



Vermont Center on
Behavior & Health
The University of Vermont

YEAR IN REVIEW 2016-2017



From The Director



I am delighted to share our latest accomplishments through the 2016-2017 Year in Review. Research at the Vermont Center on Behavior and Health, which includes the UVM Center of Tobacco Regulatory Science (TCORS) and the UVM Center of Biomedical Research Excellence (COBRE), utilizes the principles of behavioral economics and behavioral pharmacology with a special interest in health disparities and vulnerable populations.

As the subsequent pages will attest, we are making great strides toward our mission of becoming a center of research excellence committed to investigating relationships between personal behavior patterns and risk for chronic disease and premature death.

Our studies surrounding unhealthy behavior – tobacco use, physical inactivity and prescription opioid abuse – are impacting scientific understanding and potential clinical treatments of these pressing and expensive public health problems. In the last year alone, our investigators have published more than 50 papers in these subject areas.

To further disseminate the latest research on managing these critical national issues, we collaborate annually with accomplished policy makers and scientists on a special issue of Preventive Medicine, which is published based on selected proceedings from our annual conference.

In addition to our national efforts, we are working on solutions to specific local matters of addiction. We currently are working with the Vermont Department of Health to develop a methodology for measuring and monitoring the size of the opioid user population in the state. Also notable is the fact that some of our investigators have traveled as far as Central America and the Middle East to study behavior and health and, in turn, share their research studies with international colleagues.

In the coming years, and in keeping with our mission, the VCBH intends to increase scientific understanding of the mechanisms underpinning risk behaviors and to create more effective interventions to promote behavior change, especially among the most vulnerable populations. Keep up with our progress on the VCBH website: www.med.uvm.edu/behaviorandhealth.

Sincerely,

Stephen T. Higgins, Ph.D.
Director, Vermont Center on Behavior and Health
Vice Chair, UVM Department of Psychiatry
Virginia H. Donaldson MD '51 Endowed Professor of Translational Science



Year in Review 2016–2017

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5th Annual Behavior & Health Conference

Tobacco Regulatory Science Brings Leading Researchers to Vermont



Stephen Higgins, Ph.D.

The theme of the 2017 Annual Behavior & Health Conference is Tobacco Regulatory Science, with particular focus on vulnerable populations. Regulating the nicotine content of cigarettes and other products is an important responsibility of the FDA that has tremendous potential to reduce smoking prevalence and improve public health. Scholars from leading universities and medical centers share their research and knowledge throughout the 2-day program, October 5-6.

2017 Keynote Speaker: Mitch Zeller, J.D., Director, FDA Center for Tobacco



Mitch Zeller, J.D.

Mitch Zeller, J.D., became director of the U.S. Food and Drug Administration's (FDA) Center for Tobacco Products (CTP) in March 2013. The mission of CTP—established by enactment of the 2009 Family Smoking Prevention and Tobacco Control Act—is “to make tobacco-related death and disease part

of America's past, not America's future, and, by doing so, ensure a healthier life for every American family.”

“Today, FDA has an unprecedented opportunity to use the new tools in the Tobacco Control Act,” Zeller said. “Product regulation is a powerful component of a comprehensive strategy to reduce the death and disease from tobacco use. We will marshal the science to support new policies to help combat the leading cause of preventable disease and death in the United States,” he added.

Mr. Zeller, a graduate of Dartmouth College and the American University Washington College of Law, has been working on FDA issues for more than 30 years. He began his career as a public interest attorney in 1982 at the Center for Science in the Public Interest (CSPI). In 1988, Mr. Zeller left CSPI to become counsel to the Human Resources and Intergovernmental Relations Subcommittee of the House of Representatives Government Operations Committee where he conducted oversight of enforcement of federal health and safety laws.

2017 PROGRAM Topics/Speakers

**Subject to change. See conference program online for complete schedule.*

OCTOBER 5 8 A.M. – 6 P.M.

Panel on Very Low Nicotine Content Cigarettes

■ Reduced Nicotine Content Cigarettes and Use of Alternative Nicotine Products

Dorothy K. Hatsukami, Ph.D., Co-Director, Center for the Evaluation of Nicotine in Cigarettes, Forster Family Chair in Cancer Prevention, Professor of Psychiatry, Associate Director, Cancer Prevention and Control, Masonic Cancer Center (MCC)

■ Main Effects & Moderators of Nicotine Content on Smoking Rate & Nicotine Dependence

Eric C. Donny, Ph.D., Co-Director, Center for the Evaluation of Nicotine in Cigarettes, Professor, Department of Physiology and Pharmacology, Baptist Cancer Center, Wake Forest

■ Nicotine Content and Addiction Potential of Cigarettes in Vulnerable Populations

Stephen T. Higgins, Ph.D., Director, UVM Tobacco Center of Regulatory Science, Virginia H Donaldson Professor of Translational Science in Psychiatry and Psychological Science, University of Vermont

■ Reduced Nicotine Content Cigarettes in Vulnerable Populations: How Might our Research be Challenged?

Jonathan Foulds, Ph.D., Principal Investigator, Penn State Tobacco Center of Regulatory Science, Professor of Public Health Sciences and Psychiatry, Penn State College of Medicine

SPECIAL EVENT: NIH & FDA FUNDING OPPORTUNITIES FOR EARLY CAREER INVESTIGATORS

Samia D. Noursi, Ph.D., Program Official, Services Branch, Division of Epidemiology, Services and Prevention Research, National Institute on Drug Abuse (NIDA); and Megan J. Schroeder, Ph.D., Lead Pharmacologist, Division of Individual Health Science/ Office of Science, FDA Center for Tobacco Products

Panel on Tobacco Regulatory Science & Vulnerable Populations

■ A Latent Class Analysis of Tobacco Harm Perceptions Among Nationally Representative U.S. Youth

Grace Kong, Ph.D., Investigator, Yale Tobacco Center of Regulatory Science, Assistant Professor of Psychiatry, Yale School of Medicine

■ Co-occurring Vulnerabilities in Young Adult

Andrea C. Villanti, Ph.D., Associate Director, UVM Tobacco Center of Regulatory Science, Associate Professor of Psychiatry, University of Vermont

■ Smoking Among Women of Reproductive Age

Sarah H. Heil, Ph.D., Project Principal Investigator, UVM Tobacco Center of Regulatory Science, Associate Professor of Psychiatry and Psychological Science, University of Vermont

■ Effects of Reduced Nicotine Content Cigarettes in Smokers with Mental Health Conditions

Jennifer W. Tidey, Ph.D., Project Principal Investigator, UVM Tobacco Center of Regulatory Science and Center for the Evaluation of Nicotine in Cigarettes, Professor of Psychiatry and Human Behavior, and Behavioral and Social Sciences, Brown University

■ Smoking among opioid-dependent individuals: Nicotine reinforcement, withdrawal, and response to interventions

Stacey C. Sigmon, Ph.D., Project Principal Investigator, UVM Tobacco Center of Regulatory Science, Associate Professor of Psychiatry and Psychological Science, University of Vermont

FRIDAY, OCTOBER 6 8 A.M. – 2 P.M.

Panel on Challenges/ Potential Benefits of Facilitating Substitution of Non-combustible Products for Conventional Cigarettes Among Persistent Cigarette Smokers

■ Harm Minimization and Tobacco Control: Reframing Societal Views of Nicotine Use to Rapidly Save Lives

David B. Abrams, Ph.D., Professor, NYU College of Global Public Health, New York University

■ Relative Health Risks of Conventional Cigarettes versus e-Cigarettes

Neal Benowitz, M.D., Core Director and Investigator, UCSF Tobacco Center of Regulatory Science, UCSF Tobacco Center of Regulatory Science, Professor of Medicine and Bioengineering & Therapeutic Sciences, University of California, San Francisco

■ Changing Perceptions of the Relative Harm of e-Cigarettes and Other Tobacco Products in the U.S. Population

Michael Eriksen, Sc.D., Director, Georgia State University Tobacco Center of Regulatory Science, Dean & Regents Professor, School of Public Health, Georgia State University

■ Relative Nicotine Dependence Risk of Conventional and Electronic Cigarettes

John R. Hughes, M.D., Associate Director, UVM Tobacco Center of Regulatory Science, Professor, Departments of Psychiatry, Psychological Science, and Family Medicine, University of Vermont

■ The Role of Economics in Determining Product Use

Jidong Huang, Ph.D., Associate Professor, Division of Health Management and Policy, School of Public Health, Georgia State University

