abuse. She is the author of the book The Opioid Fix: America's Addiction Crisis and the Solution They Don't Want You to Have (Johns Hopkins University Press, 2020). She received her JD and PhD from Indiana University where she also completed a postdoctoral research fellowship. She received her BA summa cum laude from the University of Florida.

Sara Becker, PhD

Sara Becker is the Alice Hamilton Professor of Psychiatry and inaugural director of the newly formed Center for Dissemination and Implementation Science (CDIS) which is part of Northwestern's Institute for Public Health and Medicine . Dr. Becker's research promotes the uptake of evidence-based practice into routine clinical care. Her research integrates both patient-focused dissemination (e.g., direct-to-consumer marketing, technology-assisted interventions) and provider- and organization-focused implementation (e.g., workforce development, multi-level implementation strategies) approaches. The overarching vision of CDIS is to advance equitable access to evidence-based public health and medical interventions by accelerating the impact of research across the translational continuum and training the next generation of implementation scientists and practitioners. Since 2012, Dr. Becker has been the principal investigator of ten implementation science grants supported by the National Institutes of Health, the President's Emergency Plan for AIDS Relief, the Agency for Healthcare Research and Quality, and the Substance Abuse and Mental Health Services Administration. In 2021, Becker was honored as the first implementation scientist to receive a Method to Extend Research in Time (MERIT) Award from the National Institute on Drug Abuse, which provides up to 10-years of stable funding support. Dr. Becker earned her PhD in clinical psychology from Duke University and completed a postdoctoral fellowship at Brown University's Center for Alcohol and Addiction Studies.

H. Westley Clark, MD, MPH, JD

H. Westley Clark retired in August 2022 as the dean's executive professor in the Department of Public Health at Santa Clara University in California. He is the former director of the Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration, US Department of Health and Human Services, where he led the agency's national effort to provide effective and accessible treatment to all Americans with addictive disorders. Dr. Clark was also the former chief of the Associated Substance Abuse Programs at the US Department of Veterans Affairs Medical Center in San Francisco and a former associate clinical professor in the Department of Psychiatry at the University of California at San Francisco (UCSF). He served as a senior program consultant to the Robert Wood Johnson Substance Abuse Policy Program, a co-investigator on several National Institute on Drug Abuse-funded research grants, and as health counsel on the US Senate Committee of Labor and Human Resources for Senator Edward Kennedy. Dr. Clark's current interests focus on clinical and policy issues associated with the use of psychoactive substances. He has a particular interest in privacy and confidentiality, ethical issues associated with substance use policy, innovations associated with behavioral health prevention and treatment, health information technology, and general health policy. He is a member of the Motivational Incentives Policy Group, the board of the Foundation for Opioid Response Efforts and Stop Stigma Now and on the NIAAA Advisory Council. Dr. Clark has received numerous awards for his contributions to the field of substance abuse treatment from the Black Psychiatrist of America, American Society of Addiction Medicine, American Association for the Treatment of Opioid Dependence, American Public Health Association, and many more. He was awarded the 2008 John P. McGovern Award from the American Society of Addiction Medicine for his contributions toward increased understanding of the relationship between addiction and society. Dr. Clark received a BA in Chemistry from Wayne State University. He holds his MD and MPH from the University of Michigan, Ann Arbor and obtained his JD from Harvard University Law School. Dr. Clark received his board certification from the American Board of Psychiatry and Neurology in Psychiatry and sub-specialty certification in Addiction Medicine from the American Board of Preventive Medicine.

