VERMONT MEDICINE
THE ROBERT LARNER, M.D. COLLEGE OF MEDICINE AT THE UNIVERSITY OF VERMONT
SUMMER 2021

ADVOCATES FOR CHANGE
Larner Students & Faculty Address Health Care Inequity

ALSO FEATURED: VACCINATING VERMONTERS • CONVERSATION RESEARCH • COMMENCEMENT 2021
A Pioneer Honors Her Roots

A pioneer in the field of pediatric cardiology, Jacqueline Noonan, M.D.’54, was a renowned researcher, clinician, and mentor to many new physicians throughout the course of her decades-long career. In 1963, she became the first person to characterize a hereditary disorder typified by heart malformations and accompanied by a unique set of physical characteristics, a disorder that would later be named “Noonan Syndrome.” She was also the first to describe hypoplastic left heart syndrome. Her impact on younger generations of Larner graduates can be felt to this day, says Anne Marie Valente, M.D.’96, director of the Boston Adult Congenital Heart Program and associate professor of pediatrics and medicine at Harvard Medical School. “Dr. Noonan was always incredibly supportive and encouraging,” she says. “Particularly in the field of cardiology, this mentorship proved to be invaluable and I am deeply grateful to her for her leadership.” The College celebrated Noonan’s impact on the field of medicine through her receipt of the 2009 UVM Medical Alumni Association’s A. Bradley Soule Award and the first-ever Distinguished Service Award in 1996. She was a consistent and generous supporter of the 21st Century Fund, the Larner Endowed Loan Fund and, more recently, the UVM College of Medicine Fund. When Noonan died in July of 2020 at the age of 91, she donated $285,000 to the College through her estate to support the Dean’s Strategic Fund for Medical Research & Education. Her generosity will help to support the most pressing needs of the College and help recruit and support new faculty members. (Above) Jacqueline Noonan, M.D.’54, at Medical Reunion 2009
Summer in New England is special, made even more so here at the Larner College of Medicine by welcoming new and returning students. Our new medical students and graduate students arrive to a world that seems to change every day. UVM faculty, staff and students have behaved admirably throughout the past 18 months, and so have our fellow Vermonters, but at this writing, we are not yet out of the woods. We have seen what science can accomplish, at breathtaking speed, and we will continue to contribute to every effort to bring our College back to whatever “normal” future we have in store.

We have just welcomed the newest members of our Larner community, the medical Class of 2025 and our incoming graduate students. In addition to new students, we are welcoming staff and newly recruited staff and faculty. Among these recruits is Dr. Randall Holcombe, the new director of the UVM Cancer Center and Division Chief for the Division of Hematology and Oncology in the Department of Medicine, about whom you can read more in this issue.

While we look forward to embarking on new challenges, we realize that there is still much important work dating from before the pandemic that calls for our continued attention. Thrown in high relief during the past year has been the need to address issues of social justice locally and nationally. This issue of Vermont Medicine documents important ongoing work by our faculty, students and staff over the past several years to foster health equity. As we affirm in the Statement on Professionalism that guides our Larner community, a sense of altruism and social responsibility are key drivers of our work every day.

I expect that many of you received your diplomas from former Dean William Luginbuhl, who led our College for more than 20 years in the 1970s and 1980s. As you’ll read in this issue, Dean Luginbuhl passed away in late June. I was honored to visit with him and his wife, “Vi,” in 2019, and hear their memories and aspirations for our College. It is clear that the spirit of cooperation and teamwork evident during our College’s second anniversary of the public roll-out of the College’s Statement on Professionalism with its first-ever Professionalism Week May 3 through May 7, 2021. As part of the week-long celebration, four members of the Larner community—a faculty member, staff member, graduate student, and medical student—were recognized on May 4 during the Professionalism Week Kick-off and Awards Celebration, held via Zoom. (The four awardees are shown at right and listed below.)

