I am delighted to share our 2015-2016 accomplishments in this, our first ever, year-in-review publication. Research at the Vermont Center on Behavior and Health and the Vermont Center on Tobacco Regulatory Science utilizes the principles of behavioral economics 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 nationally and internationally prominent 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 disseminate the latest research on managing the problems of prescription opioid addiction, cigarette smoking and obesity, we collaborated with accomplished policy makers and scientists on a special issue of Preventive Medicine, titled “Behavior Change, Health, and Health Disparities.” The issue outlines the scope of the U.S. opioid abuse epidemic, as well as state and national efforts to increase treatment capacity, and calls for better physician education and evidence-informed prescribing guidelines.

Our Behavioral Pharmacology of Human Drug Dependence T32 Grant from the National Institutes of Health (NIH) was recently renewed and is now entering its 27th year. Former fellows from the program return every summer to share their latest research with current trainees at a special day-long retreat. The event also brings an outside consultant to mentor trainees on their projects.

We’ve also received new funding in the last year, including a $3.6 million grant from the National Institute of Drug Abuse to study 250 economically disadvantaged mothers of young children (11 and under) in an effort to help them quit smoking and decrease secondhand smoke exposure among their offspring. The study has the potential to advance knowledge on efficacious, cost-effective smoking cessation for maternal smokers and to impact policies and clinical practices regarding recommended care for combating chronic secondhand smoke exposure in disadvantaged children.

In addition to our national efforts, we are working on solutions to specific local matters of addiction. Under grant funding from the National Institutes of Health, Stacey Sigmon, Ph.D., has developed a novel Interim Buprenorphine Treatment (IBT) to reduce waitlist delays for opioid-dependent individuals. Initial results from her 12-week outpatient trial in Burlington, Vermont, show that IBT participants achieved significantly greater abstinence in illicit opioid and IV use than waitlisted controls.

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 noteworthy, some of our investigators have traveled as far as Cuba, Lebanon and Iraq to study behavior and health and to, in turn, share their research studies with international colleagues.

Our country – indeed, the whole world – is facing a health crisis of chronic conditions. Record numbers are suffering from the consequences of obesity, tobacco use and other drug addiction. The effect is taking a catastrophic toll on families as well as the healthcare system. Solutions are needed now.

In the coming years, we here at the VCBH intend 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
2016 PROGRAM
Topics/Speakers
*Subject to change. See conference program online for complete schedule.

OCTOBER 6
8 A.M. – 6 P.M.

KEYNOTE: Harnessing Research to Maximize Impact on Public Policy
Kelly D. Brownell, Ph.D., Dean of the Sanford School of Public Policy, Robert L. Flowers Professor of Public Policy, Duke University

Panel on Weight Loss in Clinical Populations
■ Role of Exercise in Weight Loss: Clinical Applications
Joseph E. Donnelly, Ed.D., Professor of Medicine, Center for Physical Activity and Weight Management, University of Kansas Medical Center
■ Weight Loss in the Prevention and Treatment of Diabetes
Linda Delahanty, M.S., R.D., L.D.N., Assistant Professor of Medicine, Director of Nutrition and Behavioral Research, Diabetes Research Center, Massachusetts General Hospital
■ Obesity and Weight Loss in Coronary Artery Disease
Philip A. Ader, M.D., Associate Director, Vermont Center on Behavior and Health, Director, Cardiac Rehab and Prevention, Professor, Department of Medicine, Division of Cardiology, University of Vermont College of Medicine

■ Role of Obesity and Weight Loss in Cancer Outcomes
Kim Dittus, M.D., Ph.D., Assistant Professor, Department of Medicine, Division of Medical Oncology, Director Oncology Rehabilitation, University of Vermont College of Medicine

■ Right-Sizing Weight Gain in Pregnancy
Julie Phillips, M.D., Assistant Professor, Department of Obstetrics, Gynecology, and Reproductive Sciences, Division of Maternal Fetal Medicine, University of Vermont College of Medicine

SPECIAL EVENT: NIH & FDA FUNDING OPPORTUNITIES FOR EARLY CAREER INVESTIGATORS
Dana M. van Bemmel, Ph.D., M.P.H., Assistant Deputy for Research, Office of Science, Center for Tobacco Products, Food and Drug Administration; and, Samia D. Noursi, Ph.D., Deputy Coordinator, Women and Sex/Gender Differences Research, National Institute on Drug Abuse