Jesse Dallery, PhD

Jesse Dallery is a professor in the Department of Psychology at the University of Florida, and a licensed psychologist in the state of Florida. His research is translational in nature and has addressed a wide range of topics including human laboratory studies of choice and decision making; addiction; nicotine and smoking; contingency management for smoking cessation, physical inactivity, and medication adherence; mathematical models of operant behavior and intertemporal choice; and matching theory. A unifying theme for much of his work is the development of technology-based interventions to promote health-related behavior. Dr. Dallery regularly publishes in both basic and applied journals and his work has been funded by a series of major grants from the National Institute on Drug Abuse. He has made significant contributions to a wide variety of journals including service as associate editor of The Behavior Analyst, the Journal of Applied Behavior Analysis, and Behavioural Processes. He is currently an associate editor of Perspectives on Behavior Science. Dr. Dallery received his PhD in clinical psychology at Emory University and completed a postdoctoral fellowship at the Johns Hopkins University School of Medicine in behavioral pharmacology. He is a fellow in Division 25 of the American Psychological Association, and in the Association for Behavior Analysis International. At the University of Florida, he teaches a range of courses at the graduate and undergraduate levels, and he has mentored numerous doctoral students. In 2014, he was named a Teacher of the Year in the College of Liberal Arts and Sciences.

Thomas E. Freese, PhD

Thomas Freese is an adjunct professor in the Department of Psychiatry and director of the UCLA Integrated Substance Abuse Programs (ISAP), where he previously served as the director of training for 20 years. He is director of training and dissemination for the Division of Addiction Psychiatry in the David Geffen School of Medicine at UCLA and co-director of the Pacific Southwest (HHS Region 9) Addictions Technology Transfer Center (PSATTC). Dr. Freese has conducted trainings on a wide variety of topics including methamphetamine use, addressing the opioid epidemic, medication assisted treatment, culturally responsive care for LGBTQ individuals, implementing integrated treatment, adolescent behavioral health, and implementing evidence-based treatment practices. He received his PhD in clinical psychology from the California School of Professional Psychology in 1995, has been a featured presenter at conferences and meetings, and has developed and conducted trainings across the US and internationally.

Diann E. Gaalema, PhD

Diann Gaalema is an associate professor in the Departments of Psychiatry and Psychological Science at UVM. She received her PhD in experimental psychology from the Georgia Institute of Technology. Her current research interests include health-related behavior change and the use of tobacco in vulnerable populations such as those with chronic medical conditions. Currently she is the principal Investigator on a NIH-funded study aimed at increasing cardiac rehabilitation participation among those of lower-socioeconomic status and is the site-PI on a NIDA/FDA funded study examining the effects of cigarettes of varying nicotine levels on behavior in those with depression or anxiety. She is an author on more than 100 peer-reviewed articles in the areas of behavior and health.

Sarah H. Heil, PhD

Sarah Heil is a professor of psychiatry and psychological science at the University of Vermont (UVM) and a faculty member of the Vermont Center on Behavior and Health. Dr. Heil earned her PhD 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 Institutes of Health since 2004, her research interests revolve around women with substance use disorders, frequently focusing on behavioral and pharmacological treatments for opioid and tobacco use disorder during pregnancy and on the sexual and reproductive health needs of this population. 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 journal Psychology of Addictive Behaviors and the journal Experimental and Clinical Psychopharmacology.

Evan S. Herrmann, PhD

Evan S. Herrmann is a NIDA Program Officer and a human behavioral pharmacologist with expertise in human drug administration research and addiction medications development. He completed his PhD in behavioral pharmacology at the University of Vermont and postdoctoral training at Johns Hopkins and Columbia University. After completing his training, Evan joined the research faculty at Columbia as an Assistant Professor of Clinical Neurobiology and then Battelle Memorial Institute as a principal research scientist in Battelle's Center on Substance Use Research. He joined NIDA as a Program Officer in the Division on Therapeutics and Medical Consequences in April 2020, where he administers a grant portfolio primarily focused on nicotine/tobacco-related experimental therapeutics and cessation intervention development.