■ Experimental Tobacco Marketplace: Substitutability of e-Cigarette and Conventional Cigarettes

Warren K Bickel, Ph.D., Inaugural Holder, Virginia Tech Carilion Behavioral Health Research Professorship, Director, Addiction Recovery Research Center, Professor of Psychiatry and Behavioral Medicine, Virginia Tech Carilion School of Medicine, and Psychology, Virginia Tech University

■ Use of e-Cigarettes Among Pregnant and Non-Pregnant Women of Reproductive Age

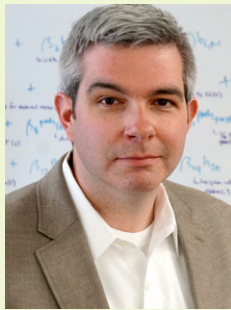
Allison N. Kurti, Ph.D., Investigator, UVM Tobacco Center of Regulatory Science Assistant Professor of Psychiatry, Vermont Center on Behavior and Health, Department of Psychiatry, University of Vermont

■ Electronic Cigarette Use Among Individuals with Mental Illness

Mollie E. Miller, Ph.D., Postdoctoral Research Associate, Brown University, Center for Alcohol and Addiction Studies

■ Searching for Something Safer? Risk Perception and Use of E-Cigarettes Among those who have had a Cardiac Event

Diann E. Gaalema, Ph.D., Project Site Principal Investigator, UVM Tobacco Center of Regulatory Science, Assistant Professor, Departments of Psychiatry and Psychological Science, University of Vermont



COBRE PROJECT DIRECTORS

Thomas Ahern, Ph.D., Assistant Professor, Department of Surgery, Measuring the Impact of Lifestyle and Behavior on Breast Cancer Incidence in High-risk Women



Diann E. Gaalema, Ph.D., Assistant Professor, Departments of Psychiatry and Psychology, *Incentives to Improve Cardiac Rehabilitation Participation in Low-income Patients*; Mentors: Philip Ades, M.D., and Stephen T. Higgins, Ph.D.



Allison Kurti, Ph.D., Assistant Professor, Department of Psychiatry, Smartphone-based Financial Incentives to Promote Smoking Cessation among Pregnant Women



Thomas Longden, Ph.D., Assistant Professor, Department of Pharmacology, The Effects of Stress on Capillary-to-arteriole Communication in the Brain



Andrea C. Villanti, Ph.D., Associate Professor, Departments of Psychiatry and Psychology, *Improving Smoking Cessation in Socioeconomically Disadvantaged Young Adults*; Mentor: Stephen T. Higgins, Ph.D.

Thomas Ahern, Ph.D.

COBRE The Center of Biomedical Research Excellence

Our Center of Biomedical Research Excellence (COBRE) project is funded by the NIH's National Institute on General Medical Sciences (NIGMS). The project focuses on investigating relationships between personal behaviors and risk for chronic disease and premature death. Unhealthy personal behaviors (e.g., substance abuse, physical inactivity) account for 40% of premature deaths in the U.S. annually and substantially increase healthcare costs and health disparities.

There is a tremendous need for (a) greater scientific understanding of the mechanisms underpinning vulnerability to these risk behaviors and (b) more effective interventions to promote behavior change. We approach these challenges using the concepts, principles, and methods of behavioral economics and behavioral pharmacology. This effort involves key interdisciplinary collaborations (a) across multiple academic departments and colleges within UVM, (b) with key Vermont community healthcare leaders, and (c) with other universities, including Brown University and University of Kentucky.

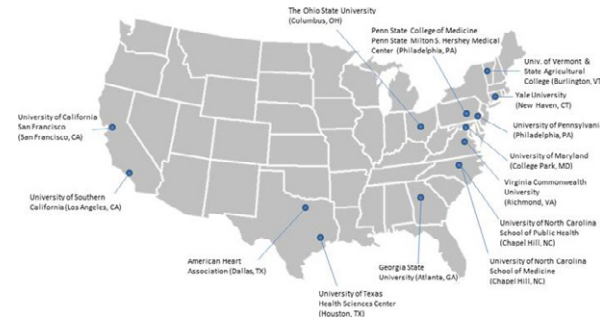
An overarching priority of our COBRE project is to support the selection and career development of excellent UVM junior faculty (see sidebar). We support and mentor a maximum of five junior faculty projects at any one time. The COBRE junior faculty, referred to as Project Directors (PDs), receive generous research funding and mentoring by senior faculty with the overarching goal of having them succeed in obtaining their first NIH independent research grant (R01 or equivalent).



Former COBRE Project Director **Brian Sprague, Ph.D.**, has completed his study on "Behaviors, Chronic Disease, and Quality of Life After Ductal Carcinoma in Situ," and earned an R01 grant to further his research. He remains in collaboration with the VCBH as Senior

Epidemiologist. Sprague is an associate professor in the Department of Surgery at UVM's Larner College of Medicine.

TCORS The UVM Center on Tobacco Regulatory Science



The UVM Tobacco Center on Regulatory Science (TCORS) is one of fourteen such centers in the U.S. that are supported through a cooperative agreement of the National Institutes of Health (NIH) and Food and Drug Administration (FDA). The Family Smoking Prevention and Tobacco Control Act has given the federal government (i.e., FDA) the authority to bring science-based regulation to the manufacturing, marketing and distribution of tobacco products. UVM and the other TCORS centers will provide scientific expertise relevant to the FDA's regulatory mission.

UVM's Center addresses one of the crosscutting and two of the specific research priorities of the U.S. Food and Drug Administration (FDA) Center for Tobacco Products in carrying out its charge of regulating tobacco products. We approach these priorities using the concepts, principles, and methods of behavioral economics and behavioral pharmacology. The center is located at the University of Vermont but works closely with collaborators and consultants from Brown University, Johns Hopkins University, University of Minnesota, and University of Pittsburgh.

Our crosscutting priority is researching tobacco products in vulnerable populations, including women of childbearing age/pregnant women, individuals with comorbid other substance use disorders, and

FORMER VCBH PRE-DOC AWARDED FDA FELLOWSHIP

Mollie Miller, Ph.D., a post-doctoral research associate with UVM TCORS at Brown University, has been awarded a Tobacco Regulatory Science Fellowship at the Food and Drug Administration Center for Tobacco Products, Office of Science. Miller earned her Masters and Doctoral degrees in Experimental Psychology from the University of Vermont, where

RESEARCH SNAPSHOT



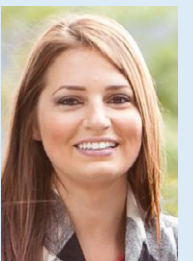
My research broadly focuses on improving health-related behaviors in vulnerable populations. In one large study, we look at the effects of different levels of nicotine in cigarettes among several vulnerable groups including those with depression and anxiety. I lead another large study that examines the use of incentives to improve attendance at cardiac rehabilitation among low socio-economic-status patients. My lab also conducts several other research projects including a multi-site trial examining how tobacco use changes following a major cardiac event and how different demographic and clinical characteristics predict adherence to secondary prevention guidelines.

DIANN E. GAALEMA, PH.D.,
VCBH Assistant Professor, Departments of
Psychiatry and Psychology

individuals with comorbid serious mental illness. Each of these populations is at increased risk for tobacco use and dependence or tobacco-related adverse health outcomes. Yet despite these serious vulnerabilities, these populations are typically excluded from tobacco regulatory studies. For the FDA to effectively execute its tobacco regulatory responsibilities, having sound scientific evidence on how new tobacco products impact vulnerable populations is critically important. Our goal is to assist in providing the FDA with that evidence.

Regarding specific priorities, the Center investigates reducing the addiction potential of cigarettes and other tobacco products by reducing their nicotine content and examines the impact of new products on biomarkers of exposure and health outcomes in vulnerable populations. Regulating the nicotine content of cigarettes and other products is an important responsibility of the FDA that has tremendous potential to reduce smoking prevalence and improve U.S. public health.

she was pre-doctoral fellow. "I am very excited for the CTP fellowship and it's directly in line with where I hope to take my career," Miller says of the award. "I am also able to remain affiliated with TCORS and the tobacco research community."