“While we could have anticipated the many ways our commitment to professionalism would be tested over the past year, but I think we should all take time to recognize just how much that ‘true north’ has guided us through the challenging times of the pandemic,” said Dean Richard L. Page, M.D., in a message to the Larner community on March 30.

Randall F. Holcombe, M.D., M.B.A., has been appointed director of the UVM Cancer Center (UVMCC) and chief of the Division of Hematology and Oncology in the Department of Medicine. Holcombe is expected to hold the newly established J. Walter Juckett Chair in Cancer Research. He joins UVM and the UVM Health Network from the National Cancer Institute (NCI)-designated University of Hawaii Cancer Center, where he held the post of director since 2016. He succeeds Richard Qalbraith, M.D., Ph.D., and Chris Holmes, M.D., Ph.D., who became interim co-directors of UVMCC in 2020, with Holmes also serving as interim chief of the Division of Hematology and Oncology since 2017. Holcombe holds a B.A. from Duke University and earned his medical degree from the New Jersey Medical School and an M.B.A. from the Zicklin School of Business at Baruch College. He has held leadership roles at cancer centers since 1989, serving as associate director of clinical and translational research at the Chao Family Comprehensive Cancer Center and chief, Division of Hematology-Oncology, at the University of California, Irvine from 1997 through 2010 and as deputy director of The Tisch Cancer Institute at the Icahn School of Medicine at Mount Sinai from 2010 through 2016. At Mount Sinai, Holcombe also served as director of clinical cancer affairs and chief medical officer for cancer for the Mount Sinai Health System.

Randall F. Holcombe, M.D., M.B.A.
**(National Recognition)**

**American Thoracic Society Honors Bates, Parsons, Kaminsky**

Three members of the Department of Medicine were honored at the 2021 American Thoracic Society (ATS) International Conference held in May. Jason Bates, Ph.D., D.S., professor of medicine, received a Recognition Award for Scientific Achievement, which "recognizes outstanding scientific contributions in basic or clinical research to enhance the understanding, prevention and treatment of respiratory disease or critical illness." and is given "based on contributions made throughout their careers or for major contributions made at a particular point in their careers." E.L. Amdur, Chair and Professor of Medicine Polly Parsons, M.D., received the Edward Livingston Trudeau Medal, which recognizes "on individual with lifelong major contributions to prevention, diagnosis and treatment of lung disease through leadership in research, education, or clinical care" and "acknowledges exemplary professionalism, collegiality and citizenship in the ATS community."

David Kaminsky, M.D., professor of medicine, received the Assembly on Respiratory Structure and Function Award—the highest academic honor that UVM can bestow upon a faculty member. Warshaw is an internationally renowned leader in pharmacology, was awarded the University of Vermont’s Outstanding Investigator Award—the highest academic honor that UVM can bestow upon a principal investigator of a National Institutes of Health-funded Center of Biomedical Research Excellence (COBRE) grant—the Translational Global Infectious Diseases team researching candidate vaccines and vaccine immunology. Kirkpatrick is also the principal investigator of a National Institutes of Health-funded Center of Biomedical Research Excellence (COBRE) grant—the Translational Global Infectious Diseases research center. The center’s mission is to develop technology to measure the molecular-level force generated both muscle contraction and the transport of intracellular cargo. He developed the technology to measure the molecular-level force generated by these tiny motor proteins, an advance that was critical to his paradigm-shifting discovery that patients with hypertrophic cardiomyopathy (HCM) have a genetic mutation to the cardiac myosin that can lead to heart failure and sudden death in young athletes. This discovery led to the development of drugs to "throttle back" the heart’s molecular motor in patients with HCM.