Katherine "Kait" A. Hirchak, PhD, MHPA

Katherine "Kait" Hirchak is a descendant of the Eastern Shoshone Tribe, an assistant professor in the Department of Community and Behavioral Health, and a faculty member in the Promoting Research Initiatives in Substance Use and Mental Health (PRISM) Collaborative. Dr. Hirchak completed her postdoctoral training at the University of New Mexico's Center on Alcohol, Substance use, And Addictions (CASAA) as a NIAAA T32 Fellow. For nearly 15 years, she has partnered with Tribal communities to enhance health equity and well-being. Dr. Hirchak's research interests, activities, and training include health policy, assessing alcohol and substance use disorder (SUD) interventions among American Indian and Alaska Native (AI/AN) communities, conducting clinical trials and mixed-methods research in diverse settings, and culturally adapting evidence-based interventions. Dr. Hirchak collaborates on several National Institutes of Health grants focused on SUD research with AI/AN communities. She is also currently funded by NIAAA to culturally and developmentally adapt contingency management and behavioral economics among 18-29-year-olds in partnership with a rural reservation outpatient treatment center.

Mark A. Levine, MD

Mark Levine was appointed commissioner of health by Governor Phil Scott and began service on March 6, 2017. Prior to his appointment he was a professor of medicine at the University of Vermont, and most recently the associate dean for graduate medical education and designated institutional official at the Larner College of Medicine and the UVM Medical Center. He also served as the vice chair for education in the Department of Medicine. Dr. Levine has gained a reputation as an outstanding teacher and educational program innovator, receiving teaching awards from the medical school and the Department of Medicine. He maintains his faculty appointment and continues to teach. Prior to becoming Commissioner, he actively practiced general internal medicine with special interests in solving complex diagnostic dilemmas, health promotion/ disease prevention, screening, and clinical nutrition. This provided him with personal perspective on the challenges our healthcare system holds for physicians as well as patients. At the nexus of Dr. Levine's clinical, education, public health and advocacy efforts is his heightened interest in improving health at the population level through health policy directed at fostering a culture of health. As health commissioner, Dr. Levine takes great pride in leading the Vermont Department of Health's efforts to fulfill its mission – To protect and promote the best health for all Vermonters and is honored to represent its vision of Healthy Vermonters living in healthy communities. Dr. Levine obtained his BA in Biology from the University of Connecticut and received his MD from the University of Rochester. He completed his Internal Medicine Residency and a Chief Resident year at the University of Vermont and a fellowship in general internal medicine at the University of North Carolina, which emphasized clinical epidemiology, research training, teaching, and administration of educational programs.

Michael G. McDonnell, PhD

Michael McDonell is a professor in the Department of Community and Behavioral Health in the Elson S. Floyd College of Medicine at Washington State University, of which he is a founding faculty member. He is the Director of Promoting Research Initiatives in Substance Use and Mental Health (PRISM) Collaborative and the Co-Director of the Rural Center for Opioid Prevention, Treatment and Recovery. Dr. McDonnell is a clinical psychologist whose research focuses on using strategies such as contingency management to improve care for people who experience addiction-related disparities, such as individuals with co-occurring disorders and American Indian and Alaska Native people. He is involved in multiple state-level projects focused on supporting the implementation of contingency management into practice. Dr. McDonell is passionate about partnering with communities to conduct research that improves the lives of community members, as well as mentoring graduate students, staff, and faculty who identify as members of groups under-represented in science.

James R. McKay, PhD

James McKay is a professor of psychology in the Department of Psychiatry at the University of Pennsylvania. He is also the Director of the Philadelphia VA Center of Excellence in Substance Addiction Treatment and Education (CESATE). Dr. McKay's current research efforts are focused on the development and evaluation of adaptive approaches to the management of addiction, the use of mobile health technology to augment and extend treatment interventions, and testing of behavioral intervention augmentations to primary care-based suboxone treatment for opioid use disorder. He is the recipient of K02 and K24 Awards from NIDA, as well numerous research grants from NIDA and NIAAA, including a P01 Center on Adaptive Treatment for Alcoholism. Dr. McKay is the author or coauthor of more than 195 peer reviewed journal articles, 22 book chapters, and two books. His work has included evaluations of continuing care treatments for alcohol and cocaine use disorders, development of adaptive interventions for substance use disorders, and use of incentives in SUD treatment. He has been a member of two standing NIH grant review committees and is a fellow of Division 50 of the APA. Dr. McKay received his PhD from Harvard University, completed a clinical psychology internship at McLean Hospital, and a postdoctoral fellowship in treatment outcome research at Brown University.

