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TRUE STORIES OF OUR BATTLE

AGAINST COVID-19

We had not seen it for a hundred years:  
*a global outbreak so pervasive and virulent that it brought normal life across the world to a standstill.*

When COVID-19 swept across this country in March, Larner faculty, students, staff members, and alumni across the country went into action in all the areas served by the College's missions. The following pages offer a broad look at their response to that call to service ▶





Jason Bates, Ph.D., leads the effort to develop the Vermontilator.

## Bates and Vermont Team Invent Simplified Ventilator

**RESEARCH**

A team of UVM scientists, engineers and doctors have developed a new design—and built a working model—for a simple, inexpensive ventilator, affectionately called the “Vermontilator.”

Jason Bates, Ph.D.— a professor in both the Larner College of Medicine and College of Engineering and Mathematical Sciences—has been researching the kind of lung damage that occurs during illnesses like doctors are now seeing in COVID-19 patients for more than fifteen years. He leads the effort to develop the Vermontilator.

**THE UVM TEAM'S APPROACH USES AN ALTERNATIVE MODE OF HELPING CRITICALLY ILL PATIENTS BREATHE. IT'S CALLED “AIRWAY PRESSURE RELEASE VENTILATION” OR APRV.**

Unlike other improvised emergency ventilator designs, the UVM team’s approach uses an alternative mode of helping critically ill patients breathe. It’s called “airway pressure release ventilation” or APRV.

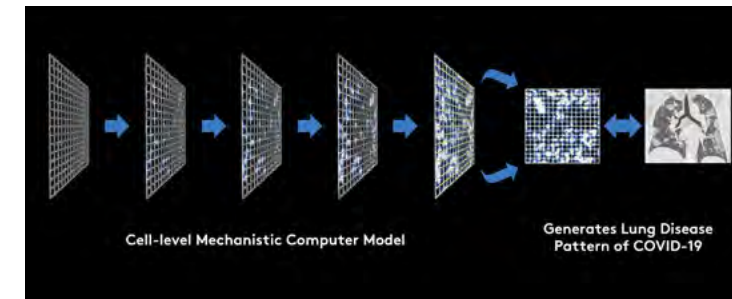
This APRV approach may be particularly useful for patients suffering with the new virus. “One of the main complications from COVID-19 is called acute respiratory distress syndrome, a disease where the lungs fill up with an inflammatory fluid,” explains

Anne Dixon, M.D., professor of medicine. “Many of these patients end up being dependent on a ventilator for fairly prolonged periods.”

The new ventilator could help these patients by inflating their lungs using long inspirations of air, which are held inflated at a constant and relatively high pressure, Bates explains. Then “at regular intervals, short expirations are allowed during which the lungs expel carbon dioxide,” he says. The APRV approach is the opposite of a normal breathing pattern—and may allow patients with COVID-19 to avoid, or reduce, the lung damage associated with the disease and with extended periods on a ventilator.

Unlike a traditional ventilator—a very complex piece of equipment that can cost more than \$25,000—the Vermont-built machine was quickly assembled out of a commercially available motor that drives a rotating disk, conventional medical hoses, and other relatively simple parts, through collaboration with the team at UVM’s IMF Labs. As the COVID-19 pandemic continues to evolve, Bates sees resource-poor areas of the world experiencing severe shortages of healthcare facilities and equipment benefitting from the Vermontilator.

“Seeing the Vermontilator project come together from inception to realization so quickly, thanks to the enthusiasm and commitment of so many people, has certainly been one of the most gratifying experiences of my professional life,” says Bates.



Screenshots from a computer modeling simulation of COVID-19 lung injury

## Computer Modeling Helps Researchers Battle COVID-19

**RESEARCH**

Bright blue and white lights pulse across the grid of black squares like fireflies. While reminiscent of a summer night’s sky, the video images are actually a computer model of pulmonary inflammation that UVM Professor of Surgery Gary An, M.D., retooled to depict a COVID-19 cytokine storm. He posted it on Twitter, where scientists worldwide have been sharing ideas to identify potential treatments for the virus.



Gary An, M.D.

An has nearly 20 years of experience in creating models of sepsis, which like COVID-19, invokes a hyper-inflammatory response called a cytokine storm. In late March, he and Assistant Professor of Surgery R. Chase Cockrell, Ph.D., joined an international coalition of virologists, pharmacologists, and mathematicians led by Indiana University’s Paul Macklin, Ph.D., to help build a SARS-CoV-2 tissue simulator that models the changing behavior of the virus once it enters the body. An has collaborated with Macklin for several years.

The coalition members modeled the underlying mechanisms of COVID-19, “from viral invasion all the way through manifestation of disease,” An said. “The scientific community pretty rapidly identified the various phases of the viral life cycle and found potential drugs that theoretically targeted those various areas.”