Third Preventive Medicine Special Issue on Behavior, Health and Health Disparities

To effectively manage the negative impact of cigarette smoking, other substance abuse disorders and obesity on public health, science is increasingly turning to personal behavior change for solutions. To share the latest research on these pressing matters, VCBH Director **Stephen T. Higgins, Ph.D.**, collaborated with experts on a third special issue of the journal Preventive Medicine, which was published in November 2016. “We devoted considerable space to the long-standing challenges of reducing cigarette smoking and use of other tobacco and nicotine delivery products in vulnerable populations, obesity, and food insecurity,” Higgins says. “Effectively promoting health-related behavior change needs to be a key component of health care research and policy. And while these problems extend throughout the population, they disproportionately impact economically disadvantaged populations and other vulnerable populations and represent a major contributor to health disparities.”

VCBH Researcher Participates in Opioid Panel at Clinton Health Matters Summit

On Monday, April 10, President Bill Clinton and three panelists – including VCBH Research Professor **Richard Rawson, Ph.D.** – discussed ways to help “Catalyze Solutions to the Opioid Epidemic.” Dr. Rawson is currently working with the Vermont Department of Health on a “Hub and Spoke Model” for addiction treatment in the state. In his remarks at the Summit with the former President, Rawson said the treatment options out there are effective, but sometimes inaccessible. “Treating this is less complicated than treating diabetes, and it’s less complicated than treating many types of cardiovascular disease and hypertension,” he commented. “They are very effective and they are saving thousands of lives; we just need to get people access to these treatments.”

The sixth annual Health Matters Activation Summit focused on creating health equity in the twenty-first century by exploring both national

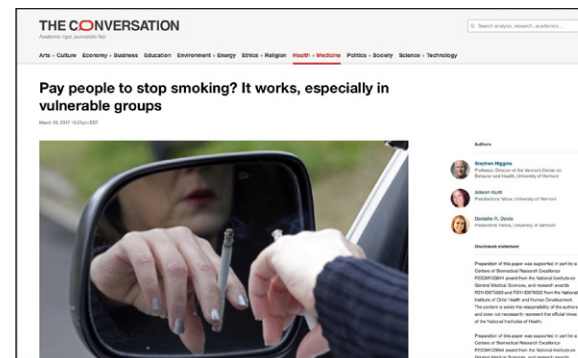
Research on Rising Popularity of Menthol Cigarettes Gains National Attention

Tobacco research done by **Andrea Villanti, Ph.D.**, faculty member with the VCBH and an associate professor in UVM’s Department of Psychiatry, is the subject of an article, “Menthol Cig Use Rising in U.S., Especially Among Young,” in the October 17 edition of MedPage Today, The Gupta Guide. Villanti’s study, done with colleagues at the Schroeder Institute for Tobacco Research and Policy Studies, found that more young adult smokers reported favoring menthol cigarettes over the non-menthol kind. Their paper entitled, “Changes in the prevalence and correlates of menthol cigarette use in the USA, 2004–2014,” was recently published in Tobacco Control.



efforts and community-led solutions. Discussions and networking sessions also highlighted opportunities and innovations in health advancement with the country’s leading experts. The Summit took place at the Clinton Presidential Center in Little Rock, Arkansas.

VCBH Investigators Collaborate on “Pay People to Stop Smoking?” Article for The Conversation



VCBH Director **Stephen T. Higgins, Ph.D.**, collaborated with Assistant Professor **Allison Kurti, Ph.D.**, and pre-doctoral fellow **Danielle Davis** on an article for The Conversation about the efficacy of financial incentives, in the form of vouchers, to promote smoking cessation and other health-related behavior change, especially among vulnerable populations. “*Pay People to Stop Smoking? It Works, Especially in Vulnerable Groups*,” has since been picked up by multiple national media outlets including Salon.com. Considering that cigarette smoking still kills about 480,000 people in the U.S. annually and five million globally, Higgins explains that “financial incentives to decrease smoking merits serious consideration.” The Conversation article was based on a paper, “*Financial Incentives for Reducing Smoking and Promoting Other Health-Related Behavior Change in Vulnerable Populations*,” also co-written by Higgins, Kurti and Davis, in Policy Insights from the Behavioral and Brain Sciences.

Vaping & Withdrawal: Exploring Responses to Quitting E-Cigs

“Electronic cigarettes are currently the fastest-growing tobacco harm-reduction product,” says VCBH researcher and Larner College of Medicine Psychiatry Professor **John Hughes, M.D.**, who is leading a new study to determine whether or not stopping e-cigarettes will lead to withdrawal symptoms. Hughes’ lab, in partnership with Battelle Public Health Center for Tobacco Research Laboratory in Baltimore, Md., is in the process of recruiting 120 long-term users of e-cigarettes for the National Cancer Institute-funded study. Screening for participant eligibility is available to Vermont residents through the study’s website.

RESEARCH SNAPSHOT

I am working closely with Diann E. Gaalema, Ph.D., on the COBRE-supported study on incentives to encourage cardiac rehabilitation participation in low socio-economic-status/Medicaid patients. I am also working on a project looking at the value of “high-caloric expenditure exercise” on weight loss maintenance after successful completion of cardiac rehabilitation. Furthermore, I am working with the CDC to analyze the medical benefits of increasing cardiac rehabilitation participation nationally from 20 percent to 70 percent and outlining a “road map” to attain these higher participation rates.



PHILIP ADES, M.D.,
VCBH Associate Director, Professor of
Cardiovascular Medicine

New England Journal of Medicine Publishes Study on Interim Buprenorphine Treatment for Waitlisted Opioid-Dependent Adults

In many areas of the country, opioid-dependent adults desperate for treatment often find themselves stuck on a wait list, sometimes for months, increasing their risk of continued illicit opioid use, infectious disease, overdose and premature death. A full 96 percent of states in the United States have opioid dependence rates that exceed medication-assisted treatment availability. **Stacey Sigmon, Ph.D.**, an addiction research expert with the VCBH, recently completed a NIDA-funded randomized clinical trial to test a novel “Interim Buprenorphine Treatment” (IBT) regimen for waitlisted opioid-dependent adults. That study demonstrated the initial feasibility and efficacy of IBT in reducing illicit opioid use and related risk behaviors during treatment delays. The results debuted in the New England Journal of Medicine on December 22, 2016 and appeared in newspapers across the United States thanks to media coverage by the chief medical writer at the Associated Press. NEJM metrics show that nearly 20,000 readers have reviewed Sigmon’s study.

VCBH Director Bestowed National 2017 Mentorship Award by CPDD



VCBH Director **Stephen T. Higgins, Ph.D.**, was honored with the 2017 Mentorship Award from the College on Problems of Drug Dependence during the organization's annual conference in Montreal in June. This award, established in 2000, is given annually to a member of CPDD who has been an exemplary mentor to developing researchers in the field of drug dependence. In their commendation of Dr. Higgins, the award committee said they "admired the impressive caliber of scientists" he'd trained over the course of his career. "We were especially impressed with the admiration and warm respect that were expressed in the supporting letters," they added. "Your many contributions to the field of substance abuse research are deeply respected by the committee, as is your service to the College and its members. In short, we believe that you perfectly embody the ideals captured in the CPDD Mentorship Award."

Mayo Clinic Proceedings' Article Depicts Ways to Substantially Increase Cardiac Rehab Participation

More than two million Americans experience some type of a cardiac event every year. Whether they've had a heart attack or coronary revascularization procedure, such as bypass surgery or coronary stent placement, doctors typically recommended these patients participate in Cardiac Rehabilitation (CR) as outpatients. Despite the proven benefits of increased longevity and reduced hospitalizations with CR, only 20 to 30 percent of eligible patients actually participate. An article published online, November 14, 2016, in Mayo Clinic Proceedings by lead author **Philip Ades, M.D.**, associate director of the VCBH, identifies ways to increase participation rates to at least 70 percent among eligible patients: an outcome that, if adopted nationwide, could save 25,000 lives and reduce hospitalizations by 180,000 annually.



VCBH Investigator Earns Top College of Medicine Research Award

More than 150 faculty, trainees and staff of UVM's Larner College of Medicine, attended the inaugural Dean's Excellence in Research Awards event, titled "Celebrating Excellence in Research," on November 1, 2016. During the event, Senior Associate Dean for Research **Gordon Jensen, M.D., Ph.D.**, announced that **Sarah Heil, Ph.D.**, VCBH investigator and associate professor of psychiatry, was the winner of the first-ever "Mid-Career Investigator" award.



Highlighted Research Grant Award

Stacey C. Sigmon, Ph.D., received a \$3.7 million grant from the National Institute of Drug Abuse to continue the development and evaluation of a novel Interim Buprenorphine Treatment that leverages pharmacotherapy, state-of-the-art technology and rigorous methodology to bridge existing delays in treatment access.