**Kirkpatrick Honored as University Scholar**

Beth Kirkpatrick, M.D., professor and chair of molecular physiology and biophysics, has been named one of three 2021-2022 University Scholars. The University Scholars program recognizes UVM faculty members for sustained excellence in research, scholarship, and creative arts. Kirkpatrick began her career with research interests in enteric infections, mucosal immunology, and vaccines. In 2004, she launched the UVM Vaccine Testing Center, now a multi-disciplinary team researching candidate vaccines and vaccine immunology. Kirkpatrick is also the principal investigator of a National Institutes of Health-funded Center of Biomedical Research Excellence (CORRE)—grant—the Translational Global Infectious Diseases Research (TGD) Center—which focuses on the development of the next generation of faculty investigators from the biomedical and quantitative modeling fields.

**Dostmann Receives Teaching Award**

Wolfgang Dostmann, Ph.D., professor of pharmacology, was awarded the University of Vermont’s 2020-2021 Kroesch-Maurice Excellence in Teaching Award at the rank of professor. The award recognizes Dostmann’s “commitment to the greatness and virtue of instruction and... efforts at cultivating an inclusive environment conducive to exceptional learning.” The awards memorialize Robert H. and Ruth M. Kroesch and her parents, Walter C. and Mary L. Maurice. Robert H. Kroesch served as Registrar and Dean of Administration at UVM from 1946-1956. His wife, Ruth, graduated from UVM in 1938 and her father, Walter Maurice, graduated from UVM in 1909. All four were teachers.

**National Recognition**

**Shukla Garners Cancer Research Award**

Professor of Pathology and Laboratory Medicine Arti Shukla, Ph.D., was recognized for outstanding cancer research with the Society of American Asian Scientists in Cancer Research (SAASCR) award during the annual American Association for Cancer Research meeting on May 17, 2021. SAASCR is a non-political and non-profit organization with more than 5,000 scientists from Asian (mainly Indian) origin and working in the U.S. and Canada in the field of cancer research.

**Warshaw Named University Distinguished Professor**

David Warshaw, Ph.D., professor and chair of molecular physiology and biophysics, is a 2021 recipient of the University Distinguished Professor Award—the highest academic honor that UVM can bestow upon a faculty member. Warshaw is an internationally renowned leader in pharmacology, was awarded the University of Vermont’s Outstanding Investigator Award—the highest academic honor that UVM can bestow upon a principal investigator of a National Institutes of Health-funded Center of Biomedical Research Excellence (COBRE) grant—the Translational Global Infectious Diseases research center. The center’s mission is to develop technology to measure the molecular-level force generated both muscle contraction and the transport of intracellular cargo. He developed the technology to measure the molecular-level force generated by these tiny motor proteins, an advance that was critical to his paradigm-shifting discovery that patients with hypertrophic cardiomyopathy (HCM) have a genetic mutation to the cardiac myosin that can lead to heart failure and sudden death in young athletes. This discovery led to the development of drugs to "throttle back" the heart’s molecular motor in patients with HCM.

**Understanding the Adolescent Brain**

Youth brain activation data from the largest longitudinal neuroimaging study to date provides valuable new information on the cognitive processes and brain systems that underlie adolescent development. The study, published June 7 online in Nature Neuroscience, stands to clarify the psychological processes that put young people at higher risk for developing mental and physical health challenges. Since many mental health disorders emerge during this time, understanding neurodevelopment from 10 to 20 years old is key to improving outcomes for adults. However, most neuroimaging studies have historically focused on adults. This paper is part of the Adolescent Brain Cognitive Development Study, which launched in 2016 and is a 10-year-long longitudinal study that has enrolled nearly 12,000 youth aged 9 to 10 at 21 sites across the country. Using functional magnetic resonance imaging technology, the researchers observed brain activation during a battery of three different tasks. Results demonstrated which brain regions are involved in a range of psychological processes, including cognitive control, reward processing, working memory, and social/emotional function. “This study—likely the biggest task activation paper ever—shows the brain regions activated by each task, how well they capture individual differences, and will likely serve as a baseline for all the subsequent papers that will track the kids as they age,” said Hugh Garavan, Ph.D., professor of psychiatry and senior author. Bader Chaarani, Ph.D., assistant professor of psychiatry and the study’s first author, calls the brain activation maps the team developed “a gold standard for the neuroscientific community” that could help inform study design.