The hurdle, however, was a lack of time to test potential treatments using a traditional approach. Conducting “in silico” trials—using computer models that model the mechanisms of the viral infection—allows scientists to explore how those drugs might work and provide insight about treatments.

The SARS-CoV-2 tissue simulator is an open source project, available to the large community of researchers working on COVID-19 projects worldwide on the project website.

## Study Highlights Impact of COVID-19 on Motivation to Quit Tobacco

**RESEARCH**

A study from researchers at the UVM Vermont Center on Behavior and Health (VCBH) suggests that, for some, knowledge of COVID-19 is associated with a reduction in cigarette and e-cigarette use, as well as an increase in motivation to quit. The study, published in *Nicotine & Tobacco Research*, is among the first to report changes in tobacco use and motivation to quit using cigarettes and e-cigarettes in response to COVID-19.

In this study, VCBH investigators examined data collected from 345 U.S. adults in an online survey conducted in April 2020. The researchers found that a desire to reduce COVID-19 infection risk prompted nearly a quarter of respondents to reduce their cigarette and e-cigarette use, and more than one-third to increase their motivation to quit. More than 20 percent of respondents reported a quit attempt to reduce risk of harm from COVID-19. These data are consistent with recent Vermont quit line (802Quits) data showing increases in phone and website registrations in March 2020 compared to March 2019.

**MORE THAN 20 PERCENT OF RESPONDENTS REPORTED A QUIT ATTEMPT TO REDUCE RISK OF HARM FROM COVID-19.**

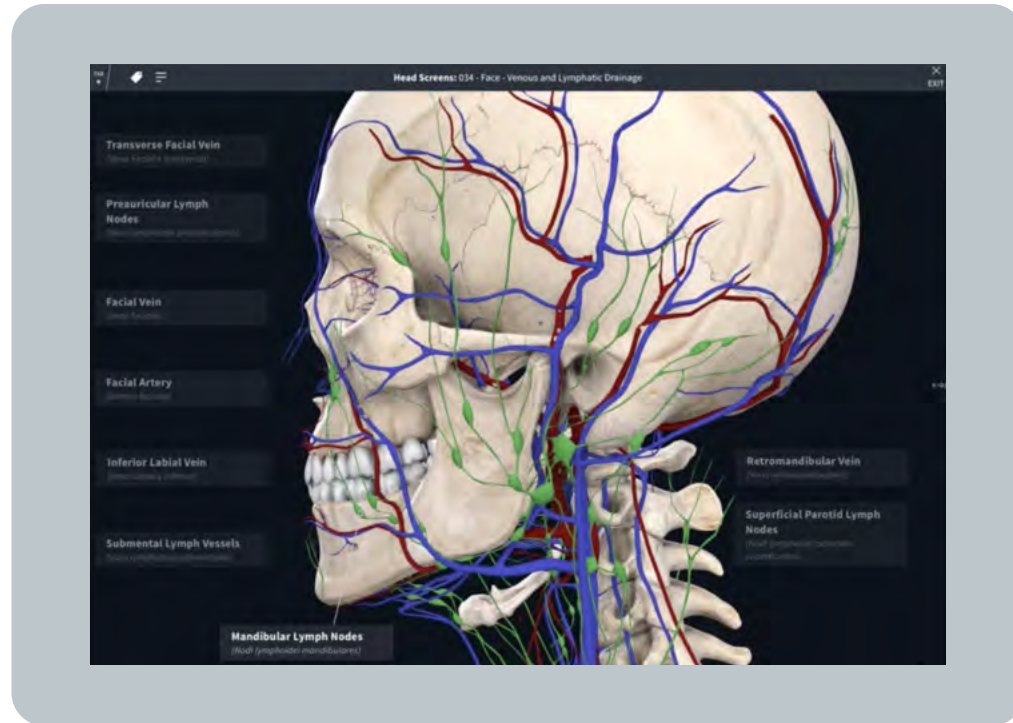


Elias Klemperer, Ph.D.

“These findings demonstrate that some adults who smoke cigarettes and use e-cigarettes are changing in response to the coronavirus pandemic,” said first author Elias Klemperer, Ph.D., a postdoctoral fellow in the VCBH at UVM. “This is important, because quitting cigarettes is often the most important thing you can do to improve your health.”

In addition to Klemperer, co-authors on the study include Julia C. West, B.A., VCBH pre-doctoral fellow, Catherine Peasley-Miklus, Ph.D., VCBH project manager, and Andrea C. Villanti, Ph.D., MPH, associate professor of psychiatry.





## Neurological Sciences Team Creates Virtual Anatomy Course

**EDUCATION**

Each summer, dozens of physical therapy and Master of Medical Science graduate students from UVM and beyond come to the Larner College of Medicine for a very hands-on Human Gross Anatomy course. But with in-person instruction prohibited due to COVID-19, faculty members in the Department of Neurological Sciences had to either cancel or develop an alternative plan.