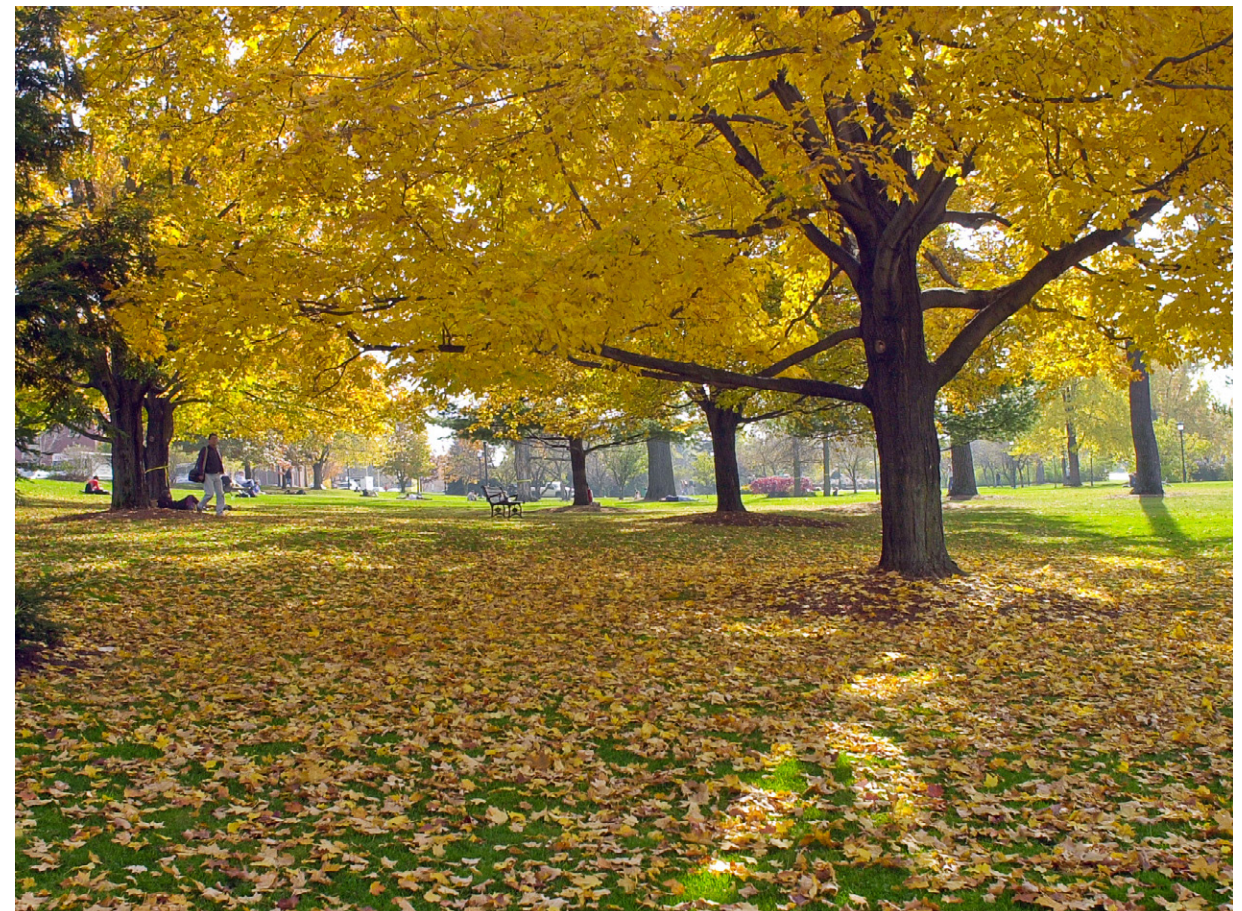
"In an initial R34 randomized pilot study, we demonstrated reductions in illicit opioid use and risk behaviors among waitlisted opioid abusers receiving IBT. This project will seek to replicate those highly promising initial results while simultaneously evaluating generality of our findings to additional rural settings outside our single UVM academic medical center."

RESEARCH SNAPSHOT



We have recently completed studies of whether a) reducing cigs/day without using NRT prompts new quit attempts, b) smoking cessation makes non-drug rewards less rewarding, c) larger amounts of reduction in cigs/day increase the probability of a quit attempt, d) continuing nicotine patches after a lapse reduces the likelihood of a relapse, e) study characteristics influence the estimate of the effectiveness of medications for smoking cessation, f) number of cigs/day varies much in smokers, and g) empathy, working alliance and beliefs about nicotine addiction mediate the effects of behavioral treatments for smoking cessation.

JOHN R. HUGHES, M.D.,
TCORS Associate Director, Professor, Departments
of Psychiatry and Psychological Sciences



My research focuses on nicotine reduction among smokers not ready to quit. Most recently, I have examined the effectiveness of a brief reduction intervention, the dose-response relationship between reducing cigarettes/day and quitting, and mechanisms that mediate reduction's effectiveness. I am currently conducting my dissertation: a randomized trial to test reducing cigarettes per day versus switching to very low nicotine content cigarettes.



Elias Klemperer,
T32 Predoctoral Fellow

My current research involves promoting cigarette smoking cessation among socioeconomically disadvantaged pregnant women. As part of this research, I am investigating the utility of the Cigarette Purchase Task (CPT) in characterizing demand for cigarettes for this population.



Tyler Nighbor, Ph.D.,
T32 Postdoctoral Fellow



As a third year Postdoctoral fellow at the University of Vermont, I am working on a randomized comparative effectiveness trial using incentives to promote smoking cessation in disadvantaged mothers of young children. I am also currently leading a manuscript examining the use

of home smoking bans over the antepartum and postpartum period among pregnant smokers and the association of smoking bans with nicotine exposure, birth outcomes, and smoking abstinence.

Diana Keith, Ph.D.,
T32 Postdoctoral Fellow

Using nationally representative data, I am currently working on a project that examines nicotine dependence in smokers who are opioid dependent as well. I have also been doing some secondary analyses based on our recently completed Interim Buprenorphine Treatment pilot study.



Maria Parker, Ph.D.,
TCORS Postdoctoral Fellow



I am currently investigating smoking cessation and psychiatric comorbidities in pregnant and newly postpartum women. This includes examining the impact of our financial incentives treatment on psychiatric symptomatology in addition to examining behavioral economic measures that may capture individual smoking

characteristics that make quitting more difficult for some women.

Ivori Zvorsky,
T32 Predoctoral Fellow

I am interested in substance use disorders and women's reproductive health. More specifically, I am interested in family planning, contraceptive use, and pregnancy outcomes among women who smoke and among women who receive medication-assisted treatment for opioid use disorder.



Heidi Melbostad,
T32 Predoctoral Fellow

My research involves studying the effects of low-nicotine content cigarettes on the structural and functional neurobiology of individuals from vulnerable populations.



Philip Spechler,
TCORS Predoctoral Fellow

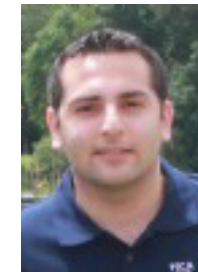


As a fourth year graduate student, I am currently investigating how smoking and related behaviors are affected by reducing nicotine content in cigarettes in populations especially vulnerable to smoking. Specifically, I've been investigating the interaction between mentholation and nicotine content. In addition

to this work, I've been investigating the impact that smoking during pregnancy has on food reinforcement using an operant choice task.

Danielle Davis,
TCORS Predoctoral Fellow

My research aims to assess the neural and genetic correlates of drug use and psychiatric diseases in adolescents. It also examines the impact of very low nicotine content cigarettes on the brain in the vulnerable. The novel findings provide a better understanding of the neurobiological mechanisms underlying drug dependence and psychiatric diseases.



Bader Chaarani, Ph.D.,
TCORS Postdoctoral Fellow

RESEARCH SNAPSHOT

During the past 12 months, I have been leading a team conducting an evaluation of the Vermont hub and spoke system of opioid dependence treatment with funding from the Vermont Department of Health. Our team has traveled throughout the state and collected data and conducted interviews with over 100 patients who are in treatment in hubs and spokes and with 30 individuals addicted to opioids who are out of treatment. This activity, together with my participation in numerous community, state and national meetings/trainings on opioid addiction policy, represents the dissemination core of the Vermont Center on Behavior and Health.