Panel on Use of Tobacco & Other Nicotine Delivery Products in Vulnerable Populations
■ Tobacco Use in Adolescents
Janet E. Audrain-McGovern, Ph.D., Associate Professor of Psychiatry, Project Co-director, Penn TCOIRS Training and Career Development Program, Perelman School of Medicine, University of Pennsylvania

■ Intersection of Risk Factors for Cigarette Smoking and Illicit Drug Abuse in U.S. Nationally Representative Samples
Allison N. Kurti, Ph.D., Postdoctoral Fellow, Vermont Center on Behavior and Health, Vermont TCOIRS, University of Vermont, Member of FDA TCOIRS Working Group on Tobacco Use in Vulnerable Populations

■ Electronic Cigarettes: Implications for Vulnerable Populations
Jonathan Foulds, Ph.D., Professor of Public Health Sciences and Psychiatry Co-director of the Penn State TCOIRS, Penn State University

■ Prevalence of Marijuana Use, Abuse, Dependence: Potential Impacts of Legalization
Deborah S. Hasin, Ph.D., Department of Epidemiology, Mailman School of Public Health, Columbia University

■ Potential Impacts of Legalization on Factors Associated with the Development of Addiction (Marijuana Use Disorders
Alan J. Budney, Ph.D., Professor, Department of Psychiatry, Geisel School of Medicine, Dartmouth College

■ Potential Impacts in Pediatrics: Marijuana Use Disorders in Adolescents
Denise D. Walker, Ph.D., Associate Professor, School of Social Work, University of Washington

■ Potential Impacts on Prevalence and Severity of Psychiatric Disorders
A. Eden Evins, M.D., M.P.H., Director, Division of Addiction Medicine, Massachusetts General Hospital

■ Potential Impacts on Maternal-Infant Health
Mishka Terplan, M.D., M.P.H., Medical Director, Baltimore Behavioral Health System, Adjunct Assistant Professor, Department of Epidemiology and Public Health, University of Maryland School of Medicine

■ Potential Impacts on Emergency Care
George S. Wang, M.D., Instructor in Pediatrics, Children’s Hospital Colorado & Rocky Mountain Poison and Drug Center, Denver Health Medical Center

■ Potential Impacts of Legalization on Treating Pain across the Health Care System
Mark A. Ware, M.D., Associate Professor, Director of Clinical Research, Depts. of Family Medicine and Anesthesia, McGill University

OCTOBER 7
8 A.M. – 2 P.M.

Panel on the Health Implications of Marijuana Legalization
■ Some Views from the Perspective of a State Considering Legalization
Barbara Cimaglio, M.A., Deputy Commissioner, Vermont Department of Health

■ Perspectives from a State Managing Legalization
Larry Wolk, M.D., M.S.P.H., Executive Director and Chief Medical Officer, Colorado Department of Health & Environment

■ Federal Perspective on the Health Impacts of Marijuana Legalization
Samantha Weiss, Ph.D., Associate Director for Scientific Affairs, National Institute on Drug Abuse

Now in its fourth year, the VCBH interdisciplinary conference on “Behavior Change, Health & Health Disparities” brings scholars from leading U.S. universities and medical centers to Burlington, Vermont to share behavioral economics and pharmacology research. Unhealthy behaviors—tobacco use, physical inactivity/ unhealthy food choices, prescription opioid abuse—represent the leading cause of chronic disease and premature deaths in the U.S. These risk behaviors are overrepresented among socioeconomically disadvantaged populations and exacerbate health disparities, as well as healthcare costs. The Annual VCBH Conference seeks to improve the scientific understanding, and therefore the clinical outcomes, of these highly challenging and costly public health problems. The Conference begins with a video message of appreciation and support from U.S. Senator Patrick Leahy of Vermont.

Kelly D Brownell, Ph.D., Dean of the Sanford School of Public Policy at Duke University and professor of public policy, serves as the keynote speaker in 2016. On the Board of Directors of the Duke Global Health Institute, Brownell was named among “The World’s 100 Most Influential People” by Time magazine in 2006.
COBRE Project Directors

Robert Althoff, M.D., Ph.D. Associate Professor of Psychiatry, Pediatrics & Psychological Science, Shared Mechanisms in Child Dysregulation, Adult Psychopathology, and Metabolic Disorders; Mentor: James Hudziak, M.D.

Kim Dittus, M.D., Ph.D., Assistant Professor, Department of Hematology-Oncology, Predictors of Weight Loss Success in Overweight Breast Cancer Survivors; Mentor: Jean Harvey-Berino, Ph.D.

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.