With only six weeks to prepare before the first day of class on June 22, the team, led by Thayer Professor of Neurological Sciences and Director of the Anatomical Gift Program Gary Mawe, Ph.D., got to work to create a comprehensive, inclusive online version of the class.

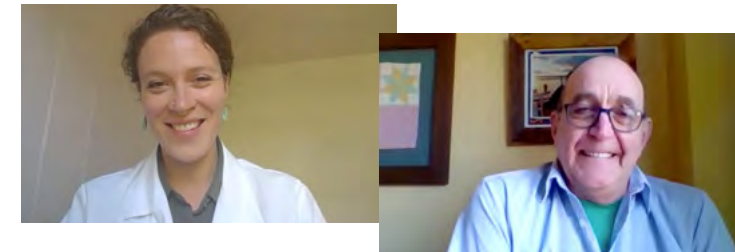
**...A CURRICULUM THAT INCLUDES A COMBINATION OF PRE-RECORDED LECTURES, NEWLY-GENERATED GROSS ANATOMY LAB DISSECTION VIDEOS, A 3D ANATOMY APP CALLED COMPLETE ANATOMY, AND LIVE ONLINE DISCUSSIONS WITH FACULTY MEMBERS.**

First, Mawe took an online course design boot camp, researched several software programs, and consulted—through a listserv hosted by the American Association of Anatomists—with educators at many

other institutions faced with the same dilemma. Following consultation with other course faculty members, he settled on a curriculum that includes a combination of pre-recorded lectures, newly-generated gross anatomy lab dissection videos, a 3D anatomy app called Complete Anatomy, and live online discussions with faculty members.

Faculty members, including Mawe, co-director and Professor Victor May, Ph.D., and Assistant Professors Derek Strong, Ph.D., Nicholas D’Alberto, Ph.D., and Abigail Hielscher, Ph.D., perform the dissections that students would normally do, and record narrated videos. Assistant Professor Nathan Jebbett, Ph.D., edits the videos to include names and information about structures of interest, and related schematic diagrams. Sharon Henry, P.T., Ph.D., A.T.C., professor of rehabilitation and movement sciences emerita, provides most of the lectures on upper and lower extremities. All lecture and laboratory videos are closed-captioned, with ASL translation, as well.

“It’s a customized course,” says Mawe. “They won’t see the biological variability, like size of muscles and variation of arterial branches, that they would normally see in a large anatomy laboratory,” he says, “but the faculty are doing their best to get around that by including specimens from the department’s collection of high quality dissections that have been saved, with the consent of the donors.”



Kalin Gregory-Davis '22 participates in a telemedicine simulation with standardized patient Bob Bolyard.

## Telemedicine: From Bed-side to Web-side

A new course for third- and fourth-year medical students is geared toward telehealth.

**EDUCATION**

In just a few short months, the COVID-19 pandemic has spurred countless innovations in medical education, especially at the Larner College of Medicine. Among them, a new course for third- and fourth-year medical students focused on telehealth, a type of care many patients have become accustomed to due to pandemic-related social distancing guidelines.

Developed by UVM Clinical Simulation Laboratory Education Director Cate Nicholas, Ed.D., the asynchronous online course, “Telemedicine: From Bed-side to Web-side,” utilizes a 42-session module developed by the American College of Physicians. It also includes a presentation and documents developed and collated by Nicholas with input from Elise Everett, M.D., the level director of the clinical curriculum and associate professor of obstetrics, gynecology and reproductive sciences, to educate students about the intricacies of this increasingly important form of medical care. Topics covered in the presentation include proper attire, physical space, and camera placement; telemedicine security; billing; and physician directed physical exams. Students practice web-side verbal and nonverbal communication skills, how to determine necessary follow-up physical exams, and how to document telemedicine visits during a remote encounter with a standardized patient.

Nicholas says that students will likely be expected to support telemedicine visits during their clerkship rotations and to provide this type of care during their residencies and future medical careers.

Nicholas and Everett have presented the course to various programs and departments at the UVM Medical Center, at several virtual conferences, to the AAMC Directors of Clinical Skills Group, and to the American Medical Association. In the coming months, they hope to work with the UVM Medical Center to formally include students in telemedicine patient visits.