RICHARD RAWSON, PH.D.,
*VCBH, Research Professor,
Department of Psychiatry*



My primary area of research has focused on novel/alternative tobacco products. Most recently I have examined rates and predictors of awareness, perceived harmfulness, and ever use of e-cigarettes among US adults. In a separate line of research, I have investigated the use of alternative tobacco products among cardiac patients.



Irene Pericot-Valverde, Ph.D.,
TCORS Postdoctoral Fellow



As a fourth year clinical psychology doctoral student working with Stacey Sigmon, my research interests are in better understanding different problematic health behaviors including tobacco and opioid abuse. I work on projects related to the intersection between substance use and

psychopathology and tobacco regulatory science-focused projects examining different harm reduction strategies.

Joanna Streck,
TCORS Predoctoral Fellow

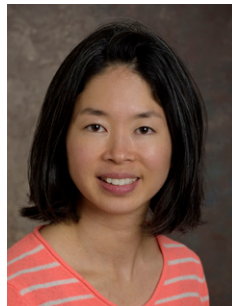
Assistant Professor Studies Respiratory Health in Belize



Allison Kurti, Ph.D., who joined the VCBH as an assistant professor after completing her post-doctoral fellowship with UVM, recently participated in a service trip to establish mobile medical clinics in and around San Ignacio, Belize. In addition to providing care, the clinics are conducting a field study on air-pollution exposure and the influence of lifestyle on respiratory health and lung function in local adults and children. Kurti joined her sister Stephanie, a human ecologist, on the expedition. “I enjoyed the opportunity to conduct health-related research internationally, in a topic area that was new to me, and with my sister as a collaborator,” Kurti says. The sisters collaborated with other colleagues from the project on a paper, “Air pollution exposure and influence of lifestyle on respiratory health and lung function in Belizean adults and children: A field study,” published in the *International Journal of Environmental Research and Public Health*.

Former VCBH Postdoc Studies Breastfeeding Incentives with Puerto Rican Mothers

A study on “Incentive-based Intervention to Maintain Breastfeeding Among Low-income Puerto Rican Mothers,” by former VCBH post-doc fellow **Yukiko Washio, Ph.D.**, (now the Director of Implementation and Clinical Research in the Department of Obstetrics and Gynecology at the University of Delaware), found that cash incentives significantly increased breastfeeding through 6-month postpartum among WIC-enrolled Puerto Rican mothers. *Pediatrics* published Washio’s paper, co-authored by VCBH Director Stephen T. Higgins, Ph.D., in the February 2017 issue. *Reuters Health* featured Washio’s results in an article entitled, “Cash May Get More Mothers to Breastfeed Babies,” on Feb. 6.



Lecture Series

Monthly Lecture Series Brings National Behavior & Health Experts to UVM

The VCBH Lecture Series is a monthly event that brings national and international scholars in the area of behavior, neurobiology, tobacco regulatory science, and health to UVM’s Larner College of Medicine. The invited guest spends a day visiting with VCBH student trainees and faculty members, in addition to giving a public lecture. Speakers for 2016-2017 included: Steve Keteyian Ph.D., Henry Ford Hospital; Brad Appelhans, Ph.D., Rush University; Michael Toth, Ph.D., UVM Larner College of Medicine; Holly Hagan, Ph.D., New York University; Gordon Jensen, Ph.D., M.D., UVM Larner College of Medicine; Elise Weerts, Ph.D., Johns Hopkins University; Neal Cohen, Ph.D., University of Illinois at Urbana-Champaign.

Local Health

Gaalema Gives Keynote at Heart Association’s “Go Red for Women” Lunch

Diann Gaalema, Ph.D., VCBH researcher and UVM assistant professor of psychiatry and psychology, gave the keynote address at the American Heart Association’s 10th Annual Vermont Go Red for Women Luncheon in October 2016. Gaalema spoke on “Behavior Change after Major Cardiac Events: Struggles & Strategies.”



VCBH Researchers Studying, Addressing Vermont’s Opioid Crisis

Rick Rawson, Ph.D., a research professor with the VCBH, is collaborating with the Vermont Department of Health on the nature and extent of the opioid problem in Vermont. *VT Digger* online news reported on the partnership in “Researcher Aims to Give State New Tools to Fight Opiate Crisis,” by Rutland-based journalist Adam Federman. “Rawson cites two key epistemological challenges facing the state. The first is figuring out how many people are dependent on opiates, for which he says there is no solid data. The second is taking a close look at the treatment methods being used and determining if they’re working,” the article details.

RESEARCH SNAPSHOT



I am conducting a randomized controlled dismantling trial of an intervention to promote more effective contraceptive use among opioid-maintained women at risk for unintended pregnancy. I am also carrying out studies examining the reliability and validity of pupil diameter as a measure of neonatal abstinence syndrome (NAS) in neonates exposed to opioids in utero. Furthermore, I am conducting studies evaluating the effects of very low nicotine content (VLNC) cigarettes in pregnant and non-pregnant women of low socioeconomic status, part of a series of studies being conducted with vulnerable populations in our Center on Tobacco Regulatory Science.

SARAH H. HEIL, PH.D.,

*VCBH, Associate Professor with Tenure,
Departments of Psychiatry and Psychological Sciences*

VCBH Pre-Doc Helps Brings Counseling to Federal Prisoners in Vermont

As part of a pilot program launched by University of Vermont psychologists, VCBH predoctoral fellow Elias Klemperer is providing group and individual counseling to inmates in Vermont. The program seeks to prevent relapse and address the mental health issues that plague many criminal defendants. “They’re in this limbo period where they’re not really sure what their future holds, and that can be a great time to change,” Klemperer told local media source *Seven Days*. “A lot of them have been struggling for a long time. We have this window of opportunity where they themselves are very motivated to show up and engage in treatment.”



Highlighted Publications

The following publications are representative of VCBH faculty research.

Ades PA, Keteyian SJ, Wright JS, Hamm LF, Lui K, Newlin K, Shepard DJ, Thomas R. (2017). Increasing cardiac rehabilitation participation from 20% to 70%: a road map from the Million Hearts Cardiac Rehabilitation Collaborative. *Mayo Clin Proc.* 92(2), 234-242.

Rengo JL, Savage PD, Barrett T, **Ades PA.** Cardiac rehabilitation participation rates and outcomes for patients with heart failure. *J Cardiopulm Rehabil Prev.* 2017 Jun 30.

Bergeria C, Heil SH, Bunn J, **Sigmon SC, Higgins ST.** Comparing smoking topography and subjective measures of usual brand cigarettes between pregnant and non-pregnant smokers. *Nic Tob Res.* 2017 Jun 27.

Mackey S, **Chaarani B, Spechler P,** Orr C, Banaschewski T, Barker G, Bokde ALW, Bromberg U, Büchel C, ... **Althoff RR, Garavan H,** the Imagen Consortium. Brain regions related to impulsivity mediate the effects of early adversity on anti-social behavior. *Biol Psychiatry.* 2017;82(4), 275-282.

Davis DR, Kurti AN, Skelly JN, Redner R, White TJ, **Higgins ST** (2016) A review of the literature on contingency management in the treatment of substance use disorders, 2009-2014. *Prev Med.* 2016;92, 36-46.

Savage PD, **Dittus K,** Lakoski SG. Fitness during breast cancer treatment and recovery in an athlete: a case study. *Med Sci Sports Exerc.* 2016;48(10), 1893-7.

Gaalema DE, Elliott R, MorfordZH, **Ades PA Higgins, ST.** Effect of socioeconomic status on propensity to change risk behaviors following myocardial infarction: implications for healthy lifestyle medicine. *Prog Cardiovasc Dis.* 2017;60(1), 159-168

Gaalema DE, Savage P, Rengo J, Cutler A, Elliott R, Priest J, **Ades PA, Higgins ST.** Patient characteristics predictive of cardiac rehabilitation adherence. *J Cardiopulm Rehab Prev.* 2017;37(2), 103-110

Higgins ST, Davis DR, Kurti AN. Financial incentives for reducing smoking and promoting other health-related behavior change in vulnerable populations. *Policy Insights from the Behavioral and Brain Sciences,* 2017;4(1), 33-40.

Higgins ST, Heil SH, Sigmon SC, Tidey JW, Gaalema DE, Hughes JR, Stitzer ML, Durand H, Bunn JY, Priest JS, **Arger CA,** Miller ME, **Bergeria CL, Davis DR, Streck JM, Skelly JM,** Tursi L. Addiction potential of reduced nicotine content cigarettes in populations with psychiatric disorders and other vulnerabilities to tobacco addiction. *JAMA Psychiatry.* In press.