Richard A. Rawson, PhD

Richard Rawson is a research professor at the Vermont Center for Behavior and Health at the University of Vermont and a professor emeritus at the UCLA Department of Psychiatry. He received a PhD in experimental psychology from the University of Vermont in 1974. Throughout his career, Dr. Rawson conducted numerous clinical trials on pharmacological and psychosocial/behavioral addiction treatments for the treatment of individuals with cocaine and methamphetamine use disorders. He has represented the US at numerous international meetings on methamphetamine and has led addiction research and training projects for the United Nations, the World Health Organization, and the U.S. State Department, exporting science-based knowledge to many parts of the world. He currently is providing consultation on treatment of stimulant use disorder to eight US states and several international projects. Dr. Rawson has published three books, 40 book chapters, and more than 250 peer-reviewed articles, and has conducted many workshops, paper presentations, and training sessions.

Megan E. Roberts, PhD

Megan Roberts is an assistant professor in the Division of Health Behavior and Health Promotion at The Ohio State University College of Public Health. Her research focuses on tobacco use among historically marginalized populations, particularly adolescents and young adults, racial/ethnic minorities, and individuals living in rural areas. The aim is to better understand the factors that contribute to tobacco initiation and tobacco-related disparities as well as how such factors can be targeted for prevention. Broadly informed by the socioecological model, Dr. Roberts' work considers factors at many levels of analysis, including those at the individual, interpersonal, and community/environmental level. Much of her research focuses on tobacco regulatory science at the local, state, and federal level, such as retailer licensing and Tobacco 21. Her research methods include longitudinal surveys, ecological momentary assessment (EMA), focus groups, and community mapping. Dr. Roberts received her BA from Cornell University and her PhD in psychology from Dartmouth College in 2012.

Stacey C. Sigmon, PhD

Stacey Sigmon is a professor in the University of Vermont's Department of Psychiatry with a secondary appointment in psychological science and is a faculty member at the Vermont Center on Behavior and Health. She has conducted behavioral pharmacology and clinical substance use disorder research for nearly three decades, with a primary focus aimed at developing more efficacious treatments for opioid use disorder (OUD). She also conducts research leveraging behavioral economic principles to develop smoking cessation interventions in challenging groups of people who smoke, particularly those with co-occurring vulnerabilities such as OUD and other substance use disorders. Dr. Sigmon is the director of one of three national Rural Centers of Excellence on Substance Use Disorders, funded by HRSA, the UVM Center on Rural Addiction, dedicated to disseminating science-based treatments and tools to expand treatment capacity and reduce opioid-related morbidity and mortality in the rural areas so disproportionately impacted by the current opioid epidemic. Dr. Sigmon also served as director of Vermont's first and largest opioid treatment clinic, which currently serves 1,000 patients with OUD; as president of the American Psychological Association's Division on Psychopharmacology; and president of The College on Problems of Drug Dependence (CPDD), the oldest and largest organization dedicated to advancing the scientific study of substance use. She has served as the primary mentor and advisor for thirteen pre- and post-doctoral fellows, one junior faculty, and as a member or chair of twenty thesis and dissertation committees.

Cecelia "Cece" Spitznas, PhD

Cecelia "Cece" McNamara Spitznas is a Senior Policy Analyst in the Office of National Drug Control Policy's (ONDCP) National Opioids and Synthetics Coordination Group (NOSCG), a component of the Executive Office of the President. She provides policy analysis and scientific advice to the ONDCP Director and Chief of Staff and on special matters concerning public health related issues. She is ONDCP's subject matter expert on Prescription Drug Monitoring Programs, decreasing barriers to Medication Assisted Treatment for opioids, policies to reduce the negative consequences of prescribed and illicit opioids, including those to address neonatal abstinence syndrome, over prescription, alternatives to opioids for pain management and messaging to user populations on overdose prevention. She also helps to develop legislative responses to problems of national scope, particularly on prescription drugs, heroin and fentanyl, and provides advice concerning regulatory matters having to do with public health and opioids. From 2000-2012, Dr. Spitznas was a program official at the National Institute on Drug Abuse (NIDA), where her research portfolio concerned developing and testing new screening, brief interventions and treatments for people with substance use disorders, including pregnant women, and all forms of illicit drug use by adults, and developing provider training. She received her clinical and research training in psychology at the University of New Mexico and the University of Alabama at Birmingham (UAB) School of Medicine. She worked as a research professor at UAB, conducting research on relapse and treatment for crack cocaine use in homeless cocaine users prior to joining the NIH.