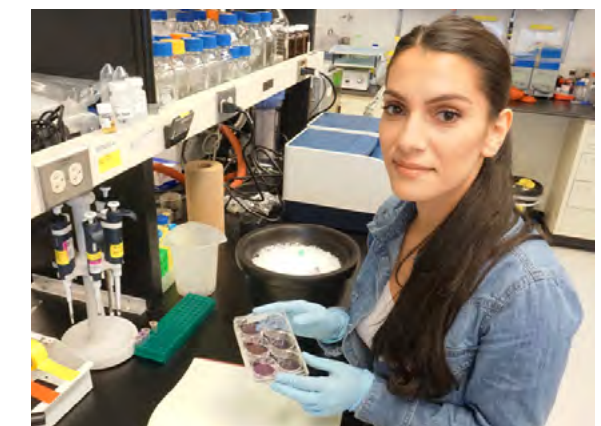
## Hidden Opportunities

Graduate Education in a Pandemic

**EDUCATION**

While much of higher education successfully pivoted to remote learning during the pandemic, graduate education has been faced with a unique set of challenges, particularly for those further along in their training. Doctoral students have had to alter—or in some cases, stop—laboratory research, have been unable to attend important in-person networking events, and seen significant shifts in job prospects both in industry and academia. But riding that wave of change, says Associate Dean of Graduate Education and Postdoctoral Training and Professor of Molecular Physiology & Biophysics Christopher Berger, Ph.D., will, in the end, make them stronger and more resilient scientists. “As they look back on this period, I think they’ll find out that they got more from this than they lost,” he says, adding that, “with every set of challenges comes opportunity.” Cellular, Molecular, and

**“AS THEY LOOK BACK ON THIS PERIOD, I THINK THEY’LL FIND OUT THAT THEY GOT MORE FROM THIS THAN THEY LOST.”**



Ph.D. trainee Inessa Manuelyan

Biomedical Sciences Ph.D. trainee Inessa Manuelyan, saw the lab where she works, run by Associate Professor of Medicine Jason Botten, Ph.D., shift its focus exclusively to SARS-CoV-2 research. “I essentially reapplied the goals of my dissertation [the Zika virus outbreaks of 2015 and 2016] to a new virus,” says Ms. Manuelyan. “I think being able to very quickly lay the groundwork to shift focus to an undeniable force such as this pandemic is the reality for a lot of virologists and it’s a good experience to go through with regards to my training. [The pandemic] has likely solidified my commitment to virology.”



# Alumni face the COVID-19 Pandemic

**Flagstaff, Ariz. 1**

*“The healthcare providers here have had to work with a severe lack of PPE. NAVMC has created a paradigm shift, helping the hospitals on the Navajo and Hopi Nations move from disposable gowns to reusable cloth gowns... The response has been one of great praise and thanks.”*

– JOHN “BULL” DURHAM, M.D. '85, ORTHOPAEDIC SURGEON FOR THE TUBA CITY REGIONAL HEALTH CARE CORPORATION AND FOUNDER OF THE NORTHERN ARIZONA VOLUNTEER MEDICAL CORPS (NAVMC)

**Los Angeles, Calif. 4**

*“Imbasciani, secretary of California’s Department of Veterans Affairs, and his staff are responsible for keeping the novel coronavirus away from the state’s eight veterans homes. California’s defenses are holding. The explanation, many say, lies in CalVet’s intense preparation, quick response, attention to hygiene and leadership, starting with Imbasciani, a physician and retired colonel who not too many years ago could have been discharged from the military because he is gay.”*

– FROM A LOS ANGELES TIMES STORY HIGHLIGHTING VITO IMBASCIANI, M.D. '85

**Los Angeles, Calif. 2**

*“I was on the family medicine inpatient service in the hospital when COVID-19 started becoming a very real concern. I then transitioned to working in the county ED of one of the large Los Angeles Department of Public Health safety net hospitals...I also helped to mobilize 20 different 3D printers through the Los Angeles Public Library system to help print and distribute face shields where needed.”*

– MICHAEL OHKURA, M.D. '18, THIRD-YEAR FAMILY MEDICINE RESIDENT AT UCLA

**Libertyville, Ill. 3**

*“I introduced myself. ‘I’m Dr. Akbarnia, Mr. C. I was the last person you saw in the ER. You told me you trusted us to get you to this side. Looks like you did just fine.’ He started to cry. He said, ‘I remember your eyes.’ And I started to cry. What he didn’t know is that, at that moment, I realized that we do what we do exactly for people like him, for moments like these. His strength, his kindness, his calming words to me meant everything.”*

– HALLEH AKBARNIA, M.D. '98, SPEAKING ABOUT HER EXPERIENCES WITH A COVID-19 PATIENT AS AN EMERGENCY MEDICINE PHYSICIAN AT ADVOCATE CONDELL MEDICAL CENTER

**ALUMNI VOICES**

In towns and cities large and small across the country, alumni have been at the front lines of treating patients suffering from COVID-19. They’ve also been heading up public health efforts, leading major health organizations through uncertainty, and rethinking how they practice medicine to meet the needs of patients at this unprecedented time.