"The pandemic has uncovered the insidious racism in medicine, forced us to address the plight of child hunger, to face the deep class divides in our country. As a physician, you have the privilege of a voice that will be respected and prioritized in conversations, so be a part of that conversation. Do not hide in silence.”

—Elizabeth Lynch, M.D. ’21, addressing her classmates at the 2021 medical commencement ceremony

**Study Highlights COVID-19’s Impact on Mammography**

A study by investigators from the Breast Cancer Surveillance Coalition (BCSC) published in analysis of mammography screening rates during the first five months of the COVID-19 pandemic, highlighting how the long-term health and wellbeing of different populations may be affected. Results published in the Journal of the National Cancer Institute show a strong rebound in breast cancer screening rates, but also uncover a cumulative deficit, as well as disparities by race, that researchers say require additional attention at a public health level. Although trends in mammography screening were similar by age and risk factors in the study, the researchers found the rebound in mammography volume to be lower among Hispanic and Asian women. "This national snapshot is important to help us focus research, outreach and intervention to close gaps that were perhaps created or made worse by the pandemic," says Brian Sproague, Ph.D., associate professor of surgery and the study’s lead author.
n a first-ever hybrid in-person/virtual commencement, the Larner College of Medicine celebrated its Class of 2021 M.D. graduates on May 23, 2021, during a ceremony that took place both at UVM’s Patrick Gymnasium and via Zoom. A total of 94 of the Larner College of Medicine’s 110 Class of 2021 medical graduates attended the ceremony, with 42 participating in person. All in-person participants complied with UVM’s strict COVID-19 safety protocols.

Family physician, epidemiologist, and anti-racism activist Camara Phyllis Jones, M.D., M.P.H., Ph.D., past president of the American Public Health Association, delivered the commencement keynote address. Jones counseled graduates that “being a social justice warrior is a legitimate and necessary part of being a physician.” She gave them four charges as they embark on their new careers: “Be courageous; be curious; be collective; and build community.” Jones gave examples of the behavior aligned with these charges, such as having the courage to be a truth-teller, asking serial “why?” questions, caring about the whole of humanity, and bursting “through our bubble” to make conversation with strangers in order to turn strangers into friends.

In her address, Senior Associate Dean for Medical Education Christa Zehle, M.D.99, told students “If the pandemic has taught us anything, it is the power disease has to upend daily life in ways we never thought possible.” She recognized the students’ commitment to advocating for social justice and equity and said, “Your voice will continue to be important throughout your career, so speak up for what is right, be a model of professionalism, and demonstrate kindness and respect in all that you do.”
“This guide is meant to help Black women feel safer, and to provide a modern framework for medical providers to actively address their own racism.”


Wellness Environment Launches WE MD App Study at Larner

L aunched seven years ago, the Wellness Environment (WE) program for UVM undergraduates is an incentive-based program focused on health promotion, illness prevention, and behavioral change. For several years, students in WE have been given Apple watches and used the WE App, which was recently updated, to keep track of their health and wellness activities. On May 24, members of the WE program at UVM, in collaboration with leaders at Larner, opened a voluntary research study of the WE MD App in which medical students in the classes of 2022 and 2023 can enroll.

The latest creation conceived by WE founder and Director Jim Hudziak, M.D., professor of psychiatry and director of child psychiatry and the Vermont Center for Children, Youth and Families, the WE MD App was inspired by Hudziak’s experience as a medical student and that of his daughter, Vicenta Hudziak, M.D.’18. The WE App served as a foundation for the WE MD App, which was tweaked for a medical student user based on input from a team including Hudziak, William Copeland, Ph.D., professor of psychiatry, Lee Rosen, Ph.D., interim associate dean for students and assistant professor of psychiatry, Elizabeth Lynch, M.D.’22, and medical students Alexandra Novelli ’23, Carly Watson ’23, and Hakeem Yousef ’22.