Higgins ST, Reed DR, Redner R, Skelly JM, **Zvorsky I, Kurti AN.** Simulating demand for cigarettes among pregnant women: A low-risk method for studying vulnerable populations. *J Exp Anal Behav.* 2017;107(1),176-190.

Klemperer EM, Hughes JR, Callas PW, Solomon LJ. A mediation analysis of motivational, reduction, and usual care interventions for smokers who are not ready to quit. *Nicotine Tob Res.* 2017 Feb 9.

Klemperer EM, Hughes JR, Solomon LJ, Callas PW, Fingar JR. A randomized controlled trial of motivational and reduction interventions for smokers who are not ready to quit. *Addiction.* 2017

Kurti AN, Redner R, Lopez AA, **Keith DR,** Stanton CA, **Gaalema DE,** Bunn J, Doogan NJ, Cepeda-Benito A, Roberts ME, **Phillips J, Higgins, ST.** Tobacco and nicotine delivery product use in a national sample of pregnant women. *Prev Med.* 2017 Aug 5.

Matusiewicz AK, **Melbostad HS, Heil SH.** Potential barriers to long-acting reversible contraception use among opioid-maintained women. *Contraception.* In press.

Phillips JK, Higgins ST. Applying behavior change techniques to weight management: impact on perinatal outcomes. *Prev Med.* 2017 July 28.

Phillips JK, King SE, Bernstein IM, Skelly J, **Higgins ST.** Associations of maternal obesity and smoking status with perinatal outcomes. *J Matern Fet Neonat Med.* 2017;24, 1-17.

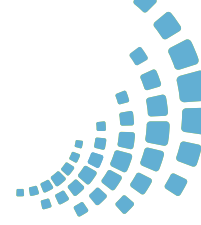
Sigmon SC. Additive burdens of malnutrition, poverty and substance abuse. *Lancet.* 2016;388, 1879-1880.

Sigmon SC, Ochalek T, Meyer A, Hruska B, **Heil SH,** Badger GJ, Rose G, Brooklyn JR, Schwartz RP, Moore BA, **Higgins ST.** Interim buprenorphine vs. waiting list for opioid dependence. *N Engl J Med.* 2016;375(25), 2504-2505

Tidey JW. A behavioral economic perspective on smoking persistence in serious mental illness. *Prev Med.* 2016;92, 31-35.

Tidey JW, Cassidy RC, Miller ME, Smith TT. Applications of behavioral economic laboratory procedures to tobacco regulatory science. *Tob Regul Sci.* 2016;2(4), 440-451.

Villanti AC, Johnson AL, Rath JM. Beyond education and income: Identifying novel socioeconomic correlates of cigarette use in U.S. young adults. *Prev Med.* 2017 Jun 21



List of 2016–2017 Publications

The following list represents VCBH publications from September 2016 to October 2017. They are listed in alphabetical order by first VCBH author.

Ades, PA, & Savage PD. Obesity in coronary heart disease: an unaddressed behavioral risk factor. *Preventive Medicine. Prev Med.* 2017 Apr 13.

McMahon SR, **Ades PA,** Thompson PD. The role of cardiac rehabilitation in patients with heart disease. *Trends Cardiovasc Med.* 2017 Feb 15.

Rengo JL, Savage PD, Shaw JC, **Ades PA.** Directly measured physical function in cardiac rehabilitation. *J Cardiopulm Rehabil Prev.* 2017 Mar.

Jordan P, Rescorla LA, **Althoff RR,** Achenbach TM. International comparisons of the youth self-report dysregulation profile: latent class analyses in 34 societies. *J Am Acad Child Adolesc Psychiatry.* 2016 Dec;55(12), 1046-1053.

Arger CA, Heil SH, Sigmon SC, Tidey JW, Stitzer ML, **Gaalema DE,** Durand HJ, Bunn JY, Ruggieri EK, **Higgins ST.** Preliminary validity of the modified Cigarette Evaluation Questionnaire in predicting the reinforcing effects of cigarettes that vary in nicotine content. *Exp Clin Psychopharmacol.* In press.

RESEARCH SNAPSHOT



My current research has two areas of focus. I have a clinical opioid research program with the overarching goal of developing and evaluating more efficacious treatments for opioid dependence. Most recently, I completed a NIH-funded randomized trial demonstrating the efficacy of an interim buprenorphine dosing regimen for reducing illicit opioid use, injection drug use and related risk behaviors in waitlisted opioid abusers. The outcomes from this study were published in The New England Journal of Medicine. I also have a longstanding research interest aimed at leveraging behavioral economic principles to support healthy behaviors, especially among disadvantaged populations. Currently this involves tackling cigarette smoking among the challenging population of opioid-dependent patients. Finally, I am the Director of Vermont's first and largest opioid treatment program, which currently delivers methadone or buprenorphine maintenance treatment to approximately 1,000 Vermonters.

STACEY C. SIGMON, PH.D.,
VCBH, Associate Professor,
Departments of Psychiatry and Psychology





Bouton ME, Thrailkill EA, **Bergeria CL, Davis DR**. Preventing relapse after incentivized choice treatment: a laboratory model. *Behav Processes*. 2017;141, 11-18.

Albaugh MD, Orr C, **Chaarani B, Althoff RR**, Allgaier N, D'Alberto N, Hudson K, Mackey S, **Spechler PA, ... Garavan H**, Potter AS. Inattention and reaction time variability are linked to ventromedial prefrontal volume in adolescents. *Biol Psychiatry*. 2017 Jan 13.

Chaarani B, Hudson KE, **Spechler PA**, Foxe JJ, Potter A, **Garavan H**. (In Press). The neural basis of response inhibition and substance abuse. In Wiley-Blackwell Handbook of Cognitive Control. Tobias Egner (Ed); Wiley-Blackwell.

Dittus K, Gramling RE, **Ades PA**. Exercise interventions for individuals with advanced cancer: A systematic review. *Prev Med*. 2017 Jul 15.

Gaalema DE, Savage P, Rengo J, Cutler AY, **Ades PA, Higgins ST**. Financial incentives to promote cardiac rehabilitation participation and adherence among Medicaid patients. *Prev Med*. 2016;92, 47-50.

James TA, Kreiger L, Zia A, **Gaalema D**, Jones CA. A practical framework for incentive-based cancer prevention. *Pop Health Manage*. 2016;19, 377-379.

Garavan H, Potter A, Brennan K, Foxe JJ. Neural bases of addiction-related impairments in response inhibition. In Wiley-Blackwell Handbook on the Cognitive Neuroscience of Addiction. Stephen J Wilson (Ed); Wiley-Blackwell. In press.

Quinlan EB, Cattrell A, Jia T, Artiges E, Banaschewski T, Barker G, Bokde ALW, Bromberg U, Büchel C, Brühl R, ... **Garavan H**, et al. Psychosocial stress and brain function in adolescent psychopathology. *Am J Psychiatry*. 2017;174(8), 785-794.

Heil SH, Davis DR, Arger CA, Higgins ST. Contingency management and the community reinforcement approach. In S.C. Miller, D. Fiellin, R.N. Rosenthal, & R. Saitz (Eds.), *The ASAM Principles of Addiction Medicine* (6th ed.). Baltimore, MD: Wolters Kluwer. In press.

Heil SH, Hand DJ, **Sigmon SC**, Badger GJ, Meyer MC, **Higgins ST**. Using behavioral economic theory to increase use of effective contraceptives among opioid-maintained women at risk of unintended pregnancy. *Prev Med*. 2016;92, 62-67.

Herrmann ES, Matusiewicz AK, Stitzer ML, **Higgins ST, Sigmon SC, Heil SH**. Contingency management interventions for HIV, tuberculosis, and hepatitis control among individuals with substance use disorders: A systematized review. *J Subst Abuse Treat*. 2017;72, 117-125.

RESEARCH SNAPSHOT



My lab has completed a study that sought to identify the most robust brain functional differences between current smokers and nonsmokers, and determine if these differences are best detected when smokers have had an overnight abstinence from smoking. The neuroimaging battery indicated that the most robust group differences were in both blood flow and impulse control activation in bilateral inferior frontal regions and these effects were enhanced when smokers were abstinent. An additional substance abuse focus of the last year has been the effects of very low levels of substance exposure. Utilizing longitudinal data from a large study of adolescents, we have studied the effects of very light cannabis, alcohol and cigarette use on brain structure and function and have observed brain changes, some moderated by genes associated with substance use. Our focus on risk factors for adolescent substance use involves developing multi-modal profiles (brain, genetics, personality, cognition) of those at risk.