**New York City 5**

*“It’s been heart breaking, having to call families in the middle of the night to share unthinkable news, knowing they are unable to see their loved ones one last time due to visitation restrictions.”*

– HYUNSOO NO, M.D. '19, COMPLETING A PRELIMINARY MEDICINE ROTATION AT FLUSHING HOSPITAL MEDICAL CENTER PRIOR TO RADIATION ONCOLOGY RESIDENCY AT STANFORD

**Portland, Maine 6**

*“Practicing as one of four pediatric pulmonologists for the entire state of Maine, and we also serve part of New Hampshire, I think telehealth is a potentially phenomenal tool. We stand to learn a lot about how to reach more families and provide care in real time for our patients in Caribou, which is right on the Canadian border, all the way down to Portsmouth, N.H.”*

– ANNE COATES, M.D. '07, PEDIATRIC PULMONOLOGIST AT MAINE MEDICAL CENTER

**Chatham, New Jersey 9**

*“A lot of the support that I am providing for my patients is in the form of psycho-education, specifically about resilience. We are in uncharted territories. So stick with the basics of life because the basics right now are more important than ever. Have a regular schedule: don’t go to bed too late. Wake up at a reasonable hour. Eat three meals a day. Get dressed every day. These are the small things that make a huge difference. There is a lot of work happening with both the kids and their parents.”*

– SETH DORSKY, M.D. '10, CHILD AND ADOLESCENT PSYCHIATRIST IN CHATHAM, N.J.

**Burlington, Vt. 7**

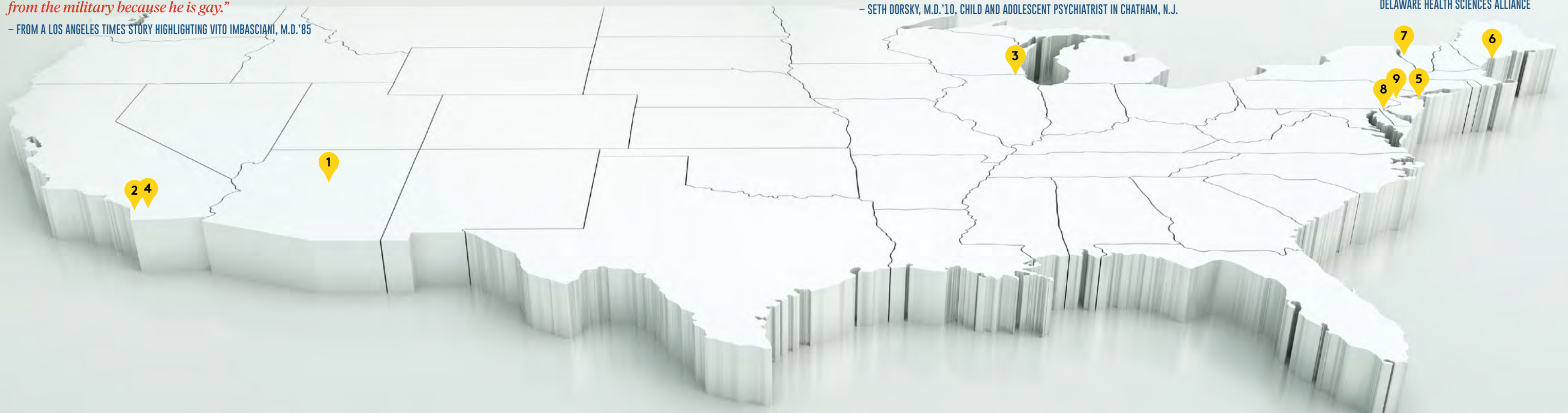
*“The whole world has changed in a few short weeks; both personal life and work life have taken on a completely different feel. What used to be rote, normal, hectic, and routine has become apprehensive and earnest, but also, to a certain extent, calm and serene. The pace of life has slowed, and the focus has narrowed. It is easy to forget that there is more to life and clinical practice than COVID-19.”*

– KATIE DOLBEC, M.D. '10, EMERGENCY MEDICINE PHYSICIAN AT UVM MEDICAL CENTER AND ASSISTANT PROFESSOR AT THE LARNER COLLEGE OF MEDICINE

**Wilmington, Del. 8**

*“I feel fortunate to be able to serve communities in need. I’m also grateful to work with exceptional people, many of whom work tirelessly behind the scenes and often don’t get the credit they deserve.”*

– OMAR KHAN, M.D. '03, PRESIDENT AND CEO OF DELAWARE HEALTH SCIENCES ALLIANCE







Dr. Akbarnia with her patient, Mr. C.