Jennifer W. Tidey, PhD

Jennifer Tidey is associate dean for research and professor of behavioral and social sciences at the Brown University School of Public Health, where she is affiliated with the Center for Alcohol & Addiction Studies (CAAS). She also holds a secondary appointment as professor of psychiatry and human behavior at the Alpert Medical School of Brown University. At CAAS, she is associate director of the NIDA T32 training program and director of the CAAS Laboratory. She is a deputy editor for the journal Nicotine & Tobacco Research and serves on the editorial board for Experimental and Clinical Psychopharmacology. Trained as a behavioral pharmacologist at Tufts University, Dr. Tidey completed postdoctoral training at Harvard University and the University of Vermont before joining CAAS in 1999. The goals of her research are to identify mechanisms underlying the high rates of tobacco dependence in priority populations, and to develop effective smoking cessation interventions for these individuals. She currently conducts research in tobacco regulatory science, the aim of which is to provide the FDA with information it needs to make regulatory decisions about tobacco products, with the goal of improving public health.

Earn an Additional CME/CE Credit Through the UVM Center on Rural Addiction

The UVM Center on Rural Addiction (CORA) has developed a Contingency Management Training Video (45 minutes) that can be taken as a course for 1 CME/CE credit. This video highlights:

- Why providers should consider CM with their patients who struggle with substance use
- The evidence that supports the use of CM
- The most important steps and considerations for using CM and resources available through UVM CORA to help support these efforts
- We invite you to view the Contingency Management Provider Training video.

uvmcora.org

uvmcm.modernepic.net

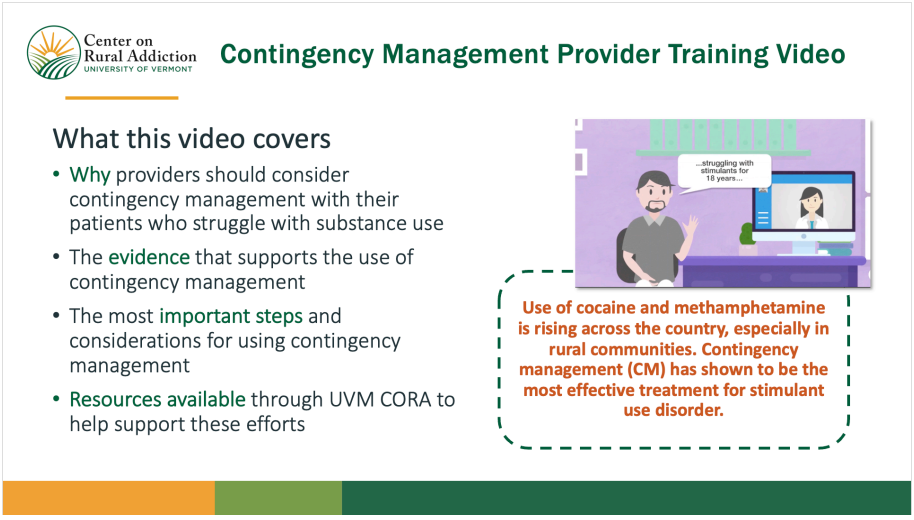
If you are interested in receiving CME/CE credit for the viewing session, please review instructions to access our learning management system. If you already have an account, log in and search UVM CORA Contingency Management Provider Training Video.

go.uvm.edu/cmhowto

highmarksce.com/uvmmed/

You may also view the non-interactive version of the video; this version does not qualify for CME credit.

youtu.be/4cc1VbeUzqk



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