An arm of the WE program, led by Copeland, focuses on research based on the findings generated by students’ responses in the app, including a recent Journal of Child and Adolescent Psychiatry article on student wellness during the pandemic. The goal is to better promote wellness behaviors, provide individualized feedback, and offer incentives for engaging in reflection and wellness activities.

The WE MD App homepage explains an overall personal wellness score as well as scores in the five main areas of well-being.

Viewpoint

Bystander or Advocate? Who Do You Choose to Be?

BY DIANE MAGRANE, M.D.

C ulture change begins with acts of individual change. You may have heard the phrase “be the change you aim to see.” This wisdom often is attributed to Mahatma Gandhi, but the actual author was high school teacher Aseem Lorraine, who first used it to advance a program in the poverty- and violence-challenged high schools of Brooklyn. Each of us can choose to be the change through actions that advance everyone’s opportunities while challenging traditional norms.

We can check the power language that maintains traditional equilibrium and facilitates marginalization, choosing instead to:

- Acknowledge transgressions in the space and time in which they occur. Politely. Firmly. Failure to do so by waiting until a private conversation after the meeting is called private alibis. It results in silently condoning the transgression.
- Address issues of bias and discrimination in the time, creating space to hear them out. Provoking the conversation away from the alleged sexism or racism towards a more neutral topic is called side-stepping. It leaves the challenge unexplained and diminishes the person feeling harmed by it.
- When we call it out power language, when we check our own use and readjust, we change the conversation in the room to make it more welcoming and inclusive.
- Allow individuals to express their thoughts and feelings openly, without becoming defensive. Avoid tone policing that shuts down the marginalized person as being angry or emotional. And take care not to put their words into yours. People, even in the midst of their passion, are capable of speaking for themselves.

We can count and report the counts and gaps. We measure—and report—what we value. What do your counts show of gender and race in publications, appointments, conference speakers, awards that are not targeted to specific groups? What does that say about what we value as a community?

The Gender Equity Report Card being developed by medical student Stellar Levy with the Gender Equity Committee is a great example of counting and reporting.

We can acknowledge the good work in front of us. Pay attention to the behaviors described in the gender equity awards. Speak up in favor of these changes and encourage more. Consider how they might be replicated across the institution.

Twenty years ago, UVM faculty and students designed one of the first medical student curricula in the nation that integrated leadership development as a core theme. That theme, and in particular, the skills related to advocacy for our community, are even more important today as we recognize that equity is key to health, innovation, and productivity. How might UVM continue to lead the nation as ambassadors of this teaching and learning? Specifically, where do you think that you do differently if you were to commit to creating the most diverse and inclusive medical school in the country? Where do you have discretion and freedom to act? Will you choose to stand by as a protector of the status quo or will you choose to listen, speak, and act to expand diversity, inclusion and equity in this community?
Study Shows Better Way to Pay for Pain Management

By Janet Franz

A ssistant Professor of Family Medicine Jon Porter, M.D. describes the people under his care as heroes: They fight daily battles against debilitating backache, arthritis, fibromyalgia, systemic inflammatory conditions, and chronic headaches, braving unremitting pain to care for loved ones and manage their lives. For years, these individuals fought their pain with traditional medical weapons—opioid medications, steroid injections, surgeries—while bringing short-term relief to some. But addiction, depression, and anguish followed. “They persevere in quests for pain relief, including trying different pain management options such as opioids, surgeries, and medications,” said Porter.

Better Way to Study Shows

A team of UVM researchers gathered qualitative data from people participating in 13 weeks of evidence-based integrative therapies paid for through Blue Cross. The program aims to support people’s self-efficacy and provide tools for coping with pain, while measuring health improvements and impacts on health care spending.