## The Heart of a Physician

When Dr. Akbarnia published the following post to Facebook on April 7, she had no idea it would be shared over 175,000 times, earning her an appearance on *Good Morning America* and a piece in the *L.A. Times*. By Halleh Akbarnia, M.D.'98

### FRONT LINES

I have been an emergency medicine physician for almost 20 years. I have worked through numerous disasters, and I'm used to the daily grind of heart attacks, gunshots, strokes, flu, traumas, and more. It's par for the course in my field. Yet nothing has made me feel the way I do about my "job" as this pandemic has—that knot-in-the-pit-of-your-stomach sensation while heading into work, comforted only by the empathetic faces of my colleagues who are going through the same. I am grateful for their presence, knowing they are both literally and figuratively with me, that they understand and accept so profoundly the risks we take each day. I also hope that my friends and family forgive me for my lack of presence during this time—precisely when we need each other most—and that they realize that their words, their encouragement, and their small gestures that come my way daily are the fuel that gets me through each day. This is a story for all of us.

I met my patient, Mr. C., on my first real "pandemic" shift, when what we were seeing that day was what we had been preparing for. He was classic in his presentation, his X-ray findings, his low oxygen levels...we just knew. And he was the nicest man I had met in a long time. Gasping for breath, he kept asking if we needed anything, and that it would all be okay. He told us he

was a teacher but that he was learning so much from us, and how much he respected what we were doing. The opposite could not be more true.

We had to decide how long we would try to let him work through this low oxygen state before needing to intubate him. His levels kept falling and despite all our best efforts it was time to put him on the ventilator. He told us he didn't feel great about this, but he said: "Doc, I trust you and am putting myself in your hands." That uneasy feeling in my stomach grew even more in that moment. But he, with his teacher's steady voice, kept me grounded, where I was supposed to be. I saw his eyes looking at me, seeing the kindness in them, even as we pushed the medications to put him to sleep. To say this was an "easy" intubation is an understatement. It was not. He nearly left us a few times during those first minutes, but he kept coming back. We fought hard to keep him with us. The patience and strength of my team that day was truly remarkable.

I handed him over to my friend and colleague, Dr. Beth Ginsburg, and her team in the ICU, and her calming voice reassured me that they had it from here. And then for the next twelve days, I waited and watched his progress, knowing the statistics, and how sick he was when he got to us. They did their magic, and just yesterday my new friend Mr. C was extubated.

**I HANDED HIM OVER TO MY FRIEND AND COLLEAGUE, DR. BETH GINSBURG, AND HER TEAM IN THE ICU, AND HER CALMING VOICE REASSURED ME THAT THEY HAD IT FROM HERE. AND THEN FOR THE NEXT TWELVE DAYS, I WAITED AND WATCHED HIS PROGRESS.**

I decided to go "meet" him again. Mr C. was in the COVID stepdown unit, recovering, without family. Nobody was allowed to visit him; even worse, his wife had been home alone in isolation for the past fourteen days, too. My heart broke thinking of how that must have been for her. I cautiously went into his room, donned in my PPE, and when he saw me, he stopped for a second. A moment of recognition. I introduced myself. "I'm Dr. Akbarnia, Mr. C. I was the last person you saw in the ER. You told me you trusted us to get you to this side. Looks like you did just fine." He started to cry. He said, "I remember your eyes." And I started to cry.

What he didn't know is that, at that moment, I realized that we do what we do exactly for people like him, for moments like these. His strength, his kindness, his calming words to me meant everything. At that moment, my heart (which had been beating over 100 bpm since this pandemic began) finally slowed down. I sat down and we talked. I told him that while he is here, we are his family. He will always have a place in my heart. And whether he knows it or not, he will be my silent warrior and guide as I take care of every patient, COVID or not. He will fuel me until the day I hang up my stethoscope.

Hyunsoo No, M.D.'19



## The Epicenter of a Pandemic

By Hyunsoo No, M.D.'19

After graduating from the Larner College of Medicine, Hyunsoo No, M.D.'19, headed to Flushing Hospital Medical Center in New York City for a preliminary medicine rotation prior to radiation oncology residency training at Stanford. As the COVID-19 pandemic hit New York City, he found himself at the front line. Twitter has been a way for him to share news, connect, and thank colleagues—on April 4 he tweeted: "We were

*able to get another person off a ventilator this morning as our shift was ending! Just our third thus far but after these rough few weeks, it feels so great to finally share some good news with families!"*

And on March 19: "To all the friends and family reaching out to check in, thank you! Working in the ICU throughout this has been trying but happy to be a part of a team working so hard to help those in need. Looking forward to seeing all these people discharged home!!"

Read more about No's experiences in Flushing, first published on the College's blog ([uvmmedicineblog.wordpress.com](https://uvmmedicineblog.wordpress.com)) April 20:

### FRONT LINES

These past few weeks certainly have been unexpectedly tough. Not only with the unknowns of how to combat coronavirus and how to help our patients, but the sadness of seeing patient after patient pass and seeing their families torn apart. It's been heart breaking, having to call families in the middle of the night to share unthinkable news, knowing they are unable to see their loved ones one last time due to visitation restrictions.

Additionally, in our hospital, more and more residents, nurses, and physicians were getting sick, leading to further under-staffing alongside a huge surge in the number of patients coming in. Atop of all that was the underlying fear of bringing all this home and getting our loved ones sick.