Julie Phillips, M.D., Assistant Professor, Department of Obstetrics, Gynecology, and Reproductive Sciences, Incentives Targeting Gestational Weight Gain in overweight/Obese low-income Women; Mentor: Ira M. Bernstein, M.D.

Brian Sprague, Ph.D., Associate Professor, Department of Surgery, Behaviors, Chronic Disease, and Quality of Life After Ductal Carcinoma in Situ; Mentor: Amy Trentham-Dietz, Ph.D.

TCORS The Vermont Center on Tobacco Regulatory Science

The Vermont Center on Tobacco Regulatory Science at UVM is one of fourteen Tobacco Centers on Regulatory Science (TCORS) in the United States supported through a cooperative agreement of the National Institutes of Health (NIH) and the U.S. Food and Drug Administration (FDA). The Family Smoking Prevention and Tobacco Control Act has given the federal government the authority to bring science-based regulation to the manufacturing, marketing and distribution of tobacco products.

UVM’s Center addresses three of the research priorities established by the FDA Center for Tobacco Products: Projects have been designed to provide the agency with critically important empirical evidence on the impact of tobacco products in vulnerable populations relevant to its regulatory responsibilities, while also contributing new scientific knowledge on reducing the addictiveness of tobacco products and associated adverse health consequences in vulnerable populations.

“We approach these priorities using the concepts, principles, and methods of behavioral economics and behavioral pharmacology,” says Principle Investigator and Program Director Stephen T. Higgins, Ph.D. “We work closely with collaborators and consultants from Brown University, Johns Hopkins University, University of Minnesota, and University of Pittsburgh.”

Researching the impact of tobacco products in vulnerable populations includes studying women of childbearing age/pregnant women, individuals with comorbid other substance use disorders, and 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.

Furthermore, the UVM Center conducts research on reducing the addiction potential of cigarettes and other tobacco products by lowering their nicotine content. 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 in the U.S.

RESEARCH SNAPSHOT

I am conducting two natural history studies of how daily tobacco smokers and daily marijuana users go about quitting, what prompts them to attempt to quit, and what do successful quitters do. I also have a study in which former smokers now using e-cigarettes abruptly stop their use to see if there is a withdrawal syndrome. I have just completed studies of whether smoking cessation makes non-drug rewards less rewarding, and whether continuing nicotine patches after a lapse (and still smoking some) prevents full-blown relapse without causing side effects.

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

HIGGINS FEATURED IN FDA VIDEO “TOBACCO REGULATORY SCIENCE IN ACTION”

The VCBH is currently conducting studies with three different vulnerable populations: smokers who have major depression; smokers who have opiate dependence; and, women of reproductive age.

“In each of those populations, we are going to vary the nicotine content across a wide range, including very low levels,” Higgins explains in the video.

The FDA Center for Tobacco Products (CTP) partners with other public health agencies to conduct research and pursue new research that drives tobacco regulatory action based on the best available science. The breadth of science funded and supported by the FDA is important for improving and protecting public health.

VCBH Director
Stephen T. Higgins, Ph.D.
was one of 10 national researchers selected to appear in the FDA’s video series, “Tobacco Regulatory Science in Action.” On camera, Higgins talks about the “devastating impact of tobacco use on health” and the VCBH’s role in examining whether nicotine levels could be set low enough not to be addictive.
Cigarette smoking is disproportionately high, and quit rates notoriously poor, among individuals with concurrent substance abuse. However, an extended period of daily contingent incentives among opioid-maintained smokers helps sustain smoking abstinence, according to VCBH research supported by a NIDA-funded R01 Grant.

The findings, according to Principle Investigator Stacey C. Sigmon, Ph.D., “provide the strongest evidence to date that opioid-dependent individuals can quit smoking.” This work with incentive-based interventions has also contributed to the adoption of this approach for improving health behaviors nationally and internationally.

Sigmon collaborated with VCBH Associate Professor Sarah H. Heil, Ph.D., and VCBH Director Stephen T. Higgins, Ph.D. on the project, with the outcomes recently published in *Addiction*.

### Financial Incentives Are Highly Effective in Helping Pregnant Women Quit Smoking

Developing more effective smoking cessation interventions for pregnant women has been a public health priority for the last three decades. Yet one treatment—financial incentives—continues to stand out in terms of efficacy and cost-effectiveness. VCBH Director Stephen T. Higgins, Ph.D., and UVM Research Professor Laura Solomon, Ph.D., authored, “Some Recent Developments on Financial Incentives for Smoking Cessation Among Pregnant and Newly Postpartum Women,” after conducting a meta-analysis of studies done between the years of 2012 and 2015. Their article appeared in *Current Addiction Reports*, March 2016. Higgins says the use of financial incentive treatments are especially important for “those who work with this population and need to be aware of alternatives to the status quo.”