“As a physician, I wanted to understand how these medical conditions were impacting their lives,” said Porter. “We began by asking questions: ‘What do they want?’ ‘What do they need?’ These questions led to the development of a program that reimburses providers for offering financial incentives to patients who agree to participate in evidence-based integrative therapies.”

A new approach to pain management is changing the paradigm for treating pain. The program aims to offer patients a different model for treating pain that includes mindfulness, massage, and acupuncture.

“The research asks, ‘does this program improve pain, improved physical function, better sleep and fewer visits to primary care and emergency departments for pain relief?’” said Porter.

The project models value-based care—a payment system offering financial incentives to medical providers for meeting health outcomes. It’s opposite of fee-for-service, the traditional model that reimburses providers for each procedure. If it works, Blue Cross may cover integrative therapies more broadly, and other payers may follow suit.

Study participants attend group meetings and receive therapies at a clinic in South Burlington. The clinic includes a studio for group movement, teaching kitchen for culinary medicine classes and rooms for massage, acupuncture, Reiki, physical therapy and substance abuse counseling.

Participants complete surveys assessing their pain’s intensity and impacts on daily life, fatigue, anxiety, ability to participate in social roles and sleep disturbance. The surveys also gauge self-compassion, confidence and resilience.

Preliminary data show significant changes in key areas: Participants report reduced pain, improved physical function, better sleep and fewer visits to primary care and emergency departments for pain relief.

“The results show a statistically significant improvement in patient outcomes,” said Adam Atherly, Ph.D., director of UVM’s Center for Health Services Research at the Larner College of Medicine. He collaborates with Porter and Janet Kahn, Ph.D., a research assistant professor at Larner and massage therapist at CPP, on the study. Atherly evaluates the survey results and has prepared a manuscript for peer review.

The research asks, ‘does this program work at UVM Medical Center?’ Early evidence shows that it does. People are getting better,” Atherly said. “Blue Cross has been looking at claims data, and they see it’s working. Atherly said. “Blue Cross has been looking at claims data, and they see it’s working.

I learned how I could witness their reactions after a new diagnosis, a discussion about a treatment plan, or changes to medications. I remember so clearly after the cardiologist spent 30 minutes talking about different treatment options for atrial fibrillation, the cardiologist paused and asked if they had any questions. The patient turned and said, “What’s a fibril?” Being so medicalized, patients are sometimes left confused, frustrated, and unsure where to ask for more help.

As medical providers, we are often focused on a patient’s problem list and our assessment and plan. Although this is an essential part of our training, we sometimes forget about who is sitting in front of us, what their emotional reactions are, and how their lives are being impacted. A month or two after our first visit, he returned and needed to be hospitalized for several cardiac issues. Upon discharge, he was instructed to have multiple follow-up appointments with primary care, oncology, cardiology, and neurology. During the period of follow up, he had many diagnostic tests done on top of multiple medication adjustments. He was also given the diagnosis of Alzheimer’s dementia.

During the time he was seeing different specialists, I attended multiple appointments with him and his wife, getting to know their background and who they are outside of medical appointments. I learned how they loved to garden, read, and hunt, and I began to understand how these medical conditions were impacting their lives.

I learned how my time with this patient and his wife gave me the opportunity to approach my work as a physician from a different perspective. After many months of battling with his health conditions, and more than a year of constant medical visits and adjustments to treatment plans, he finally said he felt better for the first time. He may not be the perfect answer to a test question, and his medical regimen may not be optimized, but his quality of life has improved. After following him for the past year, I saw him go through so many ups and downs. I am so thankful that they welcomed me on their journey. At my last visit with him, I was just so touched seeing him feeling better. They were proud that they could provide me this educational experience.

Reflecting on my time with them, I consider this one of the most rewarding experiences of my medical education.

Bearing Witness to the Patient Experience

BY FLORA LIU, M.D. ’21

I learned how they loved to garden, read, and hunt, and I began to understand how these medical conditions were impacting their lives. – Flora Liu, M.D. ’21

*Some details have been changed to protect patient confidentiality.