However, as with most things that are difficult, it began to ease up. Things are beginning to turn around. While people are still dying, the urgency and sheer volume has reduced. We are now discharging those patients who came in the initial surge and playing cheerful music when they get to go home, announcing it over our loudspeakers.

Our residents and physicians are coming back to work, and there's a small glimpse of normalcy. I recognize this is not yet over, and there is talk there may be another wave of this arriving, but it's nice to be able to help reduce this burden, even just a little bit.





Debra Leonard, M.D., Ph.D. and Beth Kirkpatrick, M.D.



## Solving Testing Challenges through Collaboration and Action

**LARNER RESPONDS**

Early in Vermont's stay-at-home order phase, the state faced both a shortage of COVID-19 test materials and limited capacity to process tests.

As the only medical school and level one trauma center in Vermont, the Larner College of Medicine and University of Vermont Medical Center, respectively, quickly acted to address these challenges.

Between March and June, Larner scientists produced more than 37,000 vials of solution for use in COVID-19 testing. UVM Vaccine Testing Center research technicians took the lead in collecting transport media—a solution needed for COVID-19 specimen collection—from Larner laboratories. Then members of the UVM

medicine staff were organizing daily transport of tests samples from Boston's Logan Airport to Rochester, Minn., when they ran into a snag—flights were getting cancelled, which meant test results and important related clinical decisions were delayed. In a demonstration of true community collaboration, members of the medical center, UVM Health Network, Vermont Department of Public Safety, Green Mountain Messenger, JV Air LLC, and Heritage Flight rallied to secure a private jet to make the deliveries, ensuring 24-hour turnaround test results. This arrangement allowed Vermont to send up to 600 tests per day to Mayo, says Leonard, which was two to three times as many tests as Vermont had been previously sending.

An innovative research initiative, run concurrently with the test assembly effort, brought Larner virologists, pathologists, and infectious disease experts together to evaluate potential alternatives to the traditional RNA extraction kit, a key part of the COVID-19 testing process that has been in short supply. They tried two strategies: An alternative RNA extraction kit and an assay that omits an RNA extraction step altogether. Associate Professor of Medicine Jason Botten, Ph.D., Faculty Scientist Emily Bruce, Ph.D., and colleagues published the initial findings as a BioRxiv manuscript preprint. The experimental test has been replicated by labs all over the world with promising results. The team has since published a second preprint, a peer-reviewed article, and launched a collaborative multi-site international trial of the alternative tests.

**BETWEEN MARCH AND JUNE, LARNER SCIENTISTS PRODUCED MORE THAN 37,000 VIALS OF SOLUTION FOR USE IN COVID-19 TESTING.**

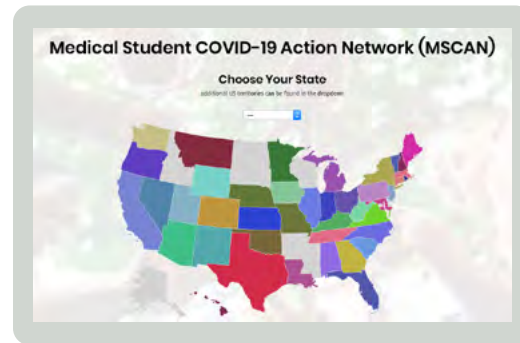
Medical Center Department of Pathology and Laboratory Medicine added swabs and other components and assembled the kits. Deborah Leonard, M.D., Ph.D., chair of pathology and laboratory medicine, and Beth Kirkpatrick, M.D., chair of microbiology and molecular genetics and Vaccine Testing Center director, provided leadership for the initiative.

With limited laboratory personnel to process COVID-19 tests, Vermont turned to the Mayo Clinic Laboratories for help. UVM pathology and laboratory

## A COVID-19 Action Network Takes Shape

**LARNER RESPONDS**

On March 13, as the COVID-19 pandemic swept through communities large and small, Vinh Le '23 founded the Medical Student COVID-19 Action Network (MSCAN) to help coordinate medical student-led volunteer efforts. With the help of 23 of his Larner classmates, he developed a list of contacts at every accredited U.S. medical school in the U.S. and began reaching out to them to gather data. The MSCAN database now contains hundreds of volunteer activities from 104+ schools in 40 states. The effort is supported by 57 medical students from the College and over 240 additional contributors.

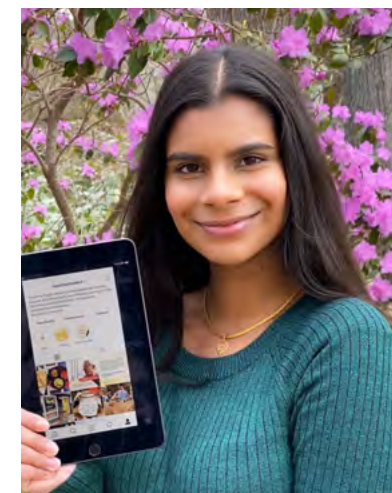


The MSCAN database includes medical student-led volunteer activities across the U.S.