HUGH GARAVAN, PH.D.

Professor, Departments of Psychiatry and Psychology, VCBH Director of Neuroimaging

Higgins ST, Kurti AN, Redner R, White TJ, **Keith DR, Gaalema DE**, Stanton CA, Roberts ME, Doogan NJ, Priest, JF. Co-occurring risk factors for current cigarette smoking in a U.S. nationally representative sample. *Prev Med*. 2016;92, 110-117.

Higgins ST, Kurti AN, Davis DR. Pay people to stop smoking? It works, especially in vulnerable groups. *The Conversation*. 2017.

Higgins ST, Heil SH, Sigmon SC, Tidey JW, **Gaalema DE**, Stitzer ML, Durand H, Bunn JY, Priest JS, **Arger CA**, Miller ME, **Bergeria CL, Davis DR, Streck JM, Zvorsky I**, Redner R, Vandrey R, Pacek LR. Response to varying the nicotine content level of cigarettes in vulnerable populations: An initial experimental examination of acute effects. *Psychopharmacology*. 2017;234, 89-98.

Hughes JR, Budney AJ, Muellers SR, Lee DC, Callas PW, **Sigmon SC**, Fingar JR, Priest J. Does tobacco abstinence decrease reward sensitivity? A human laboratory test. *Nicotine Tob Res*. 2017;19(6), 677-685.

Hughes JR, Callas PW, Etter JF, Fingar JR, Budney AJ, **Sigmon SC**. Development of a self-report measure of reward sensitivity: A test in current and former smokers. *Nicotine Tob Res*. 2017;19(6), 723-728.

Hughes JR, Klemperer EM. Gradual versus abrupt smoking cessation. *Ann Intern Med*. 2016;165(10), 741.

Doogan NJ, Roberts ME, Wewers ME, Stanton CA, **Keith DR**, **Gaalema DE**, **Kurti AN**, Redner R, Cepeda-Benito A, Bunn JY, Lopez AA, **Higgins ST**. A growing geographic disparity: Rural and urban cigarette smoking trends in the United States. *Prev Med*. 2017 Mar 16.

Keith DR, **Kurti AN**, **Davis DR**, **Zvorsky I**, **Higgins ST**. A review of the effects of very low nicotine content cigarettes on behavioral/cognitive performance in abstinent smokers. *Prev Med*. 2017 Jun 21

Keith DR, Stanton CA, **Gaalema DE**, Bunn JY, Doogan NJ, Redner R, **Kurti AN**, Cepeda-Benito A, Lopez AA, **Morehead AL**, Roberts ME, Higgins ST. Disparities in US healthcare provider screening and advice for cessation across medical conditions and tobacco products. *J Genl Intern Med*. 2017 May 3

Stanton CA, **Keith DR**, **Gaalema DE**, Bunn JB, Doogan NJ, Redner R, **Kurti AN** Roberts ME, **Higgins ST**. Trends in tobacco use among US adults with chronic health conditions: national survey on drug use and health 2005-2013. *Prev Med*. 2016;92, 160-168.

Klemperer EM, Fagerstrom KO, **Hughes JR**. Abrupt versus gradual smoking cessation with pre-cessation nicotine replacement therapy for cigarette smokers motivated to quit. *Ann Transl Med*. 2016;4(19), 384.

Klemperer EM, **Hughes JR**. After precessation nicotine replacement therapy, abrupt cessation increases abstinence more than gradual cessation in smokers ready to quit. *Evid Based Med*. 2016;21(5), 174.

Klemperer EM, **Hughes JR**, Callas PW, Solomon LJ. Working alliance and empathy as mediators of brief telephone counseling for cigarette smokers who are not ready to quit. *Psychol Addict Behav*. 2017;31(1), 130-35.

Kurti A, **Keith DR**, Noble A, Priest JS, **Sprague B**, **Higgins ST**. Characterizing the intersection of co-occurring risk factors for illicit drug abuse and dependence in a U.S. nationally representative sample. *Prev Med*. 2016;92,118-125.

Kurti AN, **Davis DR**, Redner R, Jarvis BP, **Zvorsky I**, **Keith DR**, Bolivar HA, White TJ, Rippberger P, **Markesich C**, Atwood G, **Higgins ST**. A review of the literature on remote monitoring technology in incentive-based interventions for health-related behavior change. *Transl Issues in Psychol Sci*. 2016;2(2), 128-152.

Kurti AN, **Davis DR**, Skelly J, Redner R, **Higgins ST**. Comparison of nicotine dependence indicators in predicting quitting among pregnant smokers. *Exp Clin Psychopharmacol*. 2016;24(1), 12-17.

Kurti AN, **Keith DR**, Noble A, Priest JS, **Higgins ST**. Co-occurring risk factors for illicit drug abuse and dependence in a U.S. nationally representative sample. *Prev Med*. 2016;92, 118-125.

Kurti AN, **Klemperer E**, **Zvorsky I**, Redner R, Priest J, **Higgins ST**. Some context for understanding the place of the GED in the relationship between educational attainment and smoking prevalence. *Prev Med*. 2016;92, 141-147.

Veal CT, Hart V, **Lakoski SG**, Hampton JM, Gangnon RE, Newcomb PA, **Higgins ST**, Trentham-Dietz A, **Sprague BL**. Health-related behaviors and mortality outcomes in women diagnosed with ductal carcinoma in situ. *J Cancer Surviv*. 2017;11(3), 320-328.

Matusiewicz AK, **Melbostad HS**, Heil SH. Knowledge of and concerns about long-acting reversible contraception among women in medication-assisted treatment for opioid use disorder. *Contraception*. 2017 Aug 2.

Pericot-Valverde I, **Gaalema DE**, Priest JS, **Higgins ST**. E-cigarette awareness, perceived harmfulness, and ever use among US adults. *Prev Med*. 2017 July 17.

Phillips J, McBride C, Hale S, Solomon R, Badger G, Bernstein I. Examination of prepregnancy and pregnancy urinary protein levels in healthy nulliparous women. *Repro Sci*. 2017;24(3), 407-12.

Brooklyn JR, **Sigmon SC**. Vermont hub-and-spoke model of care for opioid use disorders: Development, implementation and impact. *J Addict Med*. 2017; 11(4):286-292

Dammerman R, Bailey GL, Beebe KL, Chen M, Rosenthal RN, **Sigmon SC**, Ling W. Long-term buprenorphine implants for treatment of opioid dependence: Safety outcomes from two open-label extension trials. *J Addict Behav Ther & Rehab*. In press.

RESEARCH SNAPSHOT



My research focuses broadly on designing and implementing behavioral interventions to promote health among vulnerable populations, with an emphasis on cigarette smoking cessation among socioeconomically disadvantaged women. I am also interested in incorporating technology in behavioral interventions (e.g., Smartphones, remote behavior monitoring devices) to increase their attractiveness and their reach. I am currently preparing to lead a study examining the feasibility, efficacy, and cost-effectiveness of a Smartphone-based financial incentives intervention to promote smoking cessation among pregnant women. In addition, as a member of a working group focused on tobacco use cessation in vulnerable populations, I am leading products examining use of tobacco and nicotine products in national samples of women of reproductive age, as well as how patterns of tobacco and nicotine use change upon transitioning into and out of pregnancy.

ALLISON KURTI, PH.D.,

Assistant Professor, Department of Psychiatry

Dunn KE, Barrett FA, Yepez-Laubach C, Meyer AC, Hruska BJ, Petruch K, Berman S, **Sigmon SC**, Fingerhood M, Bigelow GE. Opioid overdose experience, risk behaviors, and knowledge in drug users from rural versus urban settings. *J Subst Abuse Treat*. 2016;71, 1-7.

Dunn KE, Barrett FA, Yepez-Laubach C, Meyer AC, Hruska BJ, **Sigmon SC**, Fingerhood M, Bigelow GE. Brief Opioid Overdose Knowledge (BOOK): A questionnaire to assess overdose knowledge in individuals who use illicit or prescribed opioids. *J Addict Med*. 2016;10(5), 314-323.

Dunn KE, Barrett FS, Herrmann E, Plebani J, **Sigmon SC**, Johnson MW. Behavioral Risk Assessment for Infectious Diseases (BRAID): Self-report measure to assess injection and non-injection risk behaviors in substance users. *Drug Alcohol Depend*. 2016;168, 69-75.