### Preventive Medicine

Special Issue Highlights Strategies for Curbing Opioid Abuse, Tobacco Use and Obesity

To disseminate the latest research on managing the problems of prescription opioid addiction, cigarette smoking and obesity, VCBH Director Stephen T. Higgins, Ph.D., edited a special issue of *Preventive Medicine* titled “Behavior Change, Health, and Health Disparities.” The supplemental issue marks Higgins’ second effort on the subject and was distributed in conjunction with the VCBH Annual Conference in 2015.

Higgins worked with accomplished policy makers and scientists, including those in the VCBH, to publish recent accomplishments—and remaining challenges—in dealing with chronic health problems. The journal outlines the scope of the U.S. opioid abuse epidemic, as well as state and national efforts to increase treatment capacity; and, calls for better physician education and evidence-informed prescribing guidelines.

VCBH researchers who contributed to the special issue include Philip Ades, M.D., Stacey C. Sigmon, Ph.D., Sarah H. Heil, Ph.D., and Diann E. Gaalema, Ph.D.

### Sprague Receives “Article of the Year” Accolades

Brian Sprague, Ph.D., VCBH project director and UVM associate professor of surgery, received “Article of the Year” honors from the *American Journal of Epidemiology* for his work on “Variation in Breast Cancer-risk Factor Associations by Method of Detection: Results from a Series of Case-control Studies.” The paper examines the need to understand how cancers detected through screening mammography differ from those first detected by a woman or her clinician.
Smoke Exposure
maternal smoking.
exposed to secondhand smoke — especially from
of U.S. children from low-
In fact, almost 85 percent
pregnant and have children.
change when they become
cessation. The behavior doesn't
and to fail at smoking
likely to be nicotine dependent
heavier smokers and are more

Disadvantaged women begin
smoking at an earlier age, are
heavier smokers and are more
likely to be nicotine dependent.
and to fail at smoking
cessation. The behavior doesn't
motivate behavior change.

A new five-year, $3.6 million grant from the National
Institute on Child Health and Human Development
awarded to the VCBH hopes to change the status
quo. VCBH Director Stephen T. Higgins, Ph.D., leads
the project studying 250 economically disadvantaged
mothers of young children (age 11 and under) in
an effort to help them quit smoking and decrease
secondhand smoke exposure among their children.
The study is based on the conceptual framework of
behavioral economics — using financial incentives to
motivate behavior change.

Overall, the proposed study has the potential
to advance knowledge on efficacious, cost-effective
smoking cessation for maternal smokers and protection
against secondhand smoke exposure among their children.
The study also has the potential
to impact policies and clinical practices regarding
recommended care for combating chronic secondhand
smoke exposure in disadvantaged children.

Hughes Receives NIH Grant to Study Whether E-Cig Abstinence Produces Withdrawal

Electronic cigarettes are the fastest growing harm-
reduction product. To study
whether abstinence from
e-cigarettes produces withdrawal
symptoms, John Hughes, M.D.,
TCORS Associate Director,
has received a $1.8 million grant from the
National Institutes of Health.

Hughes and colleagues will recruit 120 long-term
e-cigarette-only users for the study. Participants will
enter a within-participants study with random, balanced
order of assignment to four conditions: their own
own e-cigarette; a new nicotine e-cigarette, the non-nicotine
(i.e. placebo) version of the new e-cigarette; and, no use
of any e-cigarettes.

“To encourage compliance,” says Hughes, “we will
use an escalating payment system with bonuses that
has resulted in high-compliance rates in our prior
studies.”

Results will help determine the addiction potential
of e-cigarettes: whether labeling should warn purchasers
of e-cigarettes that abrupt cessation can induce
withdrawal; and, whether withdrawal problems should
be included in risk/benefit assessments of e-cigarettes.
Hughes’ study runs through August 2018.

VCBH Pre-Doc Fellow Awarded TCORS Developmental Grant

Elias Klemperer, VCBH predoctoral research fellow,
has been awarded a Tobacco Centers on Regulatory
Science (TCORS) Developmental Grant as the principal
investigator for “A Randomized Trial to Compare
Switching to Very Low Nicotine Content Cigarettes vs.
Reducing Cigarettes Per Day.” The two-year $20,000
funding comes from the Center for Tobacco Products,
National Institute on Drug Abuse and the U.S. Food and
Drug Administration.

