Vermont Center on Behavior and Health (VCBH) at the University of Vermont

What is the VCBH? The VCBH, based within the UVM Robert Larner, M.D. College of Medicine's Department of Psychiatry, involves over 20 faculty from seven departments and three colleges. It collaborates with Brown University, Johns Hopkins University, the University of Kentucky, community healthcare leaders, and advisory panels. Its primary goal is to study how behaviors influence chronic disease and premature death, focusing on mechanisms and interventions informed by behavioral economics and pharmacology. The center emphasizes understanding vulnerability and promoting healthy behaviors through incentives and policies, with a particular focus on socioeconomic factors. Unique among NIH funded centers, VCBH applies behavioral economics and pharmacology to address major U.S. public health issues related to behavior among vulnerable populations.

Aims of the Phase 3 NIGMS COBRE

Aim 1: Recruit and organize the multidisciplinary senior and early-career faculty and advisors necessary to lead and sustain the VCBH mission

Aim 2: Provide promising early-career faculty with the research opportunities, mentoring, and career development support necessary to establish themselves as successful, independent investigators.

Aim 3: Establish an Administrative Core that effectively leads and coordinates a multidisciplinary research center of excellence, trains the next generation of scholars, and obtains the external funding necessary to sustain the VCBH beyond COBRE support.

Aim 4: Establish a research core that supports the efforts of investigators in the VCBH and beyond to study behavior and health relationships pertinent to the VCBH mission.

Aim 5: Establish a Collaboration, Dissemination, and Education Core (Core C) that facilitates local, state, national, and international impact and educates the next generation of scholars in Behavior and Health.

Investment Report

Current support:

$31.7 million

Cumulative Federal Support:	~$200M
COBRE Publications:	459
TCORS Publications:	>200

Active collaborations throughout the U.S. and internationally.

Highlighted Research Topics:

- Curbing opioid addiction and perinatal smoking in rural communities across VT and nationally
- Field test policies for FDA on reducing tobacco use in vulnerable populations
- Enhancing participation and treatments in cardiac rehabilitation in rural populations
- Improving quality-of-life assessments and outcomes following critical health rehabilitation

Vermont Center on Behavior & Health
The University of Vermont





Inquiries may be sent to the VCBH Director at Stephen.Higgins@uvm.edu.
Website: https://www.uvm.edu/larnermed/behaviorandhealth

Translational Global Infectious Disease Research (TGIR) Center

The TGIR-COBRE aspires to decrease the burden of infectious diseases in Vermont, regionally, nationally and internationally. At UVM it serves as a research-accelerator, especially for our next generation of biomedical and computational scientists. https://www.med.uvm.edu/tgircobre/home.

The TGIR is housed in the Department of Microbiology and Molecular Genetics (MMG) and partners with the UVM Vaccine Testing Center. It leverages UVM's existing strengths in global infectious diseases research, vaccines, and the Complex Systems center. Investigators oversee two research cores and mentor the research projects and career development of our next generation of biomedical and computational scientists.

Impact of Translational Global Infectious Diseases Research (TGIR)

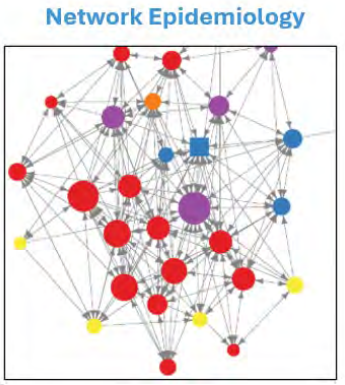
The impact of UVM's Translational Global Infectious Diseases Research (TGIR) COBRE was apparent during the COVID-19 pandemic. Multiple researchers from the TGIR worked aggressively to expand our knowledge of the SARS-CoV2 virus, to develop new vaccines, to expand diagnostic testing platforms, to understand protective immunity, and to model the spread of the pandemic. TGIR faculty continue to work to control emerging or re-emerging infectious disease that threaten Vermont, the region, and the globe. From the microbiome to cancer, TGIR research spans from fundamental mechanisms of disease, to clinical research and vaccine development, and includes computational models to predict transmission and outcomes.

Grants submitted: 352
Value of submitted grants: $327 million
Grants received: 146 (41.6%)
Value of grants received: $99 million

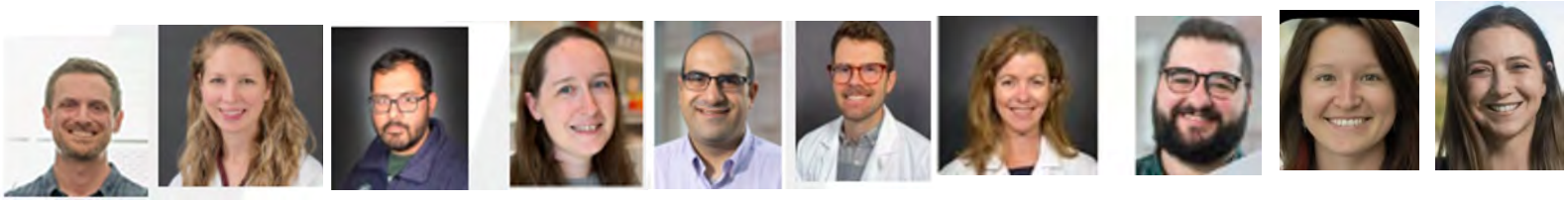








For Vermont's healthy future: The TGIR helps Vermont's next generation of biomedical and computational researchers succeed.



