In this spring issue of The Chart, we bring you news about recent grants, honors, awards, and more, as well as several stories that highlight ongoing work in the Department of Medicine to improve patient care.

The transport of critically ill patients across our rural and mountainous region requires highly trained professionals and a coordinated effort. We are grateful to have Ryan Clouser, an associate professor in the Division of Pulmonary Disease and Critical Care Medicine, working on this challenge. He has spearheaded the creation of a comprehensive regional transport system that gets patients where they need to be quickly while efficiently using the network’s resources. As the UVM Health Network grows, we’ll continue to draw on his expertise to evolve critical care transport along with it.

Faculty in the Division of Infectious Disease are at the frontlines of some of the most vexing issues in the field of medicine, including antibiotic stewardship, the development of new vaccines for neglected tropical diseases, and care for patients with HIV. In this issue of The Chart, we take a look at the breadth of work going on in this division. The 15 providers use a team-based approach to deliver care, conduct research, and train the newest infectious disease specialists through the highly successful fellowship program.

Another team effort: Ensuring consistent patient care of the highest quality across all of the divisions in the Department of Medicine. The Quality Assurance and Improvement Committee, chaired by Allen Repp, constantly evaluates training, processes and procedures, proactively identifying ways to make improvements. For FY2019 and FY2020, the committee has launched 11 QI initiatives with specific goals and objectives. It’s exciting to see faculty embrace this important work. Read more about their efforts in a Q&A with Dr. Repp.

And of course, on Match Day we celebrated along with the Larner College of Medicine the beginning of a new chapter for our graduating students! We are lucky to have four from their ranks joining us for residency training.

Thanks for reading this issue of The Chart!!

Jensen Named American Society of Nutrition Fellow

Gordon Jensen, M.D., Ph.D., professor in the Division of Gastroenterology and Hepatology, has been selected as a member of the American Society of Nutrition (ASN) Class of 2019 Fellows. The highest honor that the Society bestows, scientists who have had distinguished careers in the field of nutrition and are at least sixty-five years of age are eligible for the recognition. Jensen, who is also senior associate dean for research for the Larner College of Medicine, served as president of the ASN from 2013 to 2014. The ASN Class of 2019 Fellows will be honored at Nutrition 2019 from June 8 to 11 in Baltimore, Maryland.

UVM Graduate College Recognizes Cushman as University Scholar

Mary Cushman, M.D., M.Sc., professor in the Division of Hematology/Oncology, has been named a 2019-2020 University Scholar by the University of Vermont Larner College of Medicine, served as president of the ASN from 2013 to 2014. The ASN Class of 2019 Fellows will be honored at Nutrition 2019 from June 8 to 11 in Baltimore, Maryland.

Celebrating Educational Scholarship and Teaching

The Department of Medicine was well-represented in the newest group of inductees into the UVM Larner College of Medicine Teaching Academy during a ceremony in January of 2019.

Master Teacher

Friederike Keating, M.D., professor in the Division of Cardiovascular Medicine

Michael LaMantia, M.D., M.P.H., associate professor in the Division of General Internal Medicine/Geriatrics

Member

Abhishek Kumar, M.D., assistant professor in the Division of Nephrology

Robert O’Brien, M.D., associate professor in the Division of General Internal Medicine/Geriatrics

Marios Prikis, M.D., associate professor in the Division of Hospital Medicine

Protégé

Avneet Singh, M.D., internal medicine resident
With six hospitals across Vermont and northern New York now part of the UVM Health Network and many more affiliates throughout the area, safe transport of critically ill patients relies on a well-organized team that delivers the best possible care as quickly as possible.

Ryan Clouser, D.O., associate professor in the Division of Pulmonary Disease and Critical Care Medicine, has been focused on tackling this challenge by creating a comprehensive transport system now poised to serve the entire region.

As medical officer of the new UVM Health Network Regional Transport System, he has shepherded the process through to some notable successes. In October of 2018, the health network celebrated completion of the launch of the 24/7 Regional Transfer Center, which handles the coordination of patient transfers for 13 hospitals in a 40,000-square-mile area. Three to four nurses answer calls during the day, with two staffing the overnight shift. The team uses protocols Clouser established to determine where and how to transport patients, in consultation with providers and transport teams including the UVM Health Network’s Critical Care Transport Team and local ambulance services.