Sprague Part of NCI-Funded Team to Study Early-Stage Breast Cancers

Better technology and screening practices have led to
the better detection of breast cancers — many of which
fall into a broad category of early-stage cancer, including
ductal carcinoma in situ. But researchers still grapple
with the question of why some of these cancers remain
idile and others progress. With the support of a new $3.7
million federal grant from the National Cancer Institute,
an interdisciplinary team at UVM’s Cancer Center —
including VCBH Project Director Brian Sprague, Ph.D.,
associate professor of surgery in the Department of
Medicine — will investigate answers.
Ades Named Endowed Professor of Cardiovascular Disease Prevention, Researcher of the Year

Philip Ades, M.D., VCBH associate director and UVM professor of medicine, has impacted thousands of lives through his work in cardiac rehabilitation and disease prevention. Thanks in part to grateful patients and family members, UVM created the Philip Ades M.D. Endowed Professorship in Cardiovascular Disease Prevention to ensure that his legacy continues.

Ades’ research is focused on the important role exercise can play in rehabilitation after a heart attack and the benefits of weight loss in obese coronary patients. He played a role in the national expansion of cardiac rehabilitation services to Medicare recipients with chronic heart failure.

Ades also was bestowed the 2015 Senior Researcher of the Year Award from the UVM Medical Group. The award, which comes with a cash prize and grant funding, honors one physician each year for exceptional teaching and research efforts.

Investiture Ceremony Honors Higgins as Inaugural Donaldson Professor

An investiture of endowed faculty ceremony, hosted by the University of Vermont Foundation on March 30, 2016 presented VCBH Director Stephen T. Higgins, Ph.D., with the inaugural Virginia H. Donaldson MD ‘51 Professorship. An accomplished investigator whose work has attracted some of the most significant funding ever achieved at the University of Vermont, Higgins’ 30-plus years of addiction research includes groundbreaking work in contingency management.

A member of the UVM Department of Psychiatry faculty since 1986 with more than 270 peer-reviewed papers to his name, Higgins is the recipient of several national awards, including a highly prestigious MERIT Award from the National Institutes of Health. Longtime colleague and former UVM faculty member Warren Bickel, Ph.D., spoke to the “grit, resilience and vision” that has marked Higgins’ career. “He has transformed the field of drug abuse research, and his incentives work has changed everything,” he said.

The Donaldson Professorship, established through a bequest following the 2013 death of Virginia H. Donaldson M.D. ’51, supports a faculty leader who demonstrates a commitment to translational science and actively contributes to the goal of promoting the impact of biological science on clinical medicine. Donaldson’s many contributions to her field after her 1951 graduation from the UVM College of Medicine included a distinguished career as a pediatric hematologist. A longtime philanthropic supporter of the UVM College of Medicine, she was known for her work in identifying a key inherited deficiency involved in an often-fatal disease called hereditary angioneurotic edema.
Global Health

Rick Rawson, Ph.D., (third from left) in Iraq.

Rawson Examines Addiction Challenges in the Middle East

Although virtually every society has some form of drug/alcohol-related problems, how they are used and who uses them creates diverse challenges for global policymakers and health leaders. As part of a National Institutes of Health Fogarty International Center Grant, VCBH Research Professor Richard Rawson, Ph.D., is assessing the impact of tramadol, a widely used and abused narcotic-like pain killer, in Egypt and the United Arab Emirates. Rawson is working with colleagues to systematically collect a battery of information on the effects of chronic tramadol use on treatment seekers.

“Visiting Cuba just before the historic re-opening of the country to Americans was a once-in-a-lifetime opportunity,” Sigmon says of the experience. “Despite the glaring absence of resources and infrastructure in the many hospitals and mental health clinics we visited across Havana, the Cuban healthcare system is far more sophisticated and holistic than I ever anticipated. Overall, we stand to learn a great deal from the resilience and ingenuity of our Cuban colleagues.”

Stacey C. Sigmon, Ph.D.

Post-Doc Fellow Chaarani Receives Award, Gives Talk at Lebanese Diaspora Event

VCBH Postdoctoral Fellow Bader Chaarani, Ph.D., attended the Lebanese Diaspora Energy symposium, May 5-7 in Beirut, as a special invited guest. Showcasing the success stories of select residents and expatriates, the event represents a one-of-a-kind occasion for Lebanese emigrants to develop valuable cultural and social connections with their homeland. “It was a great honor to receive encouragement and a trophy from the Minister of Foreign Affairs in recognition of my successful research,” says Chaarani, who also gave a public talk about the effects of smoking on the brain.