VERMONT CENTER FOR
CARDIOVASCULAR
& BRAIN HEALTH

What is the VCCBH? The Vermont Center for Cardiovascular and Brain Health (VCCBH) is a $12 million NIH-funded Phase 1 Center of Biomedical Research Excellence (COBRE) founded in 2020 that is co-led by Mary Cushman, M.D., M.Sc., University Distinguished Professor of Medicine, and Mark Nelson, Ph.D., University Distinguished Professor and Chair of Pharmacology. The Center's mission is to develop sustainable programs to elucidate pathophysiological mechanisms underlying cardiovascular disease, stroke, and cognitive impairment. The Phase 2 renewal is pending funding decision at NIGMS.

Impact of the VCCBH

The VCCBH brings scientific and clinical advances in cardiovascular and neurovascular diseases to Vermonters and the nation, to ultimately reduce their incidence.

- Cardiovascular diseases and stroke are leading causes of death in Vermont and around the world.
- Vascular health and brain health are closely connected, contributing to stroke, dementia, and cognitive impairment.
- 78 million worldwide will be living with dementia by 2030.
- Vermont is aging more rapidly than other states, ranking 4th in the US for proportion aged over 65 years (19.4%, predicted to increase to 28% by 2030); so the impact of cardiovascular disease, stroke and dementia is disproportionately large.
- From 2018-20, the death rate in Vermont for cardiovascular diseases was 304 per 100,000; we rank 20th in the U.S. for heart disease death, and 42nd for stroke.
- There are ~13,000 Vermonters living with Alzheimer's Disease (and 30,000 caregivers caring for them). It is our 4th leading cause of death (the 13th highest rate in the US).

Program Overview

VCCBH support from the National Institute of General Medical Sciences at the National Institutes of Health (NIH) reflects UVM's internationally recognized cardiovascular, vascular and neurovascular expertise and contributions to the field. The Center comprises:

- Over 50 junior and senior faculty
- 2 Research Cores
- Administrative Core overseeing all operations functions
- Communications and Marketing Committee maintaining a website, Twitter/X feed, and news updates to facilitate outreach to state, national, and international partners





Vermont Center for Cardiovascular and Brain Health

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VERMONT CENTER FOR CARDIOVASCULAR & BRAIN HEALTH

Successes

Selected Research Accomplishments:

- **Funded 9 Research Project Leaders w NIGMS support:** Drs Katharine Cheung, Matthew Caporizzo, Osama Harraz, Masayo Koide, Denise Peters, David Punihaole, Nick Klug, Debora Kamin Mukaz, Diego Adrianzen Herrara.
- **Funded 10 Pilot Grant Leaders** w $1.2M UVM funds.
- All completed their research except: N Klug (left for a K award), D Kamin Mukaz (project terminated by NIH due to changing federal priorities)
- **$18.6M in new grants received**
- 108 publications in high profile medical journals
- Multiple Awards received by faculty
- >160 invited presentations by early career faculty





Challenges in 2025

- Funding not renewed on time. Canceled 2025 Annual Symposium.
- Dr. Kamin Mukaz's project was terminated by NIH (March 2025)
- Carry forward funds request of $820K delayed 7.5 months, stalling progress and allowing only 1 Research Project Leader to maintain funding

Center & Career-Building Highlights

- Established 2 research cores: **Molecular Epidemiology and Biostatistics and Customized Physiology and Imaging** that provide UVM researchers support for experimental design & biostatistics, translate basic research findings to human populations, deliver state-of-the-art capabilities for fixed and live cell and in vivo imaging, device fabrication and image analysis. Purchased new instrumentation.
- Dr. Peters promoted to associate prof w tenure. Dr. Cheung on track for this year
- Annual Scientific Symposium on campus each June
- Monthly Conference including visiting professors
- Innovative peer mentoring programs for early-career faculty

Phase 2 renewal application score favorable for June 2026: 20

NIGMS Funding received by VCCBH Investigators

Program/Grant Name	Type / Institution	Cong District	Amount
Vermont Center for Cardiovascular and Brain Health (VCCBH), COBRE, Phase I 2020-2025 (MPIs: Mary Cushman, MD, MSc; Mark Nelson, PhD Award #P20GM135007)	COBRE Phase-1 / Lead Institution: UVM	VT	$12,000,000
Team Science Supplement: 2023	COBRE Phase-1 / Lead Institution: UVM	VT	$660,479
Woman's Health Supplement: 2022	COBRE Phase-1 / Lead Institution: UVM	VT	$311,950
Emmett Whitaker, MD, PI (Pilot Project Leader). Award #R35 GM151175. 2023. **Vascular Determinants of Anesthesia-Induced Hypotension at the Extremes of Age**	R35 / UVM *Moved to Johns Hopkins University*	VT	$1,950,000

Total Funds $14,922,429

(FY 2025-26: $821,000 to P20GM135007)