One important new addition to the transport options: The region’s first air ambulance service, offered in collaboration with Dartmouth-Hitchcock Advanced Response Team (DHART). Launched in August of 2018, the base at Burlington...
International Airport allows rapid transport for the most critically ill patients. DHART has been training medical center clinical teams on how to care for patients in the tight confines of a helicopter, says Clouser, with DHART’s track record of safety, success and more than 20 years of experience making them a strong partner.

With all of the network hospitals officially online as part of the UVM Health Network Regional Transport System as of June of 2018, the focus has shifted to training, staffing, and systems and process improvement.

“We’re thinking beyond the walls of the medical center to what the patient needs and how to use the resources of the network better,” Clouser says. “We want to more efficiently use what we have.”

One goal has been to facilitate transport of patients in both directions—to the optimal location in an emergent situation, but also returning them to the hospital closest to their home after tertiary care has been delivered—freeing up space for new patients.

“The challenge has been trying to get patients back into their communities, which is a pretty new concept,” he says.

With each transfer requiring a great deal of communication and coordination, the more than 30 successful transfers back to community hospitals since the system’s founding shows its potential to deliver high quality care efficiently and effectively.

Another focus for the coming year: Hiring and training additional staff. Based on call volume, the number of nurses staffing the RTC may increase. Clouser also plans to hire staff and build more bases across the region for UVM Health Network’s Critical Care Transport Team. These highly trained professionals are equipped to deal with a range of critical conditions including shock, multi-system organ failure, trauma, high-risk obstetrics and vascular and neurosurgical emergencies. In some rural areas where volunteer ambulance crews are stretched thin, the addition of these teams will help ensure high quality and consistent care for the most emergent patients.

Clouser is especially excited about an initiative with community paramedics to train them to conduct home health visits with at-risk patients who may be using 911 and the emergency department when it’s not the best option for their needs. Paramedics would triage and treat in the home when possible, as well as refer and connect patients to appropriate resources. Partnering with paramedics in this way is becoming a focus for health networks across the country, as attention shifts to high quality care that keeps costs down.

“Paramedics seem to be excited to do it,” he says. “We don’t want anyone to fall through the cracks.”

As the UVM Health Network Regional Transport System grows and evolves, Clouser plans to launch a comprehensive quality improvement system that uses data to identify issues and measure outcomes over time. What his team learns stands to fine tune UVM’s efforts as well as inform how critical care transport systems take shape nationally.

“Transport medicine is a growing offshoot of critical care and emergency medicine,” he says. “We want to be driving that forward.”

Division Highlight: Infectious Disease

From HIV and hepatitis C to antibiotic stewardship and neglected tropical diseases, members of the Division of Infectious Disease are national experts and influential researchers in a range of critical areas.

Division Chief W. Kemper Alston, M.D., M.P.H., says the division has experienced rapid growth, from just three providers when he came to UVM 25 years ago to 12 physicians, two nurse practitioners and one physician’s assistant today. In the past year, the division provided over 1,700 new inpatient consultations and 6,000 outpatient visits, including staffing a travelers’ clinic and refugee health clinic. Their work at the four Comprehensive Care Clinics across the state ensures the nearly 500 patients with HIV have medical homes and high quality, long-term care.

New this year: Established patients who visit the Comprehensive Care Clinic in Brattleboro participate in telemedicine consultations with Alston, who staffs that location. This means more reliable access to their physician when weather can sometimes make the 150-plus mile trip from Burlington difficult or impossible.

“Telemedicine has been embraced by my patients,” says Alston.