Bader Chaarani, Ph.D. (at left).

Local Health

Measuring & Monitoring Opioid Use in Vermont

On June 29, 2016, in coordination with the Vermont Department of Health, the VCBH hosted a meeting on the nature and extent of the opioid use problem in Vermont. Led by VCBH Research Professor Richard Rawson, Ph.D., the day-long meeting included welcoming remarks by John Brunstted, M.D., CEO of the UVM Health Network and the UVM Medical Center; Brandon del Pozo, Chief of the Burlington Police Department; and Barbara Cimaglio, Deputy Commissioner, Vermont Department of Health.

Representatives from the Vermont State Alcohol and Drug Abuse Programs presented currently available data on the extent of the opioid use problem in Vermont. Experts on drug-use epidemiology from UCLA, University of Texas, and the Pacific Institute for Research and Evaluation provided recommendations on methods and data analysis. Moira O’Brien, Ph.D., represented the National Institute on Drug Abuse via phone.

Subsequent efforts will develop a methodology for measuring and monitoring the size of the opioid user population in Vermont, and creating ongoing metrics to monitor future changes/trends. The data will provide policymakers and the legislature with a foundation for measuring the impact of Vermont’s efforts in addressing the state opioid problem.

Stephen T. Higgins, Ph.D. (left) and Philip Ades, M.D.

VCBH Directors Talk Incentives with BCBSVT Leadership

VCBH Director Stephen T. Higgins, Ph.D., and Associate Director Philip Ades, M.D., are in preliminary discussions with Blue Cross/Blue Shield Insurance of Vermont about the use of incentives to encourage healthy changes in behavior among people with Type II Diabetes and pregnant smokers. “We view this as an opportunity to operationalize results of Dr. Higgins’ groundbreaking research on the use of incentives to the clinical setting and they appear quite open to the concept,” Ades says of the ongoing conversations with BCBS.

Stacey C. Sigmon, Ph.D.

Interim Buprenorphine Trial Could Help Vermonters on Methadone Clinic Waitlists

While access to opioid treatment is slowly improving, waitlist delays are still an issue for opioid-dependent individuals in Vermont, as is the case in many other states around the country. When a person who is addicted can’t get the treatment they need, there can be repercussions: illicit drug use, criminal activity, infectious disease, overdose and premature death.

To reduce the risk associated with treatment delays, Stacey C. Sigmon, Ph.D., and VCBH colleagues developed a novel Interim Buprenorphine Treatment (IBT) protocol:

- Patients receive buprenorphine (Suboxone®) maintenance with bi-monthly clinic visits. The remaining doses are dispensed via a secure computerized portable device called a “Med-O-Wheel.” Each day’s dose is available for a three-hour window and includes locks and alarms to prevent tampering.

- Using a phone-based Interactive Voice Response (IVR) System, patients receive nightly check-in calls and IVR-generated random call-backs (approximately one per two-week dosing interval).

- HIV- Hepatitis Education: Patients receive HIV+ Hepatitis C educational intervention, delivered via iPad. Funded by a grant from the National Institutes of Health, Sigmon conducted a 12-week outpatient trial to evaluate the success of this approach. Initial results show that IBT participants achieved significantly greater illicit opioid abstinence and greater reductions in frequency of illicit opioid use and IV use.
I have spent the past 12 months becoming acquainted with the nature and extent of the opioid problem and the treatment effort in Vermont. I have organized and chaired a meeting with national epidemiological experts to help the State Department of Public Health develop better estimates of opioid use in Vermont to help policymakers and health leaders plan for the healthcare needs of the user population. I was recently awarded a contract from the State Department of Public Health to assess the impact of the Vermont Hub and Spoke treatment system for individuals with opioid-use disorders.

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

For 26 years, Stephen T. Higgins, Ph.D., has hosted an annual scientific retreat for student trainees to present and discuss their research in a supportive and educational environment. Each year, a former trainee gives a talk and consults with current pre- and postdoctoral fellows. A guest evaluator is also invited to speak on their area of expertise and to advise current trainees.

In August 2016, Kelly Dunn, M.S., Ph.D., assistant professor of psychiatry and behavioral sciences at Johns Hopkins, served as the former trainee representative. The guest evaluator was Sandra Comer, Ph.D., professor of clinical neurobiology in the Department of Psychiatry at the College of Physicians and Surgeons of Columbia University and research scientist at the New York State Psychiatric Institute.