Sigmon SC, Bigelow GE. Food and Drug Administration approval of sustained-release buprenorphine for treatment of opioid dependence: Realizing its potential. *Addiction*. 2016;112(3), 386-387.

Spechler PA, **Chaarani B**, Hudson KE, Potter A, Foxe JJ, & **Garavan H**. Response inhibition and addiction medicine: from use to abstinence. *Prog Brain Res*. 2016;223, 143-164.

Ahern TP, **Sprague BL**, Bissell MCS, Miglioretti DL, Buist DSM, Braithwaite D, Kerlikowske K. Family history of breast cancer, breast density, and breast cancer risk in a U.S. breast cancer screening population. *Cancer Epidemiol Biomarkers Prev*. 2017;26(6), 938-944.





Alagoz O, Ergun M, Cevik M, **Sprague BL**, Fryback D, Gangnon R, Hampton J, Stout N, Trentham-Dietz A. The University of Wisconsin breast cancer epidemiology simulation model: an update. *Medical Decision Making*. In press.

Shiyanbola OO, **Sprague BL**, Hampton JM, **Dittus K**, James TA, Herschorn S, Gangnon RE, Weaver DL, Trentham-Dietz A. Emerging trends in surgical and adjuvant radiation therapies among women diagnosed with ductal carcinoma in situ. *Cancer*. 2016;122(18), 2810-2818.

Trentham-Dietz A, Kerlikowske K, Stout NK, Milgiorotti DL, Schechter CB, Ergun MA, van den Broek JJ, Alagoz O, **Sprague BL**, van Ravesteyn NT, Gangnon RE, Hampton JM, Chang Y, de Koning HJ, Mandelblatt JS, Tosteson ANA. Tailoring breast cancer screening intervals by breast density and risk for women 50 and older: Collaborative modeling of screening outcomes. *Ann Intern Med*. 2016;165(10), 700-712.

Luberto CM, Hyland KA, **Streck JM**, Temel B, Park ER. Stigmatic and sympathetic attitudes toward cancer patients who smoke: A qualitative analysis of an online discussion board forum. *Nicotine Tob Res*. 2016;18(12), 2194-2201.

Streck JM, Regan S, Chang Y, Kelley JHK, Singer DE, Rigotti NA. Examining the effects of illicit drug use on tobacco cessation outcomes in the Helping HAND 2 randomized controlled trial. *Drug Alcohol Depend*. 2017;178, 586-592.

Cassidy RN, **Tidey JW**, Colby SM, Long V, **Higgins ST**. Initial development of an e-cigarette purchase task: A mixed methods study. *Tob Regul Sci*. 2017;3(2), 139-150

Miller ME, **Tidey JW**, Rohsenow DJ, **Higgins ST**. Outcome expectancies for electronic and combustible cigarettes in smokers with severe psychological distress and controls. *Tob Regul Sci*. 2017;3(1), 108-114.

Tidey JW, Cassidy RN, Miller ME. Smoking topography characteristics of very low nicotine content cigarettes, with and without nicotine replacement, in smokers with schizophrenia and controls. *Nicotine Tob Res*. 2016;18(9), 1807-12.

Tidey JW, Pacek LA, Koopmeiners JS, Vandrey R, Nardone N, Drobos DJ, Benowitz NL, Dermody SS, Lemieux A, Denlinger RL, Cassidy RN, al'Absi M, Hatsukami DK, Donny EC. Effects of 6-week use of very low nicotine content cigarettes in people with and without elevated depressive symptoms. *Nicotine Tob Res*. 2017;19(1), 59-67.

Collins LK, **Villanti AC**, Pearson JL, Glasser AM, Johnson AL, Niaura RS, Abrams DB. Update to Villanti et al, "Frequency of youth e-cigarette and tobacco use patterns in the United States: measurement precision is critical to inform public health." *Nicotine Tob Res*. 2017 Apr 22.

Glasser AM, Johnson AL, Rose S, Ganz O, Cantrell J, Delnevo CD, **Villanti AC**. Correlates of cigar use by type and flavor among US young adults: 2011-2015. *Tob Regul Sci*. 2017;3(S1), 59-71.

Hitchman SC, Pearson JL, **Villanti AC**. The need for more nuance in headline adult cigarette smoking prevalence estimates. *Addiction*. 2017;112(8), 1327-1328.

Roberts ME, Doogan NJ, Stanton CA, Quisenberry AJ, **Villanti A**, **Gaalema DE**, **Keith DR**, **Kurti AN**, Lopez AA, Redner R, Cepeda-Benito A, **Higgins ST**. Rural vs. Urban Use of Traditional and Emerging Tobacco Products in the United States, 2013-2014. *Amer J Pub Health*. In press

Villanti AC, Johnson AL, Ilakkuvan V, Jacobs MA, Graham AL, Rath JM. Social media use and access to digital technology in US young adults in 2016. *J Med Internet Res*. 2017;19(6), e196.

Wipfli HL, Berman M, Hanson K, Kelder S, Solis A, **Villanti AC**, Ribeiro CM, Meissner HI, Anderson R. Defining Tobacco Regulatory Science Competencies. *Nicotine Tob Res*. 2017;19(2), 222-230.

Noteworthy

Stephen T. Higgins, Ph.D., was elected into the Academy of Behavioral Medicine Research.

Andrea Villanti, Ph.D., was awarded the SRNT 2018 Jarvik-Russell Early Career Award, honoring members early in their careers who have made extraordinary contributions to the field of nicotine and tobacco research.

Allison N. Kurti, Ph.D., was recently named an editorial fellow for the journal *Drug and Alcohol Dependence*.

John Hughes, M.D., was named to the inaugural class of SRNT fellows, conferred in recognition of his outstanding contributions to the field. He also garnered the ATTUD Excellence in Tobacco Treatment, Training and Advocacy Award last year which subsequently been renamed "The John R Hughes ATTUD Excellence in Tobacco Treatment, Training and Advocacy Award."

Elias Klemperer, predoctoral fellow, was honored by UVM's Graduate School Senate with the "Most Innovative Research" Award.

Nancy S. Bercaw, VCBH Communications Specialist, authored a memoir, "DRYLAND: One Woman's Swim to Sobriety," published by Grand Harbor Press in April 2017.

In The Media

Psychology Today

A May 8, 2017, explored a lingering question about quality care for those addicted to opioids. VCBH Researcher **Richard Rawson, Ph.D.**, with global experience in treatment, offered his expertise.

Consumer Reports

VCBH Associate Director **Philip Ades, M.D.**, provided his cardiac rehab expertise for a March 24, 2017 Consumer Reports Health article entitled, "What's Missing from Your Heart-Attack Recovery Plan."

Associated Press

Research on interim treatment for people on waitlists by VCBH investigator **Stacey Sigmon, Ph.D.**, was the subject of Associated Press, December 21, 2016, which was picked up by dozens of local and national outlets.

RESEARCH SNAPSHOT



My research is focused on tobacco use, including young adult tobacco prevention and cessation and translational research to improve tobacco control policy and program decision-making. For the past several years, I have conducted rapid, responsive research to inform tobacco-related policies, particularly the FDA regulation of tobacco products. A focus of my work in this area has been on the disproportionate prevalence of menthol and other flavored tobacco product use in young people. My research in young adults also examines social and environmental predictors of tobacco use with the goal of informing effective individual-level and population-level tobacco interventions. To that end, one of my current studies, supported by the COBRE, focuses on improving cessation in socioeconomically-disadvantaged young adult smokers.

ANDREA VILLANTI, PH.D., MPH,
Associate Professor, Department of Psychiatry

Joanna Streck, predoctoral fellow, received the CPDD 2017 Women & Sex/Gender Junior Investigator Travel Award.

Ivori Zvorsky, predoctoral fellow, won the Outstanding Student Poster Award at the ABCT Conference.

Salon.com

Stephen Higgins, Ph.D., VCBH director, authored a commentary piece in "The Conversation" that highlighted the success he and colleagues have achieved in research on the effects of financial incentives in promoting smoking cessation. A number of daily newspaper sites across the country featured his piece, including Salon.com. More than 40,000 viewers clicked on the article.

Fox News Health

Kim Dittus, M.D., Ph.D., VCBH COBRE Project Director, commented on a Danish study of cardiorespiratory fitness and cancer levels in men on December 9, 2016.

MedPage Today

Tobacco research done by VCBH member **Andrea Villanti, Ph.D.**, was the subject of an article in the October 17, 2016 edition of MedPage Today, The Gupta Guide.



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