Assistant Professor Devika Singh, M.D., has taken over administering the division’s funding for the Comprehensive Care Clinics; she also runs the clinic in Rutland. As director of antimicrobial stewardship for UVM Medical Center, Assistant Professor Lindsay Smith, M.D., is tasked with ensuring the proper use of antibiotics to decrease the spread of infection from multidrug resistant organisms and improve patient outcomes. She also received a Vermont Department of Health grant to assist six hospitals in setting up their own programs.
continued from page 5

Two division members—Assistant Professor Jean Dejace, M.D., and Assistant Professor Andrew Hale, M.D.—spend 25 percent of their time providing inpatient care at Champlain Valley Physicians Hospital, a UVM Health Network location in Plattsburgh, N.Y. Plans are in place to continue this service with a new part-time provider in 2020.

Professor Tim Lahy, M.D., is director of clinical ethics for UVM Medical Center. Associate Professor Timothy Whitman, D.O., directs the HIV clinic in St. Johnsbury, and Assistant Professor Cindy Noyes, M.D., directs the influenza and pandemic preparedness program for UVM Medical Center.

Division research includes phase I clinical trials and vaccine trials as well as basic science research on globally infectious diseases.

Professor Christopher Huston, M.D., studies the neglected intestinal parasite Cryptosporidium, which is one of the leading causes of life-threatening diarrhea in children. An international consortium of researchers is using methods developed by his lab to create drugs to treat the parasitic infection. Work has progressed from early-stage discovery with screening of over 1,000,000 compounds to identification of several now poised for human clinical trials. Huston is also part of the leadership team for the new UVM Translational Global Infectious Disease Research Center (TIGR), funded by a $12.3 million COBRE award.

Associate Professor Kristen Pierce, M.D., is a principal investigator for UVM’s Vaccine Testing Center, where she has led trials and research on dengue, Zika, and other globally infectious diseases. Pierce, principal investigator for UVM’s Vaccine Testing Center, is a founder of the Vaccine Testing Center, and teaches in Convergence. Professor Louis Polish, M.D., serves as clerkship director for inpatient medicine and teaches in Convergence. Professor Beth Kirkpatrick, M.D., has since March of 2018 served as chair of the Department of Microbiology and Molecular Genetics, in addition to her leadership of the VTC and her role as an infectious disease specialist. Her work across departments and divisions at UVM opens up opportunities for collaboration.

Division members also play key roles in the education of fellows, residents, and medical and graduate students. The two-year infectious disease fellowship program, under the leadership of Pierce, continues its success with a 100 percent board certification pass rate over the past 18 years.

Hale was recently named course director for Cardiovascular, Respiratory and Renal Systems course in the Foundations level of the Vermont Integrated Curriculum. Associate Professor Louis Polish, M.D., serves as clerkship director for inpatient medicine and teaches in Convergence. Professor Beth Kirkpatrick, M.D., has since March of 2018 served as chair of the Department of Microbiology and Molecular Genetics, in addition to her leadership of the VTC and her role as an infectious disease specialist. Her work across departments and divisions at UVM opens up opportunities for collaboration.

“The great thing is that she’s still part of our division,” says Alston. “We are now benefiting from all of the MMG educational and research opportunities.”

Zakai, Cushman Author New American Society of Hematology Guideline

Mary Cushman, M.D., M.Sc., professor in the Division of Hematology/Oncology, and Neil Zakai, M.D., M.Sc., associate professor in the Division of Hematology/Oncology, were co-authors and panel chair and panelist, respectively, on a new guideline from the American Society of Hematology. This formal guideline evaluated the evidence for methods to prevent venous thromboembolism (VTE) in hospitalized and non-hospitalized medical patients, which was the topic of Zakai’s residency research project at UVM.

Research Highlights

Steven Lidofsky, M.D., Ph.D., professor in the Division of Gastroenterology and Hepatology, have been awarded a Frymoyer Scholarship for their project titled “Optimizing Care for Vermonters Infected with Hepatitis C Virus through a Statewide Educational Curriculum.” Working with partners in the Vermont Department of Public Health, they are creating an online, Vermont-specific educational resource for physicians, advanced-practitioners, nurses, and students to respond effectively to the ongoing HCV epidemic. One notable success: HCV care has been expanded into the Vermont Department of Corrections, with dozens of incarcerated persons now receiving HCV eradication therapy.