VCBH alumni Gregory J. Madden, Ph.D., was the guest speaker at the 25th Annual Trainee Retreat in July 2015. Madden, professor of psychology at Utah State University, is editor-in-chief of the Journal of the Experimental Analysis of Behavior.

Serving as guest evaluator in 2015 was Eric Donny, Ph.D., associate professor of psychology at the University of Pittsburgh.

Former VCBH Trainees Continue TCORS Research with VCU, Brown

After earning her doctorate at UVM in 2014 and spending 5 years with the VCBH and Dr. Higgins, Alexa A. Lopez, Ph.D., decided to continue her TCORS research with Virginia Commonwealth University: “VCU’s Center is focused on investigating electronic cigarettes using varied methods (analytical, clinical, qualitative), and I was interested in getting involved in this new research area within tobacco regulatory science,” she says.

Also, Cosima Hoetger, a former research assistant at UVM, is pursuing a doctorate in health psychology at VCU and will be involved with the TCORS lab there.

As a predoctoral fellow at UVM, Mollie Miller, Ph.D., focused on developing efficacious pharmacological treatments for opioid misuse. Miller says she “gained a strong appreciation for smoking research, and the extent to which it can positively impact the health of vulnerable populations” at UVM.

Miller went on to pursue postdoctoral research with Brown University and now works on two multi-site projects evaluating the effects of reduced-nicotine content cigarettes in smokers with co-morbid mental illness.

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

Monthly Lecture Series Brings National Health Experts to UVM

The VCBH Lecture Series is a monthly event that brings national and international scholars in the area of behavior, neurobiology and health to UVM. The invited guest spends a day visiting with VCBH student trainees and faculty members, in addition to giving a public lecture. Speakers for 2016 included: JoAnn Manson, M.D., Dr.P.H. (pictured below), Chief, Division of Preventive Medicine, Michael and Lee Bell Professor of Women’s Health, Harvard Medical School; Robert Schwartz, M.D., Medical Director, Senior Research Scientist, Friends Research Institute; Kai Ling Kong, Ph.D., Post-Doctoral Research Associate, Department of Pediatrics, Division of Behavioral Medicine University of New York, Buffalo; Dorothy Hatsukami, Ph.D., Professor, Department of Psychiatry, University of Minnesota; Amy Trentham-Dietz, Ph.D., Professor, Population Health Sciences Program Leader for Cancer Control, Carbone Cancer Center, University of Wisconsin-Madison.

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Noteworthy

Philip Ades, M.D., was named one of four UVM University Scholars for 2015-2016.

Diann E. Gaalema, Ph.D., was invited to present at the NIH-sponsored conference, “Rehabilitation Research at NIH: Moving the Field Forward.”

Sarah H. Heil, Ph.D., was awarded tenure at UVM effective July 1, 2016. She is serving as a member of the Interventions to Prevent and Treat Addictions Study Section, Center for Scientific Review through June 30, 2019. Heil also was elected to fellow status in the Society of Addiction Psychology (SoAP; Division 50) of the APA.

Stephen T. Higgins, Ph.D., was elected into the Academy of Behavioral Medicine Research during the organization’s annual meeting in Whistler, British Columbia, June 22-25, 2016.

John R. Hughes, M.D., was the inaugural recipient of the “Excellence in Tobacco Treatment, Training and Advocacy Award” from the Association for the Society of Addiction Psychology (SoAP; Division 50) of the APA.

Allison Kurti, Ph.D., postdoctoral fellow, received a 2016 College on Problems of Drug Dependence (CPDD) Travel Award for early-career investigators.

Mollie Miller, Ph.D., (Brown University) was named program chair to the American Psychological Association Division 28. She was also appointed associate editor, Tobacco Regulatory Science committee.

Stacey C. Sigmon, Ph.D., began her term as president of the American Psychological Association (APA) Division 28 (Psychopharmacology & Substance Abuse) on January 1, 2016.

Brian Sprague, Ph.D., was bestowed “outstanding manuscript reviewer” recognition by the Annals of Internal Medicine.

Joanna Streck, predoctoral fellow, received a NIAAA/NIDA travel award and invitation to participate in the Early Career Poster Session at the 2016 APA Convention. She also was elected as one of nine research students to serve as a member of the American Psychological Association of Graduate Students (APAGS) Science Committee.