## Feeding Healthcare Workers

**LARNER RESPONDS**

With clinical clerkships on hold in the early days of the COVID-19 pandemic, Gia Eapen '22 and Sylvia Lane '22 needed a way to feel useful. The LCOMcares Service Corps, a group of faculty, staff and students formed to help the community through this public health crisis, introduced them to Frontline Foods, a national organization that's uniting hospitals with area restaurants to feed healthcare workers.



Gia Eapen '22

Financial donations from the community pay local restaurants to prepare individually packaged meals that are then transported to area hospitals. Eapen and Lane have been in charge of marketing for Frontline Foods' Vermont chapter, which boasts over 50 restaurants as members.



Claudia Russell '22 (right) teaches tai chi to Maria DesRochiers

## Connecting with Elderly Community Members

**LARNER RESPONDS**

To help nursing home residents who can't have visitors during the COVID-19 pandemic stay connected and engaged, Larner College of Medicine students organized a series of virtual activities at Vermont facilities. With leadership from Claudia Russell '22 and Ashleigh Peterson '22, and with the guidance of Janet Nunziata, M.S., associate director of the UVM Center on Aging and coordinator of the Queen City Memory Café, students have hosted virtual sing-alongs, tai chi lessons, book readings and more for residents of nursing homes in Burlington, Bristol, Montpelier and other Vermont towns.

- Jhaimy Fernandez '21 educates residents of East Los Angeles, her hometown, about the proper way to wear a mask.
- Nathan Dow '23 returns to UVM Medical Center as an EMT, a job he held for five years prior to medical school.
- Jack Dubuque '21 renews his nursing license to pitch in while clinical rotations are suspended.

MORE LARNER RESPONDS

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<p><i><b>New Yorker</b></i></p> <p><b>“The Engineers Taking on the Ventilator Shortage”</b></p> <p>Jason Bates, Ph.D., Sc.D., professor of medicine, and Matt Kinsey, M.D., assistant professor of medicine</p>	<p><i><b>National Public Radio “Morning Edition”</b></i></p> <p><b>“COVID-19 Vaccine Shows Promise, Trump Takes Hydroxychloroquine”</b></p> <p>Tim Lahey, M.D., M.MSc., professor of medicine</p>	<p><i><b>Washington Post</b></i></p> <p><b>“Which outdoor sports and athletic activities are safe during a pandemic?”</b></p> <p>James Hudziak, M.D., professor of psychiatry and pediatrics and chief of child psychiatry</p>	<p><i><b>MedPage Today</b></i></p> <p><b>“Still Want to be a Doctor Post COVID-19?”</b></p> <p>Op-ed co-authored by David Rettew, M.D., associate professor of psychiatry</p>
<p><i><b>STAT</b></i></p> <p><b>“Infect volunteers with COVID-19 in the name of research? A proposal lays bare a minefield of issues”</b></p> <p>Beth Kirkpatrick, M.D., chair of microbiology and molecular genetics</p>	<p><i><b>Vermont Public Radio “All Things Considered”</b></i></p> <p><b>“Race, COVID-19 and Health Disparities in Vermont”</b></p> <p>Maria Mercedes Avila, Ph.D., M.S.W., associate professor of pediatrics</p>	<p><i><b>New York Times</b></i></p> <p><b>“The Other Option Is Death’: New York Starts Sharing of Ventilators”</b></p> <p>Joshua Farkas, M.D., associate professor of medicine</p>	<p><i><b>NBC News</b></i></p> <p><b>“Why have 14,000 people volunteered to be infected with coronavirus?”</b></p> <p>Beth Kirkpatrick, M.D., chair of microbiology and molecular genetics</p>
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<p><i><b>New York Times</b></i></p> <p><b>Op-ed titled “An Unproven Vaccine Is Too Risky”</b></p> <p>Tim Lahey, M.D., M.MSc., professor of medicine</p>	<p><i><b>Science Friday</b></i></p> <p><b>“Blood Clots Linked To COVID-19 Are Raising Alarm”</b></p> <p>Mary Cushman, M.D., M.Sc., professor of medicine</p>	<p><i><b>NBC10 Boston/New England Cable News</b></i></p> <p><b>“Help Needed: VT Governor Calls All Hands on Deck to Aid Emergency Response”</b></p> <p>Hillary Danis '21</p>	<p><i><b>WCAX</b></i></p> <p><b>“UVM Researchers Studying Ripple Effects of Social Distancing”</b></p> <p>Eline van den Broek-Altenburg, Ph.D., assistant professor of radiology</p>