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Presentations
Many faculty, staff and residents from the Division of Hospital Medicine presented at the Society of Hospital Medicine Annual Meeting in National Harbor, Maryland, on March 26, 2019:

• “Communication Skills: Back to the Basics,” Lee-Anna K. Burgess, M.D., assistant professor; and Rachel McEntee, M.D., assistant professor (at right)

• “Improving Patients’ Ability to Identify Their Physicians through the Use of Physician Facecards and Whiteboards,” Kramer J. Wahlberg, M.D., internal medicine resident; Shea Lambirth, M.D., former internal medicine resident; and Zechariah Gardner, M.D., assistant professor

Publication Highlights

• Metzger Y, Holmes T, Cook D. Systemic Amyloidosis Presenting as Palmar Edema and Ecchymosis. JAMA Dermatol. 2019 Jan 16.. [Epub ahead of print].


Celebrating Match Day
On March 15, 2019, hundreds of supporters filled the Hoehl Gallery and balconies above it to share in the excitement of Match Day with the Larner College of Medicine’s Class of 2019. The Department of Medicine welcomes four residents from the College: Elizabeth Carson and Arjun Janardhan matched into internal medicine. Margaret Johnston will complete a preliminary medicine year at UVM before moving on to Yale-New Haven Hospitals for dermatology. Alexander Marchese will spend a preliminary medicine year in the department before completing diagnostic radiology training also at UVM Medical Center.

Mentoring the Next Generation
UVM Larner College of Medicine student Juan Conde, ’21 received the 2018 Cardiovascular Research Institute of Vermont (CVRI) Summer Research Award. Mary Cushman, M.D., M.Sc., professor in the Division of Hematology/Oncology, served as mentor for his project titled, “Smoking, Stroke Biomarkers and Risk of Stroke in a National Cohort.”

Shae Rowlandson ’21 received a UVM Larner College of Medicine Research Merit Award and a Basic Science Award for research he conducted during the summer of 2018. Dhananjay Gupta, Ph.D., assistant professor in the Division of Endocrinology, Diabetes and Metabolism, served as mentor for this project, titled “Vitamin D3 Signaling in INS-1 Beta Cells Under Normal and Glucotoxic Stress.” It was funded through the Larner College of Medicine’s Summer Student Research Fellowship program.
Quality Assurance and Improvement Committee Spotlight

Vice Chair for Quality Allen Repp, M.D., professor in the Division of Hospital Medicine and chair of the Quality Assurance and Improvement Committee (QA&I), discusses committee goals and current initiatives.

The Chart: What is the mission of the Quality Assurance and Improvement Committee?

Allen Repp: The QA&I Committee has a broad range of activities:
- Evaluates performance of department on internal, institutional, and regulatory standards
- Assists in developing and coordinating new quality initiatives and metrics for the department
- Conducts adverse event, mortality, and case reviews
- Provides forum for sharing information about QI and patient safety activities across divisions
- Reviews and adjudicates High Value Care Project proposals

TC: What are some important current projects from the committee?

AR: Each divisional representative worked with their division to develop and implement QI initiatives for FY2019 and, in most cases, FY2020. The global aims for these initiatives are:
- Cardiology: To improve patient satisfaction under the care that you received? and Did your doctor communicate well?”
- Dermatology: To improve the quality of life for patients with hidradentitis suppurativa by focusing on quality initiatives and metrics for the department.
- Endocrinology: Reduce readmissions for patients receiving outpatient chemotherapy.
- Hospitalist Service: Complete applied Improvement Science training program.
- Infectious Disease: Provide screening for chronic hepatitis C infection for hospitalized adults born between 1945 and 1965.
- Nephrology: Stabilize the number of ED visits, urgent dialysis treatments and admissions for volume overload in the UVM Medical Center chronic dialysis population.
- Pulmonary and Critical Care: Reduce mortality and readmission rate in patients admitted for acute hypercapnic respiratory failure.
- Rheumatology: Complete a fracture risk assessment and management plan in adult rheumatology patients receiving long-term glucocorticoids.

TC: How can faculty get involved in the work of the committee?

AR: Faculty can talk with their division’s representative to the committee or Allen Repp.

Resources can be found at the Department of Medicine Quality Program website: www.med.uvm.edu/medicine/quality

VT Lung Center Marks 20 Years as ALA Airways Clinical Research Network Member

On February 28, 2019, clinicians, patients, donors, staff and board members gathered to celebrate two decades of lung disease treatment research in the only ACRC in a rural area (above), one of 17 across the U.S. As a charter member of the ALA ACRCs—the nation’s largest not-for-profit network of clinical research centers dedicated to asthma and COPD treatment—the Vermont Lung Center has been at the forefront of lung health. “We are proud to partner with the American Lung Association to advance research to improve the quality of life for those living with COPD and asthma here locally and nationwide,” said Charles Irvin, Ph.D. (below), director of the Vermont Lung Center, principal investigator for the ACRC, and professor in the Division of Pulmonary Disease and Critical Care Medicine.

News & Notes

On February 20, 2019, Joel Schnure, M.D., professor and division chief for the Division of Endocrinology, Diabetes and Metabolism, hosted a press conference with U.S. Representative Peter Welch (D-VT) regarding legislation to provide relief from soaring insulin prices. Schnure supported statements made by two patients at the event, confirming that many cannot afford their full doses of insulin. Welch’s legislation would allow patients, pharmacists and wholesalers to import low-cost insulin from Canada and other countries.

Kim Dittus, M.D., Ph.D., associate professor in the Division of Hematology/Oncology, recently represented the Department of Medicine/UVM Cancer Center in the community delivering an educational talk at Wake Robin on oncology rehabilitation and her associated research.

The Department of Medicine Quality Program welcomes Bradley Tompkins M.S., M.P.H., to the new position of quality analyst. He will provide analytics support for scholarly quality improvement initiatives as well as resident and fellow scholarly projects with the goal of peer-reviewed publication. Further information about the Analytic Support Program in the Department of Medicine can be found at: www.med.uvm.edu/medicine/analytic-support-program
Meet the Scientists

Research from UVM Assistant Professor Sean Diehl, Ph.D., a member of the Vermont Center for Immunology and Infectious Diseases, has uncovered details of the human immune response to infection with dengue, the leading cause of illness and death in the tropics and subtropics, according to the Centers for Disease Control. Study findings, reported recently in the Lancet’s open-access journal EBioMedicine, stands to help to evaluate dengue vaccine formulations and assist with advancing safe and efficacious candidate vaccines. Huy Tu, a fifth-year Ph.D. candidate in the Cellular and Molecular Biomedical Sciences program, co-led the study, which is the result of a longstanding collaboration between the National Institute of Allergy and Infectious Diseases at the National Institutes of Health, the Johns Hopkins University Bloomberg School of Public Health, the University of North Carolina at Chapel Hill, and the UVM Vaccine Testing Center.

Best Guess

As spring continues to bloom, take a look at how divisions and individual faculty members weighed in on the question:

When do you think our last snowfall will be?

Division of Infectious Disease: March 27
Division of Rheumatology and Clinical Immunobiology: April 10
Division of Hematology/Oncology: April 16
(Mary Cushman), June 18 (Steven Ades)
Division of Pulmonary Disease and Critical Care Medicine: April 1 (Anne Dixon)

The most creative answer came from Jason Bates: “in about 3 billion years when the sun has expanded sufficiently (on the way to becoming a red giant) to prevent the formation of ice on earth.”

Faculty News

In the Media

Tim Lahey, M.D., professor in the Division of Infectious Disease, wrote a story titled “Rituals of Honor in Hospital Hallways” published in the New York Times April 2, 2019, in which he details the UVM Medical Center tradition of honor walks, where hospital staff line the hallway to pay tribute to organ donors in their final moments. He calls the practice a “powerful act of community.”

Michael LaMantia, M.D., M.P.H., associate professor and section head for geriatrics in the Division of General Internal Medicine/Geriatrics, was quoted in an Associated Press article about an 84-year-old pole vaulter from Shelburne, VT, and physically ability in seniors.

Devika Singh, M.D., assistant professor in the Division of Infectious Disease, was featured in a report that aired on local CBS affiliate WCAX-TV Channel 3 regarding groundbreaking research on an HIV cure, published in the journal Nature.