Jennifer Tidey, Ph.D., (Brown University) was appointed ad hoc reviewer, Addiction Risks and Mechanisms study section.

Chris Veal, predoctoral fellow, was awarded “Best Pre-Doctoral Poster Presentation” at the 40th Annual American Society of Preventive Oncology (ASPO) Conference.

Ivory Zvorsky, predoctoral fellow, was named student representative to the Addictive Behaviors Special Interest Group at the Association for Behavioral and Cognitive Therapies. She is also an APA Division 12 campus representative.

In The Media

Philip Ades, M.D., and Stephen T. Higgins, Ph.D., appeared as guests on Vermont Public Radio’s Vermont Edition to discuss their research on risk behaviors and how incentive-based intervention minimizes them.

Nancy Stearns Bercaw, VCBH Communications Specialist, authored an article in the New York Times, June 21, about re-thinking Alzheimer’s disease.

Diann E. Gaalema, Ph.D., was part of Reuters’ Life story “Women Less Likely than Men to Get Cardiac Rehab.” She also talked live with Vermont Public Radio’s Vermont Edition about the causes of excessive behavior during the holidays and offered suggestions for mitigating the damage.

Sarah H. Heil, Ph.D., was interviewed and quoted by U.S. News & World Report in an article entitled, “Hazy Advice: Should Moms Who Smoke Weed Continue to Breastfeed?”

John R. Hughes, M.D., was quoted in Reuters’ Health story “Quitting Smoking Abruptly Has Best Long-Term Results.” The story was picked up in a number of national media outlets including NBC News and the New York Post. He also was interviewed by WalletHub online editors about the most effective strategies for quitting.

Stephen T. Higgins, Ph.D., was featured in “Contingency Management: Why it Pays to Quit,” an article by Sujata Gupta in Nature. His pioneering work on the treatment of drug addiction was also mentioned in the Wall Street Journal article, “A Simple Fix for Drunken Driving.”

Stacey C. Sigmon, Ph.D., authored a letter to the editor that was published in the New York Times in response to a February 26, 2015 article titled “Vermont Tackles Heroin, With Progress in Baby Steps.” She also spoke with WCAX Newschannel 3 about the success rate of Methadone and Suboxone maintenance at the Chittenden Clinic, where she serves as Director. Her NIH-funded clinical trial, using technology to improve the lives of people awaiting treatment at methadone clinics, was profiled by VTDIGGER. And, her pilot project to promote healthy nutrition in methadone patients was featured on New England Cable News.

Seven Days newspaper profiled the VCBH and the work of Stephen T. Higgins, Ph.D., in “A UVM Researcher Aims to Help Addicts.” Also mentioned in the article were Diann E. Gaalema, Ph.D., and Philip Ades, M.D.
The following publications are representative of VCBH faculty research.

**Philip Ades, M.D.**

**Sarah H. Heil, Ph.D.**

**Robert Althoff, M.D., Ph.D.**

**Dianna E Gaalema, Ph.D.**

**Kim Dittus, M.D., Ph.D.**

**Stephen T. Higgins, Ph.D.**

**Dianna E Gaalema, Ph.D.**

**Hugh Garavan, Ph.D.**

**Stacey C. Sigmon, Ph.D.**

**Brian Sprague, Ph.D.**

**Richard Rawson, Ph.D.**
* Joined the VCBH in January 2016, publications below represent prior research.


**John R. Hughes, M.D.**

**Julie Phillips, M.D.**


**Sarah H. Heil, Ph.D.**

**Philip Ades, M.D.**

**Richard Rawson, Ph.D.**
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**Hugh Garavan, Ph.D.**

**Stacey C. Sigmon, Ph.D.**

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**Richard Rawson, Ph.D.**
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**John R. Hughes, M.D.**

**Julie Phillips, M.D.**

List of 2015–2016 Publications

The following list represents VCBH publications from October 2015 to August 2016. They are listed in alphabetical order by first VCBH author.


Preventive Medicine


Bickel WK, Moody L, Higgins ST. Some current dimensions of the behavioral economics of health-related behavior change. Preventive Medicine. 2016 June 4; P20 GM103644, R01 HD075669, R01 HD078332

Higgins ST, Kurti AN, Redner R, White TJ, Dunn YJ, Higgins ST. Use of high-nicotine/tar-yield (full-flavor) cigarettes and risk for nicotine dependence in nationally representative samples of U.S. smokers. Nicotine and Tobacco Research. 2015 Nov 7; P20